

**Multi Year Tariff Order**  
**For**  
**Himachal Pradesh State Electricity**  
**Board Limited (HPSEBL)**  
**For the fourth Control Period**  
**(FY 2019-20 to FY 2023-24)**  
**and**  
**True-up of FY17**



**Himachal Pradesh Electricity**  
**Regulatory Commission**

**June 29, 2019**



**BEFORE THE HIMACHAL PRADESH ELECTRICITY REGULATORY COMMISSION AT  
SHIMLA****PETITION NO: 28/2019**

CORAM

**Sh. S.K.B.S. NEGI****Sh. BHANU PRATAP SINGH**

IN THE MATTER OF:

Approval of the Aggregate Revenue Requirement (ARR) for FY20 and the Multi Year Tariff of the Fourth MYT Order for the Control Period (FY20-FY24) under sections 62, 64 and 86 of the Electricity Act, 2003

AND

IN THE MATTER OF:

Himachal Pradesh State Electricity Board Limited

... APPLICANT

The Himachal Pradesh State Electricity Board Limited (hereinafter called the 'HPSEBL' or 'Petitioner') has filed a petition with the Himachal Pradesh Electricity Regulatory Commission (hereinafter referred to as 'the Commission' or 'HPERC') for Multi Year Tariff (hereinafter referred to as 'MYT') for the fourth Control Period (FY 2019-20 – FY 2023-24) and approval of Aggregate Revenue Requirement (ARR) and determination of Wheeling and Retail Supply Tariff for FY 2019-20 under Sections 62, 64 and 86 of the Electricity Act, 2003 (hereinafter referred to as "the Act"), read with the HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2011 and its amendments (hereinafter referred to as "MYT Regulations, 2011"). In the Petition, HPSEBL has also submitted for True-Up of uncontrollable parameters of FY 2016-17.

The Commission having heard the applicant, interveners, consumers and consumer representatives of various consumer groups on 30<sup>th</sup> April, 2019 at Shimla and having had formal interactions with the officers of the HPSEBL and having considered the documents available on record, herewith accepts the application with modifications, conditions and directions specified in the following Tariff Order.

The Commission has determined the Multi-Year ARR for the distribution business of HPSEBL under fourth Control Period (FY20-FY24) and approved the Wheeling and Retail Supply Tariff for FY 2019-20 in accordance with the guidelines laid down in Section 61 of the Electricity Act, 2003, the National Electricity Policy, the Tariff Policy and the MYT Regulations, 2011 framed by the Commission that stipulate that the Wheeling and Retail Supply Tariff shall be decided every year taking into account adjustments on account of allowed variations in uncontrollable parameters.

The Commission, in exercise of the powers vested in it under Section 62 of the Electricity Act, 2003, orders that the approved Tariffs together with "Schedule of General and Service Charges" shall come into force w.e.f. 1<sup>st</sup> July, 2019.

The tariff determined by the Commission shall, within the period specified by it, be subject to compliance of the directions-cum-orders to the satisfaction of the Commission and non-compliance shall lead to such amendment, revocation, variation and alteration of the tariff as may be ordered by the Commission.

In terms of sub-regulation (6) of Regulation 3 of the Regulations, 2011, the Wheeling and Retail Supply Tariff shall, unless amended or revoked, continue to be in force up to March 31, 2020. In the event of failure on the part of the licensee to file application for approval of Wheeling and Retail Supply Tariff for the ensuing financial year, in terms of Regulation 37 of the Regulations, 2011 on or before November 30, 2019, the tariff determined by the Commission shall cease to operate after March 31, 2020, unless allowed to be continued for further period with such variations or modifications as may be ordered by the Commission.

In terms of sub-regulation (5) of Regulation 42 of the Regulations, 2011, the consequential orders which the Commission may issue to give effect to the subsidy that the State Government may provide, shall not be construed as amendment of the notified tariff. The licensee shall, however, make appropriate adjustments in the bills to be raised on consumers for the subsidy amount in the manner as the Commission may direct.

The Commission further directs the licensee to publish the tariff in two leading newspapers, one in Hindi and the other in English, having wide circulation in the State

within 7 days of the issue of the Tariff Order. The publication shall include a general description of the tariff changes and its effect on the various classes of consumers.

The HPSEBL is directed to make available the copies of the Tariff Order to all concerned officers up to AE level, and sub-divisions within two weeks of issue of this Order. The HPSEBL may file clarificatory petition in case of any doubt in the provisions of the Tariff Order, within 30 days of issue of the Tariff Order.

**Sd/-**  
**(BHANU PRATAP SINGH)**  
**Member**

**Sd/-**  
**(S.K.B.S. NEGI)**  
**Chairman**

**Shimla**

**Dated: June 29, 2019**



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# 1 INTRODUCTION

## Background

### 1.1 Himachal Pradesh Electricity Regulatory Commission

1.1.1 The Himachal Pradesh Electricity Regulatory Commission (hereinafter referred to as 'HPERC' or 'the Commission') constituted under the Electricity Regulatory Commission Act, 1998 came into being in December 2000 and started functioning with effect from 6<sup>th</sup> January, 2001. After the enactment of the Electricity Act, 2003 on 26<sup>th</sup> May, 2003, the HPERC has been functioning as a statutory body with a quasi-judicial and legislative role under Electricity Act, 2003.

### Functions of the Commission

1.1.2 As per Section 86 of the Electricity Act, 2003, the State Commission shall discharge the following functions, namely

- a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State: Provided that where open access has been permitted to a category of consumers under section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;
- b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;
- c) facilitate intra-state transmission and wheeling of electricity;
- d) issue licences to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;
- e) promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licence;
- f) adjudicate upon the disputes between the licensees, and generating companies and to refer any dispute for arbitration;
- g) levy fee for the purposes of this Act;
- h) specify State Grid Code consistent with the Indian Electricity Grid Code specified with regard to grid standards;

- i) specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
  - j) fix the trading margin in the intra-state trading of electricity, if considered, necessary; and
  - k) discharge such other functions as may be assigned to it under this Act.
- 1.1.3 The State Commission shall advise the State Government on all or any of the following matters, namely
- a) promotion of competition, efficiency and economy in activities of the electricity industry;
  - b) promotion of investment in electricity industry;
  - c) reorganization and restructuring of electricity industry in the State;
  - d) matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by State Government.

## **1.2 History of HPSEBL**

- 1.2.1 Electricity supply at the time of formation of the State in 1948 was available only in the capital of the erstwhile princely states and the connected load at the time was less than 500 kW. First electrical division was formed in August 1953 under the Public Works Department and subsequently a Department of Multi-Purpose Projects and Power was formed in April 1964 after realizing the need for exploiting the substantial hydel potential available in the river basins.
- 1.2.2 Himachal Pradesh State Electricity Board was constituted in accordance with the provisions of Electricity Supply Act (1948) in the year 1971. Thereafter, all functions of the Department of Multi-Purpose Projects and Power such as generation, execution of hydroelectric projects except functions of flood control and minor irrigation were transferred to the Board.
- 1.2.3 In accordance with provisions of the Act, the functions, assets, properties, rights, liabilities, obligations, proceedings and personnel of Himachal Pradesh State Electricity Board (HPSEB) were vested with the Government of Himachal Pradesh vide Notification No. MPP-A(3)-1/2001-IV dated 15<sup>th</sup> June, 2009. These functions, assets, properties, rights etc. earlier vested with the Government of Himachal Pradesh were re-vested into corporate entities namely Himachal Pradesh State Electricity Board Limited (HPSEBL) and Himachal Pradesh Power Transmission Corporation Limited (HPPTCL) vide the 'Himachal Pradesh Power Sector Reforms Transfer Scheme' in accordance with the provisions of the Act and were notified vide No. MPP-A(3)-1/2001-IV, dated 10<sup>th</sup> June, 2010. The HPSEBL, thus, came into being with effect from the date of re-vesting i.e. 10<sup>th</sup> June, 2010. In the said transfer scheme, the functions of generation, distribution and trading of electricity have been entrusted with the HPSEBL.
- 1.2.4 The Himachal Pradesh State Electricity Board Limited (hereinafter referred to as 'HPSEBL' or 'Licensee' or 'the Petitioner') is a deemed licensee under the first proviso to Section 14 of the Electricity Act, 2003 (hereinafter referred to as 'the Act') for distribution and supply of electricity in the State of Himachal Pradesh.

### 1.3 Overview of HPSEBL

- 1.3.1 The HPSEBL is a vertically integrated utility and is entrusted with the functions of generation, distribution and trading of power in the State of Himachal Pradesh. The HPSEBL is responsible for the development (planning, designing, and construction), operation and maintenance of power distribution system in Himachal Pradesh. Investigation & exploitation of hydro potential of the State either through State Sector or through Central, Joint and Private Sectors is also entrusted with the HPSEBL. The HPSEBL has share of power in Central Sector stations while it also imports power from neighbouring states.
- 1.3.2 Operation and maintenance of the distribution system in the HPSEBL is carried out by its Operation Wing, which has three zones - North, Central and South, each being headed by a Chief Engineer. There are 12 Operation Circles under all the above Operation Wings. The geographical area of the Circles is not strictly as per the territorial jurisdiction of districts.
- 1.3.3 The total installed capacity of generation of the HPSEBL is 487.5 MW and total line length (HT & LT) is approx 99172 km. Despite extreme geographical terrain and climate, with the population spread over far- flung and scattered areas, the State has achieved 100 percent electrification of towns and villages in 1988.

### 1.4 Multi Year Tariff Framework for fourth Control Period and Tariff Petition for FY20

- 1.4.1 The Commission has adopted Multi Year Tariff (MYT) principles for determination of tariffs, in line with the provision of Section 61 of the Act. The MYT framework is designed to provide predictability and reduce regulatory risk. This can be achieved by approval of a detailed capital investment plan for the Petitioner, considering the expected network expansion and load growth during the Control Period. The longer time span enables the Petitioner to propose its investment plan with details on the possible sources of financing and the corresponding capitalization schedule for each investment.
- 1.4.2 The HPERC notified the HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2007 and subsequently HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2011 were notified. The Commission carried out the following three amendments in the MYT Regulations of 2011 (together referred as "MYT Regulations, 2011" hereinafter) to incorporate the need based changes keeping in view the experience gained by the Commission during last three Control Periods:
- (a) Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) (First Amendment) Regulations, 2012 dated 30<sup>th</sup> March, 2012
  - (b) Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) (Second Amendment) Regulations, 2013 dated 1<sup>st</sup> November, 2013
  - (c) Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) (Third Amendment) Regulations, 2018 dated 22<sup>nd</sup> November, 2018

- 1.4.3 Through these amendments, the Commission has also aligned its regulations with Model Tariff Regulations issued by the Forum of Regulators, recommendations of the Forum of Regulators, Tariff Policy provisions and various progressive measures/regulations adopted by the Commission and other Electricity Regulatory Commissions.
- 1.4.4 The Commission had adopted three year Control Periods during the first and the second MYT Control Periods. Since the Commission had gained sufficient experience in this regard, it was considered appropriate to move towards a five year Control Period as per the recommendations in the National Tariff Policy. Accordingly, the Commission vide notification dated 22<sup>nd</sup> November 2018, in exercise of the powers conferred by Clause (9) of Regulation 2 of the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2011, fixed the period of five years starting from 1 April 2019 as the Fourth Multi-Year Control Period.
- 1.4.5 In accordance with the MYT Regulations 2011, the Commission issued Third MYT Order for distribution business of HPSEBL on 12<sup>th</sup> June, 2015. Subsequently, the Commission issued the First Annual Performance Review Order under the third Control Period for the distribution business of HPSEBL on 10<sup>th</sup> April 2015 and the Second Annual Performance Review Order under the third Control Period for the distribution business of HPSEBL on 25<sup>th</sup> May 2016. The Commission also issued the Mid-Term Performance Review for the Third MYT Control Period on 17<sup>th</sup> April, 2017 and the Fourth Annual Performance Review Order on 4<sup>th</sup> May, 2018.
- 1.4.6 The Petitioner has now filed petition for approval of Business Plan and Multi-Year Aggregate Revenue Requirement (ARR) for fourth Control Period (FY2019-20 to FY2023-24) and determination of Wheeling and Retail Supply Tariff for FY 2019-20 (hereinafter referred as "MYT Petition") with the HPERC under Sections 62, 64 and 86 of the Electricity Act, 2003, read with the HPERC MYT Regulations, 2011. Also, as part of the MYT Petition, HPSEBL has submitted true-up of uncontrollable parameters of FY 2016-17.
- 1.4.7 This is the Order on approval of Business Plan and Multi-Year Aggregate Revenue Requirement (ARR) for fourth Control Period (FY2019-20 to FY2023-24) and determination of Wheeling and Retail Supply Tariff for FY 2019-20 along with true-up of uncontrollable parameters for FY 2016-17. In this Order, Commission has undertaken analysis of Business Plan, determination of revised Aggregate Revenue Requirement of HPSEBL for FY2019-20 to FY2023-24 under the fourth Control Period and approval of Wheeling and the Retail Supply Tariffs for FY2019-20 based on the updated information submitted by HPSEBL. Also, final true-up of uncontrollable parameters for FY2016-17 has also been undertaken based on the audited accounts of HPSEBL.
- 1.4.8 As per the MYT Regulations, 2011, Wheeling and Retail Supply Tariff shall be decided every year taking into account the adjustment on account of allowed variations in uncontrollable parameters based on the Annual Performance Review (hereinafter referred as "APR") petition filed by the Licensee. Further, revenue gap on account of true-up of previous years i.e. FY 2016-17 has also been considered for recovery along with the revised ARR for FY 2019-20.

- 1.4.9 The Commission has reviewed the operational and financial performance of HPSEBL and has finalised this Order based on the review and analysis of past records, information submissions, necessary clarifications submitted by the licensee and views expressed by the stakeholders.

### 1.5 Admission of Petition and Interaction with the Petitioner

- 1.5.1 The HPSEBL filed the application approval of Business Plan and Multi-Year Aggregate Revenue Requirement (ARR) for fourth Control Period (FY2019-20 to FY2023-24) and determination of Wheeling and Retail Supply Tariff for FY20, with the Commission on 30<sup>th</sup> November, 2018. The petition also included true-up of uncontrollable parameters for FY17. Based on various observations/ deficiencies pointed out by Commission, HPSEBL submitted further details and clarifications subsequently.
- 1.5.2 The Commission admitted the petition submitted by HPSEBL vide its interim order dated 23<sup>rd</sup> February, 2019. There have been a series of interactions between the HPSEBL and the Commission, both written and oral, wherein the Commission sought additional information/ clarification and justifications on various issues, critical for the analysis of the petition.
- 1.5.3 The Petitioner was asked to remove various deficiencies/ provide additional information vide following HPERC communications:

**Table 1: HPERC Communication to the Petitioner**

| SI | HPERC's Communication    | Date       |
|----|--------------------------|------------|
| 1  | HPERC-F(1)-5/2018-2477   | 22.12.2018 |
| 2  | HPERC-F(1)-5/2018-2839   | 05.02.2019 |
| 3  | HPERC-F(1)-5/2018-3161   | 08.03.2019 |
| 4  | HPERC-F(1)-5/2018-194    | 22.04.2019 |
| 5  | HPERC-F(1)-5/2018-309-10 | 04.05.2019 |

- 1.5.4 The queries raised by the Commission vide above mentioned letters were partially replied by HPSEBL. However, delay in submission, non-submission of the complete information and deferred responses remained a major bottleneck.
- 1.5.5 The submissions made by the Petitioner, to the clarifications/ information sought by the Commission from time to time, as detailed hereunder, have also been taken on record:

**Table 2: Communication with the Petitioner**

| SI | HPSEBL's Communication    | Date       |
|----|---------------------------|------------|
| 1. | M.A No 9/2019             | 18.01.2019 |
| 2. | M.A. No 38/2019 & 39/2019 | 20.02.2019 |
| 3. | M.A. No 47/2019           | 01.03.2019 |
| 4. | M.A. No 74/2019           | 30.03.2019 |
| 5. | M.A. No. 118/2019         | 17.05.2019 |
| 6. | M.A. No. 123/2019         | 30.05.2019 |

## Public Hearings

- 1.5.6 The interim Order inter alia included direction to the Petitioner to publish the application in an abridged form and manner as per the “disclosure format” attached with the interim order for the information of all the stakeholders in the State. As per the direction, the Petitioner published the public notice in the following newspapers.

**Table 3: List of Newspapers for Publication of Public Hearing notice**

| Sl. | Name of News Paper           | Date of Publication            |
|-----|------------------------------|--------------------------------|
| 1.  | The Tribune (English)        | 27 <sup>th</sup> February 2019 |
| 2.  | Divya Himachal (Hindi)       | 27 <sup>th</sup> February 2019 |
| 3.  | The Indian Express (English) | 1 <sup>st</sup> March 2019     |
| 4.  | Dainik Bhaskar (Hindi)       | 1 <sup>st</sup> March 2019     |

- 1.5.7 The Commission published a public notice inviting suggestions and objections from the public on the tariff petition filed by the Petitioner in accordance with Section 64(3) of the Act which was published in the newspapers as mentioned in the table:

**Table 4: List of Newspapers for Public Notice by Commission**

| Sl. | Name of News Paper    | Date of Publication        |
|-----|-----------------------|----------------------------|
| 1.  | The Tribune (English) | 7 <sup>th</sup> March 2019 |
| 2.  | Amar Ujala (Hindi)    | 7 <sup>th</sup> March 2019 |

- 1.5.8 The stakeholders were requested to file their objections by 9<sup>th</sup> April, 2019. HPSEBL was required to submit replies to the suggestions/ objections to the Commission by 16<sup>th</sup> April, 2019 with a copy to the objectors on which the objectors were required to submit rejoinder by 23<sup>rd</sup> April, 2019. The date of public hearing was fixed on 30<sup>th</sup> April, 2019.
- 1.5.9 Suggestions, issues and concerns raised by various objectors have been carefully examined by the Commission. The major issues raised by the objectors in their written submission as well as those raised during the public hearing, have been summarized in Chapter 5 of this Order.

## 2 INTERACTION WITH MANAGEMENT OF HPSEBL AND COMPLIANCE OF DECISIONS

### 2.1 Introduction

- 2.1.1 HP Electricity Regulatory Commission organized a consultative meeting with the management of HPSEB Ltd. on 01.06.2019 at HPERC office to discuss the issues pertaining to Multi year Tariff/ True Up petition filed by HPSEBL.
- 2.1.2 The following issues as per the agenda items circulated earlier were discussed during the meeting:-

### 2.2 **Power Procurement strategy and planning of HPSEBL. Load Forecasting on short-term, medium-term and long-term basis so as to make plan for Power Procurement and disposal of the surplus power. Surrender of SOR share from stations such as Chamera-III, Koldam, Parbati-III, Tehri, Koteshwar since rate is above Rs. 4.5/kWh during fourth Control Period.**

- 2.2.1 It was emphasized upon in the meeting that the Power procurement cost is one of the major costs of HPSEBL. Therefore, renewed focus is required by HPSEBL on procurement of power to optimize this cost to the level possible. For prudent, efficient and cost effective management of procurement and disposal of surplus power, HPSEBL will have to act in a professional manner keeping in view the commercial aspects in mind. Power Procurement strategy and planning has to be such that it not only fulfill the demand of the State but also have some contingency reserves as well. Presently, HPSEBL is having power surplus during summer/ monsoon months and is deficit during winter months. Due to which it has to sell its surplus power at throwaway prices at the platform of power exchanges. This position is due to the fact that 85% of the power procured by HPSEBL is from hydro generation. Therefore, HPSEBL has to plan its power procurement and surplus sales in such a manner so as to have maximum gains.
- 2.2.2 HPERC Tariff Regulations provide that the HPSEBL needs to conduct load forecasting for short term, medium term and long term basis to plan its power procurement. Therefore, the detailed study based on scientific load forecasting tools must be carried out on regular basis. HPSEBL is submitting its power procurement plan but without appropriate load forecasting studies. HPSEBL in its petition has pointed out that it shall be power surplus during the next Control Period. In the event of such a scenario, the HPSEBL should consider

- surrendering SOR share from Central Generating Stations with rate above Rs. 4.5/kWh and pursue the matter with Ministry of Power for surrendering this additional power.
- 2.2.3 M.D., HPSEBL informed that the Power procurement strategy and planning of HPSEBL is based upon the average of previous 5 years availability viz. a viz. with due consideration to growth of the demand in the State. It was further informed that with regards to medium and long term planning, HPSEBL has enough power from its committed shares from central sector projects against the PPAs executed on long term basis. Further, in compliance to the directives of policy of Govt. of HP to avail power from all IPPs up to 25 MW, HPSEBL has added enough capacity to the availability of power. In compliance to the directives of the HPERC to surrender costly thermal power from NTPC's upcoming projects, it was informed that HPSEBL with the best efforts has got the following project de-allocated for lifetime through Ministry of Power, GOI:
- i. North Karanpura
  - ii. Barh-I STPP
  - iii. Barh-II STPP
  - iv. Unchahar-IV
  - v. Meja
- 2.2.4 In addition to this power, the following hydro SOR entitlements from the different projects, as detailed below, also stands de-allocated for five years:
- i. Tehri (Rs. 4.65/unit)
  - ii. Koteshwar (Rs. 4.21/unit)
  - iii. Chamera-III (Rs. 4.25/unit)
  - iv. Parbati-III (Rs. 5.45/unit)
  - v. Koldam (Rs. 5.00/unit)
- 2.2.5 It was added that even without the availability of above de-allocated hydro power, HPSEBL is sufficient in power to mitigate the demand of the State. In view of the fact that the rate of energy from above mentioned hydro projects are ranging above Rs.4.20/kWh and the disposal of such surpluses at this rate may not be possible, however, HPSEBL shall put further efforts to de-allocate the above shares for the coming five years also. It was also brought to the notice that the above de-allocated power shall be expired by October, 2019 after lapse of five years and till further re-allocation of above entitlements, HPSEBL has considered the availability from these projects w.e.f. Oct 2019 onwards in its forecasted availability.
- 2.2.6 Regarding Load forecasting studies, M.D. HPSEBL ensures that they will be doing it in future as per the requirement of the HPERC Regulations.
- 2.3 Short Term Power Procurement by HPSEBL during 2018-19. Non approval from the Commission for the same- Reasons thereof.**
- 2.3.1 Chairman, HPERC enquired about the procurement of significant quantum of short-term power from open market by HPSEBL at an average rate of Rs.



4.3/kWh during summer months in FY 2018-19 which is considerably high. Also, additional power from URS pool during FY 2018-19 was procured by HPSEBL. The rate of which was also high. It was suggested that such costs could have been avoided by using proper forecasting tools and planning in advance. Also, HPSEBL had not taken the prior approval of the same from the Commission. The Commission was apprised quite late about the same and that too only in response to the communication issued in this regard from the Commission.

2.3.2 M.D., HPSEBL informed that due to the poor weather conditions and persistent dry spell in the State, which was unprecedented during FY19, the availability could not be forecasted accurately. It was emphasized that the availability of power for HPSEBL is 90% hydro dependent and thus in real time operations due to unpredictable behavior of the hydro, HPSEBL cannot go at par with the anticipations made and had to resort to different sources for procurement of power in many events. It was further informed that during FY19, owing to the above mentioned reasons resulted into:

- a) Short fall from Hydro Resources = 926 MUs
- b) Increase in demand of the State = 517 MUs
- c) Total shortfall = 1443 MUs

2.3.3 To meet up the above shortages, HPSEBL purchased 836 MUs at an average rate of 3.71/kWh from power Exchanges and through Unscheduled Interchange and availed URS power from NTPC stations to the tune of around 670 MUs.

## **2.4 Steps taken to improve reliability and quality of power supply to the Consumers. Trajectory for Reliability Indices – SAIFI, SAIDI, CAIFI, CAIDI & Wires and Supply Availability.**

2.4.1 Chairman, HPERC enquired from HPSEBL about non submission of the details of SAIFI, SAIDI, CAIFI, CAIDI and Wires and Supply Availability as a part of the Tariff Petition in line with the MYT Regulations, 2011. Also, the HPSEBL has not proposed any trajectory for these indices for the next Control Period.

2.4.2 It was emphasized by Chairman, HPERC that the Commission while approving the ARR of HPSEBL has allowed all its power procurement for supplying 24x7 power supply to the consumers of the state. But, it has been learnt through newspaper items that the power supply position in the state has been deteriorating especially in the rural areas. The quality and reliability of power is not good even in the urban areas. This issue has been raised by the various stakeholders during the public hearing as well. Also, there have been many places where low voltage problems are being faced by the consumers of the State. The quality and reliability of power in the industrial areas must be ensured being high revenue generating consumers to HPSEBL. Hard working and efficient people be posted in the industrial areas and must be ensured that there is no vacancy left in the industrial belt. HPSEBL being now a Company must work on the Commercial principles. Good performances by the employees must be rewarded and at the same time inefficiencies/ poor performances must be discouraged by appropriate mechanism.

- 2.4.3 The reason for deteriorating electricity supply position also seems to be inadequate expenditure in strengthening the power network as well as lack of efficient technical manpower. The Commission in its MYT order dated 12th June, 2014 had allowed the CAPEX proposed by HPSEBL. But, the physical progress on this front seems lacking. Also, there is an urgent need that HPSEBL must appoint adequate and skilled technical manpower so as to have 24x7 reliable power supply in the state.
- 2.4.4 HPSEBL shall simplify the procedures for procurement of material and execution of works through contracts. HPSEBL should delegate administrative and financial powers to field officers for speedy execution of works and should try to take umbrella approval for works on generic and normative basis, c/o 33 kV sub-station such as procurement of power transformers, DTRs, electronic meters, wires, poles etc. from the financial institutions and the field officers need not seek repeated approvals from management for executing these works once Administrative Approval & Expenditure Sanction for group of schemes on lump-sum basis is given.
- 2.4.5 M.D., HPSEBL informed that it had fixed the targets for FY 2018-19 as under:
- i. Average outage duration in the entire State: 40 Hours against average of 45 Hours during FY 18.
  - ii. Average outage duration for Rampur, Rohru, Dalhousie and Kullu Circles: 70 Hours against 100 Hours in these circles during FY 18.
  - iii. Average outage duration in RAPDRP Towns: 15 Hours
- 2.4.6 Further, the following was informed regarding the steps taken to improve the reliability of power:
- i. Creation of new infrastructure to address the bottlenecks.
  - ii. Centrally sponsored schemes IPDS, RAPDRP, DDUGJY are under implementation with the objective of enhancing the quality and reliability of power to consumers.
  - iii. HPSEBL has identified low voltage pockets in the state and accordingly a scheme is under formulation to address the issues so as to ensure quality power.
  - iv. Under the PSDF Scheme of GoI, HPSEBL has replaced old and obsolete switchgears of 20 Nos. EHV Substations along with replacement of electromechanical relays with numeric and static relays.
- 2.4.7 The above measures shall ensure a reliable power supply to the consumers and the shutdowns and trippings on account of switchgears shall be addressed. HPSEBL has also proposed several schemes in the Capex Plan, which shall be executed on need basis to further improve the quality of supply.

**2.5 Human Resource Development Planning. Separate for different businesses of HPSEBL like Generation, Distribution etc. Need for Manpower Study and benchmarking of Employee Expenses. Need for creation of separate fund for meeting Terminal Liability obligations. Organizational structure reforms, Vacancies and rationalization of certain posts/cadres, Decentralization and delegation of Administrative/ Financial/ Managerial powers to the field units in view of the fact that HPSEBL is now primarily a Distribution Company with commercial focus.**

2.5.1 It was reiterated by Chairman, HPERC that the employee cost of the HPSEBL is one of the highest in the country. One of the suggestions during public hearing has been to conduct a study from an independent authority to rationalize this cost. HPSEBL time and again has opined that its higher employee cost is primarily due to the terminal liability burden on it. But, if we remove the terminal liability cost of HPSEBL still then it is very much high compare to the Uttrakhand Power Corporation Ltd (UPCL) and other states. In UPCL total number of regular employees are around 3500 only whereas it is very much high in HPSEBL. HPSEBL must outsource the non functional activities so that its cost is reduced.

2.5.2 M.D., HPSEBL informed that in relation to Manpower Study for efficient and effective utilisation of the existing Human Recourse, serious efforts are being made by HPSEBL. A special Committee under Chief Engineer (Central Zone) was constituted in 2017 to assess the manpower requirements in Operation, Generation and Transmission wings. The committee has submitted its report in June 2018. Further, for effective use of the existing staff, rationalization process was initiated in 2018 and the exact requirement of manpower in different offices has been analysed. While finalizing the report various factors such as existing strength, current requirement, employee cost and age profile etc. have been taken into consideration. It was informed that this report has already been submitted to BOD of HPSEBL and same shall be taken up for implementation after approval from BOD.

2.5.3 It was informed that besides this, another study is being undertaken by M/s Feedback Infra Pvt. Ltd. to study the patterns of HPSEBL in comparison to neighbouring utilities and to report the best practices being implemented by other utilities and the scope of implementation of such practices in HPSEBL. Once these reports are available with HPSEBL, a comprehensive plan shall be prepared to ensure the effective implementation of same. It was directed that above reports shall be finalised expeditiously and got implemented in time bound manner under intimation to Commission. All the deadwoods and rogues shall be identified and their services be dispensed with.

2.5.4 It was further informed by HPSEBL that it is actively working on decentralization and delegation of power. For the same, the HPSEBL has begun decentralizing the powers starting with handing over additional power and responsibilities to EEs and SEs at Division and Circle Levels respectively:

- a. Up to 1000 kW / 1000 kVA PAC by concerned Executive Engineer of the Division.

- b. Above 1000 kW / 1000 kVA PAC by concerned Superintending Engineer of the Operation Circle.
- 2.5.5 The DoFP (Delegation of Financial Powers) has also been revised to empower field officers with additional financial powers and responsibilities.
- 2.5.6 Further, it was discussed about the provisioning being made by HPSEBL in its accounts for terminal liabilities each year based on a devised formula but there has not been any actual fund creation on this account. Chairman, HPERC directed that this amount should be deposited in a separate fund so that it is available for meeting future liabilities and details of expenditure met out of it each year should be submitted along with the true claim of respective year in the tariff petition.
- 2.6 Ujwal DISCOM Assurance Yojana (UDAY) – Status of its implementation.**
- 2.6.1 Ujwal DISCOM Assurance Yojana (UDAY) is a financial turnaround and revival package for electricity distribution companies of India (DISCOMs) initiated by the Government of India with the intention to find a permanent solution to the financial mess that the power distribution is in. It allows state governments, which own the discoms, to take over 75 percent of their debt as of September 30, 2015, and pay back lenders by selling bonds. Discoms are expected to issue bonds for the remaining 25 percent of their debt.
- 2.6.2 It was seen that the UDAY MoU states that the borrowings made by the State to restructure DISCOM debt shall be utilized for discharging the DISCOM debt and is to be eventually transferred to DISCOM in the form of grant (Rs. 2167.50 Cr.; 25% of restructured loan) and equity (Rs. 723 Cr. 25% of restructured loan). However, the utility has submitted that under another bipartite agreement between GoHP and HPSEBL following the MoU, this has been transferred in the form of a back-to-back loan. Chairman, HPERC enquired about the steps being taken up with the Govt. of HP to get this loan converted into grant and equity in FY 21. Also, HPSEBL should take out the measures for treatment of the remaining 25% of outstanding debt under UDAY.
- 2.6.3 HPSEBL informed about the status of Ujwal DISCOM Assurance Yojana (UDAY) as below:
- a. Status of 75% debt of Rs. 2890.50 crore taken by State Government by issuing bonds
- i. As per the UDAY scheme of Government of India (GoI), Government of Himachal Pradesh (GoHP) has issued bonds amounting to Rs. 2,890.50 Cr (i.e. 75% of outstanding debt of HPSEBL as on 30.09.2015) on 28.02.2017.
  - ii. The proceeds of the bonds were received directly from RBI in the bank account of the HPSEB Ltd. on 28.02.2017 and the amount has been transferred to various lenders accounts on 01.03.2017.
  - iii. GoHP has signed a separate agreement with HPSEBL on dated 24.01.2017 regarding mechanism for back-to-back repayment of loan of Rs. 2890.50 Cr and interest accrued and due thereon.

- b. Status of 25% debt i.e. Rs. 963.50 crore remained with HPSEBL as on 30.09.2015, the following has been informed by HPSEBL
- i. As per the UDAY scheme, the balance 25% funds Rs. 963.50 Cr outstanding as of 30.09.2015 needs to be restructured by the Banks / FIs with interest rate not exceeding the Banks' MCLR / Base Rate plus 10 Basis Points against State Govt. guarantee for a period of 5+10 years or the amount is to be paid by issuing bonds by the company. Out of Rs. 963.50 Cr, an amount of Rs. 615.28 Cr. is ineligible to be considered for restructuring under UDAY Scheme.
  - ii. Out of eligible loans of Rs. 463.50 Cr, Banks have considered loans of Rs. 350 Cr for restructuring and HP State Cooperative Bank (HPStCB) has sanctioned loan of Rs. 325 Cr on 03.08.2018. However, one of the condition regarding rate of interest was not in accordance to the initial agreement i.e. alignment of interest rate to SBI MCLR as the same was lesser than the HPStCB Base rate and therefore the said bank was requested to reconsider the ROI proposal.
  - iii. Further, SBI also initiated the proposal for restructuring of the said loan and has sanctioned loan of Rs. 348.22 Cr on 14.05.2019 offering the ROI of 8.70% i.e. (MCLR + 25 Basis Points). Moreover, the HP State Cooperative Bank vide letter no. STCB/BO SML/HPSEB/2018-384 dated 07.05.2019 (F/A) modified the original sanction term (sanction letter no. L&A/505/2018-19 dated 03.08.2018) offering ROI @ of average MCLR of the Five Banks (i.e. SBI, PNB, UCO, CANARA and HDFC) plus 10 basis points which at presents works out to be 8.68%.
  - iv. As both the proposal seems to be identical in terms of sanction terms, therefore it is decided to hold the meeting with both the banks for further price escalation and a final decision is expected to be taken in a period of one month.

## **2.7 Reforms initiatives proposed to be undertaken to turn around the HPSEBL.**

- 2.7.1 HPSEBL is a commercial entity and is presently reeling under financial distress. Therefore, some innovative steps are required to be taken so as to turn around the organization.
- 2.7.2 HPSEBL informed that the following reform initiatives have been taken up by HPSEBL:
- a. Adjusted the power purchase bills payments cycles to avail early payment rebates on payment of Power Purchase bills before due date.
  - b. Initiatives to promote sales to Industrial Consumers
    - i. For existing industrial consumers, a rebate of 10% on energy charges for additional power consumption beyond the level of the previous year.

- ii. For new industries, the energy charges are 10% lower than the approved energy charges for the respective category for a period of 3 years.
- iii. Seasonal concessional tariffs for industrial consumers through reduced energy charges.
- c. Other Initiatives
  - i. Up to 1000 kW / 1000 kVA PAC by concerned Executive Engineer of the Division.
  - ii. Above 1000 kW / 1000 kVA PAC by concerned Superintending Engineer of the Operation Circle.
  - iii. To ensure access to electricity by all as it is an essential commodity, mandatory requirement of NOC for electricity connections has been repealed. Electricity being human right no person shall be deprived of it.
- d. Billing Initiatives:
  - i. Complete rollover to computerized billing by September 2019.
  - ii. HPSEBL has proposed the installation of Smart Meters in the entire state of HP in a phased manner. In the first phase, Smart Meters will be installed for 1.35 Lakh consumers of Shimla and Dharamshala cities as both these have been selected under Smart City Mission of GOI. After the successful completion of 1st Phase the installation of Smart Meters for remaining consumers shall be taken up. HPSEBL shall make timely payment of energy bills of IPP's and avail rebate.
- e. IT Initiatives:
  - i. Rebate of Rs. 10 for domestic consumers for digital payments of electricity bills has been proposed from April 2019 for 6 months.
  - ii. Revamping the Consumer Complaint Handling System for swift, hassle free and transparent complaint resolution.
  - iii. GIS Software Upgradation for improved integration with Billing and Revenue Management System, Store Management System, Electrical Network Management System, Energy Auditing & Accounting, CRM and MIS Systems.
  - iv. Phasing out the old and outdated servers, network devices and switching to cloud services so as to maintain a robust system and safeguard against cyber-attacks and ransom ware attacks.

## **2.8 Status of Capital works in progress and status of Capitalization thereof. Quarterly Progress Report of Capital Expenditure and Capitalization-Reasons for non-submission thereof.**

- 2.8.1 Chairman, HPERC enquired from HPSEBL about the non-submission of the details of Capital expenditure, CWIP, scheme-wise break-up of distribution capex and capitalization details each quarter as per the requirements of the HPERC Regulations. It was directed by Chairman, HPERC that the HPSEBL must

ensure that the information regarding Capital expenditure is submitted to the Commission on regular basis. Also, for all future works, DPRs, cost-benefit analysis and scheme-wise approval must be taken from the Commission in advance.

- 2.8.2 HPSEBL submitted the following detail regarding Capitalization in FY 2016-17 and FY 2017-18:-

**Table 5: HPSEBL submission on Capitalization in FY17 and FY18 (Rs. Cr.)**

| Particulars                            | FY 2016-17    |              |               | FY 2017-18    |              |               |
|--|---------------|--------------|---------------|---------------|--------------|---------------|
|  | Total         | Gen.         | Distt.        | Total         | Gen.         | Dist          |
| Interest & Finance charges Capitalized | 46.82         | 4.66         | 42.16         | 86.68         | 6.08         | 80.6          |
| Other expenses capitalized:            |               |              |               |               |              |               |
| a. Employee expenses                   | 36.77         | 4.01         | 32.76         | 48.22         | 3.42         | 44.80         |
| b. R&M Expenses                        | 0.00          | 0.00         | 0             | 0.00          | 0.00         | 0             |
| c. A&G Expenses                        | 0             | 0.00         | 0             | 0.49          | 0.00         | 0.49          |
| d. Depreciation                        | 0.02          | 0.00         | 0.02          | 0.00          | 0.00         | 0             |
| e. Others, if any                      | 0.00          | 0.00         | 0             | 0             | 0.00         | 0             |
| <b>Total of (1 &amp; 2)</b>            | <b>83.61</b>  | <b>8.67</b>  | <b>74.94</b>  | <b>135.39</b> | <b>9.50</b>  | <b>125.89</b> |
| <b>Grand Total</b>                     | <b>130.43</b> | <b>13.33</b> | <b>117.10</b> | <b>222.07</b> | <b>15.58</b> | <b>206.49</b> |

- 2.8.3 The detail of Capital Expenditure during the 3rd Control Period was submitted by HPSEBL as under:

**Table 6: HPSEBL submission on Capital Expenditure during 3rd Control Period (Rs. Cr.)**

| Name of Scheme        | Capital Expenditure (Rs. Cr.) |        |        |        |        |                       |
|-----------------------|-------------------------------|--------|--------|--------|--------|-----------------------|
|                       | FY14                          | FY15   | FY16   | FY17   | FY 18  | FY 19 (Upto 9 months) |
| <b>R-APDRP Part-A</b> | 6.74                          | 11.41  | 17.70  | 9.65   | 30.08  | 0.00                  |
| <b>R-APDRP Part-B</b> | 74.07                         | 69.92  | 87.79  | 37.81  | 81.05  | 2.22                  |
| <b>IPDS</b>           | 0.00                          | 0.00   | 0.00   | 0.00   | 0.31   | 1.10                  |
| <b>DDUGJY</b>         | 14.43                         | 1.28   | 1.85   | 1.83   | 0.42   | 1.47                  |
| <b>Saubhagya</b>      | 0.00                          | 0.00   | 0.00   | 0.00   | 0.00   | 0.00                  |
| <b>EHV Schemes</b>    | 124.17                        | 46.45  | 78.10  | 55.97  | 115.64 | 33.02                 |
| <b>HV Scheme</b>      | 63.14                         | 64.21  | 102.76 | 73.56  | 75.11  | 4.13                  |
| <b>GSC Scheme</b>     | 76.78                         | 70.74  | 99.68  | 84.51  | 77.89  | 16.34                 |
| <b>Total</b>          | 359.34                        | 264.02 | 387.88 | 263.33 | 380.50 | 58.28                 |

## 2.9 Future EHV schemes to be undertaken only after concurrence from HPPTCL.

- 2.9.1 HPSEBL was apprised about the role and functions of the State Transmission Utility as spelled out in Electricity Act, 2003:-

- a. to undertake transmission of electricity through intra-State transmission system;

- b. to discharge all functions of planning and co-ordination relating to intra-State transmission system with (i) Central Transmission Utility; (ii) State Governments; (iii) generating companies; (iv) Regional Power Committees; (v) Authority; (vi) licensees; (vii) any other person notified by the State Government in this behalf;
  - c. to ensure development of an efficient, co-ordinated and economical system of intra-State transmission lines for smooth flow of electricity from a generating station to the load centres;
- 2.9.2 Therefore, as per the Electricity Act, 2003, the mandate for planning and co-ordination of the intra-state transmission network lies with the STU i.e. HPPTCL in our state. In view of the above, construction of new 66kV and above works must be the mandate of HPPTCL (deemed STU) and therefore, concurrence is needed from HPPTCL if HPSEBL is proposing new EHV works. Otherwise, the Commission shall be constrained to approve only those EHV works proposed by HPSEBL for the next Control Period which are primarily for augmentation/strengthening of existing network only.

## **2.10 Non submission of the Tariff Proposal and report of Voltage wise cost of supply study conducted.**

- 2.10.1 It was enquired by Chairman, HPERC about the non-submission of detailed tariff proposal for different categories of the consumers. Further, as per the direction of the Commission, the HPSEBL was required to conduct a voltage-wise cost of supply study. Although it has been informed that the study is now complete, the HPSEBL is yet to submit the detailed report to the Commission.
- 2.10.2 M.D., HPSEBL informed that they have already submitted the revenue gap in the MYT Petition for the 4th Control Period. So, the Commission may take the call regarding increase in tariff. Regarding non-submission of report on "Voltage Wise Cost of Supply", M.D., HPSEBL informed that they have awarded the "Voltage Wise Cost of Supply" study to M/s CRISIL and the preliminary report has been submitted by M/s CRISIL which is under consideration of the HPSEBL. On finalization of the same, HPSEBL will share the study with the Commission. HPSEBL was directed to expedite the same.

## **2.11 Energy Sales growth trajectory for the next five years. Detail of Category wise, slab wise energy sales of HPSEBL for the last three years.**

- 2.11.1 Chairman, HPERC enquired from HPSEBL officials about the energy sales growth trajectory for the next five years viz-a-viz category wise actual energy sales the last three years. Also, he asked to clarify the nature of difficulties encountered and tentative timelines for complete rollout of billing software in all electrical circles of HPSEBL. Further, in the next tariff petition, HPSEBL should be able to provide details of actual slab-wise details (EHV/HT-1/HT-2 etc.) for all the consumers.
- 2.11.2 HPSEBL shared the energy sales growth trajectory projected for the 4th Control Period and also the category wise details of actual sales for the last three years were discussed. HPSEBL ensured that with complete automation,



they will be in a position to give the detail of slab with energy consumption within a category from next year onwards.

**2.12 Detail of AT&C Losses and T&D losses and the future trajectory. Voltage wise losses at different voltage levels. Steps undertaken to reduce losses in circles/ divisions where losses continue to be high. Any scheme to give incentives/disincentives for the staff linked to reduction in losses.**

2.12.1 Chairman, HPERC enquired about the AT&C loss status from HPSEBL. HPSEBL was also advised to take the following operational measures to reduce the AT&C losses:-

- i. Defective DT Meters and other defective meters replacement on priority.
- ii. Identification of loss prone areas and reasons and remedial measures be taken.
- iii. Undertaking name and shame campaign to control power theft from time to time
- iv. Area based incentives and disincentive scheme for field staff linked with efficiency and reduction in losses be initiated.
- v. Preparing loss reduction targets at sub-division/Division/Circle/Zonal level and making concerned officers responsible for achieving targets
- vi. Implementing performance monitoring and management system MIS for tracking the meter replacement, loss reduction and day to day progress for reporting to top management-
- vii. Energy Audit at every level
- viii. Meter performance analysis
- ix. Undertaking Feeder improvement program for network strengthening and optimization

**2.13 Customer Care and grievances redressal issues. Smart meters initiative as mandated in the Tariff Policy-2016. Centralized Billing of all the consumers above 100 kVA contract demand- Status thereof.**

2.13.1 Chairman, HPERC emphasized that the first and foremost requirement for effective customer care is that the procedures laid down by the distribution licensee should be transparent, simple and objective so as to doing the business is easy. To ensure quality of service to the customers, the standards of performance have to be laid down and the distribution licensee has to abide by these standards.

2.13.2 To ensure that the grievances of customers are timely and effectively addressed, a robust grievances redressal system has to be there. All the institutions as mandated in the Electricity Act, 2003 such as FRGC and Electricity Ombudsman are in place. However, these institutions have not been able to achieve their desired results as it has been noticed that:

- a. The number of customers approaching FRGC and EO are very small.

- b. Most of the grievances are only related to billing.
  - c. Mostly industrial customers are approaching FRGC and EO.
- 2.13.3 However, a large number of customer complaints are reported in the media which are related to low voltage, frequent tripping, power failures etc. Today the use of technology/ automation is very much essential for giving better services to the consumers as well as to reduce the cost. The new technologies are now available especially in metering so as to have better accuracy in billing. HPSEBL may opt to these.
- 2.13.4 M.D., HPSEBL informed that presently in place of existing Complaint system of getting complaint registered at Call Centre and thereafter conveying on phone to concerned offices, the new Complaint handling Mechanism in SAP ISU Billing has been introduced. The implementation status is detailed as under:

#### **Existing Mechanism**

- i. Presently user can lodge complaint either on Web site or through Toll free No 1912/18001808060. Two types of complaint can be lodged.

**Consumer Type Complaint:** Complaint will be registered against consumer ID.

**Example:** Power cut, Billing Issue, Payment Issue, Voltage Fluctuation etc.

**Non consumer Type Complaint:** Anyone can lodge some generic complaint.

**Example:** Street Light related Complain, Theft notifications etc.

- ii. SMS to complainant with complaint ID.
- iii. After successful registration complaint goes to respective subdivisions. AE concerned can check and provide resolution for the same or can forward to JE/linesman for resolution. JEs/Linesman can update system after resolution. Thereafter SMS of resolution goes to complainant.
- iv. Call centre makes conformation call to the complaint enquiring whether the complaint was attended or not. In case not, the complaint is re-lodged.
- v. The complainant can view the status of his complaint on the Web site.

#### **Proposed Mechanism**

- i. The complaint received through CM helpline to be integrated in the existing Call Centre which would be L-1 level as per the escalation matrix being developed by DIT.
- ii. Implementation of Escalation Matrix:
- iii. In case the complaint remains unresolved/unattended at AE level within the scheduled time or its resolution falls in the competency of next higher authorities, it shall be escalated to next higher authority through system and SMS shall be sent up to the level of Chief Engineer through the hierarchy of offices of Sr. EE and SE who will

also resolve the complaints as per their authority or escalate in case it falls in the competency of next higher authority.

- iv. In case, the Complaint is not attended to at the Level of CE, it will come to the Nodal Office of HPSEBL and put up to Management of HPSEBL (L-2&L-3 level) for resolution/further action.
- v. In case the resolution is beyond the competency of management of HPSEBL, it shall further escalate to Pr. Secretary (MPP & Power)/Chairman (L-4 Level) for necessary action in the matter.
- vi. After resolution of the complaint as each level, SMS will go to the complainant.
- vii. The Status of the complaint shall also be available at the Call Centre and with Nodal Officer.
- viii. After resolution the Call centre shall get feedback from the complainant and in case complaint is not attended to, the Complaint will be reopened.

2.13.5 It was further informed that in order to revamp/upgrade the existing Consumer Complaint Handling System, HPSEBL has proposed to spend Rs 2.5 Crore during 2019-20.

- a. Smart meters initiative: HPSEBL officials informed that Smart Grid Pilot Project at Kala Amb has been implemented. On the similar lines HPSEBL has proposed the installation of Smart Meters in the entire state of HP in a phased manner. The details of implementation plan are as tabulated below. In the first phase, Smart Meters will be installed for 1.35 Lakh consumers of Shimla and Dharamshala cities as both these have been selected under Smart City Mission of GoI. After the successful completion of 1st Phase the installation of Smart Meters for remaining consumers shall be taken up for execution as per the plan detailed below:

**Table 7: HPSEBL submission on smart metering**

| Description  | FY 2019-20                              | FY 2020-21                        | FY 2021-22                           | Total           |
|--|---|-----------------------------------|--------------------------------------|-----------------|
| No. of Smart Meters to be installed                              | 1,35,000                                | 10,00,000                         | 12,67,200                            | 24,00,000       |
| Indicative Capex Expenditure                                     | Rs. 51.30 Cr. (based on PFCCL Proposal) | 380 Cr. (based on PFCCL proposal) | 481.53 Cr. (based on PFCCL proposal) | 912.83 Cr.      |
| PFCCL Charges as PDMA, Interest on Debt @10.5%, O&M and FMS cost | Rs. 38 Cr. (Based on PFCCL proposal)    | Not considered in Capex cost      | Not considered in Capex cost         | Rs. 38 Cr.      |
| Consultancy Charges @15%   | --                                      | Rs. 57 Cr.                        | Rs. 72.22 Cr.                        | Rs. 129.22 Cr.  |
| Total Indicative Expenditure                                     |   |                                   |                                      | Rs. 1080.05 Cr. |

- b. Centralized Billing: In this regard, it was informed that HPSEBL has already rolled over to the centralized Billing, which shall be completed by September 2019. Presently, out of total 1937 consumers of 100kVA and above around 840 consumers are being billed through AMR. However, all

the consumers shall be covered by September 2019 and after that all the bills shall be raised from centralized location only.

## **2.14 Demand Side Management initiatives and way forward.**

- 2.14.1 Demand side management (DSM) is the modification of consumer demand for energy through various methods such as financial incentive and behavioral change through education. Usually, the goal of demand side management is to encourage the consumer to use less energy during peak hours, or to move the time of energy use to off-peak times such as nighttime and weekends. Peak demand management does not necessarily decrease total energy consumption, but could be expected to reduce the need for investments in networks and/or power plants for meeting peak demands. An example is the use of energy storage units to store energy during off-peak hours and discharge them during peak hours.
- 2.14.2 Presently, Peak load charges are levied on Industrial consumers and Water Pumping supply. But, there is a need of introducing it on another category of consumers as well so as to have a flattening load curve. But, for that meters capable of recording Time of the Day (ToD) consumptions are to be installed. ToD metering can be introduced in a phased manner. Firstly, the large consumers can come under the ambit of ToD and thereafter the smaller ones.
- 2.14.3 It was informed by HPSEBL management that the following DSM Initiatives are already being undertaken at HPSEBL:
- a. Peak Load Charges: A mechanism of levying higher charges during peak load hours has been implemented so as to discourage industrial consumers from drawing power during peak load hours. This helps in flattening the demand curve.
  - b. Night Time Concession Charges: Special concession is being offered to the Industrial Consumers for consumption during the off-peak hours in the night.
  - c. Energy Efficiency Initiatives: HPSEBL has taken up initiatives of distributing LED bulbs to domestic consumers. Further, all the street lights in major cities have already been replaced with LED Lights to bring in energy efficiency.

## **2.15 Preparation of Accounting Manual and Regulatory Audited Accounts as spelled out in Himachal Pradesh Electricity Regulatory Commission (Reporting System on Power Regulatory Accounting) Regulations, 2014.**

- 2.15.1 As per the Himachal Pradesh Electricity Regulatory Commission (Reporting System on Power Regulatory Accounting) Regulations, 2014, HPSEBL shall within 90 days after the commencement of these regulations i.e. 22nd December, 2014 or the grant of the licensee or the beginning of the regulated business, prepare an accounting Manual containing the details as given in the said regulation. The Utility shall also submit the Regulatory Audited Accounts every year within seven months of the end of the Financial Accounting Year to

the Commission in accordance with the formats appended to these regulations. But, the detail as desired in the regulation from HPSEBL is still awaited.

- 2.15.2 HPSEBL officials submitted that the accounting Manual has been prepared and separate chapter to comply the HPERC Regulation, 2014 has been incorporated in the Accounting Manual. Further, it was informed that the HPSEBL is in the process of implementing IND AS and the process is expected to be completed by the first half of this financial year i.e. 2019-20. The opening balance sheet of the Company will be prepared as on 01.04.2016. Further, it has been observed that the regulatory accounts for the FY 2014-15 have some inconsistencies with the audited accounts i.e. there are certain issues with respect to the apportionment criteria like methodology for allocation of depreciation, grants, loan to each segment etc. Therefore, it has been felt appropriate that the regulatory accounts of the Company shall be prepared after finalization of the opening balance sheet as per the IND AS so as to avoid any inconsistency and the regulatory accounts up to the FY 2016-17 shall be supplied accordingly by end of the 2nd Quarter of the FY 2019-20.

**2.16 Segregation of accounts and balance sheets for different business and assets mapping and revaluation. Preparation of separate accounts for each generating station and closure of accounts of completed projects.**

- 2.16.1 HPSEBL at present is primarily a distribution utility doing retail as well as wheeling business but at the same time it has some generation assets and also engaged in constructing new generating stations as well. Therefore, segregation of accounts and balance sheets of these different businesses are very much essential in fixation of tariff and to have better transparency and accountability.
- 2.16.2 HPSEBL management informed that as per direction of HPERC, HPSEBL has identified five strategic Business Units i.e. Generation, Transmission, ALDC, Project & Distribution and are maintaining separate accounts for each Profit Centre. Further, segment wise Balance Sheet and Profit and Loss Accounts of each Strategic Business Unit is being shown / disclosed from FY 2011-12 onwards in the Notes to Accounts to the audited Balance Sheet / Financial Statements of the Company. The accounts of each business are also being audited by Statutory Auditors of the Company for consolidation of Balance Sheet of the HPSEBL.

**2.17 Completion status of Uhl Hydroelectric Station with actual time lines. Non-filing of petition for approving the capital cost of Ghanvi-II & Uhl HEPs.**

- 2.17.1 M.D., BVPCL informed the tentative commissioning dates for Uhl HEP as under:-
- Unit 1: 14/10/2019
  - Unit 2: 14/11/2019
  - Unit 3: 14/12/2019
- 2.17.2 Also, it was enquired about the basis for the rates of Uhl-III and Ghanvi-II proposed by HPSEBL as equivalent to Bhabha HEP and Rs. 2.25/kWh

respectively. However, HPSEBL in generation petition submitted recently has proposed tariff for Uhl HEP as Rs. 8.50 per kWh and for Ghanvi-II at Rs. 3.44 per kWh. It was informed by HPSEBL officials that it may have been done inadvertently. Also, the reasons for non filing of the tariff petition for Ghanvi-II were asked. On this, it was informed that the petition for capital cost for Ghanvi-II is being prepared and shall be submitted to the Commission for approval in two months' time.

## 2.18 Status of RPPO compliance. Scheme for utilization of RPPO Compensation Fund. Solar Power Generation in the State and status of implementation of net metering.

2.18.1 HPSEBL informed about the overall RPPO compliance status as below:

**Table 8: HPSEBL submission on Minimum Quantum of Purchase from Renewable Sources**

| Financial Year | Total Demand (Mus) | Minimum Quantum of Purchase From Renewable Sources |        |                |               |               |                         |            |               |               |               |                         |               |
|----------------|--------------------|--|--------|----------------|---------------|---------------|-------------------------|------------|---------------|---------------|---------------|-------------------------|---------------|
|                |                    | Total RPPOs  |        | Non-Solar RPPO |               |               |                         | Solar RPPO |               |               |               |                         |               |
|                |                    | %age   | MUs    | %age           | Quantum (MUs) | RPPO achieved | Surplus/Shortfall (MUs) | %age       | Quantum (MUs) | RPPO achieved | Carry Forward | Surplus/Shortfall (MUs) |               |
| 1              | 2                  | 3  | 4      | 5              | 6             | 7             | 8 = 7-6                 | 9          | 10            | 11            | 12            | 13 = 11-(10+12)         |               |
| <b>2010-11</b> | 7,671.89           | 10.00  | 767.19 | 10.00          | 767.19        | 916.04        | 148.85                  | -          | -             | -             |               |                         | -             |
| <b>2011-12</b> | 7,436.96           | 10.01  | 744.44 | 10.00          | 743.70        | 1,175.32      | 431.62                  | 0.01       | 0.74          | -             |               |                         | <b>-0.74</b>  |
| <b>2012-13</b> | 7,357.00           | 10.25  | 754.09 | 10.00          | 735.70        | 1,268.80      | 533.10                  | 0.25       | 18.39         | -             |               |                         | <b>-18.39</b> |
| <b>2013-14</b> | 8,598.99           | 10.25  | 881.40 | 10.00          | 859.90        | 1,400.90      | 541.00                  | 0.25       | 21.50         | -             |               |                         | <b>-21.50</b> |
| <b>2014-15</b> | 8,831.63           | 10.25  | 905.24 | 10.00          | 883.16        | 1,065.93      | 182.77                  | 0.25       | 22.08         | 2.70          |               |                         | <b>-19.38</b> |
| <b>2015-16</b> | 8,800.33           | 11.25  | 990.04 | 11.00          | 968.04        | 803.44        | -164.60                 | 0.25       | 22.00         | 50.16         | 19.14         |                         | <b>9.02</b>   |
| <b>2016-17</b> | 8,896.90           | 12.00  | 217.85 | 9.50           | 172.46        | 40.74         | -131.72                 | 2.50       | 45.39         | 60.67         |               |                         | <b>15.28</b>  |
| <b>2017-18</b> | 9,438.88           | 14.25  | 242.29 | 9.50           | 161.53        | 392.55        | 231.02                  | 4.75       | 80.76         | 63.68         |               |                         | <b>-17.08</b> |

2.18.2 Also, the solar power generation status in Himachal Pradesh was informed as below:

**Table 9: HPSEBL submission on status of solar generation**

| Sr. No | Description  | Total Tie Ups    |                  | Commissioned          |                  | Yet to be Commissioned      |                  |
|--------|--|------------------|------------------|-----------------------|------------------|-----------------------------|------------------|
|        |  | Nos. of Projects | Capacity (in MW) | Projects Commissioned | Capacity (in MW) | Projects to be commissioned | Capacity (in MW) |
| 1      | Solar Power Projects up to 5 MW  | 10               | 25.9             | 5                     | 17               | 5                           | 8.9              |
| 2      | Solar Projects falling under the scheme for harnessing 20 MW ranging from 250 to 500 kWp | 38               | 17.9             | 0                     | 0                | 38                          | 17.9             |
|        | <b>Total</b>   | <b>48</b>        | <b>43.8</b>      | <b>5</b>              | <b>17</b>        | <b>43</b>                   | <b>26.8</b>      |

### **2.19 Non approval from the Commission for tripartite agreement of Phojal substation and transmission line with ADPHL and HPPTCL.**

2.19.1 Chairman, HPERC enquired about the methodology used for computing the transmission charges of Phojal substation & transmission line and reasons for payment of the same without Commission's approval.

2.19.2 It was informed that HPSEBL has entered into an Interim Agreement dated 30.12.2016 with HPPTCL for the drawal of HPSEBL's power of 11.4MW through Phojal Substation of HPPTCL. The quantum of power wheeling on HPPTCL system was estimated to be 11.4MW and corresponding charges of Rs. 0.14 cr. for FY2016-17, in terms of interim agreement dated 30.12.2016, have been paid to HPPTCL. The tariff for the above assets is to be got determined from Regulatory Commission and charges being paid as above are subject to adjustment as per tariff approved by the Commission. It was further informed that the contention on the above query stands addressed with the view point that the tripartite agreement entered into is interim in nature & provides that the tariff is to be got determined from HPERC and charges being paid thereof shall be subject to the adjustment as per the tariff to be approved by the Commission.

### **2.20 Issue of claiming of Rs. 49.76 crore on account of free power of GoHP availed by HPSEBL during 2006 now after elapse of period of almost 12-13 years.**

2.20.1 Chairman, HPERC enquired from HPSEBL about the amount of Rs. 49.76 crore to be recovered from the GoHP on account of higher rate of free power charged by the H.P. Govt. during FY 2006-07. The HPSEBL has written off this amount in its books in FY 2016-17 (10 years later) and claimed it in true-up now.

2.20.2 HPSEBL in its reply informed that HPERC in its tariff order for the FY 2006-07 approved Rs. 2.35 / kWh for free power and Rs. 2.84 / kWh for equity power whereas rates charged by GoHP were Rs. 3.04 / kWh for free power and Rs. 3.70 / kWh for equity power respectively. The tariff for FY 2006-07 was approved by the HPERC on the basis of lower rate of Rs. 2.35 / kWh for 12% free power and Rs. 2.84 / kWh for equity power than actually charged by the GoHP. Accordingly, the following claim of upfront subsidy amounting to Rs. 74.53 Crore during FY 2006-07 was lodged:

**Table 10: HPSEBL submission on free power**

| Sr. No | Period            | amount (in Crore) |
|--------|-------------------|-------------------|
| 1      | April & May, 2006 | 16.22             |
| 2      | November, 2006    | 10.24             |
| 3      | December, 2006    | 15.16             |
| 4      | January, 2007     | 10.61             |
| 5      | February, 2007    | 9.26              |
| 6      | March, 2007       | 13.04             |
|        | <b>Total</b>      | <b>74.53</b>      |

2.20.3 While analyzing the Board's claim of Rs. 74.53 Crore receivable from GoHP, the Commission observed that the Board also claimed upfront subsidy on accounts of NJHP equity power purchased from GoHP. In the True-up Petition for FY 2007, the Board reported that total sum of Rs. 74.53 Crore receivable from Govt. of HP on account of difference between the power purchase rate of free power approved by the Commission and the charges levied by the PTC to the Board for FY 2006-07, which is pending with GoHP and has been shown as receivable in FY 2006-07 in the annual accounts.

2.20.4 It is further submitted that HPERC had also further clarified that power purchase cost of equity power was passed through in the ARR at actual cost and is not recoverable from GoHP and amount claimed by HPSEBL Rs. 34.19 Crore out of Rs. 74.53 Crore was not justified. The Commission thus considered equity power at actual cost while truing up for FY 2006-07 and not included any upfront subsidy from GoHP on account of equity power. Further, the Board had purchased some quantum of free power (56.62 MU) from GoHP in the month of August, 2006 at a rate of Rs. 3.92 / kWh aggregating to Rs. 23.93 Crore. In the tariff order for FY 2006-07, the Commission had fixed the rate of free power to be purchased by the Board at Rs. 2.35 / kWh. Therefore, the Commission had considered Rs. 9.36 Crore as additional upfront subsidy to be claimed from GoHP on account of higher purchase price of above mentioned free power. Accordingly, a receivable from GoHP of Rs. 49.76 Crore (74.53 - 43.19 + 9.36) has been due from GoHP for FY 2006-07 but the state Govt. has not compensated to the HPSEBL as per HPERC direction as well as multiple requests from HPSEBL. Thus every year, HPSEBL raised a demand to GoHP for this amount of Rs. 49.76 Crore. However, GoHP neither acknowledged nor denied the dues. This due was finally written off from HPSEBL books by debiting the amount to prior period expense being bad debt for more than five years.

2.20.5 Chairman, HPERC directed HPSEBL to take up the matter with GoHP again and also claim interest for delayed payment.

## **2.21 Issue of 03 number Inter-State Transmission Lines (Majra etc.) and payment made by HPSEBL in FY17 as arrears and consideration of this cost under non-POC charges.**

2.21.1 Chairman, HPERC enquired as to why the transmission charges of 03 number Inter-State Transmission Lines (Majra etc.) was considered under non-Point of



Connection till October, 2016 even when the CERC has determined charges from 2014 onwards in its order dated 16.05.2016 in Petition No. 119/TT/2014 and whether the matter has been contested by HPSEBL with NRPC.

- 2.21.2 In this context, HPSEBL informed that HPPTCL vide letter no. HPPTCL/C&M/Interstate Lines Billing/2016-17/4919-21 dated 30/09/2016 intimated HPSEBL that Hon'ble CERC approved the transmission tariff for the period FY 2014-15 to FY 2018-19 in respect of three Interstate Transmission Lines (220kV S/C Jassure Ranjit Singh Sagar, 220kV D/C Majri-Khodri and 220kV Kuniyar – Panchkula) vide Tariff Order dated 16/05/2016 in Petition no. 119/TT/2014. NRLDC has included above mentioned three lines in POC charges and the bill of three Interstate Transmission lines w.e.f. October 2016 shall be issued by PGCIL, Gurgaon. Accordingly, billing for the amount of Rs. 6.4221 crore for the period FY 2014-15 to FY 2016-17 (up to September 2016) has been done on HPSEBL. The tariff for said lines was approved by CERC during May 16 and the same was incorporated in the quarterly POC charges by CERC for the quarter starting from October 16 onward as such the charge after Sept. 16 are being recovered through POC. The charges of above lines for the period up to Sept. 16 were not included in the quarterly POC charges notified by CERC and as such HPPTCL had raised the bill for entire charges to HPSEBL being only Long Term Customer of HPPTCL.

## **2.22 Issue of Powergrid Kala Amb Transmission Asset and reasons for non-construction of downstream network.**

- 2.22.1 Chairman, HPERC enquired from HPSEBL management about the Non-PoC charges from July 2017 (COD of the Asset: 12th July 2017) onwards being provisionally paid by HPSEBL to PGCIL towards POWERGRID Kala Amb Transmission Assets (PKATL assets), i.e.
- GIS Substation 7x105 MVA (1-ph),
  - 400/220 kV at Kala Amb (HP) and
  - LILO of Karcham Wangtoo-Abdullapur 400kV D/C and 40% Series Compensation
- 2.22.2 HPSEBL in its submission informed that in the petition no. 104/MP/2018, HPSEBL had contended that transmission charges for PKATL assets shall be included in PoC mechanism and recovered from all constituents of NR.
- 2.22.3 However, CERC in its order dated 18.09.2018 had observed,
- "In the Validation Committee it was decided that the subject transmission line shall not be considered under PoC due to non-availability of the downstream network and the same shall be governed as per the Commission's order dated 4.1.2017 in Petition No. 155/MP/2016."*
- 2.22.4 As a result, CERC has allowed 15.5% charges recovery through PoC mechanism and 84.5% of total annual charges from HPSEBL. HPSEBL has strongly objected to the same and has now filed an appeal with the Appellate Tribunal vide Appeal No. 4356 dated 12th November 2018. However, the HPSEBL has claimed approximately Rs. 60 cr. on a year-to-year basis in the MYT Tariff Petition against the same.

- 2.22.5 HPSEBL further informed that as a part of strengthening the NR Grid, the development of Transmission system in the state was entrusted to the State Transmission Utility. For the development of the same, the identification of suitable land delayed project owing to which, the inter-state network charges were then charged to HPSEBL.

### **2.23 Issue of 02 number Bays at Hamirpur substation and reasons for non-construction of downstream network.**

- 2.23.1 HPSEBL management was apprised that similar to the issues highlighted above, the Non-PoC charges are being paid to PGCIL towards 02 No. 220kV Line Bays (HPSEBL Future Bays) at Hamirpur Sub Station in Northern Region as per Tariff approved by CERC in petition no. 99/TT/2014 from March 2017 onwards. In the said order dated 29.04.2016, CERC has observed,

*"The transmission charges for the instant assets shall be borne by the beneficiary Discom till the commissioning of the downstream system. Once the downstream system is commissioned the billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time, as provided in Regulation 43 of the 2014 Tariff Regulations."*

- 2.23.2 The annual charges for the HPSEBL future bays at Hamirpur are Rs. 68 lakh approximately which have been claimed by the HPSEBL in the MYT Tariff Petition for fourth Control Period.

- 2.23.3 HPSEBL in its submission informed that as per the norms fixed by Standing Committee of CEA, minimum 6 No. bays are mandatory for a 400 kV sub-station along with 2x315 MVA Power Transformer. Accordingly, six bays were allotted to HPSEBL at 400/220 kV Hamirpur sub-station of PGCIL. Of these six Nos. bays, two Nos. bays stand utilized by HPSEBL for connecting 220/132kV Hamirpur (Mattansidh) sub-station of HPSEBL by LILoing 220kV Double Circuit Hamirpur-Jalandhar Transmission line. Two Nos. bays shall be utilized by HPPTCL for connecting the 220 kV Dehan (Patti) sub-station. In future connectivity with 400/220kV PGCIL sub-station is necessitated to ensure integrated operation of Grid while ensuring N-1 contingency in the system. The studies in this regard have been carried out by HPSEBL and schemes are under consideration. The proposed system is not critical at present and hence the execution of the same has been deferred for the time being.

### **2.24 Status of Fixed Asset Register**

- 2.24.1 HPSEBL officials informed that the Fixed Assets Register as on 31.03.2018 has been prepared and same stands submitted to HPERC with TVS queries response. However, the calculations with regard to depreciation have not been carried out.

### **2.25 Any other issues.**

- 2.25.1 HPSEBL officials were apprised that the complete status of Compliance against Directives has not been submitted e.g. HPSEBL was required to explain the

accounting methodology used to recognize capital expenditure and capitalization of assets. In this regard, HPSEBL officials assured that the same shall be submitted within 2 days positively.

- 2.25.2 HPSEBL was required to create segregated account heads for booking recovery from additional surcharge, cross subsidy surcharge and wheeling charges. HPSEBL was asked to clarify whether these heads have been created. If yes, HPSEBL is required to provide the financial year from when such segregated data shall be made available to the Commission. HPSEBL officials assured that the same shall be submitted within 2-3 days positively.

# 3 SUMMARY OF THE TRUE-UP PETITION FOR FY17

## 3.1 Sales Projections

3.1.1 The Petitioner has submitted that the actual category-wise energy sales for FY17 as detailed in the table below:

**Table 11: HPSEBL Submission- Energy Sales for FY17 (MU)**

| Category (MU)                    | Approved in 2 <sup>nd</sup> APR Order | Actual          |
|----------------------------------|---------------------------------------|-----------------|
| Domestic                         | 2168                                  | 1,937.93        |
| Non Domestic Non Commercial      | 151                                   | 130.44          |
| Commercial                       | 532                                   | 528.24          |
| Temporary                        | 26                                    | 29.97           |
| Small Industry                   | 76                                    | 84.08           |
| Medium Industry                  | 147                                   | 124.05          |
| Large Industry (HT and EHT)      | 4778                                  | 4,353.38        |
| Govt. Irrigation & Water Pumping | 556                                   | 551.06          |
| Public Lighting                  | 13                                    | 12.99           |
| Irrigation & Agriculture         | 45                                    | 57.28           |
| Bulk Supply                      | 158                                   | 150.24          |
| <b>Total Sales</b>               | <b>8650</b>                           | <b>7,959.66</b> |

## 3.2 Revenue from Sale of Power

3.2.1 The Petitioner has submitted that the actual revenue from sale of power within the State for FY17 as detailed in the table below:

**Table 12: HPSEBL Submission- Revenue from Sale of Power within State for FY17 (MU)**

| Category (MU)                    | Approved in 2 <sup>nd</sup> APR Order | Actual  |
|----------------------------------|---------------------------------------|---------|
| Domestic                         | 976.36                                | 816.36  |
| Non Domestic Non Commercial      | 87.07                                 | 94.70   |
| Commercial                       | 316.65                                | 323.31  |
| Temporary                        | 25.09                                 | 20.41   |
| Small Industry                   | 91.69                                 | 65.22   |
| Medium Industry                  | 31.63                                 | 22.39   |
| Large Industry (HT and EHT)      | 2678.22                               | 2473.70 |
| Govt. Irrigation & Water Pumping | 347.18                                | 46.48   |

| Category (MU)      | Approved in 2 <sup>nd</sup> APR Order | Actual         |
|--------------------|---------------------------------------|----------------|
| Public Lighting    | 6.75                                  | 12.47          |
| Bulk Supply        | 100.59                                | 100.58         |
| <b>Total Sales</b> | <b>4661.23</b>                        | <b>4377.28</b> |

3.2.2 Further, the Petitioner has submitted that the actual revenue from sale of power outside the State for FY17 as Rs. 778.14 Cr. Banking being a cashless transaction, notional cost of the banked power considered in the provisional accounts has been excluded by the Petitioner from the revenue from sale of power outside the state as shown in the table below:

**Table 13: HPSEBL Submission- Revenue from Sale of Power outside State for FY17 (MU)**

| Category (MU)                                       | Approved in 2 <sup>nd</sup> APR Order | Actual        |
|---|---------------------------------------|---------------|
| Revenue from sale of power outside State            | 308.32                                | 1724.11       |
| Less: Banking Sale                                  | -                                     | 945.97        |
| <b>Net Revenue from sale of power outside state</b> | <b>308.32</b>                         | <b>778.14</b> |

### 3.3 Power Purchase Cost

3.3.1 The Petitioner has submitted that it has claimed the power purchase expenses based on the following approach:

- No cost of banking has been considered under power purchase expenses.
- Power purchase expenses are considered as per the actual bills received from the generating companies
- Hon'ble Central Electricity Regulatory Commission has revised the Tariff of various Central Generating Stations and accordingly, the arrears amount have also been considered for such stations.
- For Own Generation stations, the methodology adopted for computation of cost of power purchase is in line with the provisions of the MYT Regulations, 2011 whereby fixed and energy charges have been considered.
- In case of Bhabha Station, which had witnessed accident in Jan'15, has again started generation from Jul'17, the Petitioner has claimed O&M charges of Rs 6.78 Cr. ( Apr'16 to Jun'16).
- For GoHP power, the actual amount of Rs 194.24 Cr. has been claimed which includes past year arrear of Rs. 12.86 Cr.

3.3.2 The actual power purchase quantum and cost from all generating stations for FY17 as submitted by the Petitioner is provided in the table below:

**Table 14: HPSEBL Submission- Summary of Power Purchase in FY17**

| Particulars           | MUs    | Amount (Rs Cr.) |
|-----------------------|--------|-----------------|
| <b>Own Generation</b> |        |                 |
| Bhabha                | 186.40 | 21.44           |
| Bassi                 | 297.00 | 23.84           |
| Giri                  | 140.03 | 16.26           |

| Particulars           | MUs            | Amount<br>(Rs Cr.) |
|-----------------------|----------------|--------------------|
| Andhra                | 54.77          | 8.48               |
| Ghanvi                | 74.70          | 16.81              |
| Ghanvi II             | 34.70          | 11.00              |
| Baner                 | 28.69          | 7.57               |
| Gaj                   | 29.17          | 9.58               |
| Larji                 | 538.29         | 123.78             |
| Khauri                | 30.73          | 6.91               |
| Binwa                 | 27.55          | 5.45               |
| Thirot                | 11.31          | 2.54               |
| Gumma                 | 4.26           | 0.96               |
| Holi                  | 6.16           | 1.38               |
| Bhaba Aug             | 12.76          | 2.87               |
| Nogli                 | 7.53           | 2.68               |
| Rongtong              | 0.63           | 1.19               |
| Sal-II                | 0.00           | 0.00               |
| Chaba                 | 4.66           | 1.43               |
| Rukti                 | 1.00           | 0.50               |
| Chamba                | 1.00           | 0.27               |
| Killar                | 0.50           | 0.11               |
| <b>Sub-total -(1)</b> | <b>1491.86</b> | <b>265.06</b>      |
| <b>NTPC</b>           |                |                    |
| Anta (G)              | 43.58          | 18.99              |
| Anta (L)              | 0.07           | 0.06               |
| Anta (LNG)            | 0.03           | 0.06               |
| Auriya (G)            | 35.80          | 20.36              |
| Auriya (L)            | 0.27           | 0.24               |
| Auriya (LNG)          | 0.38           | 0.24               |
| Dadri (G)             | 113.46         | 41.25              |
| Dadri (L)             | 0.13           | 0.10               |
| Dadri (LNG)           | 0.32           | 0.17               |
| Unchahar-I            | 92.77          | 32.73              |
| Unchahar-II           | 138.77         | 49.41              |
| Unchahar-III          | 82.21          | 34.00              |
| Rihand-1 STPS         | 228.88         | 60.66              |
| Rihand-2 STPS         | 248.16         | 59.01              |
| Singrauli STPS        | 54.76          | 11.73              |
| Kahalgaon - II        | 166.89         | 55.39              |
| Rihand-3 Units-1,2    | 228.66         | 73.79              |
| Dadri-II TPS          | 45.78          | 20.97              |
| Jhajjar STPS          | 0.02           | 3.30               |
| Koldam                | 464.12         | 215.62             |
| <b>Sub-total -(2)</b> | <b>1945.04</b> | <b>698.07</b>      |
| <b>Solar</b>          |                |                    |

| Particulars                                | MUs            | Amount<br>(Rs Cr.) |
|--|----------------|--------------------|
| Singrauli Solar                            | 17.42          | 13.63              |
| SECI                                       | 45.58          | 26.84              |
| Sub-total -(3)                             | 62.99          | 40.47              |
| Nuclear                                    |                |                    |
| NAPP                                       | 96.39          | 25.13              |
| RAPP                                       | 84.50          | 31.21              |
| <b>Sub-total -(4)</b>                      | <b>180.89</b>  | <b>56.35</b>       |
| <b>NHPC</b>                                |                |                    |
| Chamera I                                  | 54.57          | 12.26              |
| Chamera II                                 | 45.38          | 9.22               |
| Chamera III                                | 0.00           | 0.005              |
| Parbati III                                | 0.00           | -0.002             |
| Salal                                      | 32.01          | 6.57               |
| Tanakpur                                   | 10.63          | 4.37               |
| Uri  | 74.02          | 15.03              |
| Uri II                                     | 0.00           | 0.29               |
| Dhauliganga                                | 32.84          | 11.61              |
| Dulhasti                                   | 0.00           | -0.74              |
| Sewa II                                    | 0.00           | -0.001             |
| Parbati II                                 | 0.00           | 0.00               |
| <b>Sub-total -(5)</b>                      | <b>249.45</b>  | <b>58.60</b>       |
| <b>THDC</b>                                |                |                    |
| Tehri                                      | 0.00           | 0.0066             |
| Koteshwar                                  | 0.00           | -0.0033            |
| <b>Sub-total -(6)</b>                      | <b>0.00</b>    | <b>0.0033</b>      |
| <b>HPPCL</b>                               |                |                    |
| <b>Kasang HEP</b>                          | <b>50.34</b>   | <b>14.70</b>       |
| <b>Other CG &amp; Shared Stations -(7)</b> |                |                    |
| BBMB Old                                   | 43.80          | 28.65              |
| BBMB New                                   | 320.63         |                    |
| Dehar                                      | 220.22         |                    |
| Pong                                       | 39.68          |                    |
| Shanan (available to HPSEB) -1 MW          | 5.26           | 0.00               |
| Shanan Ext (available to HPSEB)-45 Mus     | 45.00          | 0.91               |
| Yamuna                                     | 356.23         | 41.86              |
| Khara                                      | 53.78          | 3.86               |
| <b>Sub-total -(7)</b>                      | <b>1084.60</b> | <b>75.29</b>       |
| <b>SJVNL -(8)</b>                          |                |                    |
| Nathpa Jhakri SOR                          | 171.38         | 51.26              |
| Nathpa Jhakri Equity                       | 1535.92        | 457.55             |
| Rampur HEP SOR Share                       | 47.57          | 18.45              |
| Rampur HEP Equity Share                    | 499.14         | 180.28             |
| <b>Sub-total -(8)</b>                      | <b>2254.00</b> | <b>707.54</b>      |

| Particulars                            | MUs              | Amount<br>(Rs Cr.) |
|--|------------------|--------------------|
| <b>GoHP Power-(9)</b>                  |                  |                    |
| <b>Own Generation Stations</b>         |                  |                    |
| Larji                                  | 72.46            | 21.16              |
| Khauli                                 | 4.19             | 1.22               |
| Ghanvi                                 | 10.19            | 2.97               |
| Gaj                                    | 3.98             | 1.16               |
| Baner                                  | 3.91             | 1.14               |
| Ghanvi-II                              | 4.73             | 1.38               |
| <b>Inter-State Generation Stations</b> |                  |                    |
| Baira Siul                             | 6.13             | 1.79               |
| Chamera-I                              | 22.14            | 6.47               |
| Chamera-II                             | 13.72            | 4.01               |
| Chamera-III                            | 8.72             | 2.55               |
| Parbati-III                            | 5.92             | 1.73               |
| Kol Dam                                | 9.11             | 2.66               |
| Ranjeet Sagar Dam                      | 56.84            | 16.36              |
| Shanan Share                           | 2.63             | 0.77               |
| Malana                                 | 69.92            | 20.42              |
| Baspa (Primary & Sec.)                 | 159.32           | 46.52              |
| Nathpa Jhakri HEP                      | 67.27            | 19.64              |
| Rampur project                         | 7.65             | 2.23               |
| Kasang                                 | 7.59             | 2.22               |
| Small HEP/Private Micro                | 85.54            | 24.98              |
| <b>Sub-total -(9)</b>                  | <b>621.97</b>    | <b>194.24</b>      |
| <b>Private IPPs</b>                    |                  |                    |
| Small HEP/ Private Micro               | 1045.78          | 370.01             |
| Small HEP/ Private Micro -REC          | 311.30           |                    |
| Baspa - II - Primary                   | 983.16           | 177.03             |
| Baspa - II Secondary Energy            | 185.21           |                    |
| <b>Sub-total -(10)</b>                 | <b>2525.45</b>   | <b>547.04</b>      |
| <b>Others- (11)</b>                    |                  |                    |
| UI                                     | 308.52           | 95.32              |
| Banking Purchase                       | 1919.14          | 0.00               |
| Contingency (IEX)                      | 172.57           | 37.06              |
| <b>Sub-total -(11)</b>                 | <b>2400.23</b>   | <b>132.38</b>      |
| <b>Grand Total - (sum of 1 to 11)</b>  | <b>12,866.83</b> | <b>2,789.72</b>    |

### 3.4 Transmission & Other Charges

3.4.1 The Petitioner has submitted that during FY17 it has paid PGCIL charges, HPPTCL Charges, open access charges and other charges to the tune of Rs 377.47 Cr. While claiming other charges, the Petitioner has adopted the following approach:



- For the purpose of truing up, the provisioning of Rs. 2.34 Cr for LADF (DoE) in FY 17 has been excluded.
- The net expense incurred due to operation of the IPP project in the Nahan circle of HPSEBL has been considered.

3.4.2 The details of the actual charges incurred in FY17 is given in table below:

**Table 15: HPSEBL Submission-Transmission & Other Charges for FY17 (Rs Cr.)**

| Particulars                        | Amount<br>(Rs Cr.) |
|------------------------------------|--------------------|
| <b>Transmission Charges</b>        |                    |
| PGCIL                              | 302.32             |
| HPPTCL                             | 10.57              |
| STOA                               | 57.16              |
| <b>Sub-total- (1)</b>              | <b>370.05</b>      |
| <b>Other Charges</b>               |                    |
| System/Marketing operation charges | 1.42               |
| Operation Circle Nahan             | 0.99               |
| UI (Malana)                        | 2.43               |
| Trading Margin (Mittal)            | 0.45               |
| Reactive Power (HPVNL)             | 1.17               |
| NLDC                               | 0.12               |
| UPCL (Field Unit)                  | 0.84               |
| <b>Sub-total- (2)</b>              | <b>7.42</b>        |
| <b>Grand Total- (1+2)</b>          | <b>377.47</b>      |

3.4.3 The total power purchase cost for FY17 has been summarized in the table below:

**Table 16: HPSEBL Submission-Total Power Purchase Cost for FY17 (Rs Cr.)**

| Particulars  | Amount<br>(Rs Cr.) |
|--|--------------------|
| Power Purchase Cost (Interstate)   | 2524.66            |
| PGCIL  | 302.32             |
| HPPTCL   | 10.57              |
| STOA charges   | 57.16              |
| Other Cost (System/Marketing operation charges, UI (Malana), LADF (DoE), Trading Margin, Reactive Power (UPCL) & UPCL (Field Unit) | 7.42               |
| <b>Power Purchase Cost (including transmission &amp; other charges)</b>  | <b>2902.12</b>     |
| Add: Own Generation  | 265.06             |
| <b>Total Power Purchase Cost (including Own Generation)</b>  | <b>3167.18</b>     |

3.4.4 The Petitioner has submitted that the power purchase cost has increased by Rs. 353.75 Cr. vis-à-vis the approved amount. The reason for this is mainly due to power purchase from Koldam HEP which Commission had not approved. As per Ministry of Power (MoP), GoI letter dated 03.02.2016 and other related correspondences, NRPC vide its letter No: NRPC/ OPR/ 103/ 02/ 2016/1554-76 Date: 17.02.2016 has made allocation revision 10/2015-16 dated 17.02.2016 w.e.f. 19.02.2016. There is allocation made to HP from Koldam HEP @ 28% i.e.

13% Free Power to GoHP + 15% unallocated share, out of which 15% unallocated share is mandatory as per the standard norms of Govt. of India. Therefore, HPSEBL was obliged to purchase 15% unallocated share from Koldam.

3.4.5 Accordingly, the Petitioner has requested the Commission to approve the power purchase cost of Rs 3167.18 Cr. for FY17.

3.4.6 The Petitioner submitted that it has also reconciled the power purchase cost (excluding own generation) with the audited accounts and provided the following reconciliation:

**Table 17: HPSEBL Submission- Reconciliation of Power Purchase Cost with Audited Accounts for FY17 (Rs Cr.)**

| Particulars   | As per Audited Accounts (Rs Cr.) | As submitted in Table 16 (Rs Cr.) |
|---|----------------------------------|-----------------------------------|
| Power Purchase Cost (including transmission & other charges)* | 3881.4                           | 2902.12                           |
| less: Banking power purchase                                  | 979.3                            | -                                 |
| <b>Power Purchase Cost</b>                                    | <b>2902.1</b>                    | <b>2902.12</b>                    |

\* excluding LADF (DoE)

### 3.5 Energy Balance

3.5.1 HPSEBL has submitted that it has achieved a loss level of 11.43% in FY17. The Petitioner has submitted that the actual T&D loss for FY17 is lower than the approved loss and the Energy Balance is shown in table below:

**Table 18: HPSEBL Submission- Energy Balance for FY17 (MU)**

| S.No.    | Particulars   | FY17            |
|----------|---|-----------------|
| A        | Units Procured from Interstate- Generating Stations (including GoHP power stations connected to ISTS) | 7432.65         |
| B        | Banking Purchase at ISTS  | 1919.14         |
| C        | Interstate Transmission Loss (%)  | 3.23%           |
| D        | Transmission Loss (MUs)   | 302.21          |
| <b>E</b> | <b>Net Energy Available at Periphery</b>  | <b>9049.58</b>  |
| <b>F</b> | <b>Power Available within the state (i+ii+iii)</b>  | <b>3033.94</b>  |
|          | (i) State Generating Stations   | 1491.86         |
|          | (ii) GoHP Power (own generation & IPPs)   | 185.00          |
|          | (iii) IPPs  | 1357.08         |
| <b>G</b> | <b>Power from Other Sources (i+ii)</b>  | <b>481.09</b>   |
|          | (i) UI Power  | 308.52          |
|          | (ii) IEX  | 172.57          |
| <b>H</b> | <b>Total Energy Available at HP periphery (E+F+G)</b>   | <b>12564.62</b> |
| I        | Energy Sales Within the state   | 7959.66         |
| <b>J</b> | <b>Inter-State Sale of Power (i+ii)</b>   | <b>3578.05</b>  |
|          | (i) Sale of Power (including UI & IEX)  | 1776.05         |
|          | (ii) Banking  | 1802.00         |

| S.No.    | Particulars   | FY17            |
|----------|---|-----------------|
| <b>K</b> | <b>Total Energy Available for sale within the state (H-J)</b> | <b>8986.57</b>  |
| <b>L</b> | <b>Total Energy Sale (I+J)</b>                                | <b>11537.71</b> |
| <b>M</b> | T&D loss (in MUs) (K-I)                                       | 1026.91         |
| <b>N</b> | <b>T&amp;D loss (%) = <math>(1-I/(K)) \times 100</math></b>   | <b>11.43%</b>   |

### 3.6 Incentive for over-achievement of T&D Loss

3.6.1 The Petitioner has submitted the savings resulting from the over-achievement of T&D loss for FY17 as shown in the table below:

**Table 19: HPSEBL Submission- Saving on account of over-achievement of T&D Loss for FY17 (MUs)**

| S.No.    | Particulars   | FY17           |
|----------|---|----------------|
| A        | Energy Sales within state (MU)                                      | 7959.66        |
| B        | T&D Losses (%)  | 12.40%         |
| <b>C</b> | <b>Power Purchase requirement to meet state requirement (MU)</b>    | <b>9086.37</b> |
| <b>D</b> | <b>Inter-State Sale (MU)</b>  | <b>3578.05</b> |
|          | (i) Banking Arrangement (MU)  | 1802.00        |
|          | (ii) Sale Outside the state (MU)                                    | 1776.05        |
| E        | Total Power Purchase Quantum approved at State Periphery (MU) (C+D) | 12664.42       |
| F        | Actual Power Purchase Quantum at State Periphery (MU)               | 12564.62       |
| <b>G</b> | <b>No. of units saved (MU) (E-F)</b>                                | <b>99.80</b>   |

3.6.2 Based on this saving, HPSEBL has computed the incentive for over-achievement of T&D loss as detailed in table below:

**Table 20: HPSEBL Submission-Incentive for over-achievement of T&D Loss for FY17 (Rs Cr.)**

| S.No.    | Particulars  | Unit          | Amount       |
|----------|--|---------------|--------------|
| <b>A</b> | <b>No. of Units</b>  | <b>MU</b>     | <b>99.80</b> |
| (i)      | Cost of Power Purchase from Other than own resource                          | Rs Cr.        | 2524.66      |
| (ii)     | Power purchased from other than own sources                                  | MU            | 9455.82      |
| (iii)    | Less: PGCIL losses   | MU            | 302.21       |
| (iv)     | Net Power Purchase (ii-iii)  | MU            | 9153.62      |
| <b>C</b> | <b>Cost of Power Purchase from Other than own sources (i x 10 / iv)</b>      | <b>Rs/kWh</b> | <b>2.76</b>  |
| D        | Total Incentive (A X C / 10)   | Rs Cr.        | 27.53        |
| E        | HPSEBL's Share   | %             | 60%          |
| <b>F</b> | <b>HPSEBL's Incentive on account of T&amp;D loss overachievement (D X E)</b> | <b>Rs Cr.</b> | <b>16.52</b> |

3.6.3 Accordingly, HPSEBL requests the Commission to approve power purchase cost of Rs 3183.70 Cr. for FY17 which also includes incentive of Rs 16.52 Cr. as shown in the table below:

**Table 21: HPSEBL Submission- Power Purchase Cost for FY17 (Rs Cr.)**

| Particulars   | Approved in 2 <sup>nd</sup> APR (Rs Cr.) | Actual (Rs Cr.) |
|---|--|-----------------|
| Power Purchase Expenses (including Own Generation)  | 2597.39                                  | 2789.72         |
| PGCIL Charges   | 158.33                                   | 302.32          |
| HPPTCL Charges  | 3.32                                     | 10.57           |
| STOA Charges  | 56.18                                    | 57.16           |
| SLDC Charges  | 11.32                                    | -               |
| Other Cost (System/Marketing operation charges, UI (Malana), Nahan, Trading Margin, Reactive Power, NLDC & UPCL (Field Unit)) |  | 7.42            |
| <b>Total Power Purchase</b>   | <b>2826.54</b>                           | <b>3167.20</b>  |
| Add: Adjustment in Power Purchase cost on account of overachievement of T&D loss  | -  | 16.52           |
| <b>Net Power Purchase Cost</b>  | <b>2826.54</b>                           | <b>3183.70</b>  |

### 3.7 Renewable Purchase Obligation

3.7.1 The Petitioner has submitted that it has already filed a Petition No. 65/2017 for RPPO compliance for FY17 corresponding to which the Commission issued an Order dated 07.04.2018. The approved RPPO status has been reproduced by the Petitioner in its revised submission as provided in the summary table below:

**Table 22: HPSEBL Submission- Approved RE (Non-Solar) Purchase for FY17**

| S. No.   | Description  | Quantum (MUs)  |
|----------|--|----------------|
| 1        | (i) HP's requirement within the State                                | 8896.90        |
|          | (ii) HP's requirement within the State (excluding Hydro)             | 1815.42        |
| 2        | Non-solar RPPO obligations of HPSEBL (% of 1(ii))                    | 9.50           |
| <b>3</b> | <b>Non-solar RPPO obligations of HPSEBL</b>                          | <b>172.46</b>  |
| <b>4</b> | <b>Availability of RE Generation</b>                                 |                |
| a)       | HPSEBL's own generation from 25 MW & below projects                  | 330.75         |
| b)       | Power purchase from IPP (25 MW & below)                              | 1045.78        |
| c)       | Free power of GoHP from own generation                               | 27.07          |
| d)       | Free power of GoHP from IPP less than 25 MW                          | 85.54          |
| e)       | <b>Total R.E (Non- Solar) purchased (a+b+c+d)</b>                    | <b>1489.15</b> |
| 5        | R.E (Non- Solar) sold outside its area of supply                     | 1448.41        |
| 6        | Total R.E (Non- Solar) purchased for supply within its area (4(e)-5) | <b>40.74</b>   |
| 7        | <b>Net surplus (+)/ Deficit (-) of Non solar RE power (6-3)</b>      | <b>-131.73</b> |

3.7.2 Further, the Petitioner has submitted that as requested by HPSEBL, the Commission had approved the adjustment of the deficit of 131.73 MUs of non-solar during FY 17 with REC (Non-Solar) Certificates which HPSEBL received against the surplus non-solar power of 541 MUs during FY14.

**Table 23: HPSEBL Submission- R.E. (Solar) Purchase for FY17**

| S. No.    | Particulars   | Quantum (MUs) |
|-----------|---|---------------|
| 1         | (i)HP's requirement within the State                    | 8896.90       |
|           | (ii)HP's requirement within the State (excluding Hydro) | 1815.42       |
| 2         | Solar RPPO obligations of HPSEBL (% of 1(ii))           | 2.50          |
| <b>3</b>  | <b>Solar RPPO obligations of HPSEBL for FY 17</b>       | <b>45.39</b>  |
| <b>5</b>  | <b>Total Solar Obligation (3)</b>                       | <b>45.39</b>  |
| 6         | <b>Solar Power Purchase in FY 17</b>                    |               |
| a)        | SECI  | 43.38         |
| b)        | Singrauli NTPC  | 17.29         |
| c)        | <b>Total Solar Purchase</b>                             | <b>60.67</b>  |
| <b>7.</b> | <b>Net surplus (+)/ Deficit (-) of Solar (6(c)-5)</b>   | <b>15.28</b>  |

3.7.3 The Petitioner has submitted that there is a surplus of 15.28 MUs for Solar RPPO as approved by the Commission, as can be seen from the table above. Correspondingly, HPSEBL has issued REC's worth the surplus amount of 15.28 MUs.

### 3.8 Employee Cost

3.8.1 The employee cost submitted by HPSEBL for the FY17 is summarized in the table below.

**Table 24: HPSEBL Submission- Employee Cost for FY17 (Rs. Cr.)**

| Particulars                            | Approved in 2 <sup>nd</sup> APR (Rs Cr.) | Actual (Rs Cr.) |
|--|--|-----------------|
| <b>Salaries &amp; Allowances</b>       |  |                 |
| Salaries (Basic) + Dearness Pay        |  | 299.43          |
| Merger of DA with Basic (Proposed)     |  | 0.00            |
| Grade pay                              |  | 58.65           |
| DA                                     |  | 398.18          |
| Employee Arrears - 7th Pay Commission  |  | 60.96           |
| Other Allowances                       |  | 32.30           |
| Overtime                               |  | 3.94            |
| Bonus                                  |  | 0.90            |
| <b>Salaries – sub-total (1)</b>        |  | <b>854.36</b>   |
| <b>Other Staff Cost</b>                |  |                 |
| Medical Expense Reimbursement          |  | 7.93            |
| Fee & Honorarium                       |  | 0.40            |
| Earned Leave Encashment                |  | 78.41           |
| Salary/Wages of Outsourced/Contractor. |  | 25.34           |
| Leave Salary Contribution              |  | 0.00            |
| Payment under Workmen's Compensation   |  | 1.18            |
| Leave encashment Fund                  |  | 0.00            |
| LTC                                    |  | 0.14            |

| Particulars  | Approved in 2 <sup>nd</sup> APR (Rs Cr.) | Actual (Rs Cr.) |
|--|--|-----------------|
| Staff Welfare Expenses   |  | 0.17            |
| <b>Other Staff Cost – sub total (2)</b>  |  | <b>113.57</b>   |
| <b>Employee Cost (3 = 1 + 2)</b>   | <b>1018.23</b>                           | <b>967.93</b>   |
|  |  |                 |
| <b>Terminal Benefits – (4)</b>   |  |                 |
| Provident Fund Contribution  |  | 0.24            |
| Board Contribution equal to the Employees Contribution towards CPS                       |  | 8.89            |
| Board Contribution equal to the Employees Contribution on deputation with the HPSEB Ltd. |  | 0.02            |
| Ex-gratia to the dependents of the deceased employees                                    |  | 0.21            |
| Commuted of Pension  |  | 40.42           |
| Pension – Base   |  | 533.07          |
| Pension -7th Pay Commission Arrears  |  | 40.54           |
| Gratuity   |  | 28.70           |
| Other Items (MRC to pensioners, benevolent fund & DLI)                                   |  | 15.83           |
| <b>Terminal Benefits – Total (4)</b>   | <b>427.94</b>                            | <b>667.92</b>   |
|  |  |                 |
| <b>Gross Employee Cost (5 = 3 +4)</b>  | <b>1,446.17</b>                          | <b>1635.85</b>  |
| Less : Employee Cost Capitalization  | 50.88                                    | 32.76           |
| Less : Employee Attrition Impact   |  | 0.00            |
| <b>Net Employee Cost</b>   | <b>1395.28</b>                           | <b>1603.09</b>  |

3.8.2 Further, the Petitioner in its revised submission has clarified that the salary revision of Government employees on account of the recommendations of the 7th Pay Commission is due w.e.f. on 1 January 2016. The actual revision in the salary is expected to be around 15%. On account of higher liabilities pertaining to increased salaries and gratuity, the Commission may consider higher employee cost, including provisions as shown below:

**Table 25: HPSEBL Submission- Provisions under Employee expenses for FY17 (Rs. Cr.)**

| Particulars               | Amount (Rs. Cr.) |
|---------------------------|------------------|
| Gratuity                  | 13.99            |
| Pension                   | 11.32            |
| Leave encashment          | 10.29            |
| Provision of IR Employee  | 60.96            |
| Provision of IR Pensioner | 40.54            |
| <b>Total Provisions</b>   | <b>137.10</b>    |

### 3.9 Administrative and General Expenses

3.9.1 The Administrative and General Expenses submitted by HPSEBL for the FY17 is summarized in the table below:

**Table 26: HPSEBL Submission- Administrative and General Expenses for FY17 (Rs. Cr.)**

| <b>Particulars</b>  | <b>Approved in APR<br/>(Rs Cr.)</b> | <b>Actual<br/>(Rs Cr.)</b> |
|---|-------------------------------------|----------------------------|
| <b>Administration Charges</b>   |                                     |                            |
| Rent, Rates & Taxes   |                                     | 2.98                       |
| Telephone, Postage & Telegrams  |                                     | 2.63                       |
| Consultancy Charges   |                                     | 0.61                       |
| Conveyance & Travel   |                                     | 12.43                      |
| Regulatory Expenses   |                                     | 0.00                       |
| Licensee fee Distribution & Transmission payable to HPERC                                   |                                     | 0.25                       |
| Petition fee payment to HPERC   |                                     | 0.95                       |
| Income Tax Updating Charges   |                                     | 0.14                       |
| Consumer Redressal Forum  |                                     | 0.48                       |
| Insurance   |                                     | 0.03                       |
| <b>Sub Total-Administration Charges (1)</b>   |                                     | <b>20.50</b>               |
| <b>Other Charges</b>  |                                     |                            |
| Fees & Subscriptions, Books & Periodicals   |                                     | 12.06                      |
| Printing & Stationery   |                                     | 3.54                       |
| Advertisement Expenses  |                                     | 0.60                       |
| Electricity Charges   |                                     | 5.20                       |
| Water Charges / Cold weather expenses   |                                     | 0.28                       |
| Legal Charges   |                                     | 1.46                       |
| Audit Fee   |                                     | 0.03                       |
| Statutory Audit Fee   |                                     | 0.02                       |
| Entertainment Charges   |                                     | 0.09                       |
| Training to Staff   |                                     | 0.00                       |
| Expenditure on training to staff ( with in state)   |                                     | 0.19                       |
| Expenditure on training to staff ( out of state)  |                                     | 0.12                       |
| Fees for SAS Examination  |                                     | 0.02                       |
| Public Interaction Program  |                                     | 0.16                       |
| Public Expenses / Other professional charges  |                                     | 0.48                       |
| GIS / GPS expenses related to High level Committee  |                                     | 0.15                       |
| Transaction Charges to SCAs for collection of energy bills                                  |                                     | 1.24                       |
| TA/DA Statutory Auditor   |                                     | 0.10                       |
| Charges on a/c of service rendered by central board keeping agency under new pension scheme |                                     | 0.05                       |
| Exp. On IPAVAST Connectivity Charges etc.   |                                     | 3.00                       |
| Publicity expenses  |                                     | 0.06                       |
| Freight Material related Expenses   |                                     | 0.10                       |
| Other purchase related Expense  |                                     | 1.31                       |
| Misc. Expenses  |                                     | 0.40                       |
| <b>Sub Total-Other Charges (2)</b>  |                                     | <b>37.42</b>               |
| <b>A&amp;G - Grand Total (1+2)</b>  |                                     | <b>57.92</b>               |
| Less: Capitalization  |                                     | 0.00                       |
| <b>Net A&amp;G Costs</b>  | <b>42.89</b>                        | <b>51.16</b>               |

- 3.9.2 The Petitioner has submitted that it has considered the expenses pertaining to Fees & Subscriptions which majorly comprises of arranger fees of Rs.11.74 Cr on account of bond issuance of Rs. 300 Cr (2015-16). The Petitioner has submitted that the expenses are non-recurring in nature and may be approved by the Commission considering long-term benefits of lowering cost of funds for HPSEBL.
- 3.9.3 The Petitioner, during the tariff proceedings revised the A&G expenses due to exclusion of RPO compensation fund expense of Rs. 6.76 Cr. which were earlier claimed twice in the original tariff petition.

### 3.10 Repair and Maintenance Expenses

- 3.10.1 The Repairs and Maintenance Expenses submitted by HPSEBL for the FY17 is summarized in the table below:

**Table 27: HPSEBL Submission- Repairs and Maintenance Expenses for FY17 (Rs. Cr.)**

| Particulars   | Approved in 2 <sup>nd</sup> APR (Rs Cr.) | Actual (Rs Cr.) |
|---|--|-----------------|
| Plant & Machinery   |  | 2.70            |
| Buildings   |  | 4.00            |
| Civil Works   |  | 4.46            |
| Hydraulic Works   |  | 0.20            |
| Lines, Cables Networks  |  | 51.30           |
| Vehicles  |  | 14.75           |
| Furniture & Fixtures  |  | 0.15            |
| Office Equipment  |  | 18.90           |
| Other i.e. cost of vehicle other than vehicle                                   |  | -1.91           |
| <b>R&amp;M Cost – Total</b>   |  | <b>94.55</b>    |
| Less: Cost Reallocated to Employee Cost and A&G Expenses                        |  | 7.33            |
| Less: Cost Reallocated to Depreciation  |  | -               |
| Less: Cost Reallocated for Recovery of cost of vehicle from O&M and other units |  | 20.96           |
| <b>Net R&amp;M Expenses</b>   | <b>51.69</b>                             | <b>66.26</b>    |

- 3.10.2 The Petitioner has submitted that it has commissioned two data centres under R-APDRP schemes and has also introduced computerized billing, MDAS, AMR etc. across the State. Further, ERP and billing is being rolled out to all units of the Board. This has necessitated regular AMC of the total hardware, support of the various applications and ATS charges of the different licenses essentially required to run and maintain the IT systems. This expenditure is now being met through R&M of the IT system.
- 3.10.3 Accordingly, IT system expenses have been added as part of R&M Expenses by the Petitioner which is necessary for upkeep and maintenance of IT systems. Therefore, the Petitioner has requested Commission to allow it as a special expense under R&M expense and consider the same during ensuing periods.



### 3.11 O&M Expenses

3.11.1 The O&M Expenses submitted by HPSEBL for the FY17 is summarized in the table below.

**Table 28: HPSEBL Submission- O&M Expenses for FY17 (Rs. Cr.)**

| Particulars                   | Actual          |
|-------------------------------|-----------------|
| Net Employee expenses         | 1,603.09        |
| R&M expenses                  | 66.26           |
| Net A&G expenses              | 51.16           |
| <b>Total O&amp;M expenses</b> | <b>1,720.51</b> |

### 3.12 Interest on Working Capital

3.12.1 The working capital requirement calculated by the Petitioner for FY17 is as below:

**Table 29: HPSEBL Submission- Working Capital Requirement for FY17 (Rs. Cr.)**

| Particulars  | Approved in 2 <sup>nd</sup> APR | Actual        |
|--|---------------------------------|---------------|
| O&M expenses for 1 month                           | 126.74                          | 143.38        |
| Receivables equivalent to 2 months average billing | 827.68                          | 729.55        |
| Maintenance Spares (40% of R&M Expense of 1 Month) | 1.72                            | 2.21          |
| Less: one month power purchase                     | 235.55                          | 257.97        |
| Less: Consumer Security Deposit                    | 314.20                          | 274.02        |
| <b>Total Working Capital</b>                       | <b>406.39</b>                   | <b>343.14</b> |
| Rate of Interest on Working Capital                | 12.88%                          | 12.88%        |
| <b>Interest on Working Capital</b>                 | <b>52.32</b>                    | <b>44.20</b>  |

### 3.13 Interest and Finance Charges

3.13.1 The actual interest expenses submitted by the Petitioner for FY17 is as below:

**Table 30: HPSEBL Submission- Interest and Finance Charges for FY17 (Rs. Cr.)**

| Particulars                                 | Approved in 2 <sup>nd</sup> APR | Actual        |
|---|---------------------------------|---------------|
| Interest on Long Term Loan                  | 154.06                          | 154.06        |
| Interest on Working Capital                 | 52.32                           | 44.20         |
| Interest on Consumer Security Deposit       | 26.34                           | 12.73         |
| <b>Total Interest &amp; Finance Charges</b> | <b>232.73</b>                   | <b>210.99</b> |

### 3.14 Other Controllable Parameters

3.14.1 The depreciation and return on equity claimed by the Petitioner for FY17 are summarized in the table below:

**Table 31: HPSEBL Submission- Depreciation and Return on Equity for FY17 (Rs. Cr.)**

| Particulars      | MYT Approved | Amount |
|------------------|--------------|--------|
| Depreciation     | 80.90        | 80.90  |
| Return on Equity | 30.24        | 30.24  |

### 3.15 Non-Tariff Income

3.15.1 The details of non-tariff income submitted by the Petitioner for true up of FY17 is summarised in the table below.

**Table 32: HPSEBL Submission- Non-Tariff Income for FY17 (Rs. Cr.)**

| Particulars   | Approved in 2 <sup>nd</sup> APR | Actual        |
|---|---------------------------------|---------------|
| Meter Rent/Service Line Rentals                       |                                 | 47.53         |
| Recovery for theft of Power / Malpractices            |                                 | 0.01          |
| Wheeling Charges Recovery                             |                                 | 92.49         |
| Peak Load Violation Charges                           |                                 | 46.08         |
| Miscellaneous Charges from Consumers                  |                                 | 3.32          |
| <b>Non-Tariff Income – Total</b>                      |                                 | <b>189.43</b> |
| <b>Other Income</b>                                   |                                 |               |
| Interest on Staff loans & Advances                    |                                 | 0.46          |
| Income from Investments                               |                                 | 0.45          |
| Interest on Loans & Advances to Licensees             |                                 | 0.00          |
| Delayed Payment Charges from Consumers*               |                                 | 0.00          |
| Interest on Advances to Suppliers / Contractors       |                                 | 1.07          |
| Interest on Banks (other than on Fixed Deposits)      |                                 | 0.00          |
| Delayed Payment Charges from PGCIL                    |                                 | 0.79          |
| Income from Trading                                   |                                 | 1.79          |
| Income fee collected against Staff Welfare Activities |                                 | 0.07          |
| Miscellaneous Receipts                                |                                 | 27.38         |
| O&M Charges Recovery from HPPTCL                      |                                 | 0.00          |
| Recovery of Investigation & Survey Charges            |                                 | 0.00          |
| Amortization of Govt. grants*                         |                                 | 0.00          |
| Prior Income*   |                                 | 0.00          |
| <b>Other Income – Total</b>                           |                                 | <b>32.01</b>  |
| <b>Total Non-Tariff Income &amp; Other Income</b>     | <b>244.55</b>                   | <b>221.44</b> |

\* Income items not considered

### 3.16 Prior Period Expense

3.16.1 The Petitioner has submitted that while calculating prior period expense, all excess provisions of prior have not been considered in the claim.

**Table 33: HPSEBL Submission- Net Prior Period Expenses / Income for FY17 (Rs. Cr.)**

| S. No.   | Particulars                        | Total | Generation | Distribution |
|----------|------------------------------------|-------|------------|--------------|
| <b>A</b> | Income relating to previous years: |       |            |              |
| 1        | Interest income for prior periods  | -     | -          | -            |

| S. No.   | Particulars                                    | Total         | Generation   | Distribution  |
|----------|--|---------------|--------------|---------------|
| 2        | Income Tax prior period                        | -             | -            | -             |
| 3        | Excess Provision for Depreciation              | 0.03          | 0.03         | -             |
| 4        | Excess Provision for Interest and Fin. Charges | 18.24         | 0.34         | -             |
| 5        | Receipts from consumers                        | -             | -            | -             |
| 6        | Other Excess Provision                         | 130.96        | 0.01         | -             |
| 7        | Others Income                                  | 0.75          | 0.41         | 0.34          |
|          | <b>Sub-Total A</b>                             | <b>149.98</b> | <b>0.79</b>  | <b>0.34</b>   |
| <b>B</b> | <b>Expenditure relating to previous years</b>  |               |              |               |
| 1        | Power Purchase                                 | 49.79         | -            | 49.79         |
| 2        | Operating Expenses                             | -             | -            | -             |
| 3        | Excise Duty on generation                      | -             | -            | -             |
| 4        | Employee Cost                                  | 10.19         | 0.06         | 10.13         |
| 5        | Depreciation                                   | 0.47          | 0            | 0.47          |
| 6        | Interest and Finance Charges                   | -             | -            | -             |
| 7        | Admn. Expenses                                 | -             | -            | -             |
| 8        | Withdrawal of Revenue Demand                   | -             | -            | -             |
| 9        | Material Related                               | -             | -            | -             |
| 10       | Other  | 22.3          | 1.77         | 20.53         |
|          | <b>Sub-Total B</b>                             | <b>82.75</b>  | <b>1.83</b>  | <b>80.92</b>  |
| <b>C</b> | <b>Net prior period Credit/(Charges) : A-B</b> | <b>67.23</b>  | <b>-1.04</b> | <b>-80.58</b> |

### 3.17 Compensation amount for non-compliance of solar RPPO in FY15

- 3.17.1 The Petitioner has submitted that in FY15 it was unable to fulfil its solar RPO and had a shortfall of 19.32 MUs. Further, the Petitioner has submitted that in its order dated 14.02.2017 against Petition No. 30/2016, the Commission had directed HPSEBL to deposit this compensation amount in a separate fund already created by HPSEBL in its account with Rs. 5.410 Cr. (80%) as the HPSEBL's share in project financing (10% share) to create sub-transmission infrastructure (11 kV and 33kV) during the next two years and the remaining Rs. 1.352 Cr. (20%) for purchase of Solar RECs at the rate of floor price determined by the Central Commission.
- 3.17.2 Against this, the Petitioner has deposited the amount of Rs. 5.41 crore on 31.3.2017 in a separate fund in the shape of Deposit. Further, the remaining amount of Rs. 1.352 Crore payment has been made to Indian Energy Exchange Ltd through Chief Engineer (SO) for purchase of Solar RECs & utilization for the same may be obtained from their office.
- 3.17.3 Therefore, the Petitioner as additionally claimed the amount of Rs. 6.76 Cr. in the true-up of FY17.

### 3.18 Aggregate Revenue Requirement

- 3.18.1 Based on the values determined by HPSEBL for the various parameters, the ARR for the FY17 is submitted as below for true-up against approved ARR of Rs. 4966.05 Crores in the APR Order for FY17.

**Table 34: HPSEBL Submission- Aggregate Revenue Requirement for FY17 (Rs. Cr.)**

| Particulars  | Approved in 2 <sup>nd</sup> APR | True-Up        |
|--|---------------------------------|----------------|
| <b>Power Purchase Expenses for Supply in the State</b>   | <b>2826.54</b>                  | <b>3183.70</b> |
| (i) Cost of electricity purchase including own generation  | 2597.39                         | 2789.72        |
| (ii) PGCIL Charges   | 158.33                          | 302.32         |
| (iii) HPPTCL Charges   | 3.32                            | 10.57          |
| (iv) STOA Charges  | 56.18                           | 57.16          |
| (v) SLDC Charges   | 11.32                           |                |
| (vi) Other Charges (System/Marketing, reactive power, UI (malana), LADF, Trading Margin, NLDC, UPCL(field unit)) |                                 | 16.52          |
| (vii) Incentive for over-achievement of T&D loss   |                                 | 13.09          |
| <b>Operation &amp; Maintenance Costs</b>   | <b>1520.86</b>                  | <b>1720.51</b> |
| (i) Employee Cost  | 1425.28                         | 1603.09        |
| (ii) R&M Cost  | 51.69                           | 66.26          |
| (iii) A&G Cost   | 42.89                           | 51.16          |
| (iv) Additional amount for safety measure  | 1.00                            |                |
| <b>Interest &amp; Finance Charges</b>  | <b>232.73</b>                   | <b>210.99</b>  |
| (i) Interest on Long term loan   | 154.06                          | 154.06         |
| (ii) Interest on Working Capital   | 52.32                           | 44.27          |
| (iii) Interest on Consumer Security Deposit  | 26.34                           | 12.73          |
| Depreciation   | 80.90                           | 80.90          |
| Return on Equity   | 30.24                           | 30.24          |
| Provision for Bad & Doubtful Debtors   |                                 | 3.21           |
| Net Prior Period Expense /(Credit)   |                                 | 80.58          |
| Amount towards RPPO compensation fund  |                                 | 6.76           |
| <b>Less: Non-Tariff &amp; Other Income</b>   | <b>244.55</b>                   | <b>221.44</b>  |
| <b>Aggregate Revenue Requirement (ARR)</b>   | <b>4446.72</b>                  | <b>5095.45</b> |
| <b>Add: Past period Cost</b>   | <b>519.33</b>                   | <b>519.33</b>  |
| (i) Impact of Final Truing-up for FY13 & FY14  | 386.34                          | 386.34         |
| (ii) Provisional Gap resulting in non-receipt of Incentive Grant considered in the Order for FY16                | 132.99                          | 132.99         |
| <b>Total ARR including adjustments</b>   | <b>4966.05</b>                  | <b>5614.78</b> |

### 3.19 Revenue (Gap)/Surplus

3.19.1 HPSEBL has prayed to the Commission to approve the True up gap of Rs 459.36 Cr. for FY17 as detailed in table below:

**Table 35: HPSEBL Submission- Revenue (Gap)/ Surplus for FY17 (Rs. Cr.)**

| Particulars                             | Approved in 2 <sup>nd</sup> APR | Amount         |
|---|---------------------------------|----------------|
| <b>Annual Revenue Requirement (ARR)</b> | <b>4966.05</b>                  | <b>5614.78</b> |
| <b>Revenue</b>                          |                                 |                |
| Revenue at existing tariff              | 4661.23                         | 4377.28        |

| Particulars                              | Approved in 2 <sup>nd</sup> APR | Amount         |
|--|---------------------------------|----------------|
| Revenue from sale outside state          | 308.32                          | 778.14         |
| <b>Total Revenue</b>                     | <b>4969.55</b>                  | <b>5155.42</b> |
| <b>Revenue Surplus ( + ) / Gap ( - )</b> | <b>3.49</b>                     | <b>-459.36</b> |

### 3.20 Carrying Cost

3.20.1 HPSEBL has prayed to the Commission to approve the cumulative revenue gap along with carrying cost as shown below:

**Table 36: HPSEBL Submission- Revenue Gap with Carrying Cost (Rs. Cr.)**

| Particulars   | FY 2016-17     | FY 2017-18     | FY 2018-19     |
|---|----------------|----------------|----------------|
| Opening Gap   | -              | -486.48        | -539.98        |
| Surplus/ (Gap) on account of truing-up of uncontrollable parameters for FY 17 | -459.36        | -              | -              |
| Closing   | -459.36        | -486.48        | -539.98        |
| Interest Rate for Carrying Cost   | 11.81%         | 11.00%         | 11.25%         |
| Carrying Cost   | -27.12         | -53.49         | -60.75         |
| <b>Total (Gap)/ Surplus</b>   | <b>-486.48</b> | <b>-539.98</b> | <b>-600.73</b> |

# 4 SUMMARY OF THE ARR PETITION FOR THE CONTROL PERIOD

## 4.1 Introduction

- 4.1.1 This chapter summarizes the highlights of the Petition filed by the HPSEBL for review of Aggregate Revenue Requirement (ARR) and determination of Distribution and Retail Supply Tariff for the fourth MYT Control Period (FY20 to FY24).
- 4.1.2 The HPSEBL filed the application for approval of ARR and determination of Wheeling and Retail Supply Tariff for the fourth Control Period (FY20 to FY24), with the Commission on 30<sup>th</sup> November, 2018. On initial scrutiny, the Commission observed that the MYT Petition filed by the Petitioner was incomplete and did not contain necessary information required for processing of the Petition. Therefore, the Petitioner was advised to submit a revised MYT Petition for the distribution business separately. However, the Petitioner submitted revised tables of the MYT Petition for the fourth Control Period on 20<sup>th</sup> February, 2019.
- 4.1.3 The Petitioner has proposed projections for the Control Period as per the HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2011 read with HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) (First Amendment) Regulation, 2012, HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) (Second Amendment) Regulation, 2013 and HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) (Third Amendment) Regulation, 2018 herein after referred to as "HPERC MYT Regulation, 2011" and considering the actual expense for past years and estimates for the base year i.e. FY19.

## 4.2 Sales Projections

- 4.2.1 For projecting the energy sales, number of consumers and connected load during the fourth Control Period, the Petitioner has chosen FY 2018-19 as the Base Year based on the audited accounts of FY 2015-16 & FY 2016-17 and unaudited actual figures of FY 2017-18.
- 4.2.2 For the purpose of determining appropriate growth rates across the Control Period, the Petitioner has analysed category wise data from the past 6 years (from FY 2012-13 to FY 2017-18) and considered the 5 year CAGR rates for projections. However, the Petitioner submitted that on observing abnormal trends due to impact of controllable/uncontrollable internal or external factors,

it has resorted to using normalized CAGR rates or assuming a subjective rate for projections.

### Projections for Connected Load

4.2.3 The Petitioner has projected the connected load by applying the category-wise Compounded Annual Growth Rate (CAGR) after considering the 5 year CAGRs for the past years. The break-up of the category wise connected load in the past years and the CAGR considered is shown in the table below:

**Table 37: HPSEBL Submission- Category-wise Connected Load (MW) in past 5 years and Growth Rate considered for projections**

| Consumer Category                         | Actual       |              |              |              |              |              | RE           | CAGR  |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
|   | FY13         | FY14         | FY15         | FY16         | FY17         | FY18         | FY19         | Proj. |
| Domestic                                  | 2,637        | 2,780        | 2,952        | 3,587        | 3,294        | 3,477        | 3,659        | 5.69% |
| Non Domestic<br>Non<br>Commercial         | 134          | 144          | 155          | 175          | 187          | 198          | 207          | 5.79% |
| Commercial                                | 556          | 579          | 607          | 642          | 674          | 720          | 919          | 5.31% |
| Temporary                                 | 25           | 27           | 29           | 31           | 33           | 40           | 41           | 0.00% |
| Small Power                               | 199          | 199          | 204          | 235          | 248          | 252          | 258          | 2.19% |
| Medium Power                              | 169          | 171          | 169          | 160          | 141          | 142          | 141          | 0.75% |
| Large Supply<br>(HT and EHT)              | 1,422        | 1,441        | 1,448        | 1,538        | 1,538        | 1,523        | 1,515        | 1.38% |
| Govt.<br>Irrigation &<br>Water<br>Pumping | 259          | 265          | 273          | 282          | 292          | 312          | 327          | 4.66% |
| Public Lighting                           | 6            | 6            | 7            | 4            | 5            | 6            | 7            | 3.25% |
| Irrigation &<br>Agriculture               | 79           | 84           | 90           | 100          | 105          | 186          | 193          | 8.44% |
| Bulk Supply                               | 125          | 120          | 119          | 122          | 126          | 125          | 120          | 0.02% |
| <b>Total</b>                              | <b>5,610</b> | <b>5,816</b> | <b>6,052</b> | <b>6,877</b> | <b>6,642</b> | <b>6,981</b> | <b>7,387</b> |       |

4.2.4 Based on the actual available data for FY18 and the CAGRs as shown in above table, HPSEBL projected the connected load for various categories which is shown in the following table:

**Table 38: HPSEBL Submission- Projected Connected load (in MW)**

| Consumer Category           | RE<br>Base<br>Year |       | Projections |       |       |       |       |
|-----------------------------|--------------------|-------|-------------|-------|-------|-------|-------|
|                             | FY19               | CAGR  | FY20        | FY21  | FY22  | FY23  | FY24  |
| Domestic                    | 3,659              | 5.69% | 3,867       | 4,087 | 4,319 | 4,565 | 4,825 |
| Non Domestic Non Commercial | 207                | 5.79% | 219         | 232   | 245   | 260   | 275   |
| Commercial                  | 919                | 5.31% | 968         | 1,020 | 1,074 | 1,131 | 1,191 |
| Temporary                   | 41                 | 0.00% | 41          | 41    | 41    | 41    | 41    |
| Small Power                 | 258                | 2.19% | 264         | 270   | 276   | 282   | 288   |
| Medium Power                | 141                | 0.75% | 142         | 143   | 144   | 145   | 146   |
| Large Supply (HT and EHT)   | 1,515              | 1.38% | 1,536       | 1,557 | 1,578 | 1,600 | 1,622 |

| Consumer Category                | RE Base Year |       | Projections  |              |              |              |              |
|----------------------------------|--------------|-------|--------------|--------------|--------------|--------------|--------------|
|                                  | FY19         | CAGR  | FY20         | FY21         | FY22         | FY23         | FY24         |
| Govt. Irrigation & Water Pumping | 327          | 4.66% | 342          | 358          | 375          | 392          | 411          |
| Public Lighting                  | 7            | 3.25% | 7            | 7            | 7            | 8            | 8            |
| Irrigation & Agriculture         | 193          | 8.44% | 209          | 227          | 246          | 267          | 289          |
| Bulk Supply                      | 120          | 0.02% | 120          | 120          | 120          | 120          | 120          |
| <b>Total</b>                     | <b>7,387</b> |       | <b>7,715</b> | <b>8,061</b> | <b>8,426</b> | <b>8,810</b> | <b>9,215</b> |

### Projections for Number of Consumers

4.2.5 The break-up of category-wise actual number of consumers and the CAGR growth rates considered for projections by the Petitioner are as follows:

**Table 39: HPSEBL Submission- Category-wise Number of Consumers in past 5 years and growth rate**

| Consumer Category                | Actual         |                |                |                |                |                | RE             | CAGR         |
|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------|
|                                  | FY13           | FY14           | FY15           | FY16           | FY17           | FY18           | FY19           | Proj.        |
| Domestic                         | 1767611        | 1811320        | 1858099        | 1904362        | 1953211        | 1998864        | 2043762        | <b>2.49%</b> |
| NDNC                             | 22120          | 23769          | 25521          | 26481          | 27098          | 28306          | 29255          | <b>4.46%</b> |
| Commercial                       | 232723         | 238424         | 244969         | 252686         | 260372         | 267731         | 275888         | <b>2.84%</b> |
| Temporary                        | 4358           | 4723           | 5179           | 6109           | 6550           | 7435           | 8277           | <b>0.00%</b> |
| Small Power                      | 30043          | 29942          | 30201          | 30497          | 30692          | 30531          | 30412          | <b>0.32%</b> |
| Medium Power                     | 2739           | 2763           | 3195           | 2299           | 1987           | 1974           | 1972           | <b>1.00%</b> |
| Large Supply (HT & EHT)          | 1717           | 1737           | 1757           | 1841           | 1822           | 1750           | 1697           | <b>0.38%</b> |
| Govt. Irrigation & Water Pumping | 5197           | 5531           | 6262           | 6121           | 6389           | 6753           | 7001           | <b>5.38%</b> |
| Public Lighting                  | 889            | 896            | 1117           | 842            | 905            | 1029           | 1129           | <b>2.97%</b> |
| Irrigation & Agriculture         | 19946          | 21630          | 23357          | 25441          | 27197          | 29173          | 31132          | <b>7.90%</b> |
| Bulk Supply                      | 261            | 250            | 313            | 287            | 292            | 271            | 252            | <b>0.75%</b> |
| <b>Total</b>                     | <b>2087604</b> | <b>2140985</b> | <b>2199970</b> | <b>2256966</b> | <b>2316515</b> | <b>2373817</b> | <b>2430777</b> |              |

4.2.6 Based on the actual available data for FY18 and the CAGR shown in above table, HPSEBL has projected the no. of consumers for various categories which is shown in the following table:

**Table 40: HPSEBL Submission- Projected Number of Consumers for 4<sup>th</sup> Control Period**

| Consumer Category | RE Base Year |       | Projections |         |         |         |         |
|-------------------|--------------|-------|-------------|---------|---------|---------|---------|
|                   | FY19         | CAGR  | FY20        | FY21    | FY22    | FY23    | FY24    |
| Domestic          | 2043762      | 2.49% | 2094641     | 2146787 | 2200231 | 2255006 | 2311144 |
| NDNC              | 29255        | 4.46% | 30561       | 31925   | 33350   | 34839   | 36394   |
| Commercial        | 275888       | 2.84% | 283730      | 291795  | 300088  | 308618  | 317390  |



| Consumer Category                | RE Base Year   | CAGR  | Projections    |                |                |                |                |
|----------------------------------|----------------|-------|----------------|----------------|----------------|----------------|----------------|
|                                  | FY19           |       | FY20           | FY21           | FY22           | FY23           | FY24           |
| Temporary                        | 8277           | 0.00% | 8277           | 8277           | 8277           | 8277           | 8277           |
| Small Power                      | 30412          | 0.32% | 30511          | 30609          | 30708          | 30807          | 30906          |
| Medium Power                     | 1972           | 1.00% | 1992           | 2012           | 2032           | 2052           | 2073           |
| Large Supply (HT & EHT)          | 1697           | 0.38% | 1703           | 1710           | 1716           | 1723           | 1730           |
| Govt. Irrigation & Water Pumping | 7001           | 5.38% | 7377           | 7774           | 8192           | 8633           | 9097           |
| Public Lighting                  | 1129           | 2.97% | 1163           | 1197           | 1233           | 1269           | 1307           |
| Irrigation & Agriculture         | 31132          | 7.90% | 33591          | 36245          | 39109          | 42199          | 45533          |
| Bulk Supply                      | 252            | 0.75% | 254            | 256            | 258            | 260            | 262            |
| <b>Total</b>                     | <b>2430777</b> |       | <b>2493800</b> | <b>2558587</b> | <b>2625194</b> | <b>2693682</b> | <b>2764112</b> |

### Projection for Energy Sales

4.2.7 The Petitioner has used the Compounded Average Growth Rate (CAGR) as recorded over the last few years along with sales per consumer for each category to project the category-wise sales for the future years. The Petitioner has analysed the past growth rates in energy sold to each consumer category for the purpose of projection of sales as shown below:

**Table 41: HPSEBL Submission- Summary of Category-wise Sales Growth Rate Considered for Projections**

| Consumer Category                | Actuals      |              |              |              |                 |              |              | CAGR         |
|----------------------------------|--------------|--------------|--------------|--------------|-----------------|--------------|--------------|--------------|
|                                  | FY13         | FY14         | FY15         | FY16         | FY17            | FY18         | FY19         | Proj.        |
| Domestic                         | 1,618        | 1,774        | 1,894        | 1,942        | 1,937.93        | 2,009        | 2,059        | <b>3.16%</b> |
| NDNC                             | 107          | 118          | 130          | 130          | 130.44          | 144          | 158          | <b>4.51%</b> |
| Commercial                       | 409          | 451          | 473          | 497          | 528.24          | 567          | 600          | <b>3.87%</b> |
| Temporary                        | 14           | 27           | 26           | 30           | 29.97           | 36           | 41           | <b>0.00%</b> |
| Small Power                      | 61           | -            | 71           | 90           | 84.08           | 86           | 86           | <b>0.32%</b> |
| Medium Power                     | 145          | 203          | 138          | 120          | 124.05          | 115          | 106          | <b>1.00%</b> |
| Large Supply (HT & EHT)          | 4,173        | 4,288        | 4,370        | 4,180        | 4,353.38        | 4,613        | 4,970        | <b>2.02%</b> |
| Govt. Irrigation & Water Pumping | 454          | 512          | 503          | 546          | 551.06          | 605          | 606          | <b>5.91%</b> |
| Public Lighting                  | 47           | 12           | 13           | 13           | 12.99           | 11           | 10           | <b>3.48%</b> |
| Irrigation & Agriculture         | 26           | -            | 45           | 52           | 57.28           | 62           | 70           | <b>5%*</b>   |
| Bulk Supply                      | 170          | 151          | 158          | 145          | 150.24          | 154          | 148          | <b>0.75%</b> |
| <b>Total</b>                     | <b>7,224</b> | <b>7,536</b> | <b>7,821</b> | <b>7,745</b> | <b>7,959.66</b> | <b>8,402</b> | <b>8,856</b> |              |

\*FY 20-21 onwards

4.2.8 Accordingly, the yearly projected sales projected by the Petitioner for various categories are shown in the table below:

**Table 42: HPSEBL Submission- Projected Energy Sales for fourth Control Period (MUs)**

| Consumer Category                | RE Base Year | CAGR Approved | Projections  |              |              |              |               |
|----------------------------------|--------------|---------------|--------------|--------------|--------------|--------------|---------------|
|                                  | FY19         |               | FY20         | FY21         | FY22         | FY23         | FY24          |
| Domestic                         | 2,059        | 3.16%         | 2,125        | 2,192        | 2,261        | 2,332        | 2,406         |
| NDNC                             | 158          | 4.51%         | 165          | 173          | 181          | 189          | 197           |
| Commercial                       | 600          | 3.87%         | 624          | 648          | 673          | 699          | 726           |
| Temporary                        | 41           | 0.00%         | 41           | 41           | 41           | 41           | 41            |
| Small Power                      | 86           | 0.32%         | 86           | 87           | 87           | 87           | 88            |
| Medium Power                     | 106          | 1.00%         | 107          | 109          | 110          | 111          | 112           |
| Large Supply (HT and EHT)        | 4,970        | 2.02%         | 5,071        | 5,173        | 5,278        | 5,385        | 5,494         |
| Govt. Irrigation & Water Pumping | 606          | 5.91%         | 642          | 680          | 720          | 763          | 808           |
| Public Lighting                  | 10           | 3.48%         | 10           | 11           | 11           | 12           | 12            |
| Irrigation & Agriculture         | 70           | 17.00%        | 82           | 86           | 90           | 95           | 99            |
| Bulk Supply                      | 148          | 0.75%         | 149          | 151          | 152          | 153          | 154           |
| <b>Total</b>                     | <b>8,856</b> |               | <b>9,103</b> | <b>9,349</b> | <b>9,603</b> | <b>9,866</b> | <b>10,137</b> |

### 4.3 Power Purchase

4.3.1 The Petitioner submitted that HP is well endowed with hydro power generation assets. Therefore, it has an overall surplus of power. However, both demand and supply vary significantly on monthly basis resulting in surplus power in summers and deficit situation in winters. To compensate for the deficit in the winter months, the Petitioner resorts to banking during summer months and availing the same during winter months to mitigate the winter shortages. From planning perspective, the Petitioner has considered only contra banking in the upcoming MYT Control Period.

4.3.2 Further, the Petitioner has submitted that in FY 2018-19, HP had to pass through debacle conditions owing to a continuous unprecedented dry spell during the months of Feb'18 to June'18 which resulted in a drastic decline in availability against the anticipations. The Petitioner has attributed the following reasons for reduction in availability:

- During the winter months of FY 2017-18 i.e. Dec' 17 onwards there was dry spell in the State and there was almost negligible snowfall throughout the State.
- Negligible rain in the months of Feb' 18 to June' 18.
- Non-commissioning of IPP owned hydro generating stations worth 55MW, which were considered by Commission during computations but in actual did not come up due to uncontrollable factors.
- Non-commissioning of Uhl-III (100MW).
- Non-commissioning of Municipal Solid Waste Based Project.
- Non-commissioning of additional private Solar Projects.
- De-allocation of SOR of Unchahar-IV (25MW) in compliance to the Commission's direction.

- Intending sale of Kashang power by HPPCL through open access.

### **Power Purchase from Own Generating Stations**

4.3.3 As per the submission of the Petitioner, the power procurement from own generating stations is as follows:

**Table 43: HPSEBL Submission- Power Procurement from Own Generating Stations (MUs)**

| Particulars           | FY19           | FY20           | FY21           | FY22           | FY23           | FY24           |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                       | RE             | Projected      | Projected      | Projected      | Projected      | Projected      |
| <b>Own Generation</b> |                |                |                |                |                |                |
| Bhaba                 | 562.1          | 412.82         | 412.82         | 412.82         | 412.82         | 412.82         |
| Bassi                 | 291.4          | 300.96         | 300.96         | 300.96         | 300.96         | 300.96         |
| Giri                  | 217.5          | 175.59         | 175.59         | 175.59         | 175.59         | 175.59         |
| Andhra                | 60.4           | 60.22          | 60.22          | 60.22          | 60.22          | 60.22          |
| Ghanvi                | 72.1           | 71.87          | 71.87          | 71.87          | 71.87          | 71.87          |
| Ghanvi-II             | 30.5           | 28.59          | 28.59          | 28.59          | 28.59          | 28.59          |
| Baner                 | 34.9           | 32.19          | 32.19          | 32.19          | 32.19          | 32.19          |
| Gaj                   | 30.1           | 29.65          | 29.65          | 29.65          | 29.65          | 29.65          |
| Binwa                 | 30.3           | 29.82          | 29.82          | 29.82          | 29.82          | 29.82          |
| Thirot                | 9.7            | 9.57           | 9.57           | 9.57           | 9.57           | 9.57           |
| Gumma                 | 11.7           | 6.99           | 6.99           | 6.99           | 6.99           | 6.99           |
| Holi                  | 5.6            | 5.33           | 5.33           | 5.33           | 5.33           | 5.33           |
| Larji                 | 473.2          | 515.90         | 515.90         | 515.90         | 515.90         | 515.90         |
| Khauli                | 34.5           | 32.78          | 32.78          | 32.78          | 32.78          | 32.78          |
| Bhaba Aug             | 10.7           | 12.11          | 12.11          | 12.11          | 12.11          | 12.11          |
| Nogli                 | 5.5            | 5.54           | 5.54           | 5.54           | 5.54           | 5.54           |
| Rongtong              | 3.1            | 1.60           | 1.60           | 1.60           | 1.60           | 1.60           |
| Sal-II                | 1.4            | 0.48           | 0.48           | 0.48           | 0.48           | 0.48           |
| Chaba                 | 5.2            | 4.78           | 4.78           | 4.78           | 4.78           | 4.78           |
| Rukti                 | 5.5            | 2.97           | 2.97           | 2.97           | 2.97           | 2.97           |
| Chamba                | 1.9            | 1.58           | 1.58           | 1.58           | 1.58           | 1.58           |
| Killar                | 0.6            | 0.51           | 0.51           | 0.51           | 0.51           | 0.51           |
| Uhl III - BVPC        | -              | 171.07         | 346.90         | 346.90         | 346.90         | 346.90         |
| <b>Total</b>          | <b>1898.09</b> | <b>1912.93</b> | <b>2088.75</b> | <b>2088.75</b> | <b>2088.75</b> | <b>2088.75</b> |

### **Power Purchase from GoHP (Free power allocation of GoHP)**

4.3.4 Govt. of HP is entitled to receive free power from various generating plants located in the state of HP. GoHP sells some of this power to HPSEBL at the rate determined by the HPERC from time to time.

4.3.5 The Petitioner has submitted that for estimating the power purchase for remaining months of FY19, HPSEBL has considered the projections approved by the Commission (except Uhl-III) in the Fourth APR Order dated 04.05.2018. The Petitioner expects Uhl-III to be commissioned by November and expects to procure total of 15MU in the remaining months of FY19.

4.3.6 For projections in upcoming MYT Control Period, the Petitioner has submitted that during the period Nov'17 to June'18 there was negligible snow fall/ very less rains and the actual generation from hydro generating stations was recorded abnormally low as compared to previous years actual generation. Therefore, for the projections for FY 2019-20 onwards, the generation from hydro projects has been considered based on past three years average generations upto the period September,17 as approved by the Commission for the year 2018-19 in the Fourth APR Order dated 04.05.2018 (except for Uhl-III). For Uhl-III, HPSEBL expects procurement of power based on design energy of the plant.

4.3.7 The power purchase details from GoHP power is summarized in the table below:

**Table 44: HPSEBL Submission- Power Procurement from GoHP (Free Power Allocation of GoHP) (MUs)**

| Particulars                        | FY19          | FY20          | FY21          | FY22          | FY23          | FY24          |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                                    | RE            | Projected     | Projected     | Projected     | Projected     | Projected     |
| <b>GoHP Free and Equity Power</b>  |               |               |               |               |               |               |
| Baira Siul                         | 1.06          | -             | -             | -             | -             | -             |
| Chamera-I                          | 5.90          | -             | -             | -             | -             | -             |
| Chamera-II                         | 3.75          | -             | -             | -             | -             | -             |
| Chamera-III                        | 3.05          | -             | -             | -             | -             | -             |
| Parbati-III                        | 1.87          | -             | -             | -             | -             | -             |
| Koldam                             | 13.88         | -             | -             | -             | -             | -             |
| Ranjeet Sagar Dam Share            | 50.91         | 77.72         | 77.51         | 77.51         | 77.51         | 77.72         |
| Shanan Share                       | 2.63          | 2.64          | 2.63          | 2.63          | 2.63          | 2.64          |
| Malana                             | 58.38         | 51.22         | 51.08         | 51.08         | 51.08         | 51.22         |
| Baspa (Primary & Sec.)             | 147.87        | 143.58        | 143.19        | 143.19        | 143.19        | 143.58        |
| Nathpa Jhakri HEP                  | 33.85         | -             | -             | -             | -             | -             |
| Rampur project                     | 8.59          | -             | -             | -             | -             | -             |
| Kasang                             | 22.26         | 22.16         | 22.10         | 22.10         | 22.10         | 22.16         |
| Chanju                             | 21.18         | 24.63         | 24.56         | 24.56         | 24.56         | 24.63         |
| Larji                              | 64.27         | 70.47         | 70.28         | 70.28         | 70.28         | 70.47         |
| Ghanvi                             | 9.77          | 11.10         | 11.07         | 11.07         | 11.07         | 11.10         |
| Baner                              | 4.90          | 7.23          | 7.21          | 7.21          | 7.21          | 7.23          |
| Gaj                                | 4.19          | 4.56          | 4.55          | 4.55          | 4.55          | 4.56          |
| Khauli                             | 4.68          | 5.97          | 5.95          | 5.95          | 5.95          | 5.97          |
| Ghanvi II                          | 4.21          | 6.26          | 6.24          | 6.24          | 6.24          | 6.26          |
| Uhl-III                            | 15.00         | 37.95         | 37.85         | 37.85         | 37.85         | 37.95         |
| Small HEP/<br>Private Micro - Free | 87.28         | 100.53        | 100.53        | 100.53        | 100.53        | 100.53        |
| <b>Total</b>                       | <b>569.47</b> | <b>566.02</b> | <b>564.75</b> | <b>564.75</b> | <b>564.75</b> | <b>566.02</b> |

**Power Purchase from NTPC power plants**

- 4.3.8 For projecting availability from NTPC plants for remaining months of FY19, the Petitioner has submitted that it has not considered availability from Unchahar-IV station. Further, the Petitioner submitted that Meja Thermal Power Station (Unit-I, 500MW) of NTPC is likely to be commissioned by the end November/early December 2018. The State of Himachal had been allotted a share of 19MW. However, the power has now been surrendered, and has therefore, not been considered for projections.
- 4.3.9 For upcoming MYT Control Period, the Petitioner has submitted that the availability from NTPC stations has been projected based on past three years PLF data considered by the Commission in its Fourth APR Order. The reason for considering the same is due to the unforeseen coal/gas shortages in the ensuing years, leading to abnormal PLFs. ~101 MUs from Singrauli, Rihand-I, II & III, Unchahar-I, II & III against Singrauli bundled power has been considered separately by the Petitioner as approved in the Fourth APR Order. Further, no other new project is likely to be commissioned.
- 4.3.10 The Petitioner has also submitted that it had surrendered its SOR share from Koldam HEP share for 5 years starting from July 2015 and therefore, the surrendered share has been re-considered July 2020 onwards.
- 4.3.11 The power availability from NTPC power plants for FY19 and each year of the fourth Control Period is as follows:

**Table 45: HPSEBL Submission- Power Procurement from NTPC power plants (MUs)**

| Particulars        | FY 19  | FY 20     | FY 21     | FY 22     | FY 23     | FY 24     |
|--------------------|--------|-----------|-----------|-----------|-----------|-----------|
|                    | RE     | Projected | Projected | Projected | Projected | Projected |
| <b>NTPC</b>        |        |           |           |           |           |           |
| Anta (G)           | 19.01  | 38.20     | 38.10     | 38.10     | 38.10     | 38.20     |
| Anta (L)           | 1.10   | -         | -         | -         | -         | -         |
| Anta (LNG)         | 49.08  | -         | -         | -         | -         | -         |
| Auriya (G)         | 45.61  | 39.95     | 39.84     | 39.84     | 39.84     | 39.95     |
| Auriya (L)         | 3.14   | -         | -         | -         | -         | -         |
| Auriya (LNG)       | 37.55  | -         | -         | -         | -         | -         |
| Dadri (G)          | 172.11 | 75.98     | 75.77     | 75.77     | 75.77     | 75.98     |
| Dadri (L)          | 7.66   | -         | -         | -         | -         | -         |
| Dadri (LNG)        | 55.41  | -         | -         | -         | -         | -         |
| Unchahar-I         | 151.39 | 44.69     | 44.57     | 44.57     | 44.57     | 44.69     |
| Unchahar-II        | 139.62 | 76.24     | 76.03     | 76.03     | 76.03     | 76.24     |
| Unchahar-III       | 68.40  | 50.09     | 49.95     | 49.95     | 49.95     | 49.95     |
| Unchahar-IV        | -      | -         | -         | -         | -         | -         |
| Rihand-1 STPS      | 254.33 | 229.18    | 228.55    | 228.55    | 228.55    | 229.18    |
| Rihand-2 STPS      | 236.62 | 220.80    | 220.20    | 220.20    | 220.20    | 220.80    |
| Singrauli STPS     | 56.24  | -         | -         | -         | -         | -         |
| Kahalgaon – II     | 146.04 | 139.39    | 139.01    | 139.01    | 139.01    | 139.39    |
| Rihand-3 Units-1,2 | 260.50 | 220.72    | 220.12    | 220.12    | 220.12    | 220.72    |

| Particulars              | FY 19          | FY 20          | FY 21          | FY 22          | FY 23          | FY 24          |
|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                          | RE             | Projected      | Projected      | Projected      | Projected      | Projected      |
| Dadri-II TPS             | 140.91         | -              | -              | -              | -              | -              |
| Jhajjar TPS              | -              | -              | -              | -              | -              | -              |
| Koldam                   | 419.40         | 454.88         | 453.64         | 453.64         | 453.64         | 454.88         |
| Koldam-3.95% unallocated | -              | -              | -              | -              | -              | -              |
| Koldam (SOR)             | -              | -              | 54.87          | 118.00         | 118.00         | 118.00         |
| Meja TPS-I               | -              | -              | -              | -              | -              | -              |
| Singrauli Bundled        | -              | 101.92         | 101.64         | 101.64         | 101.64         | 101.92         |
| <b>Total-NTPC</b>        | <b>2264.14</b> | <b>1692.04</b> | <b>1742.29</b> | <b>1805.42</b> | <b>1805.42</b> | <b>1809.90</b> |

### **Power Purchase from NPCIL power plants**

- 4.3.12 The Petitioner has considered the projections approved by the Commission for NAPP and RAPP (V & VI) in the Fourth APR Order for projecting the power purchase quantum for remaining months of FY19.
- 4.3.13 For projecting power purchase units for upcoming MYT Control Period, the Petitioner has considered past three years PLF data. The Petitioner has also submitted that in FY 2021-22, RAPP unit 7 & 8 (installed capacity 1400MW) of NPCIL shall be commissioned. The State of Himachal Pradesh has an allocation of 26.54 MW. Accordingly, energy availability from this project from April 2021 onwards has been considered.
- 4.3.14 The projections for power availability from NPCIL stations as submitted by the Petitioner are as follows:

**Table 46: HPSEBL Submission- Power Procurement from NPCIL stations (MUs)**

| Particulars       | FY19          | FY20          | FY21          | FY22          | FY23          | FY24          |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                   | RE            | Projected     | Projected     | Projected     | Projected     | Projected     |
| <b>NPCIL</b>      |               |               |               |               |               |               |
| NAPP              | 90.53         | 93.23         | 92.98         | 92.98         | 92.98         | 93.23         |
| RAPP (V & VI)     | 105.27        | 98.77         | 98.50         | 98.50         | 98.50         | 98.77         |
| RAPP (VII & VIII) | -             | -             | -             | 185.00        | 185.00        | 186.00        |
| <b>Total</b>      | <b>195.80</b> | <b>192.00</b> | <b>191.48</b> | <b>376.48</b> | <b>376.48</b> | <b>378.00</b> |

### **Power Purchase from NHPC power plants**

- 4.3.15 The Petitioner has submitted that for estimating the power purchase units for remaining months of FY19, HPSEBL has considered the projections approved by the Commission for NHPC stations in Fourth APR Order.
- 4.3.16 For upcoming MYT Control Period, the Petitioner has submitted the following basis for projecting power purchase units:
- The Petitioner has surrendered its SoR share for five years in Chamera-III and Parbati-III since October 2014, and therefore energy availability from these projects has been considered October, 2019 onwards.
  - Further, the Petitioner has submitted that it expects Parbati-II HEP (installed capacity 800MW) NHPC project to commission in FY2021-22. The

State of HP has allocation of 26.88 MW in Parbati-II. Therefore energy availability from this project has been considered from April 2021 onwards.

- It was submitted that during the period Nov'17 to June'18 there was negligible snow fall/ very less rains and the actual generation from hydro generating stations was recorded abnormally low as compared to previous years actual generation. Therefore, for the projections for FY 2019-20 onwards, the Petitioner has considered generation from hydro projects based on past three years average generations upto the period Sep'17 as approved by the Commission for the year FY19 in the Fourth APR Order.

4.3.17 The power purchase quantum projected from NHPC stations as submitted by the Petitioner are as follows:

**Table 47: HPSEBL Submission- Power Procurement from NHPC Stations (MUs)**

| Particulars  | FY19          | FY20          | FY21          | FY22          | FY23          | FY24          |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
|              | RE            | Projected     | Projected     | Projected     | Projected     | Projected     |
| <b>NHPC</b>  |               |               |               |               |               |               |
| Chamera I    | 57.26         | 71.73         | 71.53         | 71.53         | 71.53         | 71.73         |
| Chamera II   | 47.33         | 54.80         | 54.64         | 54.64         | 54.64         | 54.80         |
| Chamera III  | -             | 7.02          | 34.00         | 34.00         | 34.00         | 34.00         |
| Parbati III  | -             | 15.83         | 77.00         | 77.00         | 77.00         | 77.00         |
| Salal        | 31.83         | 35.12         | 35.02         | 35.02         | 35.02         | 35.12         |
| Tanakpur     | 13.63         | 17.07         | 17.02         | 17.02         | 17.02         | 17.07         |
| Uri          | 78.14         | 82.69         | 82.46         | 82.46         | 82.46         | 82.69         |
| Uri II       | -             | -             | -             | -             | -             | -             |
| Dhauliganga  | 38.32         | 39.01         | 38.90         | 38.90         | 38.90         | 39.01         |
| Dulhasti     | -             | -             | -             | -             | -             | -             |
| Sewa II      | -             | -             | -             | -             | -             | -             |
| Parbati II   | -             | -             | -             | 117.57        | 117.57        | 117.57        |
| <b>Total</b> | <b>266.51</b> | <b>323.27</b> | <b>410.57</b> | <b>528.14</b> | <b>528.14</b> | <b>528.99</b> |

#### **Power Purchase from THDC stations**

4.3.18 For remaining months of FY19, the Petitioner has considered nil projections as HPSEBL has surrendered its SOR share of Tehri and Koteshwar since Oct'14 for 5 years.

4.3.19 Therefore, for upcoming MYT Control Period, the Petitioner has considered power availability from Oct'19 onwards from these stations as shown below:

**Table 48: HPSEBL Submission- Power Procurement from THDC stations (MUs)**

| Particulars  | FY19     | FY20         | FY21          | FY22          | FY23          | FY24          |
|--------------|----------|--------------|---------------|---------------|---------------|---------------|
|              | RE       | Projected    | Projected     | Projected     | Projected     | Projected     |
| <b>THDC</b>  |          |              |               |               |               |               |
| Tehri        | -        | 25.37        | 104.00        | 104.00        | 104.00        | 104.00        |
| Koteshwar    | -        | 7.28         | 35.00         | 35.00         | 35.00         | 35.00         |
| <b>Total</b> | <b>-</b> | <b>32.65</b> | <b>139.00</b> | <b>139.00</b> | <b>139.00</b> | <b>139.00</b> |

**Power Purchase from HPPCL**

4.3.20 The Petitioner has considered nil projections from HPPCL for the remaining months of FY19 and the upcoming MYT Control Period as shown below:

**Table 49: HPSEBL Submission- Power Procurement from HPPCL stations (MUs)**

| Particulars  | FY19  | FY20      | FY21      | FY22      | FY23      | FY24      |
|--------------|-------|-----------|-----------|-----------|-----------|-----------|
|              | RE    | Projected | Projected | Projected | Projected | Projected |
| <b>HPPCL</b> |       |           |           |           |           |           |
| Kashang      | 10.99 | -         | -         | -         | -         | -         |

**Power Purchase from BBMB & Other Shared Stations**

4.3.21 For the remaining months of FY19, the Petitioner has considered the projections approved by the Commission in the Fourth APR Order.

4.3.22 For upcoming MYT Period, the Petitioner has considered generation from hydro projects based on past three years average generations upto the period Sep'17 as approved by the Commission for the year FY19 in the Fourth APR Order due to abnormally low generation in the period Nov'17 to Jun'18.

4.3.23 The power purchase quantum from these stations as submitted by the Petitioner are as follows:

**Table 50: HPSEBL Submission- Power Procurement from BBMB & Other Shared Stations (MUs)**

| Particulars                             | FY19          | FY20           | FY21           | FY22           | FY23           | FY24           |
|---|---------------|----------------|----------------|----------------|----------------|----------------|
|   | RE            | Projected      | Projected      | Projected      | Projected      | Projected      |
| <b>BBMB &amp; Other Shared Stations</b> |               |                |                |                |                |                |
| BBMB Old                                | 43.82         | 43.92          | 43.80          | 43.80          | 43.80          | 43.92          |
| BBMB New                                | 283.68        | 331.58         | 330.67         | 330.67         | 330.67         | 331.58         |
| Dehar                                   | 168.79        | 186.01         | 185.50         | 185.50         | 185.50         | 186.01         |
| Pong                                    | 33.05         | 35.21          | 35.11          | 35.11          | 35.11          | 35.21          |
| Shanan (available to HPSEB) (1 MW)      | 5.26          | 5.27           | 5.26           | 5.26           | 5.26           | 5.27           |
| Shanan Ext (available to HPSEB) (45 MW) | 45.00         | 45.00          | 45.00          | 45.00          | 45.00          | 45.00          |
| Yamuna                                  | 353.93        | 388.89         | 387.83         | 387.83         | 387.83         | 388.89         |
| Khara                                   | 48.36         | 62.70          | 62.53          | 62.53          | 62.53          | 62.70          |
| <b>Total</b>                            | <b>981.88</b> | <b>1098.58</b> | <b>1095.70</b> | <b>1095.70</b> | <b>1095.70</b> | <b>1098.58</b> |

**Power Purchase from SJVNL stations**

4.3.24 For the remaining months of FY19, the Petitioner has considered the projections approved by the Commission in the Fourth APR Order.

4.3.25 For upcoming MYT Period, the Petitioner has considered generation from hydro projects based on past three years average generations upto the period Sep'17



as approved by the Commission for the year FY19 in the Fourth APR Order due to abnormally low generation in the period Nov'17 to Jun'18.

4.3.26 The power purchase quantum from these stations as submitted by the Petitioner are as follows:

**Table 51: HPSEBL Submission- Power Procurement from SJVNL stations (MUs)**

| Particulars             | FY19           | FY20           | FY21           | FY22           | FY23           | FY24           |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                         | RE             | Projected      | Projected      | Projected      | Projected      | Projected      |
| <b>SJVNL</b>            |                |                |                |                |                |                |
| Nathpa Jhakri SOR       | 153.10         | 166.31         | 165.86         | 165.86         | 165.86         | 166.31         |
| Nathpa Jhakri Equity    | 1,384.42       | 1,481.31       | 1,477.26       | 1,477.26       | 1,477.26       | 1,481.31       |
| Rampur HEP SOR Share    | 47.48          | 53.10          | 52.95          | 52.95          | 52.95          | 53.10          |
| Rampur HEP Equity Share | 417.47         | 493.14         | 491.79         | 491.79         | 491.79         | 493.14         |
| <b>Total</b>            | <b>2002.47</b> | <b>2193.86</b> | <b>2187.86</b> | <b>2187.86</b> | <b>2187.86</b> | <b>2193.86</b> |

#### **Power Purchase from Baspa and Private IPPs**

4.3.27 For the remaining months of FY19, the Petitioner has considered the projections approved by the Commission in the Fourth APR Order.

4.3.28 For upcoming MYT Period, the Petitioner has considered generation from hydro projects based on past three years average generations upto the period Sep'17 as approved by the Commission for the year FY19 in the Fourth APR Order due to abnormally low generation in the period Nov'17 to Jun'18.

4.3.29 Similarly, the Petitioner has submitted that for projecting power purchase units from private IPPs, HPSEBL has considered month-wise power purchase based on actual average monthly procurement in FY 16-17, FY 17-18 and FY 18-19.

4.3.30 The power purchase quantum from these stations as submitted by the Petitioner are as follows:

**Table 52: HPSEBL Submission- Power Procurement from Baspa and Private IPPs (MUs)**

| Particulars                    | FY19           | FY20           | FY21           | FY22           | FY23           | FY24           |
|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                                | RE             | Projected      | Projected      | Projected      | Projected      | Projected      |
| <b>Baspa</b>                   |                |                |                |                |                |                |
| Baspa II- Primary              | 1,084.38       | 1,052.94       | 1,050.06       | 1,050.06       | 1,050.06       | 1,052.94       |
| Baspa - II Secondary Energy    | -              | 77.21          | 77.00          | 77.00          | 77.00          | 77.21          |
| <b>Sub-Total Baspa</b>         | <b>1084.38</b> | <b>1130.15</b> | <b>1127.06</b> | <b>1127.06</b> | <b>1127.06</b> | <b>1130.15</b> |
| <b>Private IPPs</b>            |                |                |                |                |                |                |
| Small HEP/ Private Micro       | 1,169.42       | 1,367.11       | 1,367.11       | 1,367.11       | 1,367.11       | 1,367.11       |
| Small HEP/ Private Micro-REC   | 233.14         | 324.97         | 324.97         | 324.97         | 324.97         | 324.97         |
| <b>Sub Total- Private IPPs</b> | <b>1402.56</b> | <b>1692.08</b> | <b>1692.08</b> | <b>1692.08</b> | <b>1692.08</b> | <b>1692.08</b> |

**Power Purchase from Solar Projects**

- 4.3.31 For the remaining months of FY19, the Petitioner has considered the projections approved by the Commission in the Fourth APR Order.
- 4.3.32 For projections for upcoming Control Period, the Petitioner has submitted that in case of Singrauli Solar plant and SECI, it has considered the average of month wise actual/estimated power procurement in FY 16-17, FY 17-18 and FY 18-19.
- 4.3.33 In case additional private solar plants, the yearly quantum has been computed based on the expected units from existing plants and from upcoming plants as per the tentative commissioning schedule.
- 4.3.34 During the tariff proceedings, the Petitioner was required to submit station-wise details of expected private solar projects. In its response, the Petitioner submitted the following status against which additional units have been considered:

**Table 53: HPSEBL Submission- Details of Additional Private Solar Plants**

| S. No.   | Name of Solar PV Plant                     | Date of Synchronization | IC (in MW)  | Share %    | PLF/ Design Energy | Units Projected (in MUs) | Tariff* | Date of signing of PPA  |
|--|--|-------------------------|-------------|------------|--------------------|--------------------------|---------|-------------------------|
| <b>(A)- Details of Commissioned Solar PV Projects upto 5 MW</b>                              |  |                         |             |            |                    |                          |         |                         |
| 1  | Jahu Solar PV                              | 20.02.2018              | 4           | 100        | 19%                | 6.66                     | 5.25    | 31.03.2017              |
| 2  | Nand Solar PV                              | 19.03.2018              | 5           | 100        | 19%                | 8.32                     | 5.25    | 31.03.2017              |
| 3  | GR Enterprises                             | 30.03.2018              | 1           | 100        | 19%                | 1.66                     | 4.37    | 31.03.2017              |
|  | <b>Total (A)</b>                           |                         | <b>10</b>   | <b>100</b> |                    | <b>16.64</b>             |         |                         |
| <b>(B)- Details of Projects for which PPA has been Signed but Commissioning not Achieved</b> |  |                         |             |            |                    |                          |         |                         |
| 1  | Berra Dol                                  | 30.11.2018              | 5           | 100        | 19%                | 8.32                     | 4.31    | 31.03.2017              |
| 2  | Haryana Powertech Project-I                | 31.03.2019              | 1           | 100        | 19%                | 1.66                     | 4.37    | 31.03.2017              |
| 3  | Haryana Powertech Project-II               | 31.03.2019              | 1           | 100        | 19%                | 1.66                     | 4.37    | 31.03.2017              |
| 4  | Surya Ushma                                | 31.03.2019              | 5           | 100        | 19%                | 8.32                     | 4.31    | 31.03.2017              |
| 5  | Luckey Brass                               | 31.03.2019              | 2           | 100        | 19%                | 3.33                     | 4.31    | 27.03.2018              |
| 6  | RSV  | 31.03.2019              | 1           | 100        | 19%                | 1.66                     | 4.37    | 28.03.2018              |
|  | <b>Total (B)</b>                           |                         | <b>15</b>   |            |                    | <b>24.97</b>             |         |                         |
| <b>(C)- Details of Projects for which Consent has given by HPSEBL but PPA not signed yet</b> |  |                         |             |            |                    |                          |         |                         |
| 1  | Kamlesh Thakur Solar PV                    | 30.06.2019              | 0.9         | 100        | 19%                | 1.50                     | 4.20    | on or before 30.11.2018 |
| 2  | IPPs falling under 250 to 500 kWp scheme** | 31.03.2020              | 20          | 100        | 19%                | 33.29                    | 4.20    | on or before 31.03.2019 |
|  | <b>Total (C)</b>                           |                         | <b>20.9</b> |            |                    | <b>34.79</b>             |         |                         |
|  | <b>Grand Total (A+B+C)</b>                 |                         | <b>45.9</b> |            |                    | <b>76.40</b>             |         |                         |

\*The rate shall be applicable if the project is commissioned in the financial year immediately succeeding the financial year in which the PPA has been signed.

\*\* Recently, the Govt. of HP has notified a scheme to harness the solar power of 20 MW (Aggregate Capacity) from the projects ranging from 250kW<sub>p</sub> to 500kW<sub>p</sub>, which is to be installed by Himachalis in the state & it is mandatory to HPSEBL to purchase all power from the IPPs falling under the said scheme.

4.3.35 The power purchase quantum projected from renewable sources as submitted by the Petitioner is as follows:

**Table 54: HPSEBL Submission- Power Procurement from Solar Projects (MUs)**

| Particulars              | FY19         | FY20          | FY21          | FY22          | FY23          | FY24          |
|--------------------------|--------------|---------------|---------------|---------------|---------------|---------------|
|                          | RE           | Projected     | Projected     | Projected     | Projected     | Projected     |
| <b>Renewable Sources</b> |              |               |               |               |               |               |
| Singrauli Solar          | 22.22        | 22.87         | 22.87         | 22.87         | 22.87         | 22.87         |
| SECI                     | 40.46        | 50.39         | 50.39         | 50.39         | 50.39         | 50.39         |
| Private Solar Projects   | 24.54        | 42.74         | 43.11         | 43.11         | 43.11         | 43.11         |
| <b>Total</b>             | <b>87.23</b> | <b>116.00</b> | <b>116.37</b> | <b>116.37</b> | <b>116.37</b> | <b>116.37</b> |

**Power Purchase from Other Source – Waste to Energy (WTE) Plants**

4.3.36 The Petitioner has submitted that the Waste-to-Energy projects have been delayed and are unlikely to be commissioned before FY20. Hence, nil projections have been considered by HPSEBL for FY19.

4.3.37 Based on the revised expected COD, the Petitioner has estimated annual quantum of power to be received from the two Waste to energy plants in Shimla and Manali as 24.53 MUs for the upcoming MYT Control Period as shown in the table below.

**Table 55: HPSEBL Submission- Details of Waste to Energy Plants**

| S. No.   | Name of Solar PV Plant | Scheduled COD | IC (in MW)  | Share %    | PLF/ Design Energy | Unit Projected (in MUs) | Tariff | Date of signing of PPA |
|--|------------------------|---------------|-------------|------------|--------------------|-------------------------|--------|------------------------|
| <b>Details of Waste to Energy Plants for which PPA has been signed by HPSEBL</b> |                        |               |             |            |                    |                         |        |                        |
| 1  | Shimla WTE Plant       | 16.12.2016    | 2.50        | 100        | 80%                | 17.52                   |        | 16.05.2016             |
| 2  | Manali WTE Plant       | 19.07.2018    | 1.00        | 100        | 80%                | 7.01                    |        | 19.12.2017             |
|  | <b>Total</b>           |               | <b>3.50</b> | <b>100</b> |                    | <b>24.53</b>            |        |                        |

Note- The Petitioner submitted that the projects have been delayed from scheduled commissioning date and are now expected to be commissioned on or before 31.03.2019.

**Table 56: HPSEBL Submission- Power Procurement from Waste to Energy Plants (MUs)**

| Particulars                     | FY 19 | FY 20     | FY 21     | FY 22     | FY 23     | FY 24     |
|---------------------------------|-------|-----------|-----------|-----------|-----------|-----------|
|                                 | RE    | Projected | Projected | Projected | Projected | Projected |
| Municipal Solid Waste to Energy | -     | 24.53     | 24.53     | 24.53     | 24.53     | 24.53     |

**Banking**

- 4.3.38 The quantum of banking power to be received in FY19 has been estimated by the Petitioner as the gap between the monthly demand and supply for winter months.
- 4.3.39 For the upcoming MYT Control Period, the quantum of banking power to be received has been assumed to be at the levels estimated for FY 19 by the Petitioner. Further, HPSEBL has considered nil projections for UI and IEX purchases.
- 4.3.40 The details of banking purchase, UI and contingency power projected by the Petitioner have been given below:

**Table 57: HPSEBL Submission-Details of Banking & Other Sources (MUs)**

| Particulars             | FY 19          | FY 20           | FY 21           | FY 22           | FY 23           | FY 24           |
|-------------------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                         | RE             | Projected       | Projected       | Projected       | Projected       | Projected       |
| Unscheduled Interchange | 248.73         | -               | -               | -               | -               | -               |
| Banking Purchase        | 1,838.85       | 1,838.85        | 1,838.85        | 1,838.85        | 1,838.85        | 1,838.85        |
| Contingency (IEX)       | 309.00         | -               | -               | -               | -               | -               |
| <b>Total-Others</b>     | <b>2396.58</b> | <b>1,838.85</b> | <b>1,838.85</b> | <b>1,838.85</b> | <b>1,838.85</b> | <b>1,838.85</b> |

**Total Power Purchase**

- 4.3.41 Based on the methodology detailed above, the summary table on the source-wise power procurement proposed by the Petitioner for the Control Period is as follows:

**Table 58: HPSEBL Submission- Summary of Total Power Purchase Units (MUs)**

| Particulars                     | FY 19   | FY 20     | FY 21     | FY 22     | FY 23     | FY 24     |
|---------------------------------|---------|-----------|-----------|-----------|-----------|-----------|
|                                 | RE      | Projected | Projected | Projected | Projected | Projected |
| Own Generation                  | 1898.09 | 1912.93   | 2088.75   | 2088.75   | 2088.75   | 2088.75   |
| NTPC                            | 2264.14 | 1692.04   | 1742.29   | 1805.42   | 1805.42   | 1809.90   |
| Solar Projects                  | 87.23   | 116.00    | 116.37    | 116.37    | 116.37    | 116.37    |
| NPCIL                           | 195.80  | 192.00    | 191.48    | 376.48    | 376.48    | 378.00    |
| NHPC                            | 266.51  | 323.27    | 410.57    | 528.14    | 528.14    | 528.99    |
| THDC                            | -       | 32.65     | 139.00    | 139.00    | 139.00    | 139.00    |
| Kashang                         | 10.99   | -         | -         | -         | -         | -         |
| BBMB and Other Shared Stations  | 981.88  | 1098.58   | 1095.70   | 1095.70   | 1095.70   | 1098.58   |
| SJVNL                           | 2002.47 | 2193.86   | 2187.86   | 2187.86   | 2187.86   | 2193.86   |
| GoHP Free Power                 | 569.47  | 566.02    | 564.75    | 564.75    | 564.75    | 566.02    |
| Baspa                           | 1084.38 | 1130.15   | 1127.06   | 1127.06   | 1127.06   | 1130.15   |
| Private IPPs                    | 1402.56 | 1692.08   | 1692.08   | 1692.08   | 1692.08   | 1692.08   |
| Municipal Solid Waste to Energy | -       | 24.53     | 24.53     | 24.53     | 24.53     | 24.53     |

| Particulars              | FY 19            | FY 20            | FY 21            | FY 22            | FY 23            | FY 24            |
|--------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                          | RE               | Projected        | Projected        | Projected        | Projected        | Projected        |
| <b>Sub Total</b>         | <b>10,783.89</b> | <b>11,079.59</b> | <b>11,513.58</b> | <b>11,879.28</b> | <b>11,879.28</b> | <b>11,899.73</b> |
| <i>Others:</i>           |                  |                  |                  |                  |                  |                  |
| Unscheduled Interchange  | 248.73           | -                | -                | -                | -                | -                |
| Banking Purchase         | 1,838.85         | 1,838.85         | 1,838.85         | 1,838.85         | 1,838.85         | 1,838.85         |
| Contingency (IEX)        | 309.00           | -                | -                | -                | -                | -                |
| <b>Sub-Total: Others</b> | <b>2396.58</b>   | <b>1,838.85</b>  | <b>1,838.85</b>  | <b>1,838.85</b>  | <b>1,838.85</b>  | <b>1,838.85</b>  |
|                          |                  |                  |                  |                  |                  |                  |
| <b>Total</b>             | <b>13,160.11</b> | <b>12,812.96</b> | <b>13,219.30</b> | <b>13,585.00</b> | <b>13,585.00</b> | <b>13,605.09</b> |

### Renewable Purchase Obligations

4.3.42 It was observed that the Petitioner has not submitted the preparedness to achieve RPO targets set for solar and non-solar RPO during each year of the Control Period as a part of the tariff petition.

4.3.43 During the tariff proceedings, the Commission directed the Petitioner to submit its plan. The Petitioner in its response has submitted that it intends to adhere to the annual RPO compliance targets set by the Commission and shall review it periodically.

### 4.4 Transmission and Distribution (T&D) Losses

4.4.1 The Petitioner has submitted that in the last 4 years, the actual T&D losses have been lower than the approved T&D loss trajectory approved by the Commission. Therefore, it has proposed the following loss trajectory for the fourth Control Period aiming at 9.5% at the end of the Control Period as shown in the table below:

**Table 59: HPSEBL Submission- Proposed T&D Loss (%) Trajectory from FY19 to FY24**

| Particulars       | FY19   | FY20   | FY21   | FY22  | FY23  | FY24  |
|-------------------|--------|--------|--------|-------|-------|-------|
| Proposed T&D loss | 10.50% | 10.30% | 10.10% | 9.90% | 9.70% | 9.50% |
| Loss Reduction    |        | 0.20%  | 0.20%  | 0.20% | 0.20% | 0.20% |

### 4.5 Energy Balance

4.5.1 Based on the approved loss levels and the sales projections as above, the Petitioner has submitted the revised energy balance for FY18 and FY19. The summary of the annual energy balance as proposed by the Petitioner is reproduced below:

**Table 60: HPSEBL Submission- Energy Balance Proposed for fourth Control Period (MUs)**

| S. No.   | Particulars                               | FY 19   | FY 20     | FY 21     | FY 22     | FY 23     | FY 24     |
|----------|---|---------|-----------|-----------|-----------|-----------|-----------|
|          |   | RE      | Projected | Projected | Projected | Projected | Projected |
| <b>a</b> | Units Procured from Interstate-Generating | 7283.57 | 7138.45   | 7369.25   | 7734.95   | 7734.95   | 7754.75   |

| S. No.   | Particulars  | FY 19            | FY 20            | FY 21            | FY 22            | FY 23            | FY 24            |
|----------|--|------------------|------------------|------------------|------------------|------------------|------------------|
|          |  | RE               | Projected        | Projected        | Projected        | Projected        | Projected        |
|          | Stations (including free power stations connected to ISTS)                                 |                  |                  |                  |                  |                  |                  |
| <b>b</b> | Banking Purchase at ISTS   | 1,838.85         | 1,838.85         | 1,838.85         | 1,838.85         | 1,838.85         | 1,838.85         |
| <b>c</b> | Interstate Transmission Loss (%)   | 3.18%            | 3.18%            | 3.18%            | 3.18%            | 3.18%            | 3.18%            |
| <b>d</b> | Transmission Loss (MUs)  | 290.09           | 285.48           | 292.82           | 304.45           | 304.45           | 305.08           |
| <b>e</b> | <b>Net Energy Available at Periphery</b>   | <b>8832.33</b>   | <b>8691.82</b>   | <b>8915.28</b>   | <b>9269.36</b>   | <b>9269.36</b>   | <b>9288.53</b>   |
| <b>f</b> | Power Available within the state (i+ii+iii)  | 3479.96          | 3811.13          | 3986.67          | 3986.67          | 3986.67          | 3986.96          |
|          | (i) State Generating Stations  | 1898.09          | 1912.93          | 2088.75          | 2088.75          | 2088.75          | 2088.75          |
|          | (ii) Free Power (own generation & IPPs)  | 179.31           | 206.12           | 205.83           | 205.83           | 205.83           | 206.12           |
|          | (iii) IPPs   | 1402.56          | 1692.09          | 1692.09          | 1692.09          | 1692.09          | 1692.09          |
| <b>g</b> | Power from Other Sources (i+ii)  | 557.73           | -                | -                | -                | -                | -                |
|          | (i) UI Power   | 248.73           | -                | -                | -                | -                | -                |
|          | (ii) IEX/PXIL  | 309.00           | -                | -                | -                | -                | -                |
| <b>h</b> | <b>Total Energy Available (e+f+g)</b>  | <b>12,870.02</b> | <b>12,502.95</b> | <b>12,901.95</b> | <b>13,256.02</b> | <b>13,256.02</b> | <b>13,275.48</b> |
| <b>i</b> | Energy Sales Within the state  | 8,856.45         | 9,103.01         | 9,349.24         | 9,603.42         | 9,865.86         | 10,136.86        |
| <b>j</b> | Inter-State Sale of Power (i+ii)   | 2,974.55         | 2,354.67         | 2,502.35         | 2,597.40         | 2,330.38         | 2,074.53         |
|          | (i) Sale of Power (including UI, Bilateral & IEX/PXIL)                                     | 1,135.70         | 515.82           | 663.50           | 758.55           | 491.53           | 235.68           |
|          | (ii) Banking   | 1,838.85         | 1,838.85         | 1,838.85         | 1,838.85         | 1,838.85         | 1,838.85         |
| <b>k</b> | <b>Total Energy Sale (i+j)</b>   | <b>11,830.99</b> | <b>11,457.68</b> | <b>11,851.59</b> | <b>12,200.82</b> | <b>12,196.24</b> | <b>12,211.39</b> |
| <b>l</b> | T&D loss (in MUs) (h-k)  | 1,039.02         | 1,045.27         | 1,050.36         | 1,055.20         | 1,059.79         | 1,064.09         |
| <b>m</b> | <b>Total Energy available for Sale (k+l)</b>   | <b>12,870.02</b> | <b>12,502.95</b> | <b>12,901.95</b> | <b>13,256.02</b> | <b>13,256.02</b> | <b>13,275.48</b> |
| <b>n</b> | T&D loss (%) = (1-(energy sale within the state)/(total energy available-interstate sale)) | 10.50%           | 10.30%           | 10.10%           | 9.90%            | 9.70%            | 9.50%            |

## 4.6 Power Purchase Cost

- 4.6.1 Some of the highlights of power purchase cost assumptions made by HPSEBL are:

### ***Power Purchase Cost from Own Generating Stations***

- The Petitioner has proposed the power purchase cost from own generating stations based on the per unit cost of saleable energy.
- For projecting the cost for each year of the Control Period, the Petitioner has considered average y-o-y increase of the AFC in the previous MYT period (FY15 - FY19) as the escalation rate for AFC in the fourth Control Period.
- For Small HEP, the sale of energy rate has been considered at Rs. 2.25 as per the latest available Tariff Order.
- For Uhl III, in absence of any reference rate/AFC, the rate of sale of Bhaba has been considered as both the plants have similar installed capacity.

### ***Power Purchase Cost from GoHP (Free Power Allocation from GoHP)***

- The Petitioner has submitted that in case of GoHP free power availed by HPSEBL from the directly connected projects, i.e. Baspa II, RSD, Shanan, Chanju-I, the energy purchase rate of Rs. 2.48 per unit, (GoHP free power sale to HPSEBL rate approved for FY 2018-19) has been considered.

### ***Power Purchase Cost from NTPC Stations***

- The Petitioner has considered a 3% escalation on the variable charges (Gas/Coal) for the remaining months of FY20 over the rate in September 2018 and y-o-y increase of 3% for each of the subsequent years.
- Further, the Petitioner has submitted that since the Annual Fixed Cost of NTPC stations for FY 2019-24 Control Period is yet to be approved, therefore, the Annual Fixed Cost already approved for FY 2018-19 has been considered for NTPC stations for working out the Cost of power purchase during the Control Period FY 2019-24.
- For Koldam, 5% hike has been considered on the overall cost of power purchase.

### ***Power Purchase Cost from NHPC Stations***

- The Petitioner has considered 3% y-o-y rate of escalation on the total cost of power purchase.

### ***Power Purchase Cost from NPCIL Stations***

- For NAPP and RAPP, the Petitioner has maintained the per unit cost of FY19 till FY22 post which a 5% escalation has been considered FY 22-23 onwards. Further, the rates for RAPP VII & VIII have been considered at the RAPP V & VI level by the Petitioner.

### **Power Purchase Cost from Solar Plants**

- In case of Singrauli solar PV (15MW), the Petitioner has considered energy purchase rate of Rs. 7.87 per unit. For SECI (20MW), the energy purchase rate of Rs. 5.50 has been considered. In case of additional private solar plants, the average rate of energy for the upcoming MYT (Rs. 4.54) has been computed from the projected procurement and determined tariffs by the Petitioner and the same has been considered for projections.

### **Power Purchase Cost from BBMB & Other Shared Stations**

- The Petitioner has submitted that in case of BBMB projects (for Old HP share from Bhakra), the rate considered by it has been compounded on yearly basis at 10% as per the existing practice for Common Pool Tariff determination by BBMB.
- For Bhakra Complex, Dehar & Pong, against the SOR share of 7.19%, the net O&M expenditure for HPSEBL in the revised Budget of FY 2018-19 is Rs. 33.9064 Cr. This has been escalated at 3% y-o-y basis for projections.
- In case of PSPCL project (Shanan 1MW share & Shanan Extension 45 MU share, the rate computed from the PSERC order dated 23.10.2017 for FY19 is 81.82 paise/unit and for FY20 is 86.75 paise/unit and further escalation of 5% has been considered.
- For UJVNL projects, the rates approved by the UERC vide Tariff Order dated 21.03.2018 for FY 2018-19 have been considered with an escalation factor of 3% y-o-y for projections.
- In case of UPJVNL project i.e. Khara HEP, the rate of 75 paise per unit for FY 2018-19 was approved by the UPERC vide Tariff Order dated 03.07.2018. The per unit rate of 75 paise has been escalated at a 3% y-o-y basis for projections.

### **Power Purchase Cost from THDC Stations**

- The Petitioner has submitted that the AFC for Tehri HEP for FY 2018-19 is Rs. 1288.5699 crore, annual saleable design energy is 2433.39 MUs and per unit energy (variable) charges is Rs. 2.65 & Rs. 2.65/Unit is capacity (fixed) charges with a total of Rs. 5.30 per unit rate which has been considered by the Petitioner.
- Similarly, the AFC for Koteshwer HEP for FY 2018-19 is Rs. 465.4577 crore, annual saleable design energy is 993.16 MUs and per unit energy (variable) charges is Rs. 2.34 & Rs. 2.34/Unit is capacity (fixed) charges with a total of Rs. 4.68 per unit rate which has been considered by the Petitioner.

### **Power Purchase Cost from SJVNL Stations**

- In case of Nathpa Jhakri HEP, the AFC for FY19 is Rs. 1395.66 crores, annual design energy is 5748.74 MUs and per unit rate is Rs. 1.214 as energy (variable) charges & Rs. 1.214/Unit as capacity (fixed) charges with a total of Rs. 2.428 per unit rate. The Petitioner has considered this with 2% y-o-y escalation.
- The Rampur HEP AFC for FY 2018-19 is Rs. 521.7064 crores, annual saleable design energy is 1617.59 MUs and per unit rate is Rs. 1.613 as energy (variable) charges & Rs. 1.613/Unit as capacity (fixed) charges with a total of



Rs. 3.226 per unit rate. The 2% escalation may be considered year on year basis.

### **Power Purchase Cost from Baspa and Other Private IPPs**

- The Petitioner has submitted that in case of Baspa II, the AFC for FY19 was Rs. 145.51 crore, saleable primary energy was 1050.06 MUs & per unit rate was Rs. 1.39. However, the JSW Hydro Energy Ltd. has written for consent for additional capital expenditure on Baspa II HEP Plant & Machinery Repair & Maintenance to be incurred during the control period FY2019-24 as per following details:

**Table 61: HPSEBL Submission- Additional Capex proposed for Baspa II HEP (Rs. Cr.)**

| Particulars                         | FY19   | FY20   | FY21   | FY22   | FY23   |
|-------------------------------------|--------|--------|--------|--------|--------|
| Tentative Addl. Capital Expenditure | 2.7451 | 2.9146 | 1.4108 | 1.9060 | 2.0756 |

- The Petitioner has further submitted that this proposed additional capital expenditure on Baspa II HEP will have impact on the Baspa II capital cost & on the determination of AFC for control period FY 2019-24 of the project resulting in increase in tariff. Therefore, 10% escalation y-o-y basis has been considered.
- For private IPPs, the Petitioner has considered the power purchase rate for FY 2018-19 as the rate for the upcoming MYT.

### **Total Power Purchase Cost**

4.6.2 The overall power purchase quantum and associated cost, as submitted by the Petitioner, for FY19 and the Fourth MYT Period is as follows:

Table 62: HPSEBL Submission – Summary of Power Purchase Units and Cost for FY17

| Particulars           | FY19 (RE)         |               | FY20              |               | FY21              |               | FY22              |               | FY23              |               | FY24              |               |
|-----------------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|
|                       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       |
| <b>Own Generation</b> |                   |               |                   |               |                   |               |                   |               |                   |               |                   |               |
| Bhaba                 | 562.12            | 43.85         | 412.82            | 34.75         | 412.82            | 37.56         | 412.82            | 40.60         | 412.82            | 43.88         | 412.82            | 47.43         |
| Bassi                 | 291.45            | 23.02         | 300.96            | 24.19         | 300.96            | 24.76         | 300.96            | 25.33         | 300.96            | 25.93         | 300.96            | 26.53         |
| Giri                  | 217.48            | 19.57         | 175.59            | 17.23         | 175.59            | 18.69         | 175.59            | 20.27         | 175.59            | 21.99         | 175.59            | 23.86         |
| Andhra                | 60.37             | 8.45          | 60.22             | 9.26          | 60.22             | 10.05         | 60.22             | 10.91         | 60.22             | 11.84         | 60.22             | 12.85         |
| Ghanvi                | 72.10             | 16.22         | 71.87             | 16.17         | 71.87             | 16.17         | 71.87             | 16.17         | 71.87             | 16.17         | 71.87             | 16.17         |
| Ghanvi-II             | 30.47             | 6.86          | 28.59             | 6.43          | 28.59             | 6.43          | 28.59             | 6.43          | 28.59             | 6.43          | 28.59             | 6.43          |
| Baner                 | 34.88             | 6.35          | 32.19             | 7.15          | 32.19             | 7.59          | 32.19             | 8.05          | 32.19             | 8.54          | 32.19             | 9.06          |
| Gaj                   | 30.07             | 9.08          | 29.65             | 10.88         | 29.65             | 11.55         | 29.65             | 12.25         | 29.65             | 13.00         | 29.65             | 13.79         |
| Binwa                 | 30.26             | 6.96          | 29.82             | 7.47          | 29.82             | 8.14          | 29.82             | 8.88          | 29.82             | 9.69          | 29.82             | 10.57         |
| Thirot                | 9.75              | 2.19          | 9.57              | 2.15          | 9.57              | 2.15          | 9.57              | 2.15          | 9.57              | 2.15          | 9.57              | 2.15          |
| Gumma                 | 11.71             | 2.64          | 6.99              | 1.57          | 6.99              | 1.57          | 6.99              | 1.57          | 6.99              | 1.57          | 6.99              | 1.57          |
| Holi                  | 5.62              | 1.26          | 5.33              | 1.20          | 5.33              | 1.20          | 5.33              | 1.20          | 5.33              | 1.20          | 5.33              | 1.20          |
| Larji                 | 473.21            | 106.00        | 515.90            | 117.31        | 515.90            | 119.17        | 515.90            | 121.06        | 515.90            | 122.97        | 515.90            | 124.92        |
| Khaulti               | 34.52             | 7.77          | 32.78             | 7.38          | 32.78             | 7.38          | 32.78             | 7.38          | 32.78             | 7.38          | 32.78             | 7.38          |
| Bhaba Aug             | 10.72             | 2.41          | 12.11             | 2.72          | 12.11             | 2.72          | 12.11             | 2.72          | 12.11             | 2.72          | 12.11             | 2.72          |
| Nogli                 | 5.54              | 2.06          | 5.54              | 2.25          | 5.54              | 2.46          | 5.54              | 2.69          | 5.54              | 2.94          | 5.54              | 3.21          |
| Rongtong              | 3.13              | 1.05          | 1.60              | 0.59          | 1.60              | 0.64          | 1.60              | 0.69          | 1.60              | 0.75          | 1.60              | 0.81          |
| Sal-II                | 1.43              | 0.32          | 0.48              | 0.11          | 0.48              | 0.11          | 0.48              | 0.11          | 0.48              | 0.11          | 0.48              | 0.11          |
| Chaba                 | 5.19              | 1.45          | 4.78              | 1.46          | 4.78              | 1.60          | 4.78              | 1.75          | 4.78              | 1.91          | 4.78              | 2.09          |
| Rukti                 | 5.53              | 0.89          | 2.97              | 0.52          | 2.97              | 0.57          | 2.97              | 0.63          | 2.97              | 0.69          | 2.97              | 0.75          |
| Chamba                | 1.91              | 0.45          | 1.58              | 0.40          | 1.58              | 0.44          | 1.58              | 0.49          | 1.58              | 0.54          | 1.58              | 0.59          |
| Killar                | 0.62              | 0.14          | 0.51              | 0.12          | 0.51              | 0.12          | 0.51              | 0.12          | 0.51              | 0.12          | 0.51              | 0.12          |
| Uhl III - BVPCL       | -                 | -             | 171.07            | 14.40         | 346.90            | 31.57         | 346.90            | 34.12         | 346.90            | 36.88         | 346.90            | 39.86         |
| <b>Sub Total-Own</b>  | <b>1898.09</b>    | <b>269.00</b> | <b>1912.93</b>    | <b>285.73</b> | <b>2088.75</b>    | <b>312.64</b> | <b>2088.75</b>    | <b>325.57</b> | <b>2088.75</b>    | <b>339.40</b> | <b>2088.75</b>    | <b>354.18</b> |

| Particulars                | FY19 (RE)         |         | FY20              |         | FY21              |         | FY22              |         | FY23              |         | FY24              |         |
|----------------------------|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|
|                            | Energy Units (MU) | Rs. Cr. | Energy Units (MU) | Rs. Cr. | Energy Units (MU) | Rs. Cr. | Energy Units (MU) | Rs. Cr. | Energy Units (MU) | Rs. Cr. | Energy Units (MU) | Rs. Cr. |
| <b>Generating Stations</b> |                   |         |                   |         |                   |         |                   |         |                   |         |                   |         |
| <b>NTPC</b>                |                   |         |                   |         |                   |         |                   |         |                   |         |                   |         |
| Anta (G)                   | 19.01             | 8.12    | 38.20             | 14.06   | 38.10             | 14.36   | 38.10             | 14.71   | 38.10             | 15.07   | 38.20             | 15.48   |
| Anta (L)                   | 1.10              | 1.39    | -                 | -       | -                 | -       | -                 | -       | -                 | -       | -                 | -       |
| Anta (LNG)                 | 49.08             | 38.72   | -                 | -       | -                 | -       | -                 | -       | -                 | -       | -                 | -       |
| Auriya (G)                 | 45.61             | 20.79   | 39.95             | 17.75   | 39.84             | 18.16   | 39.84             | 18.63   | 39.84             | 19.11   | 39.95             | 19.66   |
| Auriya (L)                 | 3.14              | 3.44    | -                 | -       | -                 | -       | -                 | -       | -                 | -       | -                 | -       |
| Auriya (LNG)               | 37.55             | 36.28   | -                 | -       | -                 | -       | -                 | -       | -                 | -       | -                 | -       |
| Dadri (G)                  | 172.11            | 64.08   | 75.98             | 31.71   | 75.77             | 32.44   | 75.77             | 33.28   | 75.77             | 34.15   | 75.98             | 35.14   |
| Dadri (L)                  | 7.66              | 9.02    | -                 | -       | -                 | -       | -                 | -       | -                 | -       | -                 | -       |
| Dadri (LNG)                | 55.41             | 47.79   | -                 | -       | -                 | -       | -                 | -       | -                 | -       | -                 | -       |
| Unchahar-I                 | 151.39            | 51.90   | 44.69             | 18.85   | 44.57             | 19.21   | 44.57             | 19.64   | 44.57             | 20.07   | 44.69             | 20.58   |
| Unchahar-II                | 139.62            | 48.78   | 76.24             | 31.50   | 76.03             | 32.12   | 76.03             | 32.85   | 76.03             | 33.59   | 76.24             | 34.46   |
| Unchahar-III               | 68.40             | 27.38   | 50.09             | 22.50   | 49.95             | 22.90   | 49.95             | 23.37   | 49.95             | 23.87   | 49.95             | 24.37   |
| Unchahar-IV                | -                 | 0.00    | -                 | -       | -                 | -       | -                 | -       | -                 | -       | -                 | -       |
| Rihand-1 STPS              | 254.33            | 54.54   | 229.18            | 51.86   | 228.55            | 52.66   | 228.55            | 53.64   | 228.55            | 54.65   | 229.18            | 55.84   |
| Rihand-2 STPS              | 236.62            | 48.03   | 220.80            | 46.52   | 220.20            | 47.31   | 220.20            | 48.24   | 220.20            | 49.21   | 220.80            | 50.34   |
| Singrauli STPS             | 56.24             | 8.51    | -                 | -       | -                 | -       | -                 | -       | -                 | -       | -                 | -       |
| Kahalgaon - II             | 146.04            | 48.47   | 139.39            | 47.16   | 139.01            | 47.97   | 139.01            | 48.94   | 139.01            | 49.94   | 139.39            | 51.11   |
| Rihand-3 Units-1,2         | 260.50            | 70.89   | 220.72            | 45.87   | 220.12            | 46.67   | 220.12            | 47.63   | 220.12            | 48.61   | 220.72            | 49.76   |
| Dadri-II TPS               | 140.91            | 52.72   | -                 | -       | -                 | -       | -                 | -       | -                 | -       | -                 | -       |
| Jhajjar TPS                | -                 | -       | -                 | -       | -                 | -       | -                 | -       | -                 | -       | -                 | -       |
| Koldam                     | 419.40            | 201.48  | 454.88            | 237.87  | 453.64            | 249.08  | 453.64            | 261.53  | 453.64            | 274.61  | 454.88            | 289.13  |

| Particulars                        | FY19 (RE)         |               | FY20              |               | FY21              |               | FY22              |               | FY23              |               | FY24              |               |
|------------------------------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|
|                                    | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       |
| Koldam-3.95% unallocated           | -                 | -             | -                 | -             | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Koldam (SOR)                       | -                 | -             | -                 | -             | 54.87             | 30.13         | 118.00            | 68.03         | 118.00            | 71.43         | 118.00            | 75.00         |
| Meja TPS-I                         | -                 | -             | -                 | -             | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Singrauli Bundled                  | -                 | -             | 101.92            | 27.45         | 101.64            | 27.94         | 101.64            | 28.53         | 101.64            | 29.14         | 101.92            | 29.85         |
| <b>Sub Total-NTPC</b>              | <b>2264.14</b>    | <b>842.32</b> | <b>1692.04</b>    | <b>593.09</b> | <b>1742.29</b>    | <b>640.95</b> | <b>1805.42</b>    | <b>699.03</b> | <b>1805.42</b>    | <b>723.46</b> | <b>1809.90</b>    | <b>750.73</b> |
| <b>Solar Projects</b>              |                   |               |                   |               |                   |               |                   |               |                   |               |                   |               |
| Singrauli Solar                    | 22.22             | 17.49         | 22.87             | 18.00         | 22.87             | 18.00         | 22.87             | 18.00         | 22.87             | 18.00         | 22.87             | 18.00         |
| SECI                               | 40.46             | 23.04         | 50.39             | 27.71         | 50.39             | 27.71         | 50.39             | 27.71         | 50.39             | 27.71         | 50.39             | 27.71         |
| Private Solar Projects             | 24.54             | 12.60         | 42.74             | 19.40         | 43.11             | 19.57         | 43.11             | 19.57         | 43.11             | 19.57         | 43.11             | 19.57         |
| <b>Sub Total-Renewable Sources</b> | <b>87.23</b>      | <b>53.13</b>  | <b>116.00</b>     | <b>65.12</b>  | <b>116.37</b>     | <b>65.29</b>  | <b>116.37</b>     | <b>65.29</b>  | <b>116.37</b>     | <b>65.29</b>  | <b>116.37</b>     | <b>65.29</b>  |
| <b>NPCIL</b>                       |                   |               |                   |               |                   |               |                   |               |                   |               |                   |               |
| NAPP                               | 90.53             | 28.97         | 93.23             | 29.83         | 92.98             | 29.75         | 92.98             | 29.75         | 92.98             | 31.24         | 93.23             | 32.89         |
| RAPP (V & VI)                      | 105.27            | 42.67         | 98.77             | 40.03         | 98.50             | 39.92         | 98.50             | 39.92         | 98.50             | 41.92         | 98.77             | 44.14         |
| RAPP (VII & VIII)                  | -                 | -             | -                 | -             | -                 | -             | 185.00            | 74.98         | 185.00            | 78.73         | 186.00            | 83.12         |
| <b>Sub Total-NPCIL</b>             | <b>195.80</b>     | <b>71.63</b>  | <b>192.00</b>     | <b>69.87</b>  | <b>191.48</b>     | <b>69.68</b>  | <b>376.48</b>     | <b>144.66</b> | <b>376.48</b>     | <b>151.89</b> | <b>378.00</b>     | <b>160.15</b> |
| <b>NHPC</b>                        |                   |               |                   |               |                   |               |                   |               |                   |               |                   |               |
| Chamera I                          | 57.26             | 11.08         | 71.73             | 16.86         | 71.53             | 17.32         | 71.53             | 17.84         | 71.53             | 18.37         | 71.73             | 18.98         |
| Chamera II                         | 47.33             | 8.85          | 54.80             | 11.35         | 54.64             | 11.65         | 54.64             | 12.00         | 54.64             | 12.36         | 54.80             | 12.77         |
| Chamera III                        | -                 | 0.01          | 7.02              | 3.07          | 34.00             | 15.32         | 34.00             | 15.78         | 34.00             | 16.25         | 34.00             | 16.74         |
| Parbati III                        | -                 | 0.04          | 15.83             | 8.93          | 77.00             | 44.73         | 77.00             | 46.08         | 77.00             | 47.46         | 77.00             | 48.88         |

| Particulars                             | FY19 (RE)         |              | FY20              |              | FY21              |               | FY22              |               | FY23              |               | FY24              |               |
|---|-------------------|--------------|-------------------|--------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|
|   | Energy Units (MU) | Rs. Cr.      | Energy Units (MU) | Rs. Cr.      | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       |
| Salal                                   | 31.83             | 4.05         | 35.12             | 4.46         | 35.02             | 4.58          | 35.02             | 4.71          | 35.02             | 4.86          | 35.12             | 5.02          |
| Tanakpur                                | 13.63             | 4.99         | 17.07             | 5.78         | 17.02             | 5.94          | 17.02             | 6.12          | 17.02             | 6.30          | 17.07             | 6.51          |
| Uri                                     | 78.14             | 14.04        | 82.69             | 14.00        | 82.46             | 14.38         | 82.46             | 14.81         | 82.46             | 15.26         | 82.69             | 15.76         |
| Uri II                                  | -                 | -            | -                 | -            | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Dhauliganga                             | 38.32             | 8.51         | 39.01             | 9.76         | 38.90             | 10.03         | 38.90             | 10.33         | 38.90             | 10.64         | 39.01             | 10.99         |
| Dulhasti                                | -                 | -            | -                 | -            | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Sewa II                                 | -                 | -            | -                 | -            | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Parbati II                              |                   |              | -                 | -            | -                 | -             | 117.57            | 70.35         | 117.57            | 72.46         | 117.57            | 74.64         |
| <b>Sub Total-NHPC</b>                   | <b>266.51</b>     | <b>51.56</b> | <b>323.27</b>     | <b>74.21</b> | <b>410.57</b>     | <b>123.95</b> | <b>528.14</b>     | <b>198.02</b> | <b>528.14</b>     | <b>203.96</b> | <b>528.99</b>     | <b>210.27</b> |
| <b>THDC</b>                             |                   |              |                   |              |                   |               |                   |               |                   |               |                   |               |
| Tehri                                   | -                 | -            | 25.37             | 13.45        | 104.00            | 56.77         | 104.00            | 58.48         | 104.00            | 60.23         | 104.00            | 62.04         |
| Koteshwar                               | -                 | -            | 7.28              | 3.41         | 35.00             | 16.87         | 35.00             | 17.38         | 35.00             | 17.90         | 35.00             | 18.44         |
| <b>Sub Total-THDC</b>                   | <b>-</b>          | <b>-</b>     | <b>32.65</b>      | <b>16.85</b> | <b>139.00</b>     | <b>73.65</b>  | <b>139.00</b>     | <b>75.85</b>  | <b>139.00</b>     | <b>78.13</b>  | <b>139.00</b>     | <b>80.47</b>  |
| <b>HPPCL</b>                            |                   |              |                   |              |                   |               |                   |               |                   |               |                   |               |
| Kasang HEP                              | 10.99             | 2.42         | -                 | -            | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| <b>Sub Total-HPPCL</b>                  | <b>10.99</b>      | <b>2.42</b>  | <b>-</b>          | <b>-</b>     | <b>-</b>          | <b>-</b>      | <b>-</b>          | <b>-</b>      | <b>-</b>          | <b>-</b>      | <b>-</b>          | <b>-</b>      |
| <b>BBMB &amp; Other Shared Stations</b> |                   |              |                   |              |                   |               |                   |               |                   |               |                   |               |
| BBMB Old                                | 43.82             | 5.35         | 43.92             | 5.89         | 43.80             | 6.47          | 43.80             | 7.11          | 43.80             | 7.82          | 43.92             | 8.63          |
| BBMB New                                | 283.68            | 11.75        | 331.58            | 20.95        | 330.67            | 21.58         | 330.67            | 22.22         | 330.67            | 22.89         | 331.58            | 23.58         |
| Dehar                                   | 168.79            | 13.30        | 186.01            | 11.75        | 185.50            | 12.10         | 185.50            | 12.47         | 185.50            | 12.84         | 186.01            | 13.23         |
| Pong                                    | 33.05             | 2.23         | 35.21             | 2.22         | 35.11             | 2.29          | 35.11             | 2.36          | 35.11             | 2.43          | 35.21             | 2.50          |
| Shanan (available to HPSEB) (1 MW)      | 5.26              | 0.21         | 5.27              | 0.46         | 5.26              | 0.48          | 5.26              | 0.50          | 5.26              | 0.53          | 5.27              | 0.56          |
| Shanan Ext (available to                | 45.00             | 1.02         | 45.00             | 3.90         | 45.00             | 4.10          | 45.00             | 4.30          | 45.00             | 4.52          | 45.00             | 4.75          |

| Particulars                                     | FY19 (RE)         |               | FY20              |               | FY21              |               | FY22              |               | FY23              |               | FY24              |               |
|---|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|
|   | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       |
| HPSEB) (45 MW)                                  |                   |               |                   |               |                   |               |                   |               |                   |               |                   |               |
| Yamuna  | 353.93            | 33.92         | 388.89            | 41.51         | 387.83            | 42.75         | 387.83            | 44.04         | 387.83            | 45.36         | 388.89            | 46.72         |
| Khara   | 48.36             | 3.81          | 62.70             | 5.49          | 62.53             | 5.64          | 62.53             | 5.81          | 62.53             | 5.98          | 62.70             | 6.18          |
| <b>Sub Total-BBMB and Other Shared Stations</b> | <b>981.88</b>     | <b>71.60</b>  | <b>1098.58</b>    | <b>92.18</b>  | <b>1095.70</b>    | <b>95.41</b>  | <b>1095.70</b>    | <b>98.81</b>  | <b>1095.70</b>    | <b>102.37</b> | <b>1098.58</b>    | <b>106.13</b> |
| <b>SJVNL</b>                                    |                   |               |                   |               |                   |               |                   |               |                   |               |                   |               |
| Nathpa Jhakri SOR                               | 153.10            | 33.54         | 166.31            | 41.19         | 165.86            | 41.90         | 165.86            | 42.74         | 165.86            | 43.59         | 166.31            | 44.58         |
| Nathpa Jhakri Equity                            | 1,384.42          | 298.46        | 1,481.31          | 366.86        | 1,477.26          | 373.17        | 1,477.26          | 380.63        | 1,477.26          | 388.25        | 1,481.31          | 397.10        |
| Rampur HEP SOR Share                            | 47.48             | 15.06         | 53.10             | 17.47         | 52.95             | 17.77         | 52.95             | 18.13         | 52.95             | 18.49         | 53.10             | 18.91         |
| Rampur HEP Equity Share                         | 417.47            | 126.59        | 493.14            | 162.27        | 491.79            | 165.06        | 491.79            | 168.36        | 491.79            | 171.73        | 493.14            | 175.64        |
| <b>Sub Total-SJVNL</b>                          | <b>2002.47</b>    | <b>473.66</b> | <b>2193.86</b>    | <b>587.78</b> | <b>2187.86</b>    | <b>597.90</b> | <b>2187.86</b>    | <b>609.86</b> | <b>2187.86</b>    | <b>622.05</b> | <b>2193.86</b>    | <b>636.24</b> |
| <b>GoHP Free and Equity Power</b>               |                   |               |                   |               |                   |               |                   |               |                   |               |                   |               |
| Baira Siul                                      | 1.06              | 0.26          | -                 | -             | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Chamera-I                                       | 5.90              | 1.46          | -                 | -             | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Chamera-II                                      | 3.75              | 0.93          | -                 | -             | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Chamera-III                                     | 3.05              | 0.76          | -                 | -             | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Parbati-III                                     | 1.87              | 0.46          | -                 | -             | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Koldam  | 13.88             | 3.44          | -                 | -             | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Ranjeet Sagar Dam Share                         | 50.91             | 12.62         | 77.72             | 19.27         | 77.51             | 19.22         | 77.51             | 19.22         | 77.51             | 19.22         | 77.72             | 19.27         |
| Shanan Share                                    | 2.63              | 0.65          | 2.64              | 0.65          | 2.63              | 0.65          | 2.63              | 0.65          | 2.63              | 0.65          | 2.64              | 0.65          |

| Particulars                           | FY19 (RE)         |               | FY20              |               | FY21              |               | FY22              |               | FY23              |               | FY24              |               |
|---------------------------------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|
|                                       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       | Energy Units (MU) | Rs. Cr.       |
| Malana                                | 58.38             | 14.48         | 51.22             | 12.70         | 51.08             | 12.67         | 51.08             | 12.67         | 51.08             | 12.67         | 51.22             | 12.70         |
| Baspa (Primary & Sec.)                | 147.87            | 36.67         | 143.58            | 35.61         | 143.19            | 35.51         | 143.19            | 35.51         | 143.19            | 35.51         | 143.58            | 35.61         |
| Nathpa Jhakri HEP                     | 33.85             | 8.39          | -                 | -             | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Rampur project                        | 8.59              | 2.13          | -                 | -             | -                 | -             | -                 | -             | -                 | -             | -                 | -             |
| Kasang                                | 22.26             | 5.52          | 22.16             | 5.50          | 22.10             | 5.48          | 22.10             | 5.48          | 22.10             | 5.48          | 22.16             | 5.50          |
| Chanju                                | 21.18             | 5.25          | 24.63             | 6.11          | 24.56             | 6.09          | 24.56             | 6.09          | 24.56             | 6.09          | 24.63             | 6.11          |
| Larji                                 | 64.27             | 15.94         | 70.47             | 17.48         | 70.28             | 17.43         | 70.28             | 17.43         | 70.28             | 17.43         | 70.47             | 17.48         |
| Ghanvi                                | 9.77              | 2.42          | 11.10             | 2.75          | 11.07             | 2.75          | 11.07             | 2.75          | 11.07             | 2.75          | 11.10             | 2.75          |
| Baner                                 | 4.90              | 1.21          | 7.23              | 1.79          | 7.21              | 1.79          | 7.21              | 1.79          | 7.21              | 1.79          | 7.23              | 1.79          |
| Gaj                                   | 4.19              | 1.04          | 4.56              | 1.13          | 4.55              | 1.13          | 4.55              | 1.13          | 4.55              | 1.13          | 4.56              | 1.13          |
| Khauli                                | 4.68              | 1.16          | 5.97              | 1.48          | 5.95              | 1.48          | 5.95              | 1.48          | 5.95              | 1.48          | 5.97              | 1.48          |
| Ghanvi II                             | 4.21              | 1.04          | 6.26              | 1.55          | 6.24              | 1.55          | 6.24              | 1.55          | 6.24              | 1.55          | 6.26              | 1.55          |
| Uhl-III                               | 15.00             | 3.72          | 37.95             | 9.41          | 37.85             | 9.39          | 37.85             | 9.39          | 37.85             | 9.39          | 37.95             | 9.41          |
| Small HEP/ Private Micro - Free       | 87.28             | 21.64         | 100.53            | 24.93         | 100.53            | 24.93         | 100.53            | 24.93         | 100.53            | 24.93         | 100.53            | 24.93         |
| <b>Sub Total-GoHP</b>                 | <b>569.47</b>     | <b>141.23</b> | <b>566.02</b>     | <b>140.37</b> | <b>564.75</b>     | <b>140.06</b> | <b>564.75</b>     | <b>140.06</b> | <b>564.75</b>     | <b>140.06</b> | <b>566.02</b>     | <b>140.37</b> |
| <b>Baspa &amp; Other Private IPPs</b> |                   |               |                   |               |                   |               |                   |               |                   |               |                   |               |
| Baspa - II - Primary                  | 1,084.38          | -             | 1,052.94          | 185.45        | 1,050.06          | 203.44        | 1,050.06          | 223.79        | 1,050.06          | 246.17        | 1,052.94          | 271.52        |
| Baspa - II Secondary Energy           | -                 | -             | 77.21             | 13.60         | 77.00             | 14.92         | 77.00             | 16.41         | 77.00             | 18.05         | 77.21             | 19.91         |
| <b>Sub Total-Baspa</b>                | <b>1084.38</b>    | <b>173.63</b> | <b>1130.15</b>    | <b>199.05</b> | <b>1127.06</b>    | <b>218.36</b> | <b>1127.06</b>    | <b>240.20</b> | <b>1127.06</b>    | <b>264.22</b> | <b>1130.15</b>    | <b>291.43</b> |
| Small HEP/ Private Micro              | 1,169.42          | 327.44        | 1,367.12          | 382.80        | 1,367.12          | 382.80        | 1,367.12          | 382.80        | 1,367.12          | 382.80        | 1,367.12          | 382.80        |

| Particulars                   | FY19 (RE)         |                | FY20              |                | FY21              |                | FY22              |                | FY23              |                | FY24              |                |
|-------------------------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|
|                               | Energy Units (MU) | Rs. Cr.        | Energy Units (MU) | Rs. Cr.        | Energy Units (MU) | Rs. Cr.        | Energy Units (MU) | Rs. Cr.        | Energy Units (MU) | Rs. Cr.        | Energy Units (MU) | Rs. Cr.        |
| Small HEP/ Private Micro -REC | 233.14            | 56.65          | 324.97            | 78.97          | 324.97            | 78.97          | 324.97            | 78.97          | 324.97            | 78.97          | 324.97            | 78.97          |
| <b>Sub Total-Private IPPs</b> | <b>1402.56</b>    | <b>384.09</b>  | <b>1692.09</b>    | <b>461.77</b>  | <b>1692.09</b>    | <b>461.77</b>  | <b>1692.09</b>    | <b>461.77</b>  | <b>1692.09</b>    | <b>461.77</b>  | <b>1692.09</b>    | <b>461.77</b>  |
| Waste to Energy Projects      | -                 | -              | 24.53             | 19.38          | 24.53             | 19.82          | 24.53             | 20.26          | 24.53             | 20.75          | 24.53             | 21.27          |
| <b>Others</b>                 |                   |                |                   |                |                   |                |                   |                |                   |                |                   |                |
| Unscheduled Interchange (UI)  | 248.73            | 66.47          | -                 | -              | -                 | -              | -                 | -              | -                 | -              | -                 | -              |
| Banking Purchase              | 1,838.85          | -              | 1,838.85          | -              | 1,838.85          | -              | 1,838.85          | -              | 1,838.85          | -              | 1,838.85          | -              |
| Contingency (IEX)             | 309.00            | 132.24         | -                 | -              | -                 | -              | -                 | -              | -                 | -              | -                 | -              |
| <b>Sub Total-Others</b>       | <b>2396.58</b>    | <b>198.71</b>  | <b>1838.85</b>    | <b>-</b>       | <b>1838.85</b>    | <b>-</b>       | <b>1838.85</b>    | <b>-</b>       | <b>1838.85</b>    | <b>-</b>       | <b>1838.85</b>    | <b>-</b>       |
| <b>Total</b>                  | <b>13160.11</b>   | <b>2732.98</b> | <b>12812.96</b>   | <b>2605.40</b> | <b>13219.30</b>   | <b>2819.46</b> | <b>13585.00</b>   | <b>3079.38</b> | <b>13585.00</b>   | <b>3173.35</b> | <b>13605.09</b>   | <b>3278.30</b> |



**Transmission & Other Charges**

- 4.6.3 The Petitioner has not provided any basis for projecting the POC Charges to PGCIL, HPPTCL Charges and SLDC Charges for FY19 and subsequent years of the fourth Control Period in the tariff petition.
- 4.6.4 Further, the Petitioner has stated that in addition to the POC Charges it has to additionally pay PGCIL for PKATL assets and 02 No. 220kV Line Bays (HPSEBL Future Bays) at Hamirpur as shown in the table below.
- 4.6.5 For PKATL assets, the Petitioner has submitted that it has been paying non-POC charges from July 2017 onwards to PGCIL towards POWERGRID Kala Amb Transmission Assets (PKATL assets) i.e. GIS Substation 7x105 MVA (1-ph), 400/220 kV at Kala Amb (HP) and LILO of Karcham Wangtoo-Abdullapur 400kV D/C and 40% Series Compensation (COD of the Asset: 12th July 2017). The bills have been accepted provisionally in line with the CERC Order dated 22.08.2014 in Petition No. 93/TT/2014, CERC Order dated 04.01.2017 in petition No. 155/MP/2016 of Patran Transmission Company Limited and Regional Transmission Accounts for the respective month issued by NRPC.
- 4.6.6 However, in the petition No. 104/MP/2018, the Petitioner had contended that transmission charges for PKATL assets shall be included in PoC mechanism and recovered from all constituents of NR. Hon'ble CERC in Order dated 18.09.2018 in Petition no. 104/MP/2018 has allowed 15.5% charges recovery through PoC mechanism and 84.5% of total annual charges from the Petitioner till the downstream transmission network is made ready by HPPTCL & connected with GIS Substation 7x105 MVA (1-ph), 400/220 kV at Kala Amb (HP). HPSEBL has appealed before Hon'ble APTEL against the CERC order dated 18.09.2018.
- 4.6.7 The Annual Charges as per CERC order dated 22.08.2014 for PKATL assets is:

**Table 63: HPSEBL Submission- Annual Charges for PKATL Assets**

| Period | FY18  | FY19   | FY20   | FY21   | FY22   | FY23   | FY24   |
|--------|-------|--------|--------|--------|--------|--------|--------|
| 100%   | 52.15 | 57.816 | 73.064 | 72.515 | 70.578 | 68.656 | 66.822 |
| 84.5%  | 44.07 | 48.85  | 61.739 | 61.28  | 59.64  | 58.01  | 56.46  |

- 4.6.8 Similarly, the Petitioner has submitted that it is paying non-POC Charges to PGCIL towards 02 No. 220kV Line Bays (HPSEBL Future Bays) at Hamirpur Sub Station in Northern Region as per Tariff approved by CERC in petition No. 99/TT/2014 from March 2017 onwards. The annual charges for the HPSEBL future bays at Hamirpur are Rs. 68 lakh approximately.
- 4.6.9 The summary of the transmission and other charges, as proposed by the Petitioner is shown in table below:

**Table 64: HPSEBL Submission- Summary of Transmission Charges (Rs. Cr.)**

| Particulars                 | FY19   | FY20   | FY21   | FY22   | FY23   | FY24   |
|-----------------------------|--------|--------|--------|--------|--------|--------|
|                             | RE     | Proj.  | Proj.  | Proj.  | Proj.  | Proj.  |
| PGCIL Charges               | 260.50 | 248.20 | 275.36 | 302.39 | 327.47 | 352.79 |
| POC Charges                 | 210.97 | 185.78 | 213.40 | 242.07 | 268.78 | 295.65 |
| PKATL Assets Annual charges | 48.85  | 61.74  | 61.28  | 59.64  | 58.01  | 56.46  |

| Particulars   | FY19          | FY20          | FY21          | FY22          | FY23          | FY24          |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
|   | RE            | Proj.         | Proj.         | Proj.         | Proj.         | Proj.         |
| 2 no. Future Bays at Hamirpur-POWERGRID 220kV S/Stn charges | 0.68          | 0.68          | 0.68          | 0.68          | 0.68          | 0.68          |
| HPPTCL Charges  | 9.75          | 9.75          | 9.75          | 9.75          | 9.75          | 9.75          |
| SLDC Charges  | 0.75          | -             | -             | -             | -             | -             |
| <b>Total</b>  | <b>271.00</b> | <b>257.95</b> | <b>285.11</b> | <b>312.15</b> | <b>337.22</b> | <b>362.55</b> |

#### 4.7 Capital Expenditure and Capitalization Plan

4.7.1 The Petitioner has submitted the following Capital Expenditure Plan for Distribution business for the Control Period FY 2019-24:

**Table 65: HPSEBL Submission- Capital Expenditure Plan (Rs. Cr.)**

| Particulars of Scheme  | FY 20         | FY 21         | FY 22         | FY 23         | FY 24        | Total         |
|--|---------------|---------------|---------------|---------------|--------------|---------------|
| <b>Ongoing Schemes</b>   |               |               |               |               |              |               |
| <b>EHV Schemes</b>   |               |               |               |               |              |               |
| <b>ONGOING WORKS IN ES CIRCLE HPSEBL HAMIRPUR</b>                      | 107.83        | 54.42         | 52.50         | 20.20         | 0.00         | 234.95        |
| <b>ONGOING WORKS IN ES CIRCLE HPSEBL SHIMLA</b>                        | 84.44         | 103.74        | 53.92         | 18.15         | 7.72         | 267.98        |
| <b>Sub Total (A)</b>   | <b>192.27</b> | <b>158.16</b> | <b>106.42</b> | <b>38.35</b>  | <b>7.72</b>  | <b>502.93</b> |
| <b>North Zone</b>  |               |               |               |               |              |               |
| <b>(OP) Circle, Kangra</b>   |               |               |               |               |              |               |
| New 33/11 KV S/Stn. & 22 KV control Points                             | 6.95          | -             | -             | -             | -            | 6.95          |
| Aug. of 33/11 KV S/Stn. or 33/22 KV S.Stn. control points              | 2.50          | -             | -             | -             | -            | 2.50          |
| New 33 KV line   | 1.98          | -             | -             | -             | -            | 1.98          |
| Renovation & modernization of 33/11 KV S/Stn./Control point equipments | 0.80          | -             | -             | -             | -            | 0.80          |
| Scheme for release of General Service connection                       | 64.68         | 4.29          | 4.97          | 5.74          | 5.79         | 85.45         |
| <b>(OP) Circle, Una</b>  |               |               |               |               |              |               |
| Spillover works  | 26.99         | 2.68          | -             | -             | -            | 29.67         |
| <b>Circle as a whole</b>   |               |               |               |               |              |               |
| Miscellaneous  | 6.53          | -             | -             | -             | -            | 6.53          |
| <b>Sub Total (B)</b>   | <b>110.42</b> | <b>6.97</b>   | <b>4.97</b>   | <b>5.74</b>   | <b>5.79</b>  | <b>133.87</b> |
| <b>Central Zone</b>  |               |               |               |               |              |               |
| <b>(OP) Circle, Bilaspur</b>   | 67.65         | 17.90         | 12.07         | 8.00          | 1.25         | 106.87        |
| <b>(OP) Circle, Kullu</b>  | 4.29          | 1.83          | 1.05          | 0.30          | 0.15         | 7.62          |
| <b>Sub Total (C)</b>   | <b>71.94</b>  | <b>19.73</b>  | <b>13.12</b>  | <b>8.30</b>   | <b>1.40</b>  | <b>114.49</b> |
| <b>Grand Total of Ongoing Schemes (A+B+C)</b>                          | <b>374.63</b> | <b>184.86</b> | <b>124.51</b> | <b>52.39</b>  | <b>14.91</b> | <b>751.30</b> |
| <b>New Schemes</b>   |               |               |               |               |              |               |
| <b>EHV Schemes</b>   |               |               |               |               |              |               |
| <b>ES CIRCLE HPSEBL HAMIRPUR</b>                                       | 25.66         | 65.82         | 72.10         | 20.50         | 5.00         | <b>189.08</b> |
| <b>ES CIRCLE HPSEBL SHIMLA</b>   | 93.30         | 259.72        | 214.00        | 108.00        | 33.00        | <b>708.02</b> |
| <b>Sub Total</b>   | <b>118.96</b> | <b>325.54</b> | <b>286.10</b> | <b>128.50</b> | <b>38.00</b> | <b>897.10</b> |
| <b>North Zone</b>  |               |               |               |               |              |               |
| <b>(OP) Circle, Kangra</b>   |               |               |               |               |              |               |
| New 33/11 KV S/Stn. & 22 KV control Points                             | 2.50          | 15.30         | 12.05         | 0.00          | 0.00         | <b>29.85</b>  |
| Augmentation of 33/11 KV Sub   | 3.46          | 3.26          | 3.80          | 0.50          | 0.00         | <b>11.02</b>  |

| Particulars of Scheme  | FY 20         | FY 21         | FY 22         | FY 23         | FY 24         | Total         |
|--|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Stations</b>  |               |               |               |               |               |               |
| New 33 KV line   | 4.00          | 9.23          | 6.30          | 0.00          | 0.00          | <b>19.53</b>  |
| Aug. New 33 KV line  | 1.00          | 9.50          | 5.28          | 2.50          | 0.90          | <b>19.18</b>  |
| Renovation & modernization of 33/11 KV S/Stn./Control point equipments | 2.33          | 4.59          | 3.20          | 4.04          | 2.81          | <b>16.96</b>  |
| Consumer Services and electrification (GSC Schemes)                    | 0.00          | 79.98         | 45.81         | 40.02         | 37.73         | <b>203.55</b> |
| Miscellaneous  | 10.79         | 9.91          | 5.47          | 2.70          | 1.43          | <b>30.29</b>  |
| <b>(OP) Circle, Una</b>  |               |               |               |               |               |               |
| New 33/11 KV S/Stn. & 22 KV control Points                             | 12.71         | 15.20         | 5.67          | 5.00          | 1.25          | <b>39.83</b>  |
| Augmentation of 33/11 KV Sub Stations                                  | 1.80          | 2.81          | 2.70          | 0.50          | 0.00          | <b>7.81</b>   |
| New 33 KV line   | 3.41          | 3.49          | 0.70          | 0.32          | 0.05          | <b>7.97</b>   |
| Aug. New 33 KV line  | 1.00          | 1.75          | 0.50          | 0.00          | 0.00          | <b>3.25</b>   |
| Renovation & modernization of 33/11 KV S/Stn./Control point equipments | 2.10          | 1.65          | 0.90          | 0.60          | 1.20          | <b>6.45</b>   |
| Consumer Services and electrification (GSC Schemes)                    | 0.00          | 15.18         | 16.55         | 17.77         | 18.83         | <b>68.33</b>  |
| Miscellaneous  | 8.12          | 7.46          | 8.15          | 7.91          | 8.16          | <b>39.80</b>  |
| <b>(OP) Circle, Dalhousie</b>  |               |               |               |               |               |               |
| New 33/11 KV S/Stn. & 22 KV control Points                             | 13.90         | 20.07         | 8.95          | 10.40         | 6.00          | <b>59.32</b>  |
| Augmentation of 33/11 KV Sub Stations                                  | 8.46          | 5.70          | 1.50          | 2.75          | 1.50          | <b>19.91</b>  |
| New 33 KV line   | 0.41          | 2.65          | 2.80          | 1.15          | 1.20          | <b>8.21</b>   |
| Aug. New 33 KV line  | 4.98          | 3.50          | 0.00          | 0.00          | 0.00          | <b>8.48</b>   |
| Renovation & modernization of 33/11 KV S/Stn./Control point equipments | 12.30         | 9.91          | 0.85          | 0.25          | 2.82          | <b>26.13</b>  |
| Consumer Services and electrification (GSC Schemes)                    | 0.00          | 75.21         | 59.90         | 54.20         | 53.99         | <b>243.30</b> |
| Miscellaneous  | 14.35         | 15.68         | 14.37         | 10.09         | 8.29          | <b>62.77</b>  |
| <b>Sub Total</b>   | <b>107.61</b> | <b>312.02</b> | <b>205.44</b> | <b>160.70</b> | <b>146.15</b> | <b>931.93</b> |
| <b>South Zone</b>  |               |               |               |               |               |               |
| <b>Shimla Circle</b>   |               |               |               |               |               |               |
| 33KV New Sub-Stations & its Associated lines                           | 4.50          | -             | -             | -             | -             | <b>4.50</b>   |
| Aug. of 33/11 KV S/Stn's or 33/22 KV S/Stn. Control Point              | 0.50          | 6.00          | 2.00          | 0.20          | 2.50          | <b>11.20</b>  |
| New 33 KV Lines  | 4.69          | 3.30          | 1.72          | 0.00          | 0.00          | <b>9.71</b>   |
| Aug of 33 KV Line  | 5.60          | 8.77          | 9.71          | 5.48          | 0.00          | <b>29.56</b>  |
| Renovation & Modernization of 33/11 KV Sub Station equipments          | 6.63          | 5.16          | 2.47          | 1.95          | 0.93          | <b>17.13</b>  |
| Miscellaneous  | 1.48          | 1.11          | 3.53          | 0.50          | 0.50          | <b>7.12</b>   |
| <b>Rampur Circle</b>   |               |               |               |               |               |               |
| 33KV New Sub-Stations & its Associated lines                           | 4.83          | 2.85          | 2.25          | 0.85          | 0.95          | <b>11.73</b>  |
| Aug. of 33/11 KV S/Stn's or 33/22 KV S/Stn. Control Point              | -             | -             | -             | -             | -             | <b>-</b>      |
| New 33 KV Lines  | -             | -             | -             | -             | -             | <b>-</b>      |
| Aug of 33 KV Line  | -             | -             | -             | -             | -             | <b>-</b>      |
| Renovation & Modernization of 33/11 KV Sub Station equipments          | 3.10          | 6.96          | 5.93          | 1.15          | 3.63          | <b>20.77</b>  |
| Miscellaneous  | 5.63          | 9.87          | 13.40         | 5.29          | 5.27          | <b>39.46</b>  |
| <b>Nahan Circle</b>  |               |               |               |               |               |               |

| Particulars of Scheme   | FY 20          | FY 21          | FY 22          | FY 23         | FY 24         | Total          |
|---|----------------|----------------|----------------|---------------|---------------|----------------|
| 33KV New Sub-Stations & its Associated lines                      | 18.20          | 18.10          | 11.80          | 6.65          | 3.75          | <b>58.50</b>   |
| Aug. of 33/11 KV S/Stn's or 33/22 KV S/Stn. Control Point         | 3.80           | 5.95           | 3.90           | 3.05          | 1.61          | <b>18.31</b>   |
| New 33 KV Lines   | 4.14           | 3.88           | 3.05           | 2.62          | 2.63          | <b>16.31</b>   |
| Aug of 33 KV Line   | 1.10           | 1.15           | 0.65           | 0.49          | 0.40          | <b>3.79</b>    |
| Renovation & Modernization of 33/11 KV Sub Station equipments     | 9.90           | 9.85           | 7.61           | 8.45          | 9.50          | <b>45.31</b>   |
| Miscellaneous   | 3.60           | 3.61           | 3.52           | 2.53          | 2.54          | <b>15.79</b>   |
| <b>Rohroo Circle</b>  |                |                |                |               |               |                |
| 33KV New Sub-Stations & its Associated lines                      | 4.50           | 2.42           | 0.50           | 0.50          | 0.00          | <b>7.92</b>    |
| Aug. of 33/11 KV S/Stn's or 33/22 KV S/Stn. Control Point         | -              | -              | -              | -             | -             | -              |
| New 33 KV Lines   | -              | -              | -              | -             | -             | -              |
| Aug of 33 KV Line   | -              | -              | -              | -             | -             | -              |
| Renovation & Modernization of 33/11 KV Sub Station equipments     | 7.02           | 4.72           | 4.42           | 4.42          | 4.42          | <b>25.01</b>   |
| Miscellaneous   | 2.20           | 2.70           | 2.10           | 2.50          | 2.00          | <b>11.50</b>   |
| <b>Solan Circle</b>   |                |                |                |               |               |                |
| 33KV New Sub-Stations & its Associated lines                      | 17.00          | 10.00          | 7.10           | 2.70          | 1.00          | <b>37.80</b>   |
| Aug. of 33/11 KV S/Stn's or 33/22 KV S/Stn. Control Point         | 1.17           | 1.10           | -              | -             | -             | <b>2.27</b>    |
| New 33 KV Lines   | 1.50           | 1.50           | 1.45           | 0.63          | 0.15          | <b>5.23</b>    |
| Aug of 33 KV Line   | -              | -              | -              | -             | -             | -              |
| Renovation & Modernization of 33/11 KV Sub Station equipment      | 1.70           | 2.20           | 0.90           | 0.80          | 0.90          | <b>6.50</b>    |
| Miscellaneous   | 1.20           | 0.70           | 0.70           | 0.60          | 0.60          | <b>3.80</b>    |
| <b>Circle as a whole</b>  |                |                |                |               |               |                |
| Consumer Services and electrification (GSC Schemes) (All Circles) | 246.54         | 233.12         | 220.11         | 223.56        | 240.84        | <b>1164.16</b> |
| Deposit Scheme under different Circles under Chief Engineer       | 20.00          | 20.00          | 20.00          | 20.00         | 20.00         | <b>100.00</b>  |
| <b>Sub Total</b>  | <b>380.52</b>  | <b>365.03</b>  | <b>328.80</b>  | <b>294.91</b> | <b>304.11</b> | <b>1673.37</b> |
| <b>Central Zone</b>   |                |                |                |               |               |                |
| <b>(OP) Circle, Hamirpur</b>                                      | 43.14          | 31.08          | 23.19          | 18.94         | 15.12         | <b>131.45</b>  |
| <b>(OP) Circle, Kullu</b>   | 93.52          | 74.63          | 51.28          | 41.60         | 34.70         | <b>295.73</b>  |
| <b>(OP) Circle, Bilaspur</b>                                      | 75.41          | 56.02          | 55.08          | 55.75         | 50.53         | <b>292.79</b>  |
| <b>(OP) Circle, Mandi</b>   | 109.89         | 50.14          | 39.92          | 34.82         | 56.72         | <b>291.48</b>  |
| <b>Sub Total</b>  | <b>321.96</b>  | <b>211.87</b>  | <b>169.47</b>  | <b>151.10</b> | <b>157.06</b> | <b>1011.45</b> |
| <b>CAPEX in respect of IT-Cell</b>                                | <b>209.00</b>  | <b>317.00</b>  | <b>413.00</b>  | <b>24.50</b>  | -             | <b>963.50</b>  |
| <b>Grand Total of New CAPEX to be undertaken</b>                  | <b>1138.05</b> | <b>1531.45</b> | <b>1402.82</b> | <b>759.72</b> | <b>645.32</b> | <b>5477.35</b> |
| <b>Total CAPEX (Existing + New)</b>                               | <b>1512.68</b> | <b>1716.31</b> | <b>1527.33</b> | <b>812.10</b> | <b>660.23</b> | <b>6228.65</b> |

4.7.2 Based on the above capital expenditure plan, the Petitioner has proposed the following phasing ratio for capitalization of the proposed capital expenditure.

**Table 66: HPSEBL Submission- Phasing ratio for Capitalization of Proposed Capex**

| FY 20 | FY 21 | FY 22 | FY 23 | FY 24 |
|-------|-------|-------|-------|-------|
| 20%   | 25%   | 25%   | 15%   | 15%   |

4.7.3 Accordingly, the capitalisation proposed for the Control Period, based on the proposed capital expenditure is given below:

**Table 67: HPSEBL Submission- Capitalization Plan for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars   | FY 20       | FY 21       | FY 22       | FY 23      | FY 24      | Total       |
|---|-------------|-------------|-------------|------------|------------|-------------|
| <b>Capitalization ratio</b>                             | <b>20%</b>  | <b>25%</b>  | <b>25%</b>  | <b>15%</b> | <b>15%</b> | <b>100%</b> |
| Capitalization structure proposed                       | 228         | 285         | 285         | 171        | 171        | 1138        |
| Capitalization structure proposed                       | 306         | 383         | 383         | 230        | 230        | 1531        |
| Capitalization structure proposed                       | 281         | 351         | 351         | 210        | 210        | 1403        |
| Capitalization structure proposed                       | 152         | 190         | 190         | 114        | 114        | 760         |
| Capitalization structure proposed                       | 129         | 161         | 161         | 97         | 97         | 645         |
| <b>Capitalization plan for New schemes (A)</b>          | <b>1095</b> | <b>1369</b> | <b>1369</b> | <b>822</b> | <b>822</b> | <b>5477</b> |
| <b>Capitalization of investments prior to FY 19 (B)</b> | <b>375</b>  | <b>185</b>  | <b>125</b>  | <b>52</b>  | <b>15</b>  | <b>751</b>  |
| <b>Total Capitalization (A+B)</b>                       | <b>1470</b> | <b>1554</b> | <b>1494</b> | <b>874</b> | <b>837</b> | <b>6229</b> |

#### 4.8 Financing Plan

4.8.1 For new schemes, the Petitioner has submitted that it expects to receive 10% of its funding through Government Grants for the fourth Control Period. Therefore, it has considered the debt-equity ratio after deducting the amount of financial support received through consumer contribution, deposit work, capital subsidy or grant. The debt to equity ratio for funding of new capex is in ratio of 70%:30%. In respect of funding for new schemes, a normative rate of 12% has been considered based on the current market rates. Rate of return on equity has been considered as per the extant Regulations.

4.8.2 In respect of funding for ongoing schemes, the Petitioner expects the current sources of funding for various schemes i.e. REC, PFC, ADB Loan, UDAY bonds etc. to continue for the fourth Control Period. Further, the financing plan for ongoing schemes has been formulated by the Petitioner with the following considerations:

- For REC & PFC Loans, average trend of last three years for disbursements /repayment have been taken into consideration for forecasting funding through these loans.
- Unsecured Bonds , State Govt. Loan (APDRP) & UDAY Loan data is based on actual terms of repayments
- No repayment has been considered for existing ADB loan as the terms and conditions are still being finalized.
- The interest rate for existing loans is based on actual weighted rates as of 31 March 2018.

#### 4.9 Operation & Maintenance Expenses (O&M)

##### **Employee Expenses**

4.9.1 The Petitioner has computed 3 and 5 year CPI rate as per the following table:

**Table 68: HPSEBL Submission- CPI Calculation**

| Year                          | CPI    | % Increase   |
|-------------------------------|--------|--------------|
| 2017-18                       | 284.50 | 3.11%        |
| 2016-17                       | 275.92 | 4.12%        |
| 2015-16                       | 265.00 | 5.65%        |
| 2014-15                       | 250.83 | 6.29%        |
| 2013-14                       | 236.00 | 9.68%        |
| <b>5 Yr Average Inflation</b> |        | <b>5.77%</b> |
| <b>3 Yr Average Inflation</b> |        | <b>4.29%</b> |

4.9.2 The Petitioner has submitted that higher of the 3 yr and 5 yr CPI inflation rate has been considered for projection of employee costs.

4.9.3 The Petitioner has submitted nil growth factor in the number of employees during the fourth Control Period as shown below:

**Table 69: HPSEBL Submission- Projected Growth Factor for Employee Costs**

| Particulars  | FY19  | FY20  | FY21  | FY22  | FY23  | FY24  |
|--|-------|-------|-------|-------|-------|-------|
| Number of Employees  | 17886 | 17886 | 17886 | 17886 | 17886 | 17886 |
| Growth (G) % in Employees on Account of Consumer connections | -     | -     | -     | -     | -     | -     |

4.9.4 The Petitioner further submitted that the increase in employee expenses is mainly from higher terminal benefits due to higher number of retirements. Following table summarizes the employee expenses for the fourth Control Period for HPSEBL as submitted by the Petitioner:

**Table 70: HPSEBL Submission- Projected Employee Cost for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                           | FY 19  | FY 20  | FY 21  | FY 22  | FY 23  | FY 24   |
|---------------------------------------|--------|--------|--------|--------|--------|---------|
|                                       | RE     | Proj.  | Proj.  | Proj.  | Proj.  | Proj.   |
| <b>Salaries &amp; Allowances</b>      |        |        |        |        |        |         |
| Salaries (Basic) + Dearness Pay       | 295.4  | 312.5  | 330.5  | 349.6  | 369.7  | 391.1   |
| Merger of DA with Basic (Proposed)    | -      | -      | -      | -      | -      | -       |
| Grade pay                             | 35.7   | 37.8   | 40.0   | 42.3   | 44.7   | 47.3    |
| DA                                    | 394.1  | 416.8  | 440.8  | 466.3  | 493.2  | 521.6   |
| Employee Arrears - 7th Pay Commission | -      | -      | -      | -      | -      | -       |
| Other Allowances                      | 32.4   | 34.3   | 36.2   | 38.3   | 40.5   | 42.9    |
| Overtime                              | 3.9    | 4.1    | 4.4    | 4.6    | 4.9    | 5.2     |
| Bonus                                 | 0.3    | 0.3    | 0.3    | 0.3    | 0.3    | 0.3     |
| Salaries – Total                      | 761.80 | 805.75 | 852.24 | 901.41 | 953.41 | 1008.41 |
| Other Staff Cost                      |        |        |        |        |        |         |
| Medical Expense Reimbursement         | 7.7    | 8.1    | 8.6    | 9.1    | 9.6    | 10.2    |
| Fee & Honorarium                      | 0.4    | 0.4    | 0.5    | 0.5    | 0.5    | 0.5     |

| Particulars   | FY 19          | FY 20          | FY 21          | FY 22          | FY 23          | FY 24          |
|---|----------------|----------------|----------------|----------------|----------------|----------------|
| Earned Leave Encashment   | 96.0           | 101.5          | 107.4          | 113.6          | 120.1          | 127.0          |
| Salary/Wages of Outsourced/Contractor.  | 30.9           | 32.7           | 34.5           | 36.5           | 38.6           | 40.9           |
| Leave Salary Contribution   | -              | -              | -              | -              | -              | -              |
| Payment under Workmen's Compensation  | 2.6            | 2.8            | 2.9            | 3.1            | 3.3            | 3.5            |
| Leave encashment Fund   | 0.2            | 0.2            | 0.2            | 0.2            | 0.2            | 0.2            |
| LTC   | 0.1            | 0.1            | 0.1            | 0.1            | 0.1            | 0.2            |
| Staff Welfare Expenses  | 0.3            | 0.3            | 0.3            | 0.3            | 0.3            | 0.4            |
| Other Staff Cost – Total  | 138.12         | 146.09         | 154.51         | 163.43         | 172.86         | 182.83         |
| Terminal Benefits   |                |                |                |                |                |                |
| Provident Fund Contribution   | 0.2            | 0.2            | 0.2            | 0.2            | 0.2            | 0.2            |
| Board Contribution equal to the Employees Contribution towards CPS                      | 10.4           | 10.9           | 11.6           | 12.2           | 13.0           | 13.7           |
| Board Contribution equal to the Employees Contribution on deputation with the HPSEB Ltd | 1.6            | 1.7            | 1.8            | 1.9            | 2.0            | 2.1            |
| Ex-gratia to the dependents of the deceased employees                                   | 2.7            | 2.9            | 3.0            | 3.2            | 3.4            | 3.6            |
| Commuted of Pension   | 82.6           | 87.3           | 92.4           | 97.7           | 103.3          | 109.3          |
| Pension – Base  | 603.9          | 638.7          | 675.6          | 714.6          | 755.8          | 799.4          |
| Pension -7th Pay Commission Arrears   | -              | -              | -              | -              | -              | -              |
| Gratuity  | 287.5          | 304.0          | 321.6          | 340.1          | 359.8          | 380.5          |
| Any other Items (MRC to pensioners, benevolent fund and DLI)                            | 20.5           | 21.7           | 22.9           | 24.3           | 25.7           | 27.1           |
| Terminal Benefits – Total   | 1009.24        | 1067.46        | 1129.05        | 1194.18        | 1263.08        | 1335.95        |
| Gross Employee Cost   | 1909.16        | 2019.30        | 2135.80        | 2259.02        | 2389.34        | 2527.19        |
| Less : Employee Cost Capitalisation   | 46.19          | 48.86          | 51.68          | 54.66          | 57.81          | 61.15          |
| Employee Cost (Net of capitalisation)   | 1862.97        | 1970.44        | 2084.12        | 2204.36        | 2331.53        | 2466.04        |
| Less : Employee Attrition Impact  | -              | -              | -              | -              | -              | -              |
| Less : Additional provisions  | -              | -              | -              | -              | -              | -              |
| <b>Net Employee Cost (net of provisions)</b>  | <b>1862.97</b> | <b>1970.44</b> | <b>2084.12</b> | <b>2204.36</b> | <b>2331.53</b> | <b>2466.04</b> |

### **Repair and Maintenance Expenses**

4.9.5 The Petitioner has computed the K factor for the Control Period as the K factor for the last 2 financial years which works out to be 1.36% as shown in the table below.

**Table 71: HPSEBL Submission- K Factor calculation (%)**

| Particulars          | FY 17        | FY 18  |
|----------------------|--------------|--------|
| Opening GFA          | 4852.1       | 5276.0 |
| Addition             | 423.8        | 375.5  |
| Closing GFA          | 5276.0       | 5651.4 |
| Average GFA          | 5064.0       | 5463.7 |
| R&M Cost as % of GFA | 1.37%        | 1.35%  |
| <b>K Factor</b>      | <b>1.36%</b> |        |

- 4.9.6 For projections of R&M expenses, the Petitioner has considered the average GFA for a year, GFA added during the year, average of Ratio of R&M expenses to Avg. GFA for last 2 years. The R&M cost for FY19 is estimated based on average of last two years variances in trend of past two years.
- 4.9.7 The Petitioner has further submitted that installations of Data centres and associated infrastructure, along with rolling of ERP and billing systems has necessitated regular AMC of the total hardware, support of the various applications and ATS charges of different licenses to run and maintain the IT systems.
- 4.9.8 Further, the Petitioner has submitted that increase in R&M expenses compared to the third Control Period is mainly due to IT cell related expenses. The estimated breakup of these additional expenses for FY19 and FY20, as submitted by the Petitioner is given in the following table:

**Table 72: HPSEBL Submission- Estimate of R&M expenses for the Data Centre at Kumar House, Shimla (Rs. Cr.)**

| S. No. | Particulars  | FY 19<br>(Revised<br>Estimates) | FY 20<br>(Tentative<br>Estimates) |
|--------|--|---------------------------------|-----------------------------------|
| 1      | Prov. Diesel for Generator Set installed for DC Shimla   | 0.02                            | 0.02                              |
| 2      | Prov. cost of AMC of Non IT-infra & O&M Charges for onsite support of Data Center  | 0.35                            | 0.40                              |
| 3      | Prov. cost of Annual Technical Services (ATS) charges for SAP (ERP)  | 1.71                            | 1.80                              |
| 4      | Prov. cost of Annual Technical Services (ATS) charges for SAP Tool   | 0.50                            | 0.50                              |
| 5      | Prov. cost of AMC of Computer Hardware and Associated peripherals installed in Data Center under ERP Project   | 0.23                            | 0.35                              |
| 6      | Prov. cost of renewable/ATS of Software licenses in Data Center namely Microsoft, HP Software Storage Enterprise Edition , Oracle Products procured under R-APDRP under R-APDRP and CA, Sanovi tool, under R-APDRP/ERP project | 1.00                            | 2.00                              |
| 7      | Prov. cost of Consumable /repairing /replaced old faulty Items before AMC award in Data Centre under ERP/R-APDRP Part- a Project.  | 0.02                            | 0.05                              |
| 8      | Prov. cost of AMC of Computer Hardware and Associated peripherals installed in Data Center under R-APDRP   | 2.42                            | 3.65                              |
| 9      | Prov. Cost for implementation of theft Incident recording facility in IVRS in CCC  | 0.02                            | 0.00                              |
| 10     | Prov. Cost of hiring TPA/consultant for IT Audit system of HPSEBI.   | 0.39                            | 0.50                              |
| 11     | Prov. cost of ATS for Oracle Products for 1 year procured under Billing (Part 1 AMC)   | 0.41                            | 0.50                              |
| 12     | Prov. cost of AMC for 1 year for the application deployed  | 0.25                            | 0.00                              |



| S. No. | Particulars   | FY 19<br>(Revised<br>Estimates) | FY 20<br>(Tentative<br>Estimates) |
|--------|---|---------------------------------|-----------------------------------|
|        | at data Centre, to run the normal operation of HPSEB (Part 1 AMC)   |                                 |                                   |
| 13     | Prov. cost of AMC for 1 year for the application deployed at sub-division/ division/circle to run the normal operation of HPSEB for supplied (Part 1 AMC)   | 0.31                            | 0.00                              |
| 14     | Prov. cost of AMC for 1 year for the application deployed at sub-division/ division/circle to run the normal operation of HPSEB for supplied (Part 2 AMC for rollover locations)  | 3.69                            | 0.00                              |
| 15     | SSL certificate for HPSEB website   | 0.00                            | 0.01                              |
| 16     | Actual ATS Charges for SAP-ISU Licenses (Computerized Billing), Sim card (for AMR&SBM) rental, ESD 61 Support and Maintenance Charges   | 16.39                           | 9.88                              |
| 17     | Prov. Cost for 1 Year for GIS Support (Warranty and AMC)  | 0.38                            | 0.38                              |
| 18     | Prov. Cost for modems & DCU under R-APDRP Part -A   | 0.19                            | 0.00                              |
| 19     | Prov. Cost for SAP ERP Central Support  | 4.50                            | 5.00                              |
| 20     | Prov. Cost for SIM installed and required for AMR   | 0.14                            | 0.14                              |
| 21     | Prov. Cost for AMC of IVRS in CCC   | 0.01                            | 0.02                              |
| 22     | Prov. cost of AMC of Computer Hardware and Associated peripherals installed at Disaster Recovery Centre (DRC) Paonta Sahib under R-APDRP.   | 2.00                            | 5.00                              |
| 23     | Prov. cost of AMC of Computer Hardware and Associated peripherals installed in Disaster Recovery centre under ERP project.  | 0.23                            | 0.35                              |
| 24     | Prov. cost of renewable/ATS of Software licenses in Disaster Recovery Center namely Microsoft, HP Software Storage Enterprise Edition, Oracle Products procured under R-APDRP under R-APDRP and CA, Sanovi tool, under R-APDRP/ERP project. | 1.35                            | 1.50                              |
| 25     | Prov. cost of Consumable Items in Data Centre under ERP/R-APDRP Part- a Project.  | 0.02                            | 0.05                              |
| 26     | Prov. Cost of hiring TPA/consultant for IT Audit system of HPSEBL   | 0.39                            | 0.50                              |
| 27     | Prov. Cost of Diesel for Generator Set installed for DRC.   | 0.04                            | 0.04                              |
| 28     | Prov. Cost for replacement of battery banks at DRC.   | 0.92                            | 0.00                              |
| 29     | Prov. cost of AMC of Non-IT-infra & O&M Charges for onsite support of DRC Paonta.   | 0.39                            | 0.40                              |
| 30     | AMC amount of computer hardware/software and associated peripherals   | 0.06                            | 0.06                              |
| 31     | Charges towards the purchase software & hardware along with its associated peripherals and networking equipment, batteries & power connections /laying of LAN for new hardware and maintenance of existing network.                         | 0.05                            | 0.05                              |
| 32     | Firewall including 3 Year License and Support post installation.  | 0.02                            | 0.03                              |
| 33     | Enterprise Antivirus solution for computer at Vidyut Bhawan Complex.  | 0.03                            | 0.03                              |
|        | <b>Total</b>  | <b>38.46</b>                    | <b>33.18</b>                      |
|        | 3 % contingency charges   | 1.15                            | 1.00                              |
|        | <b>Grand total</b>  | <b>39.61</b>                    | <b>34.18</b>                      |

4.9.9 Accordingly, the Petitioner has added IT system expenses as part of R&M Expenses which is necessary for the upkeep and maintenance of IT systems and has requested the Commission to allow it as a special expense under R&M expense.

4.9.10 The sub-heads of R&M cost have been projected on the basis of historical proportion of these sub-heads in the total R&M cost. Table below summarizes the revised estimates of R&M expenses projected by the Petitioner for FY19 and the fourth Control Period:

**Table 73: HPSEBL Submission- Proposed R&M Expenses for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars   | FY 19         | FY 20         | FY 21         | FY 22         | FY 23         | FY 24         |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
|   | RE            | Proj.         | Proj.         | Proj.         | Proj.         | Proj.         |
| Plant & Machinery   | 1.40          | 1.55          | 1.93          | 2.33          | 2.71          | 2.93          |
| Buildings   | 3.04          | 3.37          | 4.18          | 5.04          | 5.87          | 6.36          |
| Civil Works   | 2.48          | 2.75          | 3.41          | 4.11          | 4.79          | 5.18          |
| Hydraulic Works   | 0.11          | 0.12          | 0.15          | 0.18          | 0.21          | 0.23          |
| Lines, Cables Networks  | 48.08         | 53.36         | 66.28         | 79.91         | 93.02         | 100.69        |
| Vehicles  | 12.88         | 14.30         | 17.75         | 21.41         | 24.92         | 26.97         |
| Furniture & Fixtures  | 0.09          | 0.09          | 0.12          | 0.14          | 0.16          | 0.18          |
| Office Equipment's  | 24.55         | 27.24         | 33.83         | 40.80         | 47.49         | 51.40         |
| Other i.e. cost of vehicle other than vehicle                                   | -             | -             | -             | -             | -             | -             |
| <b>R&amp;M Cost - Total</b>   | <b>92.61</b>  | <b>102.79</b> | <b>127.66</b> | <b>153.93</b> | <b>179.17</b> | <b>193.94</b> |
| Less: Cost Reallocated to Employee Cost and A&G Expenses                        | -             | -             | -             | -             | -             | -             |
| Less: Cost Reallocated to Depreciation  | -             | -             | -             | -             | -             | -             |
| Less: Cost Reallocated for Recovery of cost of vehicle from O&M and other units | 18.64         | 20.68         | 25.71         | 31.02         | 36.13         | 39.11         |
| <b>Sub Total:-</b>  | <b>18.6</b>   | <b>20.7</b>   | <b>25.7</b>   | <b>31.0</b>   | <b>36.1</b>   | <b>39.1</b>   |
| <b>Net R&amp;M Expenses</b>   | <b>73.98</b>  | <b>82.11</b>  | <b>102.05</b> | <b>123.14</b> | <b>143.41</b> | <b>155.27</b> |
|   |               |               |               |               |               |               |
| <b>R&amp;M expenses related to IT - Cell</b>                                    | <b>39.61</b>  | <b>34.18</b>  | <b>38.00</b>  | <b>41.00</b>  | <b>45.00</b>  | <b>39.56</b>  |
|   |               |               |               |               |               |               |
| <b>Total R&amp;M Cost</b>   | <b>113.59</b> | <b>116.29</b> | <b>140.05</b> | <b>164.14</b> | <b>188.41</b> | <b>194.83</b> |

### **Administrative and General Expenses**

4.9.11 The Petitioner has projected A&G expenses based on the methodology laid down in the MYT Regulations, 2011. The WPI inflation is shown below:

**Table 74: HPSEBL Submission- Details of Historical WPI**

| Year                           | WPI    | % Increase   |
|--------------------------------|--------|--------------|
| 2017-18                        | 114.88 | 2.92%        |
| 2016-17                        | 111.62 | 1.73%        |
| 2015-16                        | 109.72 | -3.65%       |
| 2014-15                        | 113.88 | 1.26%        |
| 2013-14                        | 112.46 | 5.20%        |
| <b>5 Yr. Average Inflation</b> |        | <b>1.49%</b> |
| <b>3 Yr. Average Inflation</b> |        | <b>0.33%</b> |

- 4.9.12 The Petitioner has considered the WPI inflation of 1.49% for projection of A&G expenses.
- 4.9.13 Further, the Petitioner has submitted that the increase in R&M expenses compared to the third Control Period is mainly due to additional vehicle charges for increased manpower mobility and IT cell related expenses i.e. data centre expenses at Kumar House, Shimla. The breakup of the IT cell related expenses for FY19 and FY20 is given in the following tables:

**Table 75: HPSEBL Submission- Estimate of A&G expenses in FY19 for the Data Centre at Kumar House, Shimla (Rs. Cr.)**

| S. No. | Particulars  | FY 19 (Revised Estimates) |
|--------|--|---------------------------|
| 1      | Prov. Cost Membership of ISGF  | 0.05                      |
| 2      | Prov. cost of payment of Elect. Bills in respect of DC, Shimla   | 0.53                      |
| 3      | Prov. cost of payment of Elect. Bills in respect of DRC, Paonta.   | 0.55                      |
| 4      | Prov. cost of MPLS/ VPNoBB connectivity for implementation of Billing and R-APDRP packages   | 2.05                      |
| 5      | Prov. cost of connectivity for Data Center to Call Center at City ED, Shimla for IVRS and 10mbps internet line between Kumar house to Shimla OCB | 0.04                      |
| 6      | Prov. cost of MPLS/VPNoBB connectivity for implementation ERP package  | 1.23                      |
| 7      | Prov. Cost of secondary connectivity(Vodafone) between Data Center Shimla and Disaster Recovery Center Paonta                                    | 0.07                      |
| 8      | Prov. cost of 2 MBPS Internet Leased Line.   | 0.01                      |
| 9      | Expenditure on GIS/GPS updation of 14 towns under R-APDRP part-A & ESD Kala Amb.   | 0.61                      |
| 10     | Payment to paytm & techprocess for payment collection through BBPS   | 0.18                      |
| 11     | CSC transaction charges  | 0.39                      |
| 12     | GST system readiness in SAP-ERP, Development, Quality & Production.  | 0.35                      |
| 13     | Prov. Cost for SMS Gateway   | 0.07                      |
|        | <b>Total</b>   | <b>6.14</b>               |

**Table 76: HPSEBL Submission- Estimate of A&G expenses in FY20 for the Data Centre at Kumar House, Shimla (Rs. Cr.)**

| S. No. | Particulars  | FY 20 (Tentative Estimates) |
|--------|--|-----------------------------|
| 1      | Prov. cost of payment of Elect. Bills in respect of DC, Shimla   | 0.55                        |
| 2      | Prov. cost of payment of Elect. Bills in respect of DRC, Paonta.   | 0.55                        |
| 3      | Prov. cost of MPLS/ VPNoBB connectivity for implementation of Billing and R-APDRP packages   | 2.05                        |
| 4      | Prov. cost of connectivity for Data Center to Call Center at City ED, Shimla for IVRS and 10mbps internet line between Kumar house to Shimla OCB | 0.04                        |
| 5      | Prov. cost of MPLS/VPNoBB connectivity for implementation ERP package  | 1.23                        |
| 6      | Prov. Cost of secondary connectivity(Vodafone) between Data  | 0.07                        |

| S. No. | Particulars  | FY 20 (Tentative Estimates) |
|--------|--|-----------------------------|
|        | Center Shimla and Disaster Recovery Center Paonta                                |                             |
| 7      | Prov. cost of 2 MBPS Internet Leased Line.                                       | 0.01                        |
| 8      | Expenditure on GIS/GPS updation of 14 towns under R-APDRP part-A & ESD Kala Amb. | 0.61                        |
| 9      | Payment to paytm & techprocess for payment collection through BBPS               | 0.30                        |
| 10     | CSC transaction charges  | 0.39                        |
| 11     | Prov. Cost for SMS Gateway   | 0.07                        |
|        | <b>Total</b>   | <b>5.88</b>                 |

4.9.14 The Petitioner has stated that the A&G expenses estimates indicated above needs to be incurred on the IT infrastructure on ongoing basis and has thus, requested the Commission to consider this additional expenses and approve the same for the ensuing years.

4.9.15 Considering the A&G norms, the Petitioner has calculated the A&G expenses as shown in the following table. The sub-heads of A&G cost have been projected by the Petitioner on the basis of historical proportion of these sub-heads in the total A&G cost:

**Table 77: HPSEBL Submission- Projected A&G Expenses for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars   | FY 19        | FY 20        | FY 21        | FY 22        | FY 23        | FY 24        |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
|   | RE           | Proj.        | Proj.        | Proj.        | Proj.        | Proj.        |
| <b>Administration Charges</b>                             |              |              |              |              |              |              |
| Rent, Rates & Taxes                                       | 4.57         | 4.64         | 4.70         | 4.77         | 4.85         | 4.92         |
| Telephone, Postage & Telegrams                            | 2.37         | 2.41         | 2.45         | 2.48         | 2.52         | 2.56         |
| Consultancy Charges                                       | 0.98         | 1.00         | 1.01         | 1.03         | 1.04         | 1.06         |
| Conveyance & Travel                                       | 11.37        | 11.54        | 11.71        | 11.88        | 12.06        | 12.24        |
| Regulatory Expenses                                       | -            | -            | -            | -            | -            | -            |
| Licensee fee Distribution & Transmission payable to HPERC | -            | -            | -            | -            | -            | -            |
| Petition fee payment to HPERC                             | 0.94         | 0.96         | 0.97         | 0.99         | 1.00         | 1.02         |
| Income Tax Updating Charges                               | 0.67         | 0.68         | 0.69         | 0.70         | 0.71         | 0.72         |
| Consumer Redressal Forum                                  | 2.18         | 2.21         | 2.25         | 2.28         | 2.32         | 2.35         |
| Insurance   | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         |
| Purchase Related Expenses & Other Charges                 | -            | -            | -            | -            | -            | -            |
| IT and other Initiatives                                  | -            | -            | -            | -            | -            | -            |
| <b>Sub Total-Administration Charges (1)</b>               | <b>23.11</b> | <b>23.45</b> | <b>23.80</b> | <b>24.16</b> | <b>24.52</b> | <b>24.89</b> |
| <b>Other Charges</b>                                      |              |              |              |              |              |              |
| Fees & Subscriptions, Books & Periodicals                 | 0.36         | 0.36         | 0.37         | 0.37         | 0.38         | 0.38         |
| Printing & Stationery                                     | 2.55         | 2.59         | 2.62         | 2.66         | 2.70         | 2.74         |
| Advertisement Expenses                                    | 0.55         | 0.56         | 0.56         | 0.57         | 0.58         | 0.59         |

| Particulars   | FY 19        | FY 20        | FY 21        | FY 22        | FY 23        | FY 24        |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
|   | RE           | Proj.        | Proj.        | Proj.        | Proj.        | Proj.        |
| Electricity Charges   | 5.53         | 5.61         | 5.70         | 5.78         | 5.87         | 5.96         |
| Water Charges / Cold weather expenses   | 0.36         | 0.36         | 0.37         | 0.37         | 0.38         | 0.38         |
| Legal Charges   | 2.40         | 2.43         | 2.47         | 2.50         | 2.54         | 2.58         |
| Audit Fee   | 0.24         | 0.25         | 0.25         | 0.25         | 0.26         | 0.26         |
| Statutory Audit Fee   | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         |
| Internal Audit Fee  | -            | -            | -            | -            | -            | -            |
| Private vehicles hire charges   | 0.31         | 0.32         | 0.32         | 0.33         | 0.33         | 0.34         |
| Additional charges on Vehicle   | 0.00         | 1.50         | 1.52         | 1.55         | 1.57         | 1.59         |
| A&G Expenses pertaining to IT Cell  | 6.14         | 5.90         | 6.40         | 7.00         | 7.70         | 8.47         |
| Entertainment Charges   | 0.09         | 0.09         | 0.09         | 0.10         | 0.10         | 0.10         |
| Training to Staff   | -            | -            | -            | -            | -            | -            |
| Expenditure on training to staff ( with in state)   | 2.37         | 2.41         | 2.45         | 2.48         | 2.52         | 2.56         |
| Expenditure on training to staff ( out of state)  | 0.09         | 0.09         | 0.09         | 0.10         | 0.10         | 0.10         |
| Fees for SAS Examination  | -            | -            | -            | -            | -            | -            |
| Public Interaction Program  | 0.14         | 0.14         | 0.15         | 0.15         | 0.15         | 0.15         |
| Exp..Incurred on capacity building for Poverty Reduction                                    | -            | -            | -            | -            | -            | -            |
| Public Expenses / Other professional charges  | 0.55         | 0.56         | 0.56         | 0.57         | 0.58         | 0.59         |
| GIS / GPS expenses related to High level Committee  | 0.98         | 1.00         | 1.01         | 1.03         | 1.04         | 1.06         |
| Transaction Charges to SCAs for collection of energy bills                                  | 0.86         | 0.88         | 0.89         | 0.90         | 0.92         | 0.93         |
| Compensation paid for non-compliance of Renewable Power                                     | -            | -            | -            | -            | -            | -            |
| TA/DA Internal Auditor  | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         |
| TA/DA Statutory Auditor   | 0.13         | 0.13         | 0.13         | 0.14         | 0.14         | 0.14         |
| Charges on a/c of service rendered by central board keeping agency under new pension scheme | 0.05         | 0.05         | 0.05         | 0.05         | 0.05         | 0.05         |
| Exp. On IPAVAST Connectivity Charges etc.   | 3.05         | 3.10         | 3.14         | 3.19         | 3.24         | 3.28         |
| Exp. On providing cost fee CFL bulbs for domestic consumer                                  | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         |
| Publicity expenses  | 0.06         | 0.06         | 0.06         | 0.06         | 0.06         | 0.06         |
| Technical fees  | -            | -            | -            | -            | -            | -            |
| Freight Material related Expenses   | 0.05         | 0.05         | 0.05         | 0.05         | 0.05         | 0.05         |
| Other purchase related Expense  | 1.21         | 1.22         | 1.24         | 1.26         | 1.28         | 1.30         |
| Misc. Expenses  | 0.63         | 0.63         | 0.64         | 0.65         | 0.66         | 0.67         |
| <b>Sub Total-Other Charges (2)</b>  | <b>28.72</b> | <b>30.30</b> | <b>31.19</b> | <b>32.16</b> | <b>33.23</b> | <b>32.54</b> |
| A&G - Grand Total (1+2)   | 51.83        | 53.75        | 54.99        | 56.32        | 57.75        | 57.42        |
| Less: Capitalisation  | -            | -            | -            | -            | -            | -            |
| <b>Net A&amp;G Costs</b>  | <b>51.83</b> | <b>53.75</b> | <b>54.99</b> | <b>56.32</b> | <b>57.75</b> | <b>57.42</b> |

4.9.16 The total O&M expense proposed by the Petitioner for the fourth Control Period is shown as below:

**Table 78: HPSEBL Submission- Projected O&M Cost for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                   | FY 19          | FY 20          | FY 21          | FY 22          | FY 23          | FY 24          |
|-------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                               | RE             | Proj.          | Proj.          | Proj.          | Proj.          | Proj.          |
| R&M Expense                   | 113.59         | 116.29         | 140.05         | 164.14         | 188.41         | 194.83         |
| Employee Expenses             | 1862.97        | 1970.44        | 2084.12        | 2204.36        | 2331.53        | 2466.04        |
| A&G Expenses                  | 51.83          | 53.75          | 54.99          | 56.32          | 57.75          | 57.42          |
| <b>Total O&amp;M Expenses</b> | <b>2028.39</b> | <b>2140.48</b> | <b>2279.17</b> | <b>2424.82</b> | <b>2577.70</b> | <b>2718.29</b> |

#### 4.10 Depreciation

4.10.1 For the purpose of projection of depreciation charges for the fourth Control Period in the current petition, the Petitioner has considered the depreciation rate for ensuing years based on average depreciation rate calculated on closing GFA for last 2 years, as shown in the table below.

**Table 79: HPSEBL Submission- Depreciation Rate proposed for 4<sup>th</sup> Control Period**

| Particulars         | FY17          | FY18          | FY19          | FY20          | FY21          | FY22          | FY23          | FY24          |
|---------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Average rate        | 3.9%          | 5.5%          | 4.7%          | 4.7%          | 4.7%          | 4.7%          | 4.7%          | 4.7%          |
| <b>Depreciation</b> | <b>207.59</b> | <b>310.65</b> | <b>285.35</b> | <b>354.68</b> | <b>427.97</b> | <b>498.42</b> | <b>539.63</b> | <b>579.08</b> |

4.10.2 Based on the above rate, the Petitioner has proposed the following depreciation schedule for the fourth Control Period:

**Table 80: Proposed Depreciation Schedule for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars   | FY 20         | FY 21         | FY 22         | FY 23         | FY 24         |
|---|---------------|---------------|---------------|---------------|---------------|
| Opening GFA   | 6051.03       | 7521.14       | 9075.34       | 10569.20      | 11443.19      |
| Addition  | 1470.11       | 1554.20       | 1493.86       | 873.99        | 836.52        |
| Reduction   | 0.00          | 0.00          | 0.00          | 0.00          | 0.00          |
| Closing GFA   | 7521.14       | 9075.34       | 10569.20      | 11443.19      | 12279.70      |
|   |               |               |               |               |               |
| <b>Assets created from Grants/Consumer Contribution</b>                           |               |               |               |               |               |
| Opening GFA   | 1625.90       | 1735.45       | 1872.38       | 2009.32       | 2091.48       |
| Addition  | 109.55        | 136.93        | 136.93        | 82.16         | 82.16         |
| Closing GFA   | 1735.45       | 1872.38       | 2009.32       | 2091.48       | 2173.64       |
|   |               |               |               |               |               |
| <b>Depreciation on Total Assets</b>   | <b>354.68</b> | <b>427.97</b> | <b>498.42</b> | <b>539.63</b> | <b>579.08</b> |
| <b>Less: (Depreciation on Assets created from Grants / Consumer Contribution)</b> | <b>87.84</b>  | <b>93.03</b>  | <b>98.49</b>  | <b>100.53</b> | <b>104.11</b> |
|   |               |               |               |               |               |
| <b>Net Depreciation</b>   | <b>266.8</b>  | <b>334.9</b>  | <b>399.9</b>  | <b>439.1</b>  | <b>475.0</b>  |

#### 4.11 Interest on Working Capital

4.11.1 The Normative Working Capital requirement as well as the Interest on Normative Working Capital for the fourth Control Period has been computed by the Petitioner as per the methodology provided in the MYT Tariff Regulations along with subsequent amendments.

4.11.2 The Petitioner has submitted that the interest rate on working capital has been computed as provided in the MYT Tariff Regulations (along with subsequent amendments) and has been considered on normative basis and equal to one (1) Year State Bank of India (SBI) MCLR / any replacement thereof as notified by RBI for the time being in effect applicable for one (1) Year period, as may be applicable as on 1st April of the Financial Year in which the Petition is filed plus 300 basis points. The interest on Normative Working Capital has been considered to be 11.45%.

4.11.3 The normative working capital requirement and interest thereon as projected by HPSEBL for the distribution business is summarized below:

**Table 81: Proposed Interest on Working Capital for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars   | FY 19<br>(RE)  | FY 20          | FY 21          | FY 22          | FY 23          | FY 24          |
|---|----------------|----------------|----------------|----------------|----------------|----------------|
| O&M expenses  | <b>2028.39</b> | <b>2140.48</b> | <b>2279.17</b> | <b>2424.82</b> | <b>2577.70</b> | <b>2718.29</b> |
| (i) Employee expenses   | 1862.97        | 1970.44        | 2084.12        | 2204.36        | 2331.53        | 2466.04        |
| (ii) R&M expenses   | 113.59         | 116.29         | 140.05         | 164.14         | 188.41         | 194.83         |
| (iii) A&G expenses  | 51.83          | 53.75          | 54.99          | 56.32          | 57.75          | 57.42          |
| O&M expenses for 1 month  | 169.03         | 178.37         | 189.93         | 202.07         | 214.81         | 226.52         |
| Annual revenues from tariffs and charges                        | 4675.70        | 4798.80        | 4922.77        | 5050.89        | 5183.12        | 5319.72        |
| Receivables for two months of revenue from sale of electricity; | 779.28         | 799.80         | 820.46         | 841.82         | 863.85         | 886.62         |
| Maintenance spares @ 15% of O&M Expenses for one month          | 3.79           | 26.76          | 28.49          | 30.31          | 32.22          | 33.98          |
| Less: one month power purchase                                  | 227.75         | 217.12         | 234.95         | 256.61         | 264.45         | 273.19         |
| Less: Consumer Security Deposit                                 | 307.81         | 315.79         | 324.00         | 332.43         | 341.11         | 350.02         |
| <b>Total Working Capital</b>                                    | <b>416.54</b>  | <b>472.02</b>  | <b>479.93</b>  | <b>485.15</b>  | <b>505.33</b>  | <b>523.91</b>  |
| Rate of Interest on Working Capital                             | 12.79%         | 11.45%         | 11.45%         | 11.45%         | 11.45%         | 11.45%         |
| <b>Interest on Working Capital</b>                              | <b>53.28</b>   | <b>54.05</b>   | <b>54.95</b>   | <b>55.55</b>   | <b>57.86</b>   | <b>59.99</b>   |

#### 4.12 Interest and Finance Charges

4.12.1 For the current petition, HPSEBL has estimated the Interest & Finance charges for the fourth Control Period as per the following:

- a. Interest Charges on the existing loans outstanding as on 31<sup>st</sup> March 17 – Refers to the interest charge payable by the Petitioner on the outstanding

loans during the control period. The said loans have been raised from REC, RGGVY, ADB, Non SLR Bonds, state government, Loans as per the FRP restructuring, etc.

- b. Interest on new Capitalization – Interest charges payable for the loans projected to be raised for the capital investment projected for the control period. For the purpose of projecting the ARR for the petition, the Petitioner has considered the proposed capital investment as submitted and thus, the interest charges during the Control Period on account of new loans.
- c. Cost of raising finances – These includes the expenses incurred by the Petitioner while raising the debt for the capital investment during the year. The cost of raising finances has been considered at 2% of the loans proposed to be raised during the Control Period.

**Table 82: HPSEBL Submission- Interest & Financing Charges on Long Term Loans for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                                     | FY 19<br>(RE) | FY 20         | FY 21         | FY 22         | FY 23         | FY 24         |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| REC   | 77.86         | 91.38         | 104.90        | 118.43        | 131.95        | 145.48        |
| RGGJY   | 0.06          | 0.06          | 0.05          | 0.04          | 0.04          | 0.03          |
| LIC   | -             | -             | -             | -             | -             | -             |
| PFC   | 2.98          | 4.13          | 4.48          | 4.02          | 3.56          | 3.10          |
| Non SLR Bond                                    | -             | -             | -             | -             | -             | -             |
| H.P.State cooperative Bank                      | -             | -             | -             | -             | -             | -             |
| Unsecured Bonds 8.75%                           | 23.27         | 23.27         | 23.27         | 19.78         | 12.80         | 4.65          |
| Unsecured Bonds 9.13%                           | 21.37         | 21.37         | 21.37         | 21.37         | 18.17         | 11.76         |
| Unsecured Bonds 10.39%                          | 31.17         | 31.17         | 31.17         | 31.17         | 31.17         | 26.49         |
| R: APDRP(Part A)                                | 3.05          | 3.68          | 3.14          | 2.60          | 2.06          | 1.52          |
| R: APDRP(Part B)                                | 21.35         | 21.80         | 19.10         | 16.40         | 13.70         | 11.00         |
| R: APDRP(Part B) CP                             | 2.87          | 2.80          | 2.56          | 2.33          | 2.09          | 1.86          |
| ADB Loan  | -             | -             | -             | -             | -             | -             |
| (S) State Government Loan<br>(APDRP)            | -             | -             | -             | -             | -             | -             |
| State bank of India                             | -             | -             | -             | -             | -             | -             |
| Kangra central co-Op Bank                       | -             | -             | -             | -             | -             | -             |
| UDAY Bonds                                      | 227.19        | 227.19        | 227.19        | 227.19        | 215.84        | 193.12        |
| Central Bank (S)                                | -             | -             | -             | -             | -             | -             |
| Punjab & Sind Bank                              | -             | -             | -             | -             | -             | -             |
| Interest on New CAPEX Loans                     | 0.00          | 37.27         | 116.98        | 196.69        | 247.42        | 271.23        |
| <b>Interest on Long term loans<br/>(A)</b>      | <b>411.17</b> | <b>464.12</b> | <b>554.22</b> | <b>640.02</b> | <b>678.78</b> | <b>670.23</b> |
|   |               |               |               |               |               |               |
| <b>Other Interest &amp; Finance<br/>Charges</b> |               |               |               |               |               |               |
| Cost of raising Finance & Bank<br>Charges etc.  | 0.30          | 13.80         | 17.25         | 17.25         | 10.35         | 10.35         |



| Particulars  | FY 19<br>(RE) | FY 20         | FY 21         | FY 22         | FY 23         | FY 24         |
|--|---------------|---------------|---------------|---------------|---------------|---------------|
| Interest on Security Deposit   | 19.79         | 19.64         | 20.15         | 20.68         | 21.22         | 21.77         |
| Penal Interest Charges   | -             | -             | -             | -             | -             | -             |
| Lease Rentals  | -             | -             | -             | -             | -             | -             |
| Penalty charges for delayed payment for power purchase                 | -             | -             | -             | -             | -             | -             |
| Interest on GPF  | -             | -             | -             | -             | -             | -             |
| Rebate allowed for Timely Payment                                      | -             | -             | -             | -             | -             | -             |
| <b>Other Interest &amp; Finance Charges (B)</b>                        | <b>20.09</b>  | <b>33.45</b>  | <b>37.41</b>  | <b>37.93</b>  | <b>31.57</b>  | <b>32.12</b>  |
|  |               |               |               |               |               |               |
| <b>Total Interest &amp; Financing Charges on Long Term Loans (A+B)</b> | <b>431.26</b> | <b>497.56</b> | <b>591.62</b> | <b>677.95</b> | <b>710.35</b> | <b>702.35</b> |

4.12.2 Further, the Petitioner has projected the Consumer Security deposit for the Control period based on the average amount of security deposit per consumers in FY19. The security deposit amount is then calculated based on the number of consumers projected during each year of the Control Period. The interest rate has been considered as the average interest rate paid during FY 2018-19 based on provisional accounts.

**Table 83: HPSEBL Submission- Projection of Consumer Security Deposit for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                                       | FY 19        | FY 20        | FY 21        | FY 22        | FY 23        | FY 24        |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| No. of existing Consumers                         | 2430777      | 2493800      | 2558587      | 2625194      | 2693682      | 2764112      |
| Avg. CSD / Consumer (Rs / consumer)               | 1,266        | 1,266        | 1,266        | 1,266        | 1,266        | 1,266        |
| Consumer Security Deposit                         | 307.8        | 315.8        | 324.0        | 332.4        | 341.1        | 350.0        |
| Interest rate                                     | 6.30%        | 6.30%        | 6.30%        | 6.30%        | 6.30%        | 6.30%        |
| <b>Interest paid on Consumer Security Deposit</b> | <b>19.79</b> | <b>19.64</b> | <b>20.15</b> | <b>20.68</b> | <b>21.22</b> | <b>21.77</b> |

4.12.3 The total Interest and Finance Charges as submitted by the Petitioner has been provided in the table below:

**Table 84: HPSEBL Submission- Summary of the Proposed Interest and Finance Charges for fourth Control Period (Rs. Cr.)**

| Particulars                               | FY 19<br>(RE) | FY 20         | FY 21         | FY 22         | FY 23         | FY 24         |
|---|---------------|---------------|---------------|---------------|---------------|---------------|
| Interest on Long term Loans               | 411.17        | 464.12        | 554.22        | 640.02        | 678.78        | 670.23        |
| Interest on Consumer Security Deposit     | 19.79         | 19.64         | 20.15         | 20.68         | 21.22         | 21.77         |
| Interest on Working Capital               | 53.28         | 54.05         | 54.95         | 55.55         | 57.86         | 59.99         |
| Cost of Raising Finance & Other Charges   | 0.30          | 13.80         | 17.25         | 17.25         | 10.35         | 10.35         |
| <b>Total Interest and Finance Charges</b> | <b>484.53</b> | <b>551.61</b> | <b>646.58</b> | <b>733.50</b> | <b>768.21</b> | <b>762.34</b> |

### 4.13 Return on Equity

4.13.1 For the purpose of approving the RoE for the fourth Control Period, the Petitioner has considered the closing equity balance estimated at the end of Third MYT Control Period. Equity infused by HPSEBL for completion of ongoing and new capex is considered eligible for return on rate of 16% by the Petitioner, as provided in the table given below:

**Table 85: HPSEBL Submission- Proposed Return on Equity for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars              | FY 20         | FY 21         | FY 22         | FY 23         | FY 24         |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| Opening equity           | 484.23        | 780.01        | 1,149.73      | 1,519.45      | 1,741.28      |
| Equity infusion          | 295.78        | 369.72        | 369.72        | 221.83        | 221.83        |
| Closing Equity           | 780.01        | 1,149.73      | 1,519.45      | 1,741.28      | 1,963.11      |
| Rate of Return on Equity | 16%           | 16%           | 16%           | 16%           | 16%           |
| <b>Return on Equity</b>  | <b>101.14</b> | <b>154.38</b> | <b>213.53</b> | <b>260.86</b> | <b>296.35</b> |

### 4.14 Provision for Bad and Doubtful Debt

4.14.1 The Petitioner has submitted provision for bad and doubtful debt as follows:

**Table 86: HPSEBL Submission- Provision for Bad and Doubtful Debt for 4<sup>th</sup> Control Period (Rs. Cr.)**

| S. No.   | Particulars   | FY 20          | FY 21          | FY 22          | FY 23          | FY 24          |
|----------|---|----------------|----------------|----------------|----------------|----------------|
| 1        | Receivable from customers as at the beginning of the year | 675.74         | 564.56         | 450.52         | 333.50         | 213.43         |
| 2        | Revenue billed for the year                               | 4798.80        | 4922.77        | 5050.89        | 5183.12        | 5319.72        |
|          | <b>Sub-Total</b>  | <b>5474.54</b> | <b>5487.34</b> | <b>5501.41</b> | <b>5516.62</b> | <b>5533.14</b> |
| <b>3</b> | <b>Collection for the year</b>                            | <b>4909.98</b> | <b>5036.82</b> | <b>5167.91</b> | <b>5303.19</b> | <b>5442.96</b> |
|          | - Against current dues                                    | 4624.82        | 4744.30        | 4867.77        | 4995.21        | 5126.85        |
|          | - Against arrears upto previous year                      | 285.15         | 292.52         | 300.13         | 307.99         | 316.10         |
| 4        | Gross receivable from customers as at the end of the year | 564.56         | 450.52         | 333.50         | 213.43         | 90.18          |
| 5        | Receivables against permanently disconnected consumers    | 11.78          | 12.09          | 12.40          | 12.73          | 13.06          |
| 6        | Receivables(4-5)  | <b>552.78</b>  | <b>438.43</b>  | <b>321.10</b>  | <b>200.70</b>  | <b>77.12</b>   |
| 7        | % of provision  | 1.00%          | 1.00%          | 1.00%          | 1.00%          | 1.00%          |
| <b>8</b> | <b>Provision for bad and doubtful debts</b>               | <b>0.12</b>    | <b>0.12</b>    | <b>0.12</b>    | <b>0.13</b>    | <b>0.13</b>    |

### 4.15 Non-Tariff Income

4.15.1 The Petitioner has submitted that it has certain sources of non-tariff income viz. delayed payment charges, interest on staff loans and advances, interest on investment, income from trading, O&M Charges Recovery from HPPTCL, income from wheeling charges, Miscellaneous Receipts PLC receipts etc. Based on these, the Petitioner has estimated non-tariff income for the fourth Control Period as shown in the table below:

**Table 87: HPSEBL Submission- Non-Tariff Income for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars   | FY 20         | FY 21         | FY 22         | FY 23         | FY 24         |
|---|---------------|---------------|---------------|---------------|---------------|
| Meter Rent/Service Line Rentals                       | 48.83         | 50.10         | 51.40         | 52.74         | 54.12         |
| Recovery for theft of Power / Malpractices            | 0.07          | 0.08          | 0.08          | 0.08          | 0.08          |
| Wheeling Charges Recovery                             | 49.60         | 49.60         | 49.60         | 49.60         | 49.60         |
| Peak Load Violation Charges                           | 0.00          | 0.00          | 0.00          | 0.00          | 0.00          |
| Miscellaneous Charges from Consumers                  | 4.30          | 4.41          | 4.52          | 4.64          | 4.76          |
| <b>Non-Tariff Income - Total</b>                      | <b>102.79</b> | <b>104.18</b> | <b>105.60</b> | <b>107.06</b> | <b>108.56</b> |
| <b>Other Income</b>                                   |               |               |               |               |               |
| Interest on Staff loans & Advances                    | 0.45          | 0.45          | 0.45          | 0.45          | 0.45          |
| Income from Investments                               | 0.77          | 0.77          | 0.77          | 0.77          | 0.77          |
| Interest on Loans & Advances to Licensees             | -             | -             | -             | -             | -             |
| Delayed Payment Charges from Consumers                | -             | -             | -             | -             | -             |
| Interest on Advances to Suppliers / Contractors       | 0.19          | 0.19          | 0.19          | 0.19          | 0.19          |
| Interest on Banks (other than on Fixed Deposits)      | -             | -             | -             | -             | -             |
| Delayed Payment Charges from PGCIL                    | -             | -             | -             | -             | -             |
| Income from Trading                                   | 3.25          | 3.25          | 3.25          | 3.25          | 3.25          |
| Income fee collected against Staff Welfare Activities | 0.08          | 0.08          | 0.09          | 0.09          | 0.10          |
| Miscellaneous Receipts                                | 19.67         | 19.67         | 19.67         | 19.67         | 19.67         |
| O&M Charges Recovery from HPPTCL                      | -             | -             | -             | -             | -             |
| Recovery of Investigation & Survey Charges            | -             | -             | -             | -             | -             |
| Amortization of Govt. grants                          | -             | -             | -             | -             | -             |
| Prior Income  | -             | -             | -             | -             | -             |
| <b>Other Income - Total</b>                           | <b>24.40</b>  | <b>24.40</b>  | <b>24.41</b>  | <b>24.41</b>  | <b>24.42</b>  |
| <b>Total Non-Tariff Income &amp; Other Income</b>     | <b>127.19</b> | <b>128.58</b> | <b>130.01</b> | <b>131.47</b> | <b>132.98</b> |
| (less) : Delayed payment charges from Consumers       | -             | -             | -             | -             | -             |
| (less) : Amortisation of Govt. grants                 | -             | -             | -             | -             | -             |
| <b>Net Non-Tariff Income &amp; Other Income</b>       | <b>127.19</b> | <b>128.58</b> | <b>130.01</b> | <b>131.47</b> | <b>132.98</b> |

#### 4.16 Aggregate Revenue Requirement

4.16.1 The Petitioner's submission of ARR for each year of the fourth Control Period has been summarised below:

**Table 88: HPSEBL Submission- Details of ARR proposed for 4<sup>th</sup> Control Period (Rs. Cr.)**

| S. No.   | Particulars                         | fourth Control Period |         |         |         |         |
|----------|-------------------------------------|-----------------------|---------|---------|---------|---------|
|          |                                     | FY 20                 | FY 21   | FY 22   | FY 23   | FY 24   |
| <b>1</b> | <b>Expenditure</b>                  |                       |         |         |         |         |
| a        | Purchase of Power from Own Stations | 285.73                | 312.64  | 325.57  | 339.40  | 354.18  |
| b        | Purchase of Power from Other        | 2319.67               | 2506.82 | 2753.80 | 2833.95 | 2924.12 |

| S. No.   | Particulars   | fourth Control Period |                |                |                |                |
|----------|---|-----------------------|----------------|----------------|----------------|----------------|
|          |   | FY 20                 | FY 21          | FY 22          | FY 23          | FY 24          |
|          | Sources   |                       |                |                |                |                |
| c        | Intra-State Transmission Charges                      | 257.95                | 285.11         | 312.15         | 337.22         | 362.55         |
| d        | R&M Expense   | 116.29                | 140.05         | 164.14         | 188.41         | 194.83         |
| e        | Employee Expenses                                     | 1970.44               | 2084.12        | 2204.36        | 2331.53        | 2466.04        |
| f        | A&G Expense   | 53.75                 | 54.99          | 56.32          | 57.75          | 57.42          |
| g        | Depreciation  | 266.84                | 334.94         | 399.93         | 439.10         | 474.97         |
| h        | Interest & Finance Charges (including interest on WC) | 551.61                | 646.58         | 733.50         | 768.21         | 762.34         |
| j        | Less: Interest & other expenses capitalised           | -                     | -              | -              | -              | -              |
| k        | Other Debits (incl. Prov for Bad debts)               | 0.12                  | 0.12           | 0.12           | 0.13           | 0.13           |
| l        | Extraordinary Items                                   | 0.00                  | 0.00           | 0.00           | 0.00           | 0.00           |
| M        | Other (Misc.)-net prior period credit/ (charges)      | 0.00                  | 0.00           | 0.00           | 0.00           | 0.00           |
|          | <b>Total</b>  | <b>5822.39</b>        | <b>6365.37</b> | <b>6949.90</b> | <b>7295.70</b> | <b>7596.58</b> |
| <b>2</b> | <b>Reasonable Return</b>                              | <b>106.37</b>         | <b>159.61</b>  | <b>218.77</b>  | <b>266.09</b>  | <b>301.59</b>  |
| <b>3</b> | <b>Other Income</b>                                   | <b>127.19</b>         | <b>128.58</b>  | <b>130.01</b>  | <b>131.47</b>  | <b>132.98</b>  |
|          |   |                       |                |                |                |                |
| <b>4</b> | <b>Annual Revenue Requirement (1)+ (2) - (3)</b>      | <b>5801.58</b>        | <b>6396.40</b> | <b>7038.66</b> | <b>7430.32</b> | <b>7765.19</b> |
|          |   |                       |                |                |                |                |
| <b>5</b> | <b>Impact of Previous Years</b>                       |                       |                |                |                |                |
|          | Impact of True-Up of FY17                             | 600.73                | -              | -              | -              | -              |
|          | Impact of True-Up of FY12 vide Petition 25-2018       | 49.21                 | -              | -              | -              | -              |
|          |   |                       |                |                |                |                |
| <b>6</b> | <b>Total ARR including adjustments (4)+(5)</b>        | <b>6451.52</b>        | <b>6396.40</b> | <b>7038.66</b> | <b>7430.32</b> | <b>7765.19</b> |

#### 4.17 Allocation of ARR into Wheeling and Retail Supply

4.17.1 The Petitioner has allocated the total ARR for HPSEBL into wheeling ARR and retail supply ARR based on the approach adopted by the Commission in the Tariff Order dated 04.05.2018:

**Table 89: HPSEBL Submission- Basis for ARR allocation in Wheeling and Retail Supply**

| Allocation of ARR of Distribution Business | Wheeling allocation | Retail Supply allocation |
|--|---------------------|--------------------------|
| Power Purchase Expenses                    | 0%                  | 100%                     |
| PGCIL Charges                              | 0%                  | 100%                     |
| HPPTCL Charges                             | 0%                  | 100%                     |
| SLDC Charges                               | 0%                  | 100%                     |
| Open Access Charges                        | 0%                  | 100%                     |
| Employee Expenses                          | 70%                 | 30%                      |

| Allocation of ARR of Distribution Business | Wheeling allocation | Retail Supply allocation |
|--|---------------------|--------------------------|
| R&M Expense                                | 90%                 | 10%                      |
| A&G Expense                                | 60%                 | 40%                      |
| Interest and Financing                     | 95%                 | 5%                       |
| Depreciation                               | 95%                 | 5%                       |
| Return on Equity                           | 100%                | 0%                       |
| Non-tariff Income                          | 0%                  | 100%                     |
| Wheeling charges                           | 100%                | 0%                       |
| Additional items                           | 50%                 | 50%                      |

#### 4.18 Tariff Proposal

4.18.1 Despite repeated reminders from the Commission, the Petitioner has not submitted the tariff proposal for FY20.

#### *Additional Submissions*

4.18.2 Besides, the tariff petition, the Petitioner furnished the following details as additional submissions during the technical validation rounds:

#### 4.19 Revenue from Sale of Power

4.19.1 The revenue from sale of power to the consumers within the state for fourth Control Period at existing tariff as estimated by HPSEBL is summarized below:

**Table 90: HPSEBL Submission- Revenue at existing tariff for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                    | FY20            | FY21            | FY22            | FY23            | FY24            |
|--------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Domestic                       | 1,011.38        | 1,042.35        | 1,074.28        | 1,107.19        | 1,141.11        |
| Non Domestic Non Commercial    | 106.43          | 111.49          | 116.80          | 122.36          | 128.18          |
| Commercial                     | 402.52          | 418.37          | 434.87          | 452.03          | 469.88          |
| Small Industrial Power Supply  | 59.50           | 59.94           | 60.40           | 60.86           | 61.33           |
| Medium Industrial Power Supply | 81.71           | 82.45           | 83.20           | 83.95           | 84.71           |
| Large Industrial Power Supply  | 3,026.37        | 3,082.95        | 3,140.62        | 3,199.38        | 3,259.27        |
| Agriculture                    | 34.11           | 35.91           | 37.81           | 39.81           | 41.91           |
| WIPS                           | 375.10          | 396.64          | 419.44          | 443.55          | 469.05          |
| Bulk Supply                    | 116.13          | 116.69          | 117.26          | 117.83          | 118.40          |
| Street Light                   | 5.36            | 5.54            | 5.74            | 5.93            | 6.14            |
| Temporary                      | 40.63           | 40.63           | 40.63           | 40.63           | 40.63           |
| <b>Total</b>                   | <b>5,259.23</b> | <b>5,392.00</b> | <b>5,531.03</b> | <b>5,673.52</b> | <b>5,820.63</b> |

#### 4.20 Revenue from Inter-state Sale of Power

4.20.1 Petitioner has submitted that based on energy availability, revenue from inter-state sale of surplus power surplus was computed as shown in the table below.

The average sale rate of interstate power for the fourth Control Period has been considered at a floor rate of Rs. 2.00/kWh.

**Table 91: HPSEBL Submission- Revenue from sale of Interstate Sale of Power for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars   | FY20         | FY21          | FY22          | FY23         | FY24         |
|---|--------------|---------------|---------------|--------------|--------------|
| Interstate Sales (MUs) (excluding 5% contingent sale) | 515.82       | 663.50        | 758.55        | 491.53       | 235.68       |
| Price (Rs./Kwh)                                       | 2.00         | 2.00          | 2.00          | 2.00         | 2.00         |
| <b>Revenue from Interstate Sales (Rs Cr.)</b>         | <b>98.01</b> | <b>126.06</b> | <b>144.12</b> | <b>93.39</b> | <b>44.78</b> |

#### 4.21 Revenue Gap

4.21.1 The Petitioner has submitted that based on projection of ARR and revenue, the surplus/ gap to be recovered through tariffs for the fourth Control Period is as given in the table below:

**Table 92: HPSEBL Submission- Revenue Gap for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars  | FY20           | FY21          | FY22           | FY23           | FY24           |
|--|----------------|---------------|----------------|----------------|----------------|
| Projected ARR  | 6451.52        | 6396.40       | 7038.66        | 7430.32        | 7765.19        |
| Less: Revenue at Existing Tariff                                   | 5259.23        | 5392.00       | 5531.03        | 5673.52        | 5820.63        |
| Less: Revenue from sale outside State                              | 98.01          | 126.06        | 144.12         | 93.39          | 44.78          |
| <b>Total Revenue Gap/ (Surplus) to be recovered through Tariff</b> | <b>1094.27</b> | <b>877.35</b> | <b>1363.51</b> | <b>1663.41</b> | <b>1899.78</b> |

#### 4.22 Matters pertaining to tariff structure

4.22.1 The Petitioner has additionally submitted the following proposals:

**a) Continuation of rebate to industrial consumers on account of additional power consumption:**

HPSEBL has submitted that with respect to tariffs for FY20 and FY21, the existing industrial consumers should continue to receive a rebate of 10% on energy charges for additional power consumption beyond the level of previous year for the above two mentioned years.

**b) Inclusion of cow sanctuaries in Domestic supply category of tariff:**

HPSEBL has submitted that electricity connections to cow sanctuaries should be considered under the Domestic supply category vide File No. SGSB/2019/ Meeting-II dated 2Third January 2019 from the office of the Director Animal Husbandry regarding guidelines for setting up cow sanctuaries in HP.

**c) Irrigation and Pump House Billing Rationalization:**

HPSEBL has submitted that due to the nature of business, IPH consumers are mostly located in remote areas and require a dedicated infrastructure for which the consumer bears the capital cost. In most cases, a higher voltage line is set-up to facilitate the connection while the actual

connection is availed by the consumers at LV level. While the Commission has provisioned the LVSS to compensate the Board for the losses, in case of IPH in particular, there is a huge gap in fixed charges in case of LV vs. HV connection. In such cases, the set LVSS is not enough to cover this gap. Accordingly, HPSEBL has proposed three options and requests the Commission to incorporate either of these in the Tariff for the Fourth MYT Period:

**Option 1: Additional clause to be added**

In the Notes section of Point 3 of Schedule – Irrigation and Drinking Water Pumping Supply (IDWPS), an additional clause same as that published in the Tariff Order for FY 2017-18 may be inserted after clause 'c' as below:

*"d) In case of voltage based tariffs, the tariff applicable at the standard supply voltage or at the lower voltage (i.e. the voltage at which connection is actually availed), whichever of the two is higher, shall be applicable and the LVSS shall be levied in addition to the said tariff."*

**Option 2: Rationalization of Demand Charges between LT & HT**

Alternatively, it is proposed that the Demand Charge for LT and HT which is at present Rs. 50 / kVA and Rs. 400 / kVA may be rationalized so as to reduce the gap between the two to ensure revenue neutral recovery of tariffs.

**Option 3: Creation of separate sub-category for such consumers**

Another option that may be proposed is the creation of a separate sub-category for such consumers so as to complexity and ensuring revenue neutral tariff recovery.

**d) Proposal for omission of Note 2 in Point 3 of Schedule – Domestic Supply (DS):**

HPSEBL submitted that the Note 2 as described below is redundant and may be removed:

*"2. In the case of Domestic Category consumers with consumption in slabs 0 – 125, 126 – 300 and above 300 kWh per month respectively, the slab rates for 0 – 60 kWh per month shall not apply."*

HPSEBL is of the opinion that this clause is redundant and not required and proposes for the omission of the same.

**e) Provision for use of existing connection for mobile welding sets, floor polishing machines, etc. purposes:**

In the Note 'c' for Point 5 of Schedule – Commercial Supply (CS) as described below, provisions have been made for consumers to avail a temporary supply for welding purposes by paying an additional tariff of Rs. 200 per day over and above the applicable Energy Charges.

*"c. In case of mobile welding sets, the consumer will pay Rs. 200/- per day, in addition to the energy charges."*

However, the same facility is unavailable for consumers of other categories and they have to opt for a separate temporary connection.

It is hereby proposed to allow the use of existing connections for using mobile welding sets, floor polishing machines, etc. purposes subject to a maximum of 120% of Sanctioned Load / Contract Demand as applicable by paying an additional tariff or Rs. 200 per Day over and above the applicable Energy Charges. Hence, the following clause may be added to all Tariff Categories:

*"In case of use of mobile welding sets or polishing machines or other similar activities, the consumer will pay Rs. 200 per day, in addition to the energy charges for load not exceeding 120% of Sanctioned Load / Contract Demand as applicable. This facility shall not be applicable to single phase connections."*

**f) Issues in billing Single Part Consumers**

As per the tariff order, the rates of energy and Fixed charges like Meter Rent, Service Rent are notified as per month charges. Practically, it is difficult to render energy bills to the consumer exactly after one month except two part consumers where the history of consumption data is stored either on Fourth or 30th/31st of every month in the Energy Meters itself. As per present Billing cycles monthly billing are spanning from 25 to 40 days and bimonthly from 50-70 days, and in the Billing software upto 35 days are considered for monthly billing, 65 days for bimonthly billing and 95 days for tri-monthly billing and so forth for calculating the energy charges and thereafter proportionate charges are levied for days in excess whereas Meter Rent and Service Charges are being levied as per the Billing cycle by limiting the monthly cycle to 45 days, bimonthly to 75 days and tri-monthly to 105 days. In case of meter rent and service rent it is ensured that consumer is not subjected to pay yearly charges in excess of yearly charges calculated based on per month charges as per tariff.

Considering this offset of billing for monthly, bi-monthly and tri-monthly viz a viz to actual period of billing, it was revealed that this process is benefiting some domestic consumers in the calculation of Slab wise energy tariff.

In order to bring accuracy in the Billing system, HPSEBL proposes as under:

- i. The Slab wise energy shall be worked out on actual days for which consumer is billed. For this purpose, per day Energy Slab shall be worked out by summing the Energy Slabs for a year and dividing it by 365 or 366 days whichever is applicable e.g. first Slab Energy(kWH/day) =  $125 \times 12 / 365$  or  $(366) = 4.11(4.10)$ .



- ii. The Fixed Charges i.e. Meter Rent and Service rent shall be also levied on actual days for which consumer is billed by ensuring the yearly charges does not exceed the notified tariff i.e. Rs 720 per year @ Rs 60/month for Meter Rent and Rs 180/per year @ Rs 15 per month for service charge.

The sample calculation is given below:

**Table 93: HPSEBL Submission- Issues in billing single part consumers**

| Description         | Present Billing  |   | As per the Proposal   |   |
|---------------------|--|---|---|---|
|                     | Consumer Billed after 20 days, Consumption= 200 Units (Consumer-I) | Consumer Billed after 40 days, Consumption= 200 Units (Consumer-II) | Consumer-I  | Consumer-II   |
|                     | 1  | 2   | 3   | 4   |
| Energy Charges (EC) | 125 units*1.50+75 units*2.90= Rs 405.00                            | EC=167 Units*1.50+33 units*2.90=Rs 346.00                           | EC=82 units *1.50 + 115 units *2.90+3 units *4.35 = Rs 469.55 | EC = 164 Units * 1.50 + 36 units * 2.90 = Rs 350.00 |
| Variation           | (-) 64.55  | (-) 4.00  |   |   |

Thus, it is evident from the above table that Consumer I is under-billed for Rs 65/- Consumer II for Rs 4/-. Thus, the Petitioner has requested the Commission to consider the new proposal for approval as it would eliminate this discrepancy of under-billing/overbilling; the consumer will be billed for the days he is actually billed i.e. the period between the last and current reading date.

#### 4.23 Additional Surcharge

- 4.23.1 The Petitioner has filed a revised application for determination of additional surcharge for FY20 under the provisions of the Sub-regulation 3 of Regulation 6 of HPERC (Cross Subsidy Surcharge, Additional Surcharge and Phasing of Cross Subsidy) Regulation, 2006.
- 4.23.2 The Petitioner has submitted that during FY19 (upto Oct '18), the power projects from which power got stranded during different time blocks due to Short-Term Open Access includes Anta, Auriya, Dadri, Singrauli, Unchahar-I, Unchahar-II, Unchahar-III, Unchahar-IV, Rihand-I, Rihand-II and Rihand-III. However, as per directions of the Commission, the Petitioner has not considered projects that have been categorized under surplus power purchase of the Merit Order Dispatch of FY19. Therefore, the stations considered for computation of Additional Surcharge are Rihand-I and Rihand-II.
- 4.23.3 The average rate of fixed cost per kWh, based on the fixed charges for the projects considered for computing additional surcharge as per Merit Order Dispatch, as submitted by the Petitioner has been given in the table below:

**Table 94: HPSEBL Submission-Fixed Cost relating to Generating Capacity (at injection point)**

| Name of Station   | Capacity (MW) | Expected Net Annual Generation (MUs) | Annual Fixed Cost (Rs Cr.) for FY 19 | Annual Fixed Charges (Paise/unit) | Power Purchase (MUs) during FY19* | Total Fixed Cost of Power Purchase (Rs Cr.) |
|---|---------------|--------------------------------------|--------------------------------------|-----------------------------------|-----------------------------------|---|
| I   | II            | III                                  | IV                                   | $V = \{(IV \times 1000 / III)\}$  | VI                                | $VII = \{V \times VI / 1000\}$              |
| Rihand-I  | 1000          | 6529.88                              | 583.60                               | 89.37                             | 254.33                            | 22.73                                       |
| Rihand-II   | 1000          | 6672.61                              | 496.61                               | 74.43                             | 236.62                            | 17.61                                       |
| <b>Total</b>  | <b>2000</b>   | <b>13215.45</b>                      | <b>1080.21</b>                       |                                   | <b>490.95</b>                     | <b>40.34</b>                                |
| <b>Average rate of Fixed Cost at Injection Point (Paise/unit)</b> |               |                                      |                                      | <b>82.17</b>                      |                                   |   |

\* Power purchase (MUs) during FY19 in the table above is same as submitted by HPSEBL in this tariff petition

4.23.4 HPSEBL has calculated applicable average rate of POC charges, reliability charges and HVDC charges of Power Grid (actual up to Dec'18 thereafter rate corresponding to the same period during last financial year has been considered) and Transmission Charges of HPPTCL. The fixed costs relating to stranded transmission capacity, as submitted by the Petitioner have been given in table below:

**Table 95: HPSEBL Submission- Fixed Cost relating to Power Grid & HPPTCL Transmission System (at injection point)**

| Month  | Power Grid System           |  |                                       | HPPTCL System                      |
|--|-----------------------------|--|---------------------------------------|------------------------------------|
|  | POC Slab Rate (Rs/MW/month) | Reliability Support Charges Rate (Rs/MW/month) | HVDC Charge Rate for NR (Rs/MW/month) | Transmission Charges (Rs/MW/month) |
| April, 2018  | 65997                       | 26946  | 23015                                 | 7518                               |
| May, 2018  | 65997                       | 26946  | 23015                                 | 7518                               |
| June, 2018   | 65997                       | 26946  | 23015                                 | 7518                               |
| July, 2018   | 55998                       | 29248  | 27324                                 | 7518                               |
| Aug, 2018  | 55998                       | 29248  | 27324                                 | 7518                               |
| Sep, 2018  | 55998                       | 29248  | 27324                                 | 7518                               |
| Oct, 2018  | 63070                       | 30097  | 26352                                 | 7518                               |
| Nov, 2018  | 63070                       | 30097  | 26352                                 | 7518                               |
| Dec, 2018  | 63070                       | 30097  | 26352                                 | 7518                               |
| Jan, 2019  | 83787                       | 26182  | 19712                                 | 7518                               |
| Feb, 2019  | 83787                       | 26182  | 19712                                 | 7518                               |
| Mar, 2019  | 83787                       | 26182  | 19712                                 | 7518                               |
| <b>Average/month</b>   | <b>67213</b>                | <b>28118</b>                                   | <b>24101</b>                          | <b>7518</b>                        |
| <b>Average Fixed Cost @75.43% load Factor at injection point (paise/kWh)</b> | <b>21.99</b>                |  |                                       | <b>1.38</b>                        |

4.23.5 Based on the above, the Petitioner has submitted an additional surcharge of 44.45 paise/kWh for FY20 as given in the table below:

**Table 96: HPSEBL Submission- Computation of Additional Surcharge**

| S.No.      | Description  | Fixed Cost at Injection point in paise/kWh | Fixed Cost at Consumer end in paise/kWh |
|------------|--|--|---|
| (A)        | Generation Capacity  | 82.17                                      | 89.24                                   |
| (B)        | Transmission Capacity  |  |   |
|            | (i) Power Grid system  | 21.99                                      | 23.09                                   |
|            | (ii) HPPTCL system   | 1.38                                       | 1.45                                    |
| (C)        | Total Fixed Cost payable to Generator (A+B)                                |  | 113.78                                  |
| (D)        | Recovery of Fixed Charge as Demand Charge from EHT Consumers               |  | 101.83                                  |
| (E)        | 50% of wheeling charges for EHT consumers                                  |  | 32.50                                   |
| (F)        | Net Recovery through Demand charges eligible for adjustment (Paise /kWh)   |  | 69.33                                   |
| <b>(E)</b> | <b>Balance payable in shape of Additional Surcharge in Paise/kWh (C-F)</b> |  | <b>44.45</b>                            |

# 5 OBJECTION FILED AND ISSUES RAISED BY STAKEHOLDERS DURING PUBLIC HEARING

## 5.1 Introduction

5.1.1 Fourteen stakeholders filed written objections to the MYT Petition for the fourth Control Period FY20-24 and True-up of uncontrollable parameters for FY17 filed by HPSEBL along with objections raised by general public. The list of the stakeholders are as follows:

**Table 97: Details of Objectors**

| S.No. | Objector   | Address  |
|-------|--|--|
| 1.    | Sh. K.S. Dhaulta   | House No. A32, Sector 2, PhaseI, New Shimla.   |
| 2.    | All Associations – CII, PIA, BBNIA, NIA, KCCI, HCCI etc.                     | Rakesh Bansal, Authorized Representative   |
| 3.    | M/s Ambuja Cements Ltd.  | Darlaghat, PO Darlaghat, Tehsil Arki, District Solan HP;<br>Nalagarh, Vill.Navagraon,P.O. Jajhra, Tehsil Nalagarh, Distt. Solan – 174101 (H.P) |
| 4.    | M/s Vardhman Textiles Ltd.   | Sai-Road, Baddi, Tehsil Nalagarh, Himachal Pradesh – 173205.   |
| 5.    | Valley Iron & Steel  | Exchange Store Building, Sham Nath Marg, Civil Lines, Delhi-110054.  |
| 6.    | Sh. Niranjan Singh   | 209/4, Bhojpur, Sundernagar, Distt. Mandi(HP)-175002.  |
| 7.    | Sanjay Thakur  | Village Ruaru, P.O. Piplage, The. Bhuntar, Distt. Kullu(HP)-175125.  |
| 8.    | Dola Ram   | Village Bhatgram, P.O. Piplage, The. Bhuntar, Distt. Kullu(HP)-175125.   |
| 9.    | Tek Chand  | Village Bhatgram, P.O. Piplage, The. Bhuntar, Distt. Kullu(HP)-175125.   |
| 10.   | Devi Ram   | Village Bhatgram, P.O. Piplage, The. Bhuntar, Distt. Kullu(HP)-175125.   |
| 11.   | Principal Secretary (Transport)-cum- Chairman, State Transport Authority, HP | Commissioner Transport, Shimla-4.  |
| 12.   | Addtl Chief Secreatry, Animal Husbandry Dept., GoHP                          | H.P. Gau Seva Aayog, Himachal Pradesh, Shimla-5.   |
| 13.   | IA Hydro Energy Pvt. Ltd.  | D17, Lane1, Sector1, New Shimla.   |
| 14.   | Himachal Pensioner's Federation  | H.No. 77, Sarwari Bazar, Kullu(HP)-175101.   |
| 15.   | Addl. Chief Secretary(Industries) to Govt. of HP                             | Department of Industries, Govt. of Himachal Pradesh.   |

- 5.1.2 The public hearing was held on 30.04.2019 at the Commission's Court Room in Shimla. The representatives of the stakeholders presented their cases before the Commission during public hearing.
- 5.1.3 Issues raised by the stakeholders in their written submission and during the public hearing, along with replies given to the objections by the HPSEBL and views of the Commission are mentioned in the following paras:

### **General Objections**

#### **5.2 Tariff Petition**

##### ***Stakeholder's Submission***

- 5.2.1 Sh. K.S. Dhaulta, consumer representative, claimed that the petition filed by HPSEBL in its present form is not a detailed petition with very few details given as required under the Commission's Regulations. Thus, the petition does not appear to be a Multi-Year Tariff Petition (MYT) as required under the HPERC Regulations.

##### ***Petitioner's Response***

- 5.2.2 The Petitioner has submitted that every possible information has been provided in the petition as per the regulations. Moreover, additional information required by HPERC was supplied by HPSEBL in various discrepancy notes being issued by HPERC. Additional information supplied by HPSEBL is available at HPSEBL website.

##### ***Commission's Observations***

- 5.2.3 The Commission concurs with the view of the Petitioner that the original tariff petition filed by the Petitioner was found deficient on several fronts. Further, the Petitioner did not file timely responses to the queries raised by the Commission and deferred furnishing relevant data for several months. The Commission has taken a strict view on this matter and issued several directives to the Petitioner in this regard in this Tariff Order.

#### **5.3 Business Plan**

##### ***Stakeholder's Submission***

- 5.3.1 Sh. K. S. Dhaulta claimed that the Petitioner has not provided the details of Purpose of investment, Work wise details of ongoing and new EHV schemes, Break-up of scheme-wise financing plan and cost-benefit analysis, if any for the works being proposed, required as per Regulation 9(4) of the MYT Regulations, 2011. He requested the Petitioner to submit the details of the above-mentioned heads.

##### ***Petitioner's Response***

- 5.3.2 The Petitioner has submitted that the basic objective of the CAPEX Schemes is to provide quality and reliable power supply to the consumers and to improve

the efficiency of Power System. Based on that HPSEBL has formulated the Capex plan based on the EHV Planning Report. The EHV Planning report which spans upto 2025 has been prepared after conducting comprehensive load flow studies of the existing EHV networks (submitted in soft copy format as Annexure-14). Thereafter, the scheme wise capex plan for each circle has been developed, a summary of which has been attached. For financing these schemes, the Petitioner proposes that 10% of the capex scheme shall be funded through grants and the balance funding shall be through 70% debt and 30% equity. Additionally for EHV and HV works, before carrying out any scheme-wise Capex, HPSEBL shall seek necessary approval from the Commission by submitting necessary documents pertaining to purpose of investment, project details, financing plan, cost benefit analysis etc.

### ***Commission's Observations***

- 5.3.3 The Commission concurs with the view of the stakeholder that the Business Plan was not filed in line with the provisions of the MYT Regulations, 2011. The Commission has made several observations on this matter as detailed out in Chapter 7.

## **5.4 Basis for projections**

### ***Stakeholder's Submission***

- 5.4.1 The stakeholder submitted that the various details as per prescribed format of MYT are widely varying in substance and accuracy. Thus, the stakeholder requests the Commission to consider issuing guidelines for building up an accurate database of administrative, financial and technical information.
- 5.4.2 Also, the stakeholder mentioned that the Petitioner in the review petition and ARR submitted has made heavy revision in the controllable parameters. The stakeholder humbly requested the Commission not to permit such revision as per Regulations framed for MYT petitions.

### ***Petitioner's Response***

- 5.4.3 The Petitioner has submitted that the above information has already been submitted to the Commission.

### ***Commission's Observations***

- 5.4.4 The Commission observed similar discrepancies and lack of details as pointed out by the stakeholder in the tariff petition filed by the licensee. The tariff petition lacked detailed notes on the assumptions used for projections of fourth Control Period and supporting historical data. After several queries, the Petitioner submitted a revised petition and also furnished partially completed distribution formats. The Commission takes a strict view on the matter and observes that in the absence of a detailed tariff petition, with supporting distribution formats (including performance formats) in subsequent years, the Commission shall be constrained to dismiss the tariff petition.

## **5.5 Separation of distribution and generation business**

### ***Stakeholder's Submission***

- 5.5.1 Sh. K. Dhaulta has claimed that the Petitioner must clarify whether all ARR parameters claimed under true up for FY17 and projections for the fourth Control Period are for distribution business only or not. Thus, the stakeholder requested the Commission that in case of consolidated claim for generation and distribution business, HPSEBL may be directed to file separate Generation Tariff Petition so that cost and other parameters are segregated in a proper manner.

### ***Petitioner's Response***

- 5.5.2 The Petitioner has submitted that ARR parameters claimed under true-up for FY17 and projections for the fourth Control Period are for distribution business only. The Petition of the Generation Tariff Petition is underway and shall be submitted to the Commission shortly.

### ***Commission's Observations***

- 5.5.3 The Commission observed similar issues with the submissions of the Petitioner as pointed out by the stakeholders. The Commission, therefore, issued a query asking the Petitioner to clarify if the costs claimed in the tariff petition pertain only to distribution business. In its response, the Petitioner agreed to submit only those costs that fall under distribution business. Nevertheless, the Commission has independently analysed the submissions of the Petitioner and approved costs for distribution business only in case of non-segregation.

## **5.6 Tariff Hike**

### ***Stakeholder's Submission***

- 5.6.1 Sh. K. S. Dhaulta also claimed that the Petitioner has not submitted the tariff proposal for the revenue gap proposed for FY 2019-20. Thus, he requested the Commission to ask HPSEBL to submit a detailed tariff proposal along with category-wise tariff increase proposed and to disallow any increase in tariff if required details are not submitted.

### ***Petitioner's Response***

- 5.6.2 The Petitioner has submitted that detailed tariff proposal was being prepared and was under consideration of HPSEBL Management. The same shall be shared subsequently after requisite approvals. However, HPSEBL has submitted the revenue gap to Commission in the Petition.

### ***Commission's Observations***

- 5.6.3 The Commission concurs with the view of the stakeholders that the Petitioner has not complied with the MYT Regulations, 2011 while filing the Tariff Petition. No tariff proposal, open access charges etc. were submitted by the Petitioner despite providing adequate time for doing so. The Commission takes a strict

view on the matter and observes that in the absence of tariff proposal and distribution formats along with tariff petition in subsequent years, the Commission shall be constrained to dismiss the tariff petition.

## **Objections raised on True-up of uncontrollable parameters for FY17**

### **5.7 Annual Audited Accounts**

#### ***Stakeholder's Submission***

5.7.1 The stakeholder mentioned that it has inferred from the petition that the Petitioner has not yet completed audit of the annual accounts for FY 2016-17 and FY 2017-18 and has claimed true-up for both years based on provisional accounts. Thus, the stakeholder requested the Commission to seek clarification from the Petitioner regarding the same and record the reasons for delay in finalization of audited accounts for the respective years.

#### ***Petitioner's Response***

5.7.2 The Petitioner has submitted that it has claimed True-Up of FY 2016-17 in its Petition dated 30<sup>th</sup> November, 2018. The statutory audit for FY 2016-17 has been completed and submitted to the CAG for review/ comments u/s 143 of the Companies Act.

5.7.3 Further, the Petitioner submitted that the Internal audit process for FY 2017-18 is underway and is delayed due to the arrears in audit of old accounts. The accounts for FY 2015-16 were approved by the Shareholders on 03<sup>rd</sup> March 2018, thereafter auditing process for FY 2016-17 was initiated and completed on 11th Jan 2019. The accounts of FY 2017-18, shall be submitted to the Statutory Auditors after the approval of Shareholders/ AGM of FY 2016-17.

#### ***Commission's Observations***

5.7.4 The Commission has undertaken the true-up of FY 2016-17 based on the audited accounts submitted by the Petitioner. **However, the Commission directs the Petitioner to complete the audit exercise on a timely basis and come for true-up in the subsequent year rather than deferring the exercise to the year after.**

### **5.8 True-up to be filed in line with MYT Regulations**

#### ***Stakeholder's Submission***

5.8.1 Industrial Association claimed that the true up proposed by the Petitioner must be bifurcated into controllable and uncontrollable parameters and must be dealt with the MYT Regulations, 2011 in force.

5.8.2 The stakeholder claimed that there are no efforts on the part of the utility to limit their expenses within the cost approved by the Commission as it spends in excess ignoring the approved cost. Thus, the stakeholder requested the Commission to look into this matter with special attention and seek clarification from the Petitioner regarding the same.



***Petitioner's Response***

- 5.8.3 The Petitioner has submitted that it has claimed true-up in line with Clause 11 of HPERC MYT Regulations, 2011 which segregates items into controllable and uncontrollable parameters and therefore, is in line with the provisions of the regulations.

***Commission's Observations***

- 5.8.4 The Commission has independently analyzed each claim of the Petitioner keeping in view the provisions of MYT Regulations, 2011 for trueing up exercise of FY17 as detailed out in Chapter 6 of this order.

**5.9 Energy Sales*****Stakeholder's Submission***

- 5.9.1 M/s Ambuja Cements Ltd. has submitted that Table 1 of the tariff petition shows that category-wise actual sales have remained almost 10% of the approved figure in the ARR of that year. This requires an explanation from the Petitioner stating the reasons why the actual sales were not in line with the approved energy sales for the respective year.

***Petitioner's Response***

- 5.9.2 The Petitioner has not responded to this specific query of the stakeholder.

***Commission's Observations***

- 5.9.3 The Commission has analysed the submissions of the Petitioner and enquired into the reasons for lower sales during FY17. The Petitioner has responded that sales were lower on account of closure of industries and overall stagnation in economy. However, since energy sales is an uncontrollable parameter, the Commission has trueed up energy sales for FY17 keeping in view the above facts as detailed out in Chapter 6 of this Order.

**5.10 Revenue from sale of power*****Stakeholder's Submission***

- 5.10.1 M/s Ambuja Cements Ltd. has pointed out that the Petitioner in Table 3 and page 12 of the Tariff Petition has claimed that the revenue from sale of power outside the state has gone up by Rs.778 Cr as compared to the approved figure of Rs. 308 Cr. and has claimed a deficit in the ARR adding additional burden on the consumers.

***Petitioner's Response***

- 5.10.2 The Petitioner has submitted that the detailed True-Up petition illustrates the deficit vis-à-vis the approved figures for each component of the ARR.

**Commission's Observations**

5.10.3 The Commission has independently analysed the claim of the Petitioner and adjusted revenue against sale of surplus power from the ARR to determine the overall revenue surplus/ (gap) for FY17 as detailed out in Chapter 6 of this Order.

**5.11 PGCIL Charges****Stakeholder's Submission**

5.11.1 M/s Ambuja Cements, has submitted that the PGCIL charges in the power purchase cost as proposed by the Petitioner has increased from Rs. 158 Cr to Rs. 302 Cr, for which the Petitioner has not given any explanation. Thus, the stakeholders humbly request the Commission to seek clarification from HPSEBL regarding the same.

**Petitioner's Response**

5.11.2 The Petitioner has submitted that total PGCIL charges of Rs. 302.32 Crore include the amount of Rs. 73.25 Crore (PGCIL charges on behalf of GoHP) recovered from the GoHP and net PGCIL charges paid by HPSEBL amounts to Rs. 229.06 Crore. The Petitioner further submitted that amount of Rs. 229.06 Crore includes Rs. 27.71 Crore as arrears for the past period.

**Commission's Observations**

5.11.3 As clarified by the Petitioner, the Commission has deducted the actual PGCIL Charges for the amount recovered from GoHP on account of free power while approving the power purchase cost for FY17. The detailed computation is provided in Chapter 6 of this Order.

**5.12 HPPTCL & STOA Charges****Stakeholder's Submission**

5.12.1 M/s Ambuja Cements Ltd. objected to the inclusion of HPPTCL charges and STOA charges because HPPTCL is a newly created organization and the entire power system as it existed remains with the HPSEBL. Similarly, for STOA transmission system, the stakeholder submitted that full recovery is made from the open access consumers and therefore, it should be omitted from the ARR.

**Petitioner's Response**

5.12.2 The Petitioner submitted that in respect of HPPTCL Charges, HPSEBL is the long-term beneficiary of STU network and thus is liable to pay charges as per the ARR of HPPTCL being approved by HPERC. Moreover, it is pertinent to mention here that Inter-State Transmission system in the HP state is being owned by HPPTCL and thus HPSEBL has to pay Transmission Charges for using the same.

- 5.12.3 In respect of STOA Charges, the Petitioner further submitted that these charges are on account of wheeling charges for banking of power as well as for sale of RE Power by HSPEBL outside the state. During the summer months, when hydro generation is at peak, HPSEBL makes banking arrangements with other states, however, wheeling charges, SLDC charges and NLDC charges in respect of the power has to be paid by HPSEBL which are covered under STOA charges. Also, wheeling charges for sale of RE Power outside the state have to be paid by HPSEBL and is also covered under STOA Charges. As far as the wheeling charges from open access consumers are concerned, it is to submit that the same is covered under non-tariff income of HPSEBL and is not a part of STOA charges as pointed out by the objector.

### ***Commission's Observations***

- 5.12.4 The Commission concurs with the views of the Petitioner on this matter and has independently analysed the claim of the Petitioner on account of HPPTCL and STOA for FY17 in Chapter 6 of this Order.

## **5.13 RPP0 Compliance of FY 2015**

### ***Stakeholder's Submission***

- 5.13.1 M/s Ambuja Cements Ltd. requested the Commission to seek explanation from the Petitioner citing the reason for non-compliance of RPO in FY 2015 and to allow no concession to HPSEBL regarding the same.

### ***Petitioner's Response***

- 5.13.2 HPSEBL has submitted that in situations where it has been unable to fulfil its RPO obligations, the Commission has levied a penalty in the past and has directed HPSEBL to set up an RPP0 compensation fund of the penalty amount. HPSEBL submits that it has adhered to this direction of the Commission.

### ***Commission's Observations***

- 5.13.3 The Commission has directed the Petitioner to set up a RPP0 Compensation Fund in its previous Tariff Orders to meet the RPO deficit for the Petitioner and fund the infrastructure needs of RE projects. During discussions, the Petitioner was required to submit the details of the fund created and accrued amount under it till date. The Commission has conducted a prudence check on the matter and taken an independent view on this, as described in Chapter 6 of this order.

## **5.14 T&D Loss**

### ***Stakeholder's Submission***

- 5.14.1 Industrial Association & M/s Ambuja Cements suggested that the claimed overachievement incentive (Rs. 13 Cr.) by the Petitioner on account of lower than projected T&D losses is because the major share of sales is the industrial consumers which are being fed at a high voltage has resulted in the overall loss reduction and constitute of about 60% of the total sales of licensee.

Moreover, the losses of domestic category alone will work out no less than 20%, indicating lack of efforts in the improvement in losses in domestic areas. Thus, the stakeholder requested the Commission to scrutinize the same in detail and pass this incentive through to the consumers, while only a small portion be allowed to the licensee.

### ***Petitioner's Response***

- 5.14.2 The Petitioner has submitted that as per as per Regulations, on account of achieving lower loss levels than the approved losses, it is eligible for incentives. The Petitioner also submitted that the incentive has been accordingly accounted for in the ARR and the final deficit for passing on to the customers. 60% of the incentive is passed to the consumers in the ARR and 40% is given to HPSEBL, which again was invested by the Petitioner in other projects and it has mentioned that indirectly entire amount is being passed to the consumers only.

### ***Commission's Observations***

- 5.14.3 The mechanism for sharing of gains/ losses on account of overachievement/ underachievement is governed by the MYT Regulations, 2011. The Commission has analyzed the claim of the Petitioner keeping in view the relevant provisions of the regulations as also detailed out in Chapter 6 of this Order.
- 5.14.4 However, the Commission concurs with the views of the stakeholder that the Petitioner must conclude the study being conducted on Voltage-wise cost of supply so that losses at different voltage levels can be independently analyzed. Further, the Commission has noted in this order that the Petitioner must identify and submit areas with persistently high level of losses, circle-wise losses and measures being undertaken to reduce them with subsequent tariff filings.

## **5.15 Employee Expenses**

### ***Stakeholder's Submission***

- 5.15.1 M/s Ambuja Cements, has submitted that the proposed employee expenses of Rs. 677.92 Cr by HPSEBL against the approved figure of Rs. 427.94 Cr, on grounds of providing terminal benefits to large number of employee retirement during 2017 is unjust. The stakeholder claimed that retirement date of employee is known information, and HPSEBL should have planned things accordingly. Further, same observations were made by the stakeholder against employee expenses, which has increased from Rs. 967 Cr to Rs. 1018 Cr. Thus, the stakeholders humbly request the Commission to thoroughly examine such increased expenses and seek clarification from HPSEBL regarding the same.
- 5.15.2 Further, another stakeholder Industrial Association has submitted that the proposed employee expenses by the Petitioner holds 34% of the overall ARR, further a sum of Rs.177.81 Crores have been demanded because of Manpower cost for the True up of FY16-17 which increases the employee cost to 40% of total ARR. The stakeholder also claims that such increase in employee cost is on account of the terminal benefits given to the HPSEBL employees deputed to

other institutions during restructuring. Thus, the stakeholder requests the Commission to disallow the terminal benefits of the employees not working with the distribution function from the Distribution ARR.

### ***Petitioner's Response***

5.15.3 HPSEBL is in the process of streamlining the employee costs and has apprised the Commission of its efforts. The Petitioner has further submitted that that employee cost has been covered under uncontrollable parameters of ARR and thus expenses as per actual shall be covered in the True Up, which is in line with the Regulations.

### ***Commission's Observations***

5.15.4 The Commission has independently analysed the employee expenses claimed by the Petitioner for FY17 and observed that the Petitioner has made a provision of Rs. 137 Cr. towards salary and other costs along with terminal benefits. Further, the Petitioner has not complied with the HPERC (Terms and Conditions for sharing of Cost of Terminal benefits of Personnel of the erstwhile Himachal Pradesh State Electricity Board and Successor Entities) Regulations, 2015 despite repeated reminders in previous tariff orders. The Commission has therefore, approved the employee expenses for FY17 keeping in line with the above regulations as described in Chapter 6 of this Order.

## **5.16 R&M Expenses and A&G Expenses**

### ***Stakeholder's Objections***

5.16.1 M/s Ambuja Cements Ltd. claimed that since the repair and maintenance expenses has been mentioned as controllable expenditure therefore adjustment because of such differences of 66.26 Cr and 51.69 Cr may be disapproved. Further, the stakeholder submitted that same observation applies for A&G expenses.

### ***Petitioner's Response***

5.16.2 HPSEBL submitted that it has incurred the R&M expenditure on account of force majeure conditions and has hence requested to consider the same for approval. However, the Commission shall take a final decision on the same.

### ***Commission's Observations***

5.16.3 The Commission concurs with the views of the stakeholder that the Petitioner must be prudent while incurring R&M and A&G expenditure since these are controllable parameters. In its response to Commission's queries, the Petitioner submitted that higher R&M expenditure is majorly on account of higher R&M on Data Centre/ Disaster Recovery Centre (DRC). The Commission has analyzed the claim of the Petitioner in Chapter 6 of this Order and allowed R&M and A&G charges for FY17 keeping in view the target fixed by the Commission.

## **5.17 Interest and Financing Charges**

### ***Stakeholder's Objections***

5.17.1 M/s Ambuja Cements Ltd. has submitted that although the interest and finance charges have gone down from the approved figure of Rs. 52.32 Cr. to Rs. 44.27 Cr., and has mentioned that the Petitioner has submitted a revenue gap which has increased by Rs. 100 Cr.

### ***Petitioner's Response***

5.17.2 The Petitioner has submitted that it strives to keep its costs to ensure maximum benefit to consumers and has mentioned that the overall revenue gap increase is attributable to multiple sources of expenditures, as explained in the True-Up petition.

### ***Commission's Observations***

5.17.3 While truing up of FY17, the interest and financing charges have been approved by the Commission based on the provisions of the MYT Regulations, 2011 as provided in Chapter 6 of this Order. The interest on capital loans being a controllable item has been approved as determined in the Third MYT Order while interest on consumer security deposit is based on actuals. Interest on Working Capital has been allowed based on the methodology laid down in the MYT Regulations, 2011.

## **5.18 Prior Period Expenses**

### ***Stakeholder's Objections***

5.18.1 M/s Ambuja Cements pointed out that the Petitioner has proposed prior period expenses, other excess provision of Rs. 130.96 Cr in its Tariff Petition. HPSEBL must provide suitable explanation for the same.

### ***Petitioner's Response***

5.18.2 HPSEBL has submitted that they have already submitted the appropriate response to the Commission regarding the same.

### ***Commission's Observations***

5.18.3 As discussed in Chapter 6 of this Order, the Petitioner has claimed high prior period expenses in FY17 without adequate justification for each item. The Commission has approved prior period expense /income after several rounds of discussion with the Petitioner to understand the nature of each item.

## **5.19 Aggregate Revenue Requirement & Revenue Gap**

### ***Stakeholder's Submission***

5.19.1 M/s Ambuja Cements Ltd. has submitted that the true-up ARR (in Table 21 of the Tariff Petition) is mentioned as Rs. 5618 Cr., showing an excess of 12%.

The stakeholder has objected to the methods adopted by the Petitioner wherein the Petitioner continues to spend without any restraints and comes with a true-up petition for all the excess expenditure. For whatever the Petitioner fails to achieve in the review, it goes in for appeal.

### ***Petitioner's Response***

5.19.2 The Petitioner has submitted that it strives to keep its costs to ensure maximum benefit to consumers and has mentioned that the overall revenue gap increase is attributable to multiple sources of expenditures, as explained in the True-Up petition.

### ***Commission's Observations***

5.19.3 The Commission has independently analysed each claim of the Petitioner while conducting the true-up exercise of FY17 and allowed only prudent expenditure heads to be passed onto the consumer as detailed out in Chapter 6 of this Order.

## **Objections raised on MYT Petition for fourth Control Period (FY 2019-20 to FY 2023-24) and ARR of FY20**

### **5.20 Energy Sales**

#### ***Stakeholder's Submission***

5.20.1 M/s Ambuja Cements Ltd., submitted that the basis of adopting CAGR for consumption assessment is highly skewed and not relevant in the present time. It is suggested that the actual consumption of the previous year should be compared for working out the category wise consumption for the next year.

5.20.2 Hence, the sale projections in the ARR proposed by HPSEBL are highly inflated. Thus, ACL humbly requests the Commission to seek clarification from HPSEBL regarding the same and may direct the Petitioner to compare the actual consumption of the previous year for working out the category wise consumption for the next year.

#### ***Petitioner's Response***

5.20.3 HPSEBL submitted that for projecting sales for the MYT Control Period it has used a combination of techniques such as YoY trend analyses, and 2,3,4,5 year CAGR trend analyses to arrive at the final figure. Additionally, the sales figures have been supported by analyzing the 2,3,4,5 year consumer number patterns and the consumption per consumer patterns.

5.20.4 HPSEBL also submitted that the projections can result in deviations especially when carried over a large time-frame of five years during which consumption is influenced by several external socio-economic factors. Hence, true-up is carried out to ensure that neither customers nor the distribution licensee bears losses in the event of surpluses/shortfalls.

**Commission's Observations**

5.20.5 Energy sales is an uncontrollable parameters and the Commission undertakes the exercise of truing up expenses of the Petitioner for each year keeping in mind the deviations that may occur from the projections. Since the Control Period envisaged as per the MYT Regulations, 2011 is of five years, the Commission has analyzed historical data and used a combination of parameters such of energy consumption per capita, load factor, average load per consumer etc. for projection of sales as discussed in Chapter 7 on Business Plan.

**5.21 Power Purchase Projections****Stakeholder's Submission**

- 5.21.1 M/s Ambuja Cements Ltd. submitted that the Petitioner has proposed a year-on-year increase of 3% on sale of power within the state. However during 2014-2017 the power consumption in the state has shown a negative trend in the industrial category and presently more and more consumers are trying to avail open access. Under such circumstances, such raise of 3% on year-on-year basis is not correct. Thus, the stakeholder requested the Petitioner to rework the entire exercise of power procurement.
- 5.21.2 Further, M/s Ambuja Cements Ltd. also contested that the Petitioner in Table 38 of its Tariff Petition has proposed cost of own generation under power purchase projections as Rs. 1.49/unit. HPSEBL may provide break-up of the generation cost.
- 5.21.3 Further, M/s Vardhman Texttile Ltd. also submitted that the power purchase cost projected is in excess and unapproved expenses as claimed by the Board should be thoroughly examined by the Commission.
- 5.21.4 The stakeholder Industrial Association has submitted that rates of purchase of free power must be brought down seeing the overall scenario in the energy market. The stakeholder also submitted that rates should be brought down further from 248 Paise per unit to 200 Paise per unit.

**Petitioner's Response**

- 5.21.5 HPSEBL responded to M/s Ambuja Cements Ltd. that deviations in the power purchase costs shall be submitted to the Commission at the time of the True-Up and the resulting benefit, if any, shall be passed on to all consumers. Further, it is to add that as per the trends for previous year the procurement of power through open access by industrial consumers has drastically reduced. Accordingly, these factors have been taken into consideration while making projection for power purchase and sales during the fourth Control Period.
- 5.21.6 The Petitioner responded to M/s Vardhman Textiles Ltd. that it strives to optimise power purchase costs from cheap sources of power, and resorts to alternative sources in force majeure conditions only. Moreover, HPSEBL is mainly dependent upon hydro sources for catering to the power requirements of consumers within the state. However, hydro sources are greatly affected by weather conditions and thus, at times HPSEBL have to procure costly power to



ensure minimal down time and provide reliable power to the consumers. Further, the power purchase cost is covered under uncontrollable parameters and thus any variation in the same is adjusted as per actual during the true-up.

- 5.21.7 The Petitioner on free power has submitted that rate is being determined by HPERC for each year and it is bound by the same

### ***Commission's Observations***

- 5.21.8 The Commission has independently analysed the historical sales data for computing the energy requirement of the State during the fourth Control Period. While the Petitioner submitted that there was negative growth during few years of the Control Period, this was mainly driven by government policies. This trend is being reversed with incentives being provided to new industries and for increasing consumption. Therefore, using a combination of these trends the Commission has projected energy sales for the fourth Control Period in Chapter 7 of this order.
- 5.21.9 Further, the Commission concurs with the submission of the stakeholder that the Petitioner must follow commercial principles and merit order while procuring power. The Commission has also directed the Petitioner in this order to submit any deviations which are in excess of 5% from the power procurement plan and take prior approval of the Commission. Also, since the State is expected to remain power surplus during fourth Control Period, attempts must be made by the Petitioner to surrender expensive sources of power.
- 5.21.10 The tariff for free power is separately determined by the Commission based on the methodology detailed there in the order.

## **5.22 Collection Efficiency**

### ***Stakeholder's Submission***

- 5.22.1 Sh. K. S. Dhaulta claimed that the Petitioner has not submitted the collection efficiency for each year of the Control Period as well as the category-wise collection efficiency during the third Control Period. Thus, HPSEBL must provide the details of the same.

### ***Petitioner's Response***

- 5.22.2 The Petitioner has responded that category-wise collection efficiency during the third Control Period was submitted in soft copy format to the Commission in response to the queries of the Commission and same is available at HPSEBL site.

### ***Commission's Observations***

- 5.22.3 The Commission has independently analyzed the submission of the Petitioner while fixing trajectory on various parameters for the fourth Control Period and found that the submission of the Petitioner was inconsistent with the revenue from sale of power within the State as discussed in Para 7.5. The Petitioner is required to submit reliable information in subsequent years.

## 5.23 Quality of Supply

### ***Stakeholder's Submission***

5.23.1 Sh. K. S. Dhaulta claimed that the Petitioner needs to furnish the details on quality of supply and customer service parameters as required under the MYT Regulations, 2011. He requested the Commission to monitor the reliability of power supply based on indicative parameters such as Customer Average Interruption Frequency Index (CAIFI) and Customer Average Interruption Duration Index (CAIDI).

### ***Petitioner's Response***

5.23.2 The Petitioner has submitted that the details on quality of supply and customer service parameters have been submitted in soft copy format to the Commission in response to the queries of the Commission and same is available at HPSEBL site.

### ***Commission's Observations***

5.23.3 The Commission concurs with the views of the stakeholder that details of quality and reliability indices (SAIFI, SAIDI, MAIFI, supply availability etc.) must be submitted by the Petitioner along with the Business Plan filing as mandated under the MYT Regulations, 2011. It was also observed that despite several queries, the Petitioner was able to submit only partial data in this regard.

## 5.24 Capital Expenditure

### ***Stakeholder's Submission***

5.24.1 M/s Ambuja Cements Ltd. pointed out that the Petitioner has not provided any details of ongoing works in Hamirpur circle. Moreover, the Petitioner has also not mentioned any reason for not creating infrastructure for other categories of consumers for which it was supposed to create dedicated infrastructure. Thus, the stakeholder requested the Commission to seek explanation from HPSEBL regarding the same.

5.24.2 Sh. K. S. Dhaulta further claimed that the Capex Plan proposed by the Petitioner must be based on load forecasts, load flow studies, power evacuation plans, and plans drawn by STU etc. Moreover, the Petitioner is required to submit the copies of any studies undertaken in this regard.

### ***Petitioner's Response***

5.24.3 The Petitioner has responded to M/s Ambuja Cements Ltd. that the available details/schemes/DPRs/works have been submitted to the Commission for approval. The details of the remaining works are being prepared and shall be submitted to the Commission. Additionally, HPSEBL states that for 33kV and above, the scheme wise approval from HPERC is necessitated as per the regulations and HPSEBL is required to submit the complete details of proposal at that time.

- 5.24.4 Further, the Petitioner submitted that as far as the creation of electrical infrastructure for other categories of consumers is concerned, Comprehensive Load Flow studies have been performed by HPSEBL while proposing the augmentation/up-gradations at EHV level. The Load Flow Study Report stands submitted to HPERC. Thus, works proposed under the CAPEX include all categories of consumers and are not driven by any specific category of consumers.
- 5.24.5 The Petitioner in its reply to Sh. K. S. Dhaulta has submitted that the capex plan proposed is in line with requisite studies and the same has been submitted in soft copy format to the Commission in response to the queries of Commission and is available at HPSEBL site.

### ***Commission's Observations***

- 5.24.6 The Commission concurs with the views of the stakeholder that the capex plan proposed for the fourth Control Period lacked adequate reasoning, purpose of investment, cost-benefit analysis studies etc. as mandated by the MYT Regulations, 2011. Further, the Petitioner has not submitted consolidated details of works being proposed in different circles, or funding mechanism for proposed capital expenditure. The Commission has taken a strict view on this matter and issued several directives in this regard as detailed in Chapter 7 of this order.

## **5.25 Infrastructure Development Charges (IDC) & Power Availability Certificate**

### ***Stakeholder's Submission***

- 5.25.1 M/s Ambuja Cements Ltd. submitted that as per the Electricity Act, 2003, the duty of creating and operating electric lines lies with the licensee. In this regard, funds are being raised by the licensee and repayment thereof is ensured through tariff. Therefore, the practice of charging IDC or the connection charges from the consumers/applicants must be done away with. Further, the stakeholder contested that the practice of issuing power availability certificate by charging Rs. 1000 per kVA serves no purpose and needs to be revisited.
- 5.25.2 The stakeholder submitted that Infrastructure Development Charges has not been deducted from the total capital expenditure that it is recovering from the consumers at the normative rates decided by the Commission. Thus, the stakeholder requested the Commission to demand details of such recovery from the Petitioner and carry out true-up for the past years as well.
- 5.25.3 The stakeholder requested the Commission to reduce the per KVA IDC rates rather than maintaining the existing normative rates as proposed by the Petitioner, in-order to boost the growth of Industries in the State. The stakeholder also requested the Commission to do a prudence-check on the aforementioned issue so that the IDC charges should not become a means of undue profit to the Petitioner.

**Petitioner's Response**

- 5.25.4 The Petitioner has submitted that it has adhered to various Regulations of HPERC in respect of IDC as well as issuance of PAC. However, HPERC may take its decision in the matter.

**Commission's Observations**

- 5.25.5 The Commission has independently dealt the issues pertaining to IDC in Chapter 10 in line with HPERC (Recovery of Expenditure for supply of Electricity) Regulations, 2012.

**5.26 Capitalization****Stakeholder's Submission**

- 5.26.1 M/s Ambuja Cements has objected to considering the phasing of capitalisation proposed by the Petitioner that should be linked to the annual completion of works rather than assumption of 20%, 25% etc.
- 5.26.2 Sh. K.S. Dhaulta submitted that the Petitioner is required to provide the basis of considering the capitalization ratio of 20%:25%:25%:15%:15% for new capex being proposed during the fourth Control Period

**Petitioner's Response**

- 5.26.3 In response to the objection raised by Sh. K.S. Dhaulta, the Petitioner submitted that HPSEBL shall undertake the new CAPEX so that it achieves maximum capitalization by end of third year of the fourth Control Period (target of 70%) to ensure maximum consumer benefit. Further, in event of any slippages the Petitioner intends to capitalize the balance capex within the Control Period.

**Commission's Observations**

- 5.26.4 The Commission concurs with the view of the stakeholder that the Petitioner has not provided the expected COD of the list of works proposed for the fourth Control Period and the capitalisation plan should be based on these tentative dates. Further, the phasing ratio has been considered on the entire capital expenditure which translates into a capitalisation of more than Rs. 6000 Cr. during the fourth Control Period. Such high capitalisation seems highly implausible considering the y-o-y capitalisation tentatively submitted by the Petitioner. Therefore, the Commission finds no merit in the submission of the Petitioner and has independently analysed the work proposed and approved the capitalisation for the fourth Control Period in Chapter 7 of this Order.

## **5.27 Financing Plan**

### ***Stakeholder's Submission***

5.27.1 Sh. K.S. Dhaulta claimed that the Petitioner is required to provide the means of financing (break-up of debt, equity, grants/deposit works) for the proposed capitalization for FY19 and each year of the Control Period.

### ***Petitioner's Response***

5.27.2 The Petitioner submitted that it is has proposed all ongoing schemes to be funded from the existing tied-up sources. For the new capital expenditure, the Petitioner has submitted that it has proposed that 10% of the capex scheme shall be funded through grants and the balance funding shall be through 70% debt and 30% equity.

### ***Commission's Observations***

5.27.3 As per the MYT Regulations, 2011 the Petitioner is required to provide scheme-wise means of financing as a part of the Business Plan. The Petitioner however, has not submitted any of these details despite several reminders, as also pointed out in Chapter 7 of this order on Approval of Business Plan. Further, the Petitioner has also not submitted the funding details of assets capitalized in each year while approaching the Commission for true-up. The Commission has iterated these issues in the subsequent chapter and has directed the Petitioner to maintain proper records against these and furnish them during the subsequent tariff filing.

## **5.28 O&M Expenses**

### ***Stakeholder's Submission***

5.28.1 M/s Ambuja Cements has claimed that the practice of the Petitioner to update the R&M cost, employee cost and A&G cost by an inflation factor is not fair. The stakeholder has advised to compute the abovementioned expenses based on factors like capability, availability and necessity rather than on historical data.

### ***Petitioner's Response***

5.28.2 The Petitioner has requested the Commission to take decision on this matter.

### ***Commission's Observations***

5.28.3 The Commission has approved the O&M expenses keeping in view the methodology laid down under the MYT Regulations, 2011 for projection of employee expenses, R&M expenses and A&G expenses.

## 5.29 Employee Expenses

### **Stakeholder's Submission**

- 5.29.1 M/s Ambuja Cements Ltd. has submitted that the basis for projection of employee expenses should not be on the basis of number of consumers.
- 5.29.2 The stakeholder requested the Commission to direct HPSEBL to devise a scheme for Employees of the utility to be incentivized/ disincentivized based on the targets achieved by them and balance sheets to be prepared indicating the cost incurred.
- 5.29.3 The stakeholder claimed that the employee cost proposed by HPSEBL has been rising phenomenally and these increasing expenses are justified by the licensee on the plea that it has to maintain a distribution system, which is wide spread with low load density. Thus, the stakeholder advises the Petitioner the need to rationalize staff posting based on need basis and to recruit required field staff on a continuous basis, based on rational norms.
- 5.29.4 M/s Vardhman Textiles Ltd. has submitted that the employee cost has been growing consistently and only reasonable cost should be allowed as pass-through in the ARR and remaining must be taken over by Government as HPSEBL employees are government employees and must get their dues as per Govt. rules and regulations.
- 5.29.5 Industrial Associations have submitted that out of 34% share of employee cost, the share of terminal benefits account for 16% of ARR and has prayed to the Commission to disallow the terminal benefits of the employees not working with the distribution function from the Distribution ARR. The stakeholder has also highlighted that the progress of the IT initiatives is very slow and there is no headway in the process of online applications and sanctions.

### **Petitioner's Response**

- 5.29.6 The Petitioner has submitted that it strives to rationalize employee costs. However, currently a large part of the current employee costs comprise of terminal benefits which are uncontrollable in nature. For example, in the submitted Tariff Petition, the total employee costs estimated for FY 2019-20 is ~Rs. 1970 Cr of which, terminal benefits is ~ Rs. 1067 Cr. (54%)
- 5.29.7 The Petitioner has also submitted that it expects to incur high terminal benefits expenses over the next few years which is uncontrollable in nature. However, it is ensuring better manpower planning to reduce such liabilities for the future. The Petitioner further submitted that it is striving to upgrade its IT systems to ensure better quality of service to its consumers and to ensure higher efficiency within the organization.

### **Commission's Observations**

- 5.29.8 The Commission has taken cognizance of the issues raised by the stakeholder and the steps being undertaken by the Petitioner in this regard. The rising employee cost is a matter of concern and therefore, the Commission lauds the suggestion of the stakeholder to devise an incentive /disincentive scheme for the employees of HPSEBL. The Petitioner during the several discussion rounds

with the Commission has also submitted that it has commissioned several manpower studies for efficiently managing its human resources. The Petitioner is required to complete these studies at the earliest and submit their findings to the Commission. Till such time, the Commission has been constrained to continue with the previous methodology of using CPI and growth rates for projection of employee expenses and as detailed out in Chapter 8 of this Order.

### **5.30 Interest and Financing Charges**

#### ***Stakeholder's Submission***

- 5.30.1 The stakeholder claimed that the Petitioner has proposed Rs. 227.18 Cr each year against UDAY bonds during FY19-23 and Rs. 205.98 Cr. in FY24. Thus, HPSEBL is required to provide computation details of these expenses along with supporting documents.
- 5.30.2 The stakeholder mentioned that the Petitioner is required to provide loan-wise details of the outstanding debt as on cut-off date as defined in the MoU along with the break-up of short-term and long-term loan details. Further, the Petitioner must also clearly identify each loan, which has been restructured under the UDAY scheme.
- 5.30.3 Further, M/s Vardhman Textiles Ltd. has submitted that the Commission may look into the details of the loans before approving the interest charges and the same should be approved, for which actual capital work is carried out during the years.

#### ***Petitioner's Response***

- 5.30.4 The Petitioner has responded to M/s Vardhman Textiles Ltd. that as per regulations, the interest on capital loans shall be true-up based on the true-up of capital expenditure and capitalization at the end of the Control Period.

#### ***Commission's Observations***

- 5.30.5 The Commission concurs with the view of the stakeholders that the claim of interest and financing charges submitted by the Petitioner is substantially high and the methodology adopted seems erroneous. The Petitioner has added the interest liability of UDAY bonds to interest on existing and new loans rather than considering the fact that outstanding loans as on the date of signing of UDAY MOU were restructured under the scheme. Further, while computing the interest on UDAY bonds, the Petitioner has submitted the interest expense for all outstanding loans which includes both short-term and long-term loans. Thus, the Commission finds no merit in the claim of the Petitioner and has separately computed the interest and financing charges for the fourth Control Period as discussed in Chapter 8 of this Order.

## **5.31 Interest on Consumer Security Deposit**

### ***Stakeholder's Submission***

5.31.1 M/s Vardhman Textiles Ltd. has submitted that presently, interest on security is at RBI rate which is only around 5-6% whereas the interest on working capital loan is at 12-13%. There is a provision of pre-paid meter in Supply Code and therefore, HPSEBL should spell out a road map for introducing Pre-Paid meters for industry. Further, if the Petitioner is not ready, then consumers should be allowed the facility to submit Bank Guarantee for Security (Consumption) and the cash deposited for security should be refunded.

### ***Petitioner's Response***

5.31.2 No response has been received by the Petitioner.

### ***Commission's Observations***

5.31.3 With respect to implementation of pre-paid metering, the Petitioner has submitted that a comprehensive plan is under consideration and it shall submit a detailed proposal after taking into account the readiness of utility to implement such measures. The Commission has directed the Petitioner to submit the detailed proposal along with the subsequent APR petition.

## **5.32 Consumer Contribution**

### ***Stakeholder's Submission***

5.32.1 M/s Ambuja Cements Ltd. have claimed that the Petitioner has proposed consumer contribution in their financing plan, which is not in line with the provision of the Act. As per the Act, consumers are liable to pay only for the deposit works and dedicated works. Thus, ACL requested the Commission to disallow any consumer contribution towards the financing plan of the Petitioner.

### ***Petitioner's Response***

5.32.2 HPSEBL submitted that while proposing the financial plan, it adheres to the relevant Regulations which states that 10% of all capex schemes should be funded by Consumer contributions or grants.

### ***Commission's Observations***

5.32.3 In this regard, Commission is of the view that the Capex schemes are generally being funded through Loan, equity and grants available through GoI. However, the works undertaken through consumer contribution are of dedicated nature done specifically to that particular consumer and/or for a group of consumers. However, it is to clarify that any work carried out through consumer contribution attracts O&M expenses only. Therefore, it is in the interest of the consumers if the utility is able to fund its capex through grants/ consumer contribution.



### **5.33 Depreciation**

#### ***Stakeholder's Submission***

- 5.33.1 The stakeholder claimed that the Petitioner has considered 4% as depreciation rate based on historical data, hence it must provide detailed computation for depreciation rate considered for distribution assets.
- 5.33.2 M/s Vardhman Textiles Ltd. has humbly requested the Commission to kindly identify those fixed assets, which have completed their life in order to disallow such assets in ARR determination purpose. Further, the stakeholder has submitted that the Petitioner has claimed very high depreciation charges for FY 2019-2024 based on incremental increase in fixed assets and have requested that depreciation must be allowed based on actual capacity added/ assets created.

#### ***Petitioner's Response***

- 5.33.3 The Petitioner has responded to M/s Vardhman Textiles Ltd. that depreciation has been estimated based on the closing GFA of each year. However, at the time of True-Up, the actual fixed asset addition shall be reviewed and depreciation shall be accordingly calculated.

#### ***Commission's Observations***

- 5.33.4 The Commission concurs with the view of the stakeholder. Further, the Commission had asked the Petitioner to submit the detailed working for considering 4% as depreciation rate for fourth Control Period. From the submissions of the Petitioner, it was observed that the depreciation submitted by the Petitioner is not in line with the depreciation rates prescribed for each asset class as per the MYT Regulations, 2011. Further, the Petitioner is still in the process of preparing its complete Fixed Asset Register (FAR), which may aid in the identification of useful life of assets. FAR submitted by the Petitioner presently lacks many details including calculation of depreciation etc. In absence of the details, the Commission has independently re-computed the depreciation for the fourth Control Period as described in Chapter 8 of this Order.

### **5.34 Return on Equity**

#### ***Stakeholder's Submission***

- 5.34.1 M/s Vardhman Textiles Ltd. has contested that the projected ROE by the Petitioner in the petition is supposed to grow from Rs. 30.24 crore for FY 2017 as shown in table 21 to Rs. 106 crore in FY 20 and Rs. 159.18 crore in FY 21 and so on. However, it is not clear that how this equity will be infused and where the cash generated will be used. Thus, the stakeholder has humbly requested the Commission to allow ROE only if such equity is actually invested and used in creation of tangible asset which can be used for the benefits of the consumers.

**Petitioner's Response**

- 5.34.2 The Petitioner has submitted that to ensure better quality of supply and service to its consumers, HPSEBL has proposed suitable CAPEX investments in the coming MYT, which shall be financed with debt and equity as stipulated in the Regulations. Accordingly, HPSEBL has projected a return on the equity infused. However, with respect to issues on Return on Equity and other ARR line items of the MYT Petition, the actuals shall be reviewed at the time of the true-up and its benefits are accordingly passed on to the consumers in subsequent years.

**Commission's Observations**

- 5.34.3 The Petitioner has not been able to provide adequate justification for the source of equity envisaged for the fourth Control Period. Therefore, the Commission has approved RoE for the fourth Control Period as per the MYT Regulations, 2011 as given in Chapter 8 of this Order.

**Other Issues****5.35 Energy Efficiency****Stakeholder's Submission**

- 5.35.1 Shri K.S Dhaulta has advised the Petitioner to give renewed focus on Energy Efficiency and Conservation measures so that power procurement cost is reduced. Thus, HPSEBL must make energy audit of all feeders and distribution transformers compulsory.

**Petitioner's Response**

- 5.35.2 The Petitioner has submitted that it adheres to all relevant HPERC and CERC Regulations with respect to audit of all feeders and Distribution Transformers. Further, with respect to energy efficiency and conservation, the Petitioner has submitted that it has a special cell dedicated to ensure compliance to all Govt. policies related to energy conservation and efficiency. The Petitioner has further informed that Energy audit studies for 2016-17 has been completed for nine operation circles and reports have been sent back to them as well as to Commission. The Electrical Divisions where the AT&C losses are on the higher side have been identified. All efforts are being made to reduce the T&D losses in these divisions. The high revenue earning divisions like Baddi, Nalagarh, Nahan, Poanta, Una and Gagret are being monitored very meticulously. The quantum of energy being consumed in these high revenue earning divisions is much more than other divisions. These high revenue earning divisions have been showing reducing trend in T&D losses.

**Commission's Observations**

- 5.35.3 The Commission agrees to the views of consumer representative that Energy efficiency and conservation measures helps in reducing the power procurement cost. It will help in reduction of marginal cost of power procurement which is much higher than average cost of power procurement of the HPSEBL. **The**

**Commission directs that the HPSEBL must strengthen its Energy Efficiency and Conservation Cell. Also, there is a need to make general public aware regarding various energy efficiency and conservation measures. HPSEBL should make such campaigns through media and direct interactions programmes in the interest of all the stakeholders.**

### **5.36 Voltage-wise Losses & Cost of Supply**

#### ***Stakeholder's Submission***

- 5.36.1 Shri K.S Dhaulta has advised the Petitioner to identify voltage wise losses and fix division wise targets for reduction of losses, as advised by the Commission to pass only reasonable cost through ARR and the remaining must be taken over by Government so that the same expenses should not be used as an excuse to increase the ARR and cost of power for consumers.
- 5.36.2 M/s Vardhman Textiles Ltd. submitted that the tariffs should be based on voltage wise cost of supply rather than the average cost of Supply. Thus, the stakeholder has requested the Commission to follow the voltage-wise cost of supply methodology as it largely affects the cost of supply and the T & D losses are in inverse relation with the supply voltage.

#### ***Petitioner's Response***

- 5.36.3 In its response to Sh. K. S. Dhaulta, the Petitioner has submitted that the targets for T&D loss reduction are for the cumulative losses irrespective of voltage levels. The Petitioner has further submitted that it monitors voltage wise losses as well.
- 5.36.4 The Petitioner has submitted as a progressive step towards cost reflective tariff determination, the Commission had directed HPSEBL to conduct a VCoS study. Accordingly, HPSEBL has awarded the "Voltage Wise Cost of Supply" study to M/s CRISIL and the same is in process. On finalization of the same, HPSEBL will share the study with Commission.

#### ***Commission's Observations***

- 5.36.5 The Commission has pointed out in this order that considerable time has lapsed since the Petitioner commissioned the Study on Determination of Voltage wise Cost of Supply. The Petitioner is yet to submit the final report to the Commission for further scrutiny. In the absence of any such scientific basis, the Commission is constrained to continue with the existing methodology for fixing tariffs based on average cost of supply.

### **5.37 Power Cuts**

#### ***Stakeholder's Submission***

- 5.37.1 M/s Vardhman Textiles has suggested that the imposition of power cuts should be practiced uniformly across all Categories of consumers without any discrimination to industrial consumers.

***Petitioner's Response***

5.37.2 The Petitioner has not provided specific reply to this objection.

***Commission's Observations***

5.37.3 The Commission is of the view that ideally there should not be any power cut in the state as the Commission has allowed sufficient capacity to fulfil the demand of the State. However, in case of the eventualities the discom sometimes has to take decisions regarding power cuts based upon the real time situations. Load factor of the domestic consumers is generally very less in comparison to Industrial consumer and in light of this the Petitioner at times may be constrained to impose load shedding on industries that have high load factor. Also, many industries have standby DG capacity to ensure continuity of supply. However, the Petitioner is directed to impose power cuts, if at all required, in an equitable manner duly keeping in view the system requirements and the time of the day in which such cuts are required to be imposed.

**5.38 24X7 Power Supply*****Stakeholder's Submission***

- 5.38.1 Shri K.S Dhaulta claimed that the consumers, especially in the rural belt as well as the tribal areas continue to be neglected with regard to quality of supply. The Petitioner is thus advised to take several steps such as educating such consumers, providing utmost attention to enforce 24X7 power supply as per mandate of the utility.
- 5.38.2 The stakeholder submitted that the quality of supply and the customer service parameters be monitored as per the norms to be laid down by the Commission separately from time to time on priority basis.

***Petitioner's Response***

5.38.3 The Petitioner has submitted that it conducts various Public Interaction programs at Colleges and Schools in different areas to educate the consumers regarding supply of power regulations framed by the HPERC. Further, the Petitioner submitted that brochures containing detailed information regarding regulatory regime and Grievance Redressal forums available to consumers are also being distributed to the consumers to make them aware about their right to have uninterrupted power supply.

***Commission's Observations***

5.38.4 Taking cognizance of the matter and for creating awareness, the Commission has provisionally allowed expenditure on public interaction programmes for the fourth Control Period. However, the Commission takes a strict view on the non-submission of various performances and quality formats along with the tariff petition. The situation is further exacerbated with several objectors pointing out the declining reliability and quality of power supply in the previous year.

The Petitioner is required to regularly update and submit performance indices every quarter to the Commission for review.

### **5.39 System Losses considered for Wheeling Charges**

#### ***Stakeholder's Submission***

5.39.1 M/s Ambuja Cements Ltd. submitted that the interstate transmission losses (table 9) are stated to be 3.23% as against 4% assumed for working out the liability of EHT Consumers, it is therefore, proposed that suitable correction at all stages may be made while working out wheeling charge and other charges related to EHT consumers.

#### ***Petitioner's Response***

5.39.2 The interstate transmission loss in Table 9 is as per actuals for FY 2016-17, while the inter-state transmission loss of 4% considered for deriving wheeling charges is the estimates losses for FY 2017-18

#### ***Commission's Observations***

5.39.3 The Commission finds merit in the comment of the stakeholder and has therefore, revised that the notional distribution losses be considered for each voltage level keeping in view the reduction in overall T&D losses for the State.

### **5.40 Wheeling Charges**

#### ***Stakeholder's Submission***

5.40.1 M/s Ambuja Cements Ltd. pointed out that in the case of Kalyani Steel Ltd Vs Karnatka Power Transmission Corporation Ltd (2007 ELR- 985), honourable APTEL had held that no wheeling charges are to be recovered from open access consumers connected directly on transmission voltages. Thus application of 50% wheeling charges on EHT consumers need to be withdrawn.

#### ***Petitioner's Response***

5.40.2 No response was received from the Petitioner in this regard.

#### ***Commission's Observations***

5.40.3 The open access charges for consumers availing open access has been levied as per the provisions of the Electricity Act, 2003 and accordingly, the Commission has determined these charges from time-to-time based upon its regulations.

### **5.41 Cross-Subsidy**

#### ***Stakeholder's Submission***

5.41.1 M/s Ambuja Cements Ltd. submitted that as per the National Electricity Policy and National Tariff Policy, cross subsidies have to be gradually reduced and the tariff has to reflect the cost of service to each category of consumers. On the

contrary, HP followed that regime of fixing the tariff for industries on cost to serve basis for almost 10 years and then took a retrograde step to fix tariff on basis of +/- 20% bandwidth of the average cost of supply. This step increased the cross subsidy level instead of reducing the same and goes against the provisions of the Electricity Policy and the Tariff Policy. It is prayed that the tariff of industry be fixed on cost to serve basis.

- 5.41.2 Vardhman Textiles requested that the tariff of the subsidized class of consumers should be raised to the minimum 85% of the average cost of supply determined by the Commission as per National Tariff Policy 2016 and Tariff Regulations, 2018. Also, they requested the Commission that the level of cross subsidy should not be increased from the present level and should be progressively reduced as increase in cross subsidy will lead to increase in the cost of supply to all categories including EHT.
- 5.41.3 Industry Associations submitted that there is further need to reduce the cross-subsidy amongst various consumer categories and sub-categories as well. The stakeholder further added that there is large amount of cross subsidy within a particular category of consumers and provided example in EHT category. 66 kV, 132 KV and 220 KV consumers pay the same tariff, whereas there is significant cost difference on account of T & D losses for supply at these different voltages.

#### ***Petitioner's Response***

- 5.41.4 The Petitioner has submitted that the above matter may be dealt by the Commission.

#### ***Commission's Observations***

- 5.41.5 The Commission has determined the cross subsidy surcharge using the methodology prescribed in the Tariff Policy and HPERC (Cross Subsidy Surcharge, Additional Surcharge and Phasing of Cross Subsidy) Regulation, 2006. Further, the Commission has also revised the trajectory for cross subsidy levels for the fourth Control Period keeping in line the targets envisaged as per the MYT Regulations, 2011 and with the aim of gradually reducing the cross subsidy levels by the end of this Control Period.

### **5.42 Connected Load for Industrial Consumers**

#### ***Stakeholder's Submission***

- 5.42.1 Vardhman Textiles requested the Commission to relax the connected load built up in the industry without any binding of connected load in KWs, in case the contract demand in KVA is agreed upon.

#### ***Petitioner's Response***

- 5.42.2 The Petitioner has requested the Commission to take decision on this matter.

**Commission's Observations**

5.42.3 The matter pertains to the HPERC Supply Code Regulation. So, this issue shall be taken up separately by the Commission while reviewing the Supply Code Regulations.

**5.43 Chargeable Demand for the levy of Demand Charges****Stakeholder's Submission**

5.43.1 M/s Vardhman Textiles Ltd. requested the Commission to reduce the level of minimum chargeable contract demand from 90% to 80% in order to increase the flexibility available to the consumer due to varying business needs and to align with the other states in India, thus resulting into reduced paper work.

5.43.2 Industry Association also submitted that Minimum demand charges be based on 80% of contract demand

**Petitioner's Response**

5.43.3 The Petitioner has submitted that it proposes tariffs and charges as per the costs incurred and the relevant regulations. However, the final decision lies with the Commission.

**Commission's Observations**

5.43.4 The provision of levying demand charges on 90% of Contract Demand takes care of marginal variations in the assessment of demand vis-a-vis actual demand particularly when the sufficient flexibility is also available to the consumer under the provision for temporary reduction of its demand up to 50% twice in a year. As such, the Commission does not find any merit in this suggestion.

**5.44 Separate Tariff for each EHT Consumer****Stakeholder's Submission**

5.44.1 M/s Vardhman Textiles Ltd. has submitted that separate tariff should be evolved and made applicable for 66 KV, 132 KV and 220 KV consumers as different T&D loss matrix is there at each voltage. This tariff is available in other states also. It implies voltage wise tariff and is justified on the ground that system is beneficial to both the consumers and licensee by transmitting the power at high voltage.

**Petitioner's Response**

5.44.2 The Petitioner has submitted that it proposes tariffs and charges as per the costs incurred and the relevant regulations. However, the final decision lies with the Commission.

**Commission's Observations**

- 5.44.3 The Commission has independently analysed the matter and introduced a voltage rebate for EHT consumers connected at different voltage levels (66kV, 132 kV & 220 kV and above) in this tariff order as discussed in Chapter 9.

**5.45 Night Time Tariff Concession****Stakeholder's Submission**

- 5.45.1 M/s Vardhman Textiles Ltd. has submitted that the Night time tariff concession should be uniform across board irrespective of the voltage level and must be increased to 100 Paisa from present 60 Paisa per unit (June July and Aug) and 40 Paisa rest of the year to make it more effective for flattening the load curve. Thus, the stakeholder requested the Commission to fix a single rate against night concession throughout the year.
- 5.45.2 Industry Association has requested the Commission to fix the night concession charges at Rs.1 to all categories of consumers as this shall make the tariff structure much simpler.

**Petitioner's Response**

- 5.45.3 The Petitioner has submitted that it proposes tariffs and charges as per the costs incurred and the relevant regulations. However, the final decision lies with the Commission.

**Commission's Observations**

- 5.45.4 The Commission had increased the night time concession in order to rationalize the tariff for industrial consumers in the previous order. The Commission is yet to analyse the impact of the increased concession since the energy consumption data for the full year of FY18-19 is yet to be finalized by the Petitioner. The Commission may take a decision on this matter after final numbers are consolidated.

**5.46 Peak Load Average Demand Charges (PLADC)****Stakeholder's Submission**

- 5.46.1 Vardhman Textiles claimed that the peak load energy charges differential of Rs. 1.70 to Rs. 2.00 per unit over and above the normal rate of energy charges is very high. Since the Demand Charge are already very high, the stakeholder requests the Commission to abolish the peak load average demand charge (PLADC) from Peak Load Tariff.
- 5.46.2 Industry Association has claimed that the peak load energy charges differential of Rs. 1.70 to Rs. 2.00 over and above the normal rate of energy charges is very high resulting into an overall impact on peak load usage of Rs. 2.80 per unit extra as compared to use during normal hours. The stakeholder has requested the Commission to abolish the Peak Load Average Demand Charge (PLADC), which will lead to a reduction of about 95 paise per unit in peak load tariff.



**Petitioner's Response**

- 5.46.3 The Petitioner has submitted that during the peak hours the demand is high and vis-à-vis cost of power is also high and to ensure safe operation during the peak hours either load shedding has to be done or other way is to increase the energy charges during peak hours. It has also submitted that peak hour charges are being levied with the intention of reliable operation during the peak hours.

**Commission's Observations**

- 5.46.4 The Commission has considered the objection raised by the stakeholder and has consequently rationalized the tariff by abolishing peak load average demand charges (PLADC) for all categories in this tariff order.

**5.47 Recovery from Demand Charges****Stakeholder's Submission**

- 5.47.1 M/s Ambuja Cements Ltd. has submitted that the Petitioner has not explained clearly where it is booking the recovery from demand/fixed charges in its accounts.
- 5.47.2 Further, the same stakeholder contested that demand charge are charged in lieu of the capital investment made by the utility for supplying power to the consumer. This amount remains fixed for a particular consumer and hence this amount should not be subjected to change. Secondly, this amount is also recovered through IDC from the consumer & thirdly, for open access consumers, the demand charges also make a part for calculating the wheeling charges. Therefore, there is no justification for increasing the demand charges which is being recovered more than once. The objector submitted that the consumer contracts with the Petitioner a particular demand on 24X7 basis. So when operations are restricted to 20 hours, the industry should be suitably compensated by way of an adjustment factor, say 20/24.

**Petitioner's Response**

- 5.47.3 The Petitioner has submitted that the revenue from tariffs includes all components of tariff charges to the customers including demand charges and has been reported as captured in the accounts.

**Commission's Observations**

- 5.47.4 The demand charges applicable on consumers are booked under revenue from sale of power in the audited accounts of the Petitioner. Demand charges are meant to recover the fixed cost of the utility and have necessarily to be fixed keeping in view the nature of supply and the typical load curves for the various categories. The consumers with lower demand normally provide more diversity to the system. This is also because the licensee is required to tie up for greater capacities for larger consumers and the marginal cost of the licensee increases in such a situation. In view of such peculiar characteristics of supply for various

categories, it may not be fair to fix the demand charges for all the consumer categories.

#### **5.48 Tariff for Irrigation and Drinking Water Pumping Supply**

##### ***Stakeholder's Submission***

5.48.1 Sh. Dola Ram, Sh. Devi Ram, Sh. Tek Chand and Sh. Sanjay Kumar have submitted that demand charges for consumers above 20kW should not be increased. Further, it is submitted that demand charges are being applied on consumers with motors above 20kW but not on consumers with lower loads, which is unfair.

##### ***Petitioner's Response***

5.48.2 The Petitioner has responded that for all consumers, tariff has been designed as one-part and two-part. In case of IDWPS also, consumers with load greater than 20kVA, tariff has been fixed as two-part tariff while for consumers with less than 20kVA, single-part tariff is applicable. Therefore, the Petitioner does not concur with the view of the stakeholder.

##### ***Commission's Observations***

5.48.3 The Commission agrees with the viewpoint of the Petitioner that two part charges has been determined for all the consumers having connected load greater than 20 kVA irrespective of the categories.

#### **5.49 Demand Charges for EHT Consumers**

##### ***Stakeholder's Submission***

5.49.1 M/s Vardhman Textiles Ltd. claimed that the present rate of demand charges for EHT consumers @ Rs 425/kVA is very high and results in a large fluctuation in the overall per unit rate, on account of load factor of a unit. Thus, the stakeholder requested the Commission to keep the demand charges for all categories of industries uniform.

5.49.2 Further, the stakeholder also claims that demand charges have been fixed arbitrarily without any rationale, resulting into the same overall tariff to HT1, HT2 and EHT consumers. Further, the demand charges are abnormally high as compared to all other states. The stakeholder requested the Commission to reduce the demand charges.

##### ***Petitioner's Response***

5.49.3 The Petitioner has requested the Commission to take decision on this matter.

##### ***Commission's Observations***

5.49.4 As already discussed, the Commission has abolished the PLADC in this tariff order to reduce the burden of demand charges on consumers.

**5.50 Late Payment Surcharge*****Stakeholder's Submission***

5.50.1 Industry Association suggested that the late payment surcharge may be split into two parts, such as the first part to be levied for a delay up to one week at the rate of 1% and the second part be at par with the prevailing interest rate, which may be taken at simple interest at the rate of 15%.

***Petitioner's Response***

5.50.2 The Petitioner has submitted the main purpose behind late payment surcharge is to maintain the cash flow of HPSBEL and thus high rate of same is desirable. It has also submitted that Late Payment Surcharge shall be increased to 5% to heavily penalize the consumers for late payments.

***Commission's Observations***

5.50.3 Late payment surcharge is being charged to discourage the consumers from delay in payment to the Utility. Further, the Utility is compensated for additional working capital requirement due to such non-payments/ delays. Therefore, the Commission is of the view that the current provisions with respect to late payment surcharge is appropriate.

**5.51 Rationalization of Supply Voltage for Consumers upto 50 KVA of Contract Demand*****Stakeholder's Submission***

5.51.1 The Industrial Associations requested the Commission to remove the limit of 50 KW for consumers up to 50 KVA contract demand or to increase this limit to 100 KW.

***Petitioner's Response***

5.51.2 The Petitioner has submitted that increasing the limit of connected load on LT level will have adverse effects on the system which will increase the investments.

***Commission's Observations***

5.51.3 The matter pertains to the HPERC Supply Code Regulation. So, this issue shall be taken up separately by the Commission while reviewing the Supply Code Regulations.

**5.52 Incentive for Recovery of Sick Units*****Stakeholder's Submission***

5.52.1 The stakeholder Industry Association has suggested that the Commission may give adequate incentives within electricity tariff for the revival of sick units in the State.

**Petitioner's Response**

5.52.2 The Petitioner has requested the Commission to take decision on this matter.

**Commission's Observations**

5.52.3 The Commission has given sufficient incentives as much as possible under the ambit of the Electricity Act, 2003 and its own regulations to increase the industrial electricity consumption in the state. However, the stakeholder may approach the GoHP and/or GoI to get more incentives to revive the sick units in the State.

**5.53 Special Concession to Cement Industry****Stakeholder's Submission**

5.53.1 M/s Ambuja Cements has requested special concession to cement industry, rather all the industries with a PLF more than 60%. The same is permitted by section 62 of the EA 2003. The cement industry is already hit by the unique and highest Electricity Duty of 17.5% and therefore, deserves special consideration in the matter of tariff.

**Petitioner's Response**

5.53.2 The Petitioner has requested the Commission to take decision on this matter.

**Commission's Observations**

5.53.3 Electricity duty is the domain of the GoHP. Therefore, the Petitioner is advised to approach the GoHP for the same. However, the Commission in this order has rationalized the tariff by abolishing peak load average demand charges (PLADC). This will definitely be an incentive for the industries having higher PLF.

**5.54 Inclusion of Gosadans, Gaushalas and Cow Sanctuaries in agricultural category****Stakeholder's Submission**

5.54.1 The Animal Husbandry Department, GoHP has intimated that there are 141 registered Gosadans in the State which have been provided electricity connections under different categories (Domestic – 84, Commercial – 30, NDNC – 12 and 15 Gosadans have no electricity connections). Running of Gosadans, Gaushalas and Cow Sanctuaries in the State is an agricultural related non-profit activity. Therefore, the stakeholder has submitted that the tariff category for the above mentioned institutions, i.e. Gosadans, Gaushalas and Cow Sanctuaries in the coming years may be converted/allowed/supplied power connections either free of cost or under such a relevant category (i.e. Agriculture), so that this expenditure may not become a burden in these institutions and may have minimum encumbrance on their limited resources.

***Petitioner's Response***

5.54.2 The Petitioner has responded that under the current tariff structure, majority of Government establishments/ institutions (including Gosadans and Goshalas) with connected load upto 5kW are being provided connection under the Domestic Consumer category and those exceeding 5kW are provided connection under NDNC consumer category. Further, any private Gosadans / Goshalas, owing to their commercial nature, are being given connection under the commercial consumer category. Accordingly, the Petitioner has submitted that the current classification of Gosadans/ Goshalas is apt and these cannot be billed under Agriculture consumer category. Additionally, free supply to such consumer class would mean burdening other consumers with additional cross-subsidy burden, which may not be in the spirit of the National Tariff Policy and the Electricity Act.

***Commission's Observations***

5.54.3 The Commission has rationalized the tariff for Goshalas/Gosadans and Cow Sanctuaries in this order by including them under domestic tariff.

**5.55 Electric Vehicles*****Stakeholder's Submission***

5.55.1 The State Transport Authority, HP has submitted that keeping in view the provisions of the Draft Electric Vehicle Policy of H.P., 3 types of charging facilities are envisaged, viz. domestic user facility (individual), public charging facility (government facility, railway stations, etc.) and commercial charging facility (roadside, malls, parking stations, fuel stations, etc.). For this purpose, the stakeholder has suggested that across the State, domestic rate of electrical power may be charged if electric vehicle is being charged at domestic user facility or public charging facility by the individual user. Further, the stakeholder submitted that in commercial charging stations, NDNC rate of electric power may be charged.

***Petitioner's Response***

5.55.2 The Petitioner has submitted that in the current tariff structure approved by the Commission, Electric Charging Stations for the Electric Vehicles (EV) are being covered under NDNC Supply. In order to promote EVs, charging of EVs for individual use may be allowed as per the existing tariff in which the consumers has taken connection, i.e. for a Domestic consumer, EV charging for personal use may be billed at the prevailing domestic category rate. Further, the Petitioner submitted that for setting up of public and commercial charging stations, the Commission may add a new tariff category "EV – Charging Station" with the tariff equivalent to the actual cost of supply.

***Commission's Observations***

5.55.3 The Commission while fixing the category of "EV – Charging Stations" has put it under NDNC category. However, it is clarified that any individual charging its

electric vehicle in its premises shall be charged tariff under respective tariff category applicable to it.

## **5.56 Prepaid Connection for Defaulting Industries**

### ***Stakeholder's Submission***

5.56.1 Industrial Associations have suggested that the Petitioner must provide a provision of a separate pre-paid new connection or a connection with more than normal security in a manner that there is no further risk of additional dues that may go unpaid. The stakeholder has also submitted that the Petitioner has claimed that the load limit for such connection may be fixed at a very small quantum or alternatively to the extent of the lighting load utilized by the industry earlier.

### ***Petitioner's Response***

5.56.2 The Petitioner has requested the Commission to take decision on this matter.

### ***Commission's Observations***

5.56.3 In this regard, the Commission has decided that in case of sick units, the industrial consumer can avail prepaid meter with a load upto 20 kW for the purpose of lighting, surveillance and security.

## **5.57 Tariff Classification of Cemeteries / Crematoriums**

### ***Stakeholder's Submission***

5.57.1 Industry Association has claimed that there is no specific mention of such institutions, societies under any tariff and hence are being charged under commercial category of consumers and has also mentioned that the Petitioner considering the social needs and the nature of operation of such agencies / institutions should be classified under the domestic category.

### ***Petitioner's Response***

5.57.2 The Petitioner has submitted that at present, the cemeteries/crematoriums are not defined in any category and thus are being given connection under Commercial Category. The Petitioner has further submitted that these are neither domestic in nature nor commercial and thus may be provided connection under NDNC category.

### ***Commission's Observations***

5.57.3 The Commission concurs with the view of the Petitioner and have accordingly approved the tariff of the same under NDNC category.

## 5.58 Rationalization of Tariff for Temporary Connection

### *Stakeholder's Submission*

- 5.58.1 Industry Association has claimed that the temporary category is at present the costliest and the tariff for this category is the highest at Rs.9 per unit. The stakeholder has also suggested the Petitioner to reduce the tariff for temporary connection to a level of Re. 1.00 above the highest tariff category.

### *Petitioner's Response*

- 5.58.2 The Petitioner has requested the Commission to take decision on this matter.

### *Commission's Observations*

- 5.58.3 In view of the stakeholders' comments, the Commission has rationalised the tariff for Temporary Connection in this order.

## 5.59 Compliance of GST and Income Tax Deduction at Source

- 5.59.1 The stakeholder has claimed that the Petitioner does not issue tax invoice for service charges and has mentioned that the Petitioner must implement a mechanism to issue a tax invoice to the consumer reflecting the GST charged in the invoice so that the consumer can take credit of GST charged.

### *Petitioner's Response*

- 5.59.2 The Petitioner has requested the Commission to take decision on this matter.

### *Commission's Observations*

- 5.59.3 This issue seems to be of operational compliance of GST/ Income tax by the Petitioner. The petitioner is directed to issue such tax invoices if applicable under the GST and Income Tax Act by the power distribution licensees.
- 5.59.4 **It was observed that as a part of the current tariff filing, the Petitioner while responding to the stakeholders has provided references of communication between the Petitioner and the Commission and has evaded effective replies to their queries. This is highly inappropriate. The Commission directs the Petitioner that every query raised by the stakeholders should be appropriately responded to in future.**

# 6 TRUE-UP OF UNCONTROLLABLE PARAMETERS FOR FY17 UNDER THE THIRD MYT CONTROL PERIOD

## 6.1 Background

- 6.1.1 HPSEBL in its MYT Petition for the fourth Control Period has submitted true-up of uncontrollable parameters for FY17 considering the variation in actual expenses and revenue vis-à-vis the approved expenses and revenue for FY17 in the 2<sup>nd</sup> APR Order dated May 25, 2016. The Petitioner has provided audited accounts for the period April 1, 2016 to March 31, 2017 in support of the actual expense and revenue for FY17.
- 6.1.2 The Commission has reviewed the operational and financial performance of HPSEBL for FY17 based on the accounts made available, and has finalised the true-up in line with the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2011 and amendments thereof (hereinafter referred to as the 'MYT Regulations, 2011'), taking into account all the information, data submissions and necessary clarifications submitted by the licensee as well as views expressed by stakeholders. The Commission has undertaken prudence check of the various elements of the ARR for FY17 on the basis of the audited accounts submitted by HPSEBL.
- 6.1.3 The relevant extract stated in the amended Regulation 11 of the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) (Second Amendment) Regulations, 2013 has been described below:

**"11. True Up**

*(1) The true up across various parameters shall be conducted by the Commission, for the previous years for which the actual/ audited accounts are made available by the distribution licensee, at the times and as per principles stated below:-*

*(B) as per principles -*

*(a) Variation in revenue / expenditure on account of uncontrollable sales and power purchase shall be trued up every year. Truing-up shall be carried out*



*based on the actual/audited information and prudence check by the Commission:*

*Provided that if such variations are large, and it is not feasible to recover in one year alone, the Commission may take a view to create a regulatory asset, as per the guidelines provided in clause 8.2.2 of the National Tariff Policy;*

*Provided further that under business as usual conditions, the Commission, to ensure tariff stability, may include the opening balances of uncovered gap / trued-up costs in the subsequent Control Period's ARR instead of including in the year succeeding the relevant year of the Control Period after providing for transition financing arrangement or capital restructuring.*

*(b) for controllable parameters –*

*(I) any surplus or deficit on account of O&M expenses shall be to the account of the licensee and shall not be trued up in ARR unless such is treated as uncontrollable by the Commission in accordance with these regulations;*

*(II) any surplus or deficit on account of the distribution losses shall be shared between the licensee and the consumers in accordance with these regulations...;*

*(2) The distribution licensee, for the approved true-up of any year over and above that approved in the Tariff Order for that year, shall be entitled to a carrying cost at the Base Rate of State Bank of India plus 350 basis points and for any true-up resulting in less than that approved in the Tariff Order for that year, the carrying cost shall be recovered at the same rate."*

6.1.4 The following sections details the methodology adopted by the Commission for truing-up of uncontrollable parameters for FY17 based on the final audited accounts of HPSEBL for FY17.

## **6.2 Energy Sales**

6.2.1 HPSEBL in its true up petition for FY17 has submitted the actual sales of 7960 MUs as compared with the approved sales of 8650 MUs in the 2<sup>nd</sup> APR Order for FY17, which is lower by 690 MUs.

6.2.2 Further, the Petitioner had submitted that energy purchased by open access consumers during FY 2016-17 at consumer's periphery was 232.852 MUs. During the tariff proceedings, the Petitioner clarified that the energy sale of 7960 MUs does not include sale of energy to open access consumers. As per MYT Regulations, 2011, sales is an uncontrollable parameter and therefore the Commission approves the actual sales figures provided by the utility for FY17.

6.2.3 The following table shows the sales approved by the Commission in the 2<sup>nd</sup> APR Order for FY17, actual sales submitted by HPSEBL for FY17, and trued-up (approved) sales for FY17.

**Table 98: Category-wise Trued-up Sales for FY17 (MUs)**

| Category (MU)                    | Approved in 2 <sup>nd</sup> APR Order | HPSEBL's Submission | Now Approved (Trued up) |
|----------------------------------|---------------------------------------|---------------------|-------------------------|
| Domestic                         | 2,168                                 | 1,938               | 1,938                   |
| Non Domestic Non Commercial      | 151                                   | 130                 | 130                     |
| Commercial                       | 532                                   | 528                 | 528                     |
| Temporary                        | 26                                    | 30                  | 30                      |
| Small Power                      | 76                                    | 84                  | 84                      |
| Medium Power                     | 147                                   | 124                 | 124                     |
| Large Supply                     | 4,778                                 | 4,353               | 4,353                   |
| Govt. Irrigation & Water Pumping | 556                                   | 551                 | 551                     |
| Public Lighting                  | 13                                    | 13                  | 13                      |
| Irrigation & Agriculture         | 45                                    | 57                  | 57                      |
| Bulk Supply                      | 158                                   | 150                 | 150                     |
| <b>Total Energy Sales</b>        | <b>8,650</b>                          | <b>7,960</b>        | <b>7,960</b>            |

Note: The above energy sales does not include sale of 232.852 MUs to open access consumers

### 6.3 Revenue from Sale of Power

- 6.3.1 Considering the lower actual sales during FY17 and based on the information provided in the audited accounts, the Commission approves the revenue of Rs. 4,377.28 Cr. for FY17, as reflected in the audited accounts and in line with the revenue submitted by HPSEBL.
- 6.3.2 It is highlighted that the Commission in the previous Tariff Orders had directed the Petitioner to furnish break-up of revenue from additional surcharge and cross subsidy surcharge (CSS) from open access consumers. In response to the break-up sought by the Commission, the Petitioner submitted the revenue from additional surcharge and cross subsidy surcharge as Rs. 13.51 Cr. for FY 2016-17 which has been included in the revenue from sale of power to the respective consumer category (i.e. Large supply) as shown in the table below.

**Table 99: HPSEBL Submission - Additional Surcharge and Cross Subsidy Surcharge (Rs. Cr.)**

| Particulars             | Amount |
|-------------------------|--------|
| Additional Surcharge    | NIL*   |
| Cross Subsidy Surcharge | 13.51  |
| - Op B/pur              | 3.50   |
| - Op Solan              | 8.76   |
| - Op Nahan              | 1.25   |

\*Figure of additional surcharge and CSS have not been booked in the respective of accounts by the units

- 6.3.3 It was further submitted by the Petitioner that the figure of additional surcharge and CSS could not be booked in the respective head of accounts by the units in FY 2016-17 due to delay in opening of head of accounts for the same. **Since the account heads have now been created as per the submission of the Petitioner, the Commission directs the Petitioner to**

**streamline its accounting policy on this matter going forward and direct its field units to initiate the process of booking revenue from CSS and additional surcharge in the respective account heads thus created. Further, the Petitioner is directed to ensure that segregated accounts with separate details of revenue recovered on account of CSS and additional surcharge are furnished in the subsequent tariff petitions.**

6.3.4 The table below provides a comparison of the category-wise revenue as submitted by the Petitioner and as approved by the Commission for FY17:

**Table 100: Category-wise Trued-up Revenue from Sale of Power for FY17 (Rs. Cr.)**

| Particulars                      | Approved in 2 <sup>nd</sup> APR Order | HPSEBL's Submission | Now Approved (Trued up) |
|----------------------------------|---------------------------------------|---------------------|-------------------------|
| Domestic                         | 976.36                                | 816.36              | 816.36                  |
| Non Domestic Non Commercial      | 87.07                                 | 94.7                | 94.70                   |
| Commercial                       | 316.65                                | 323.31              | 323.31                  |
| Small Power                      | 91.69                                 | 65.22               | 65.22                   |
| Medium Power                     | 31.63                                 | 22.39               | 22.39                   |
| Large supply                     | 2,678.22                              | 2,473.7             | 2,473.70                |
| Govt. Irrigation & Water Pumping | 327.12                                | 401.66              | 401.66                  |
| Public Lighting                  | 6.75                                  | 12.47               | 12.47                   |
| Irrigation & Agriculture         | 20.07                                 | 46.48               | 46.48                   |
| Bulk and Grid supply             | 100.59                                | 100.58              | 100.58                  |
| Temporary Metered Supply         | 25.09                                 | 20.41               | 20.41                   |
| <b>Total</b>                     | <b>4,661.23</b>                       | <b>4,377.28</b>     | <b>4,377.28</b>         |

6.3.5 The Commission has also reviewed the submission of the Petitioner for revenue from sale of power outside state and has considered the actual revenue of Rs. 778.14 Cr. as per the audited accounts as against the previously approved revenue of Rs. 308.32 Cr. in the 2<sup>nd</sup> APR Order for FY17. Banking being a cashless transaction, notional revenue towards banked power recorded in the accounts has been excluded while considering the revenue from sale of power outside the state. Accordingly, the revenue from sale of power for FY17 considered for true-up of FY17 is as detailed in table below:

**Table 101: Trued-up Revenue from Sale of Power outside State for FY17 (Rs. Cr.)**

| Particulars   | Now Approved  |
|---|---------------|
| Revenue from sale of power outside State            | 1,724.11      |
| Less: Banking Sale                                  | 945.97        |
| <b>Net Revenue from sale of power outside State</b> | <b>778.14</b> |

## 6.4 Transmission and Distribution Loss

6.4.1 The Commission had approved T&D loss level at 12.40% for FY17 in the 2<sup>nd</sup> APR Order with 0.2% reduction each year of the third Control Period. As per the Petitioner's submission, T&D loss level of 11.43% has been achieved during FY17.

6.4.2 Based on the submission of actual sales and power purchase quantum, the T&D loss of 11.43% for FY17 is approved by the Commission for truing-up. The T&D loss achieved by HPSEBL has resulted in a overachievement of 0.97% which is eligible for incentive as per Regulation 15 of Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) (Second Amendment) Regulations, 2013 and has been separately dealt in Para 6.7.

**Table 102: Approved Transmission and Distribution Loss for FY17 (Rs. Cr.)**

| Particulars | 2 <sup>nd</sup> APR Order | HPSEBL's Submission | Trued-up |
|-------------|---------------------------|---------------------|----------|
| T&D Loss    | 12.40%                    | 11.43%              | 11.43%   |

6.4.3 Further, during the interaction meeting with HPSEBL's management, the Petitioner submitted the circle-wise losses as shown in the table below:

**Table 103: HPSEBL Submission – Actual Circle wise Losses in FY 2016-17**

| Circle    | Energy Input (MUs) | Energy Sold (MUs) | T&D Losses (%) |
|-----------|--------------------|-------------------|----------------|
| Shimla    | 456.48             | 400.82            | 12.19          |
| Rampur    | 180.34             | 143.24            | 20.57          |
| Rohru     | 144.11             | 79.68             | 44.71          |
| Solan     | 3,513.96           | 3,350.89          | 4.64           |
| Nahan     | 1,281.79           | 1,134.02          | 11.53          |
| Hamirpur  | 333.05             | 286.67            | 13.93          |
| Bilaspur  | 575.66             | 505.85            | 12.13          |
| Mandi     | 286.39             | 232.16            | 18.93          |
| Kullu     | 286.82             | 216.53            | 24.51          |
| Una       | 745.50             | 664.20            | 10.91          |
| Kangra    | 605.68             | 481.40            | 20.52          |
| Dalhousie | 581.22             | 464.20            | 20.13          |

6.4.4 From the table above, it can be seen that the T&D losses in select circles such as Rampur, Rohru, Mandi, Kullu, Kangra and Dalhousie continue to remain much higher than acceptable levels in the State. **The Petitioner is thus, directed to submit the actual losses in all circles along with the true-up claim of each year in the tariff petition and provide a list of targeted measures undertaken to reduce loss levels in these circles.**

## 6.5 Power Purchase

6.5.1 HPSEBL has submitted total power purchase cost (including transmission and other charges) of Rs. 3167.18 Cr. for FY17 for truing-up. The Petitioner has submitted the actual cost as recorded in the audited accounts after excluding the notional cost booked in the accounts towards banking from the claim of the power purchase cost. Additionally, cost of power procurement from own-generation sources has been considered by the Petitioner in the total power purchase cost for FY17. The claimed power purchase cost for true-up of FY17 is as below:

**Table 104: HPSEBL Submission - Total Power Purchase Cost for FY17**

| Particulars                                   | Units (MU)       | Amount (Rs. Cr.) | Rate (Rs. /kWh) |
|---|------------------|------------------|-----------------|
| Power Purchase (Inter-state)                  | 11,374.97        | 2,532.08         | 2.23            |
| Add: Own Generation                           | 1,491.86         | 265.06           | 1.78            |
| Gross Power Purchase                          | 12,866.83        | 2797.14*         | 2.17            |
| Less: Banking purchase                        | 1,919.14         | -                | -               |
| Net Power Purchase Excluding Banking          | 10,947.69        | 2797.14*         | 2.56            |
| <b>Total Power Purchase Excluding Banking</b> | <b>10,947.69</b> | <b>2797.14*</b>  | <b>2.56</b>     |

\* including Other Charges of Rs. 7.42 Cr.

6.5.2 The Commission has scrutinised the submissions made by the Petitioner and observed that the reconciliation table between the power purchase cost and audited accounts was broadly in line. It is to be noted that as per the MYT Tariff Regulations 2011, final truing-up is required to be undertaken based on the audited accounts. Therefore, for FY17, the Commission has reconciled source wise power purchase cost for truing-up after adjustments on account of banking and other matters discussed below. A summary table of the power purchase cost considered as per accounts has been provided below:

**Table 105: Power Purchase Cost (excluding PGCIL and Other Costs) for FY17 (Rs. Cr.)**

| S. No.   | Particulars  | Trued-up       |
|----------|--|----------------|
| <b>A</b> | <b>Total Power Purchase Cost as per audited accounts</b>                           | <b>3883.77</b> |
|          | <b>Less:</b>   |                |
| <b>B</b> | <b>Banking Power Purchase (i)+(ii)+(iii)+(iv)</b>                                  | <b>979.30</b>  |
| (i)      | HPPC   | 0.26           |
| (ii)     | PSEB   | 279.76         |
| (iii)    | BRPL/BYPL  | 9.83           |
| (iv)     | MPPL   | 689.45         |
| <b>C</b> | <b>PGCIL</b>   | <b>302.32</b>  |
| <b>D</b> | <b>HPPTCL</b>  | <b>10.57</b>   |
| <b>E</b> | <b>Open Access</b>   | <b>57.15</b>   |
| <b>F</b> | <b>Other Charges (NRLDC, Reactive Energy Charges, GoHP &amp; Malana Deviation)</b> | <b>7.42</b>    |
|          | <b>Power Purchase Cost (excluding transmission and other Charges)</b>              | <b>2524.67</b> |
|          | <b>A-(B+C+D+E+F)</b>   |                |

6.5.3 The Commission has observed several inconsistencies in the Petitioner's claim as per audited accounts. HPSEBL was asked to clarify the nature of few expenses occurring in the claim towards power purchase cost. In response to the queries of the Commission, HPSEBL submitted the following:

- a) **LADF:** The account head named Director Energy against which the power purchase cost has been booked as Rs. 2.34 Cr. in the power purchase sheet in accounts for FY17 has not been claimed by the Petitioner. During the tariff proceedings, the Petitioner clarified that this amount of Rs. 2.34 Cr. has been provisioned in the power purchase cost as the amount paid towards Local

Area Development Fund. Since the amount has been provisioned and not actually paid, the Commission has also excluded this amount while approving the power purchase cost for FY17.

- b) UPCL (Field Unit) & Operation Circle Nahan:** The Petitioner has claimed Rs. 0.84 Cr. and Rs. 0.99 Cr. under other charges against the heads UPCL (Field Unit) and Operation Circle Nahan respectively. In response to the Commission's query, the Petitioner submitted that the payment made to UPCL is pertaining to settlements for reactive power with UPCL during FY 2016-17. Further, regarding the nature of payment recorded under Operation Circle (Nahan), the Petitioner submitted that an agreement between HPSEBL and M/s A. Power Himalayas Ltd. dated 11th August 2000 was executed for the purpose of Wheeling, Banking and Captive use of Power. According to the agreement, any excess energy after the free supply to the GoHP and captive use is purchased by HPSEBL at the interconnection point at a fixed rate of Rs. 2.50 per unit. As submitted by the Petitioner, the units against these have been accounted under power purchased from IPPs. Therefore, the Commission has allowed the cost under both these heads for FY17.
- c) **Banking:** Banking being a cashless transaction is considered at zero cost in petition under total power purchase cost. An amount of Rs. 979.30 Cr. was reflected towards cost from banking procurement during FY17 in the audited accounts. The Commission has reduced this amount from the total power purchase cost for approving the trued-up power purchase cost for FY17.
- d) **HPPTCL Charges:** It was observed that the Petitioner has claimed Rs. 10.57 Cr. towards intra-state transmission charges payable to HPPTCL against Rs. 3.32 Cr. approved in the 2<sup>nd</sup> APR Order. In response to the clarification sought by the Commission, the Petitioner submitted that the increased expenditure is towards the following additional heads:

**Table 106: HPSEBL Submission- Details of HPPTCL Charges for FY17 (Rs. Cr.)**

| S.No.     | Description   | Amount       |
|-----------|---|--------------|
| 1.        | STU – ARR for FY 2016-17  | 3.32         |
| 2.        | Charges paid for ADHPL's dedicated 220kV D/C Transmission line for HPSEBL's 11.4MW power  | 0.69         |
| 3.        | Charges paid for Phojal S/Stn for 11.4MW power  | 0.14         |
| 4.        | 03 No. Interstate Transmission lines charges (April 2016 to September 2016).  | 1.29         |
| 5.        | 03 No. Interstate Transmission charges for FY2014-15 (Rs. 2.5603 cr.) & FY2015-16 (Rs. 2.5707 cr.) as per CERC tariff order dated 16.05.2016. | 5.13         |
| <b>6.</b> | <b>Total HPPTCL charges for FY2016-17</b>   | <b>10.57</b> |

The Petitioner was asked to clarify the nature of charges paid for ADPHL's dedicated 220kV D/C line, Phojal substation and 03 no. Interstate Transmission lines. In its response, the Petitioner submitted the following clarification:

- i. **ADPHL's dedicated 220kV D/C line & Phojal Substation:** HPSEBL has entered into an Interim Agreement dated 30.12.2016 with HPPTCL for the

drawal of HPSEBL's power of 11.4 MW through Phojar Substation of HPPTCL & further through ADPHL's dedicated 220kV D/C Transmission line upto CTU touch point at Nalagarh. The quantum of power for wheeling on HPPTCL system & ADHPL system was estimated to be 11.4 MW and corresponding charges of Rs. 0.69 cr. for FY2016-17, in terms of interim agreement dated 30.12.2016, have been paid to ADHPL through HPPTCL.

On further clarification, it was pointed out that the transmission tariff determined through the interim agreement has not been submitted to the Commission for its approval as on the date of filing of this petition and are subject to adjustment as per the tariff approved by the Commission. The Commission takes a strict view of the matter since both HPPTCL and the Petitioner are regulated entities and such costs cannot be passed on to the consumer without the prior approval of the Commission. Therefore, the Commission has disallowed the claim of Rs. 0.69 Cr. and Rs. 0.14 Cr. respectively in the true-up of FY17. The Commission shall allow only such transmission charges payable to HPPTCL for which prior approval has been taken from the Commission. **Therefore, the Commission directs the Petitioner to seek prior approval from the Commission before entering into any agreement for procurement or transmission of power in the future.**

- ii. **03 No. Interstate Transmission Charges:** The Petitioner has also claimed charges for 03 No. Interstate Transmission charges for FY 2014-15 (Rs. 2.56 cr.) & FY 2015-16 (Rs. 2.57 cr.) stating the CERC Tariff Order dated 16.05.2016. In the aforementioned Order, CERC has computed the yearly transmission charges for 03 transmission assets namely: 220 KV S/C Jessore- Ranjitsagar line, 220 KV D/C Majri-Khodri line and 220 KV D/C Kunihar-Panchkula for the period FY15 - FY19.

The Petitioner submitted that HPPTCL in its letter No. HPPTCL/C&M/Interstate Lines Billing/2016-17/4919-21 dated 30.09.2016 had submitted that in line with the aforementioned order, NRLDC has included above mentioned three lines in POC charges w.e.f. October 2016 post which tariff is to be recovered through POC mechanism. The charges of above lines for the period up to Sept. 16 were not included in the quarterly POC charges notified by CERC and as such HPPTCL had raised the bill for entire charges to HPSEBL being only long-term customer of HPPTCL.

Despite several queries, it was observed that the Petitioner was unable to establish the reason for passing on the total Yearly Transmission Charges (upto September 2016) onto HPSEBL as non-POC charges. To clarify the matter, the Commission independently reached out to HPPTCL to explain the matter. In this regard, HPPTCL furnished a copy of the TSA signed with PGCIL on 7<sup>th</sup> June, 2017 which clearly states,

*"Clause 3.1.3*

*For the other non-ISTS Licensees whose assets have been certified as being used for interstate transmission by the RPCs, whose Yearly*

*Transmission Charges have been considered in the computation of POC Charges, this Agreement shall be effective from the date of approval coming into force and their assets are included in the calculation of PoC Charges."*

Therefore, from the above clause it is clear that the assets are being covered under PoC from the date of approval and therefore, any delay in signing of TSA is on account of the licensee.

Further, the Petitioner has made the entire payment to HPPTCL without seeking adequate justification from HPPTCL in this regard. In absence of adequate reasoning regarding the entire amount to be borne by HPSEBL for the past period, the Commission has disallowed the amount of Rs. 6.42 Cr. in FY17 claimed under HPPTCL Charges. The Petitioner is directed to take up the matter again with HPPTCL for inclusion of this amount as part of PoC for past years. The Commission shall consider the same in the subsequent Orders.

The Commission has accordingly allowed Rs. 3.32 Cr. as STU Charges for HPPTCL in FY17 as against the overall claim of Rs. 10.57 Cr.

- 6.5.4 For units purchased from own generating stations, it was observed that the Petitioner had erroneously submitted incorrect units and cost of some stations in its original tariff petition claiming an overall cost of Rs. 265.08 Cr. In its revised petition, the Petitioner revised its claim to Rs. 265.06 Cr. based on the correct units and cost from each stations.
- 6.5.5 Further, the Petitioner submitted that Bhabha Station had witnessed accident in Jan'15 and has again started generation from Jul'17. Therefore, the Petitioner has claimed total cost of Rs. 21.44 Cr. which includes O&M charges of Rs 6.78 Cr. (Apr'16 to Jun'16) for Bhabha station in FY17.
- 6.5.6 Based on the submissions and working provided by the Petitioner, it was observed that claim for fixed cost was made for the entire year of FY17 while the plant was under shut-down during first three months of FY17. Further, the Commission takes a strict view on the Petitioner's claim of O&M Charges every year in the tariff petition of distribution business. As also noted in the Tariff Order for FY18, any relief if required to be provided can be considered after detailed review and prudence check by the Commission at the time of truing-up for the generation business at the end of the Control Period based on audited accounts. Since, the plant was operational July'17 onwards, the Commission has allowed fixed cost for remaining 9 months of the year and energy charges as per the MYT Regulations, 2011 for generation business.
- 6.5.7 For all remaining own generating stations, the Commission has considered fixed and energy charge of each of the generating station as approved in the MYT Order for FY16 dated 12<sup>th</sup> June, 2014. In case of Ghanvi-II generating station, it is observed that the plant has achieved COD on 3<sup>rd</sup> April 2014. Despite repeated directives and extensions sought by the Petitioner, the tariff petition for Ghanvi-II has not been submitted by the Petitioner for determination of tariff. The Commission takes a strict view on the matter and has considered the generic tariff of Rs. 2.25/- approved by the Commission in the MYT Order for computing the power purchase cost for Ghanvi-II subject to final tariff determination.



6.5.8 Based on the above considerations and in line with the provisions of the MYT Regulations, 2011 for generation business, the Commission has approved units and cost for own generating stations as summarised below:

**Table 107: Power Purchase from Own Generating Stations for FY17 as approved by the Commission**

| Name of Station | Net Generation (MUs) | Amount (Rs. Cr.) |
|-----------------|----------------------|------------------|
| Bhaba           | 186.40               | 17.68            |
| Bassi           | 297.00               | 23.94            |
| Giri            | 140.03               | 16.26            |
| Andhra          | 54.77                | 8.48             |
| Ghanvi          | 74.70                | 16.81            |
| Ghanvi II       | 34.70                | 7.81             |
| Baner           | 28.69                | 7.57             |
| Gaj             | 29.17                | 9.59             |
| Larji           | 537.47*              | 122.61           |
| Khauri          | 30.67                | 6.90             |
| Binwa           | 27.55                | 5.46             |
| Thirot          | 11.31                | 2.54             |
| Gumma           | 4.26                 | 0.96             |
| Holi            | 6.16                 | 1.38             |
| Bhaba Aug       | 12.76                | 2.87             |
| Nogli           | 7.53                 | 2.68             |
| Rongtong        | 0.63                 | 1.19             |
| Sal-II          | -                    | -                |
| Chaba           | 4.66                 | 1.43             |
| Rukti           | 1.00                 | 0.50             |
| Chamba          | 1.00                 | 0.27             |
| Killar          | 0.50                 | 0.11             |
| <b>Total</b>    | <b>1,490.97</b>      | <b>257.04</b>    |

\* In case of Larji, it was observed that the Petitioner has considered gross generation instead of net generation in FY17. The Commission has considered net units generated in FY17 after reducing GoHP share.

## 6.6 Transmission and Other Charges

6.6.1 The Commission has approved the transmission charges, open access charges, etc. based on the amount recorded in the audited accounts after adjustment on account of share of GoHP for the sale of free power.

6.6.2 The Commission has observed that the Petitioner has claimed an amount of Rs. 302.32 Cr. under PGCIL Charges. In response to the additional information sought by the Commission, the Petitioner submitted that an amount of Rs. 73.25 Cr. towards PGCIL charges for GoHP sale of free power has been recorded as part of non-tariff income. The Commission has thus approved an amount of Rs. 229.06 Cr. towards PGCIL Charges for FY17 after adjustment of the share of PGCIL charges towards sale of GoHP free power share.

- 6.6.3 Further, based on the submissions of the Petitioner and the audited accounts, the Commission has also considered open access charges of Rs. 57.15 Cr. as net open access charges during FY17.
- 6.6.4 In response to the Commission's queries, the Petitioner has submitted that the SLDC charges have not been raised till date and the same shall be recorded when the bills are raised. Besides the above, the Commission has approved NRLDC charges of Rs. 1.54 Cr. as reflected in the audited accounts along with other charges such as Reactive energy charges and GoHP & Malana Deviation Settlement in line with the claim of the Petitioner. As also mentioned earlier, the amount of Rs. 2.34 Cr. recorded under the power purchase cost in the audited accounts is towards provisioning against LADF and no amount has been paid, the Commission has not approved this amount as part of trued-up power purchase cost for FY17.
- 6.6.5 The total power purchase cost after incorporating all the responses of the Petitioner has been summarized below:

**Table 108: Total Power Purchase Cost approved for FY 17 (Rs. Cr.)**

| S. No.    | Description   | HPSEBL's Submission          | Now Approved (Trued-up)      |
|-----------|---|------------------------------|------------------------------|
| <b>A.</b> | <b>Power Purchase Cost (exc. PGCIL Charges and Other Costs)</b> | <b>2,524.66<sup>\$</sup></b> | <b>2,524.67<sup>\$</sup></b> |
| <b>B.</b> | <b>Own Generation</b>   | <b>265.06*</b>               | <b>257.04</b>                |
| <b>C.</b> | Inter-State Charges   |                              |                              |
|           | PGCIL   | 302.32**                     | 229.06                       |
|           | OA  | 57.16                        | 57.15                        |
| <b>D.</b> | Intra-State Charges   |                              |                              |
|           | HPPTCL  | 10.57                        | 3.32                         |
|           | SLDC  | -                            | -                            |
| <b>E.</b> | Other Charges   |                              |                              |
|           | NRLDC   | 1.54                         | 1.54                         |
|           | Operation Circle Nahan  | 0.99                         | 0.99                         |
|           | Reactive Charges  | 1.17                         | 1.17                         |
|           | GoHP & Malana Deviation   | 2.43                         | 2.43                         |
|           | UPCL (Field Unit)   | 0.84                         | 0.84                         |
|           | Trading Margin  | 0.45                         | 0.45                         |
|           | LADF  | -                            | -                            |
| <b>F.</b> | <b>Total Power Purchase Cost (inc. Own Gen.) (A+B+C+D+E)</b>    | <b>3,167.19</b>              | <b>3,078.66</b>              |

<sup>\$</sup> as shown in Table 105

\* revised to Rs. 265.06 Cr. in the subsequent submissions

\*\* includes PGCIL charges of Rs. 73.26 Cr. recovered from GoHP against free power

- 6.6.6 Accordingly, the Commission has approved the total power purchase cost (including Own Generation) as Rs. 3,078.66 Cr. as against the Petitioner's submission of Rs. 3,167.19 Cr. for true-up of power purchase cost for FY17.

## 6.7 Incentive for Over-achievement of T&D Loss

- 6.7.1 The Petitioner has submitted that it has been able to achieve an overall T&D loss level of 11.43% for FY17 as against the approved T&D loss of 12.40% for

FY17 in the 2<sup>nd</sup> APR Order. As per Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) (Second Amendment) Regulations, 2013, Regulation 15 was amended to include a mechanism for pass-through of gains or losses on account of variations in the distribution loss. The amended regulation states:

"(a) The approved aggregate gain to the distribution licensee on account of controllable factor of distribution loss shall be dealt with in the following manner:-

- (i) 40% of the amount of such gains shall be adjusted in ARR over such period as may be stipulated in the Order of the Commission;
- (ii) The balance 60% of such gains, may be utilized at the discretion of the distribution licensee;"

6.7.2 The savings resulting from the over-achievement of T&D loss for FY17 is as below:

**Table 109: Savings on account of Over-achievement of T&D loss for FY17**

| S. No.   | Particulars  | Now Approved (Trued-up) |
|----------|--|-------------------------|
| A        | Energy Sales within state (MU)   | 7959.66                 |
| B        | T&D Losses (%)   | 12.40%                  |
| <b>C</b> | <b>Power Purchase Requirement to meet state requirement (MU)</b>           | <b>9086.37</b>          |
| <b>D</b> | <b>Inter – State Sale (MU) (i+ii)</b>                                      | <b>3578.05</b>          |
| (i)      | For Banking arrangements (MU)  | 1802.00                 |
| (ii)     | Sale outside state (MU)  | 1776.05                 |
| <b>E</b> | <b>Total Power Purchase Quantum Approved at State Periphery (MU) (C+D)</b> | <b>12,664.42</b>        |
| F        | Actual Power Purchase Quantum at State Periphery (MU)                      | 12,564.62               |
| <b>G</b> | <b>No. of units saved (MU) (E-F)</b>                                       | <b>99.80</b>            |

6.7.3 Based on the savings in power purchase quantum computed as per the above table, the Commission has computed the incentive for over-achievement of T&D loss as detailed in table below:

**Table 110: Incentive for over-achievement of T&D Loss for FY17**

| S. No.   | Particulars  | Unit            | Amount       |
|----------|--|-----------------|--------------|
| <b>A</b> | <b>No. of units</b>                                | <b>MU</b>       | <b>99.80</b> |
| <b>B</b> | <b>Cost of Power for over-achievement</b>          |                 |              |
| (i)      | Cost of Power Purchase from Other than own sources | Rs. Cr.         | 2,524.66     |
| (ii)     | Power purchased from other than own sources        | MU              | 9,455.83     |
| (iii)    | Less: PGCIL Losses                                 | MU              | 302.21       |
| (iv)     | Net Power Purchase (ii-iii)                        | MU              | 9,153.62     |
| <b>C</b> | <b>Cost of Power Purchase from Other than own</b>  | <b>Rs. /Kwh</b> | <b>2.76</b>  |

| S. No.   | Particulars   | Unit           | Amount       |
|----------|---|----------------|--------------|
|          | <b>sources (i*10 / iv)</b>  |                |              |
| <b>D</b> | <b>Incentive on account of T&amp;D loss over-achievement (A X C X 60%/10)</b> | <b>Rs. Cr.</b> | <b>16.52</b> |

6.7.4 The total power purchase cost (excluding own generation, other charges and arrears) is Rs 2,524.66 Cr. The total power purchase quantum at state periphery (excluding own generation) is 9,153.62 MU. The average rate of this power purchased is Rs 2.76/unit. The Commission, therefore, allows an incentive of Rs. 16.52 Cr. as computed above on account of overachievement of T&D losses as per Regulation 15(1) of the MYT Regulations, 2011.

6.7.5 The approved total power purchase cost in comparison with the approved 2<sup>nd</sup> APR Order figures and HPSEBL's Submission for the final true-up of FY17 is summarized in table below:

**Table 111: Trued-up Total Power Purchase Cost for FY17 (Rs. Cr.)**

| Particulars  | 2 <sup>nd</sup> APR Order | Petition        | Now Approved (Trued-up) |
|--|---------------------------|-----------------|-------------------------|
| Power Purchase Expenses  | 2,597.39                  | 2,789.71        | 2,781.71                |
| PGCIL Charges  | 158.33                    | 302.32          | 229.06                  |
| Short Term Open Access Charges   | 56.18                     | 57.16           | 57.15                   |
| HPPTCL Charges   | 3.32                      | 10.57           | 3.32                    |
| SLDC Charges   | 11.32                     | -               | -                       |
| Other Charges (NRLDC, Reactive Energy Charges, GoHP & Malana Deviation)        | -                         | 7.42            | 7.42                    |
| <b>Total Power Purchase</b>  | <b>2,826.54</b>           | <b>3,167.18</b> | <b>3,078.66</b>         |
| Less/Add: Adjustment in PP cost on account of underachievement/overachievement | -                         | 16.52           | 16.52                   |
| <b>Net Power Purchase Expense</b>  | <b>2,826.54</b>           | <b>3,183.70</b> | <b>3,095.18</b>         |

## 6.8 Renewable Purchase Obligation

6.8.1 The Petitioner has submitted that it has already filed Petition No. 65/2017 for RPPO of FY17. Correspondingly, the Commission issued an Order dated 07.04.2018. The approved the RPPO status is shown in the table below:

**Table 112: RE (Non-Solar) Purchase for FY17 (MUs) as approved by the Commission**

| S. No.   | Description  | Quantum (MUs) |
|----------|--|---------------|
| 1        | (i) HP's requirement within the State                    | 8896.90       |
|          | (ii) HP's requirement within the State (excluding Hydro) | 1815.42       |
| 2        | Non-solar RPPO obligations of HPSEBL (% of 1(ii))        | 9.50          |
| <b>3</b> | <b>Non-solar RPPO obligations of HPSEBL</b>              | <b>172.46</b> |
| 4        | <b>Availability of RE Generation</b>                     |               |
| a)       | HPSEBL's own generation from 25 MW & below projects      | 330.75        |

| S. No. | Description  | Quantum (MUs)  |
|--------|--|----------------|
| b)     | Power purchase from IPP (25 MW & below)                              | 1045.78        |
| c)     | Free power of GoHP from own generation                               | 27.07          |
| d)     | Free power of GoHP from IPP less than 25 MW                          | 85.54          |
| e)     | <b>Total R.E (Non- Solar) purchased (a+b+c+d)</b>                    | <b>1489.15</b> |
| 5      | R.E (Non- Solar) sold outside its area of supply                     | 1448.41        |
| 6      | Total R.E (Non- Solar) purchased for supply within its area (4(e)-5) | <b>40.74</b>   |
| 7      | <b>Net surplus (+)/ Deficit (-) of Non solar RE power (6-3)</b>      | <b>-131.73</b> |

6.8.2 The Commission, in the said order, has approved the adjustment of the deficit units of 131.73 MUs of non-solar during FY 17 with REC (Non-Solar) Certificates which HPSEBL received against the surplus non-solar power of 541 MUs during FY14.

**Table 113: R.E. (Solar) Purchase for FY17 (MUs)**

| S. No.    | Particulars   | Quantum (MUs) |
|-----------|---|---------------|
| 1         | (i)HP's requirement within the State                    | 8896.90       |
|           | (ii)HP's requirement within the State (excluding Hydro) | 1815.42       |
| 2         | Solar RPPo obligations of HPSEBL (% of 1(ii))           | 2.50          |
| <b>3</b>  | <b>Solar RPPo obligations of HPSEBL for FY 17</b>       | <b>45.39</b>  |
| <b>5</b>  | <b>Total Solar Obligation (3)</b>                       | <b>45.39</b>  |
| <b>6</b>  | <b>Solar Power Purchase in FY 17</b>                    |               |
| a)        | SECI  | 43.38         |
| b)        | Singrauli NTPC  | 17.29         |
| c)        | Total Solar Purchase                                    | 60.67         |
| <b>7.</b> | <b>Net surplus (+)/ Deficit (-) of Solar (6(c)-5)</b>   | <b>15.28</b>  |

6.8.3 The Petitioner has submitted that there is a surplus of 15.28 MUs for Solar RPPo as approved by the Commission, as can be seen from the table above. Correspondingly, HPSEBL is eligible for getting solar RECs of the surplus solar RE quantum.

## Other ARR Parameters

### 6.9 Employee Expenses

6.9.1 HPSEBL has submitted actual net employee cost of Rs. 1603.09 Cr. towards distribution business as against the approved employee cost of Rs. 1425.29 Cr. for FY17 in the 2<sup>nd</sup> APR Order for FY17. It is observed that despite several directives in the previous tariff orders, HPSEBL has not provided the break-up of Terminal Benefits as required under the HPERC (Terms and Conditions for sharing of Cost of Terminal benefits of Personnel of the erstwhile Himachal Pradesh State Electricity Board and Successor Entities) Regulations, 2015.

6.9.2 Based on the review of submissions, it is observed that the employee cost of Rs. 1603.09 Cr. claimed in the Petition includes a provisioning of Rs. 137.10 Cr. (Rs. 13.99 Cr. towards gratuity, Rs. 11.32 Cr. towards pension, Rs. 10.29 Cr. towards other employee cost i.e. leave encashment, Rs. 60.96 Cr. as provision

of interim relief for employees and Rs. 40.54 Cr. as provision of interim relief for pensions) as shown in the table below:

**Table 114: Details of Provisioned Amount under Employee Expenses in FY17**

| Particulars                                | Amount (Rs. Cr.) | Classification    |
|--|------------------|-------------------|
| Leave Encashment                           | 10.29            | Other Costs       |
| Provision of interim relief for employees  | 60.96            | Salary Cost       |
| Pension                                    | 11.32            | Terminal Benefits |
| Gratuity                                   | 13.99            | Terminal Benefits |
| Provision of interim relief for pensioners | 40.54            | Terminal Benefits |
| <b>Total Provision</b>                     | <b>137.10</b>    |                   |

6.9.3 Further, the Petitioner has not considered the provisions of HPERC (Terms and Conditions for sharing of Cost of Terminal benefits of Personnel of the erstwhile Himachal Pradesh State Electricity Board and Successor Entities) Regulations, 2015 which claiming the employee cost for FY17. In view of the above discrepancies, the Petitioner claim towards employee expense for FY17 is observed to be higher. The Commission has analysed the actual employee cost of FY17 under two broad heads: Salary & Staff Costs and Terminal Benefits as given in the subsequent paragraphs.

1. With respect to the amount of Rs. 967.93 Cr. allocated to salary and staff costs under distribution business, it was observed that an amount of Rs. 71.25 Cr. (Rs. 60.96 Cr. provision as interim relief and Rs. 10.29 Cr. as leave encashment) of the total provisioning of Rs. 137.10 Cr. was done under this head. The Commission has not allowed the amount of provision created in the employee cost in line with the previous methodology and the same has been reduced from the respective heads of employee expense.
2. As per the response to queries submitted by the Petitioner, it was observed that an amount of 65.85 Cr. was provisioned (Rs. 13.99 Cr. as gratuity, Rs. 11.32 Cr. as pension and Rs. 40.54 Cr. as interim relief for pensioners) under Terminal Benefits. Further, during the TVS session, the Petitioner clarified that provisions were created each year under Terminal Benefits. However, it is observed that the Petitioner has not been depositing the provisioned amount in approved government instruments or any long-term deposits for meeting the terminal liabilities of the employee. Therefore, in line with previous practice, the Commission has disallowed the provision created under employee expense as no actual expenditure has been undertaken by the Petitioner in this regard.

6.9.4 The Commission has reduced the total provisions of Rs. 137.10 Cr. from the employee cost as recorded in the audited accounts of FY17 as shown in the table below:

**Table 115: Gross Employee Cost for FY17 (Rs. Cr.)**

| S. No.   | Particulars                               | 2 <sup>nd</sup> APR Order | Petition      | Trued-up      |
|----------|---|---------------------------|---------------|---------------|
| <b>A</b> | <b>Salaries &amp; Other Staff Cost</b>    | <b>1018.23</b>            | <b>967.93</b> | <b>967.93</b> |
|          | <u>Less Provisions:</u>                   |                           |               |               |
|          | - Provision of Interim Relief - Employees |                           |               | 60.96         |

| S. No.   | Particulars                                | 2 <sup>nd</sup> APR Order | Petition        | Trued-up                  |
|----------|--|---------------------------|-----------------|---------------------------|
|          | - Leave Encashment                         |                           |                 | 10.29                     |
| <b>B</b> | <b>Terminal benefits</b>                   | <b>494.97</b>             | <b>667.92</b>   | <b>679.32<sup>#</sup></b> |
|          | <u>Less Provisions:</u>                    |                           |                 |                           |
|          | - Gratuity                                 |                           |                 | 13.99                     |
|          | - Pension                                  |                           |                 | 11.32                     |
|          | - Provision of Interim Relief - Pensioners |                           |                 | 40.54                     |
| <b>C</b> | <b>Gross Employee Cost</b>                 | <b>1513.20</b>            | <b>1,635.85</b> | <b>1,510.15</b>           |

# as per audited accounts of FY17 and netted off for pension of employees on deputation

6.9.5 Also, during the APR of FY16 and FY17, the Commission had stated,

*"5.11.4 In line with the HPERC (Terms and Conditions for sharing of Cost of Terminal benefits of Personnel of the erstwhile Himachal Pradesh State Electricity Board and Successor Entities) Regulations, 2015, the terminal benefits of HPSEBL is required to be apportioned between the time period of Pre-Transfer Scheme and Post-Transfer Scheme and the return approved on GoHP equity share as well as pension contribution of employees on deputation in commissioned projects and in BVPCL, Projects and S&I is to be adjusted against the terminal benefits component (Pre- Transfer Scheme) of the employee cost of HPSEBL."*

6.9.6 The Commission had therefore, sought clarification from the Petitioner about the break-up of pension contribution and leave salary that was received from other departments during FY17. The Petitioner in its response has stated that it has partial data of pension contribution of employees for other departments. For amount assessed and received from other departments on account of employees on deputation, the Petitioner submitted the following details as shown in the table below:

**Table 116: HPSEBL's Submission - Year wise Detail of Pension Contribution & Leave Salary Bill raised and payment received (in Rs. Cr.)**

| S. No. | Financial Year         | Bill Raised  | Payment Received | Balance     |
|--------|------------------------|--------------|------------------|-------------|
| 1      | 2015-16                | 4.95         | 0.90             | 4.05        |
| 2      | 2016-17                | 9.49         | 15.96            | -6.47       |
| 3      | 2017-18                | 9.58         | 1.91             | 7.67        |
| 4      | 2018-19 upto 31.1.2019 | 6.75         | 3.18             | 3.57        |
|        | <b>Total</b>           | <b>30.77</b> | <b>21.94</b>     | <b>8.83</b> |

6.9.7 The Petitioner further clarified that as a practice, it has been netting off the pension contribution assessed from the terminal benefits booked in accounts. In FY 2016-17, this amount against employees on deputation stood at Rs. 9.49 Cr. as per the Petitioner's submission.

6.9.8 In absence of further details on pension contribution of employees in generation, BVPCL, Projects and S&I for FY17, the Commission has considered the approved amounts in the 2<sup>nd</sup> APR Order of Rs. 11.14 Cr. and has adjusted the amount from the terminal benefits. **It is observed that the Petitioner has not submitting information with respect to deployment of**

**employees and their allocation of pension to various HPSEBL units i.e. Generation, BVPCL, Projects and S&I. As the information is necessary and required under HPERC (Terms and Conditions for sharing of Cost of Terminal benefits of Personnel of the erstwhile Himachal Pradesh State Electricity Board and Successor Entities) Regulations, 2015, the Commission directs the Petitioner to submit separate information with respect to the pension contribution of employees in Generation, BVPCL, Projects and S&I along with subsequent tariff petitions each year.**

6.9.9 The Petitioner has also not considered the adjustment of Return on Equity of Rs. 47.50 Cr. towards the pension cost of the board employees retired prior to the transfer scheme as was provisioned under the approved figures for employee cost under the 2<sup>nd</sup> APR Order for FY17 in line with the HPERC (Terms and Conditions for sharing of Cost of Terminal benefits of Personnel of the erstwhile Himachal Pradesh State Electricity Board and Successor Entities) Regulations, 2015. In line with the provisions of the Regulations, the Commission has adjusted an amount of Rs. 47.50 Cr. towards RoE on GoHP equity from the terminal benefits expense of HPSEBL for FY17.

6.9.10 In line with the discussions with respect to adjustments in the employee cost and terminal benefits as detailed above, the Commission has approved the trued-up employee cost for FY17 as given below:

**Table 117: Comparison of Employee Cost for FY17 after Adjustments (Rs. Cr.)**

| S. No.   | Particulars   | 2 <sup>nd</sup> APR Order | Petition        | Trued-up        |
|----------|---|---------------------------|-----------------|-----------------|
| <b>A</b> | <b>Salary &amp; Other Costs</b>   | <b>1018.23</b>            | <b>967.93</b>   | <b>896.68*</b>  |
| <b>B</b> | <b>Pension and Terminal benefits</b>  | <b>494.97</b>             | <b>667.92</b>   | <b>613.47#</b>  |
|          | Less:   |                           |                 |                 |
|          | Annual Share of State Government (Return on GoHP Equity approved for Generation and Distribution) | (47.50)                   | -               | (47.50)         |
|          | Pension contribution of employee on deputation  | (8.39)                    | -               | -               |
|          | Pension contribution of generation employees  | (8.06)                    | -               | (8.06)          |
|          | Pension contribution of BVPCL, Projects and S&I employees   | (3.09)                    | -               | (3.09)          |
| <b>C</b> | <b>Gross Employee Cost (A+B)</b>  | <b>1,446.17</b>           | <b>1635.85</b>  | <b>1,451.51</b> |
| <b>D</b> | Less: Capitalization  | 50.88                     | 32.76           | 32.76           |
| <b>E</b> | <b>Net Employee Cost (C-D)</b>  | <b>1,395.29</b>           | <b>163.09</b>   | <b>1,418.75</b> |
| <b>F</b> | <b>Add: Provisions</b>  |                           |                 |                 |
|          | Additional amount towards interim relief  | 30                        | -               | -               |
| <b>G</b> | <b>Total Employee Expenses</b>  | <b>1,425.29</b>           | <b>1,603.09</b> | <b>1,418.75</b> |

*\*after reducing the employee cost with the provision of Rs. 71.25 Cr. against leave encashment & provision of interim relief for employees*

*#after reducing the terminal benefits with the provision of Rs. 65.85 Cr. against pension, gratuity & provision of interim relief for pensioners*



## 6.10 Repairs and Maintenance Expenses

- 6.10.1 As per the amended Regulation 11 of the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2011, R&M expenses are a controllable parameter and any surplus or deficit on account of actual R&M shall be to the account of the Petitioner and shall not be trued up unless treated as uncontrollable by the Commission.
- 6.10.2 Based on submission of the petition, it is observed that the claim of the Petitioner towards R&M expense is higher by an amount of Rs. 14.57 Cr. than the approved value. With respect to the higher amount, the Petitioner has submitted that HPSEBL has commissioned two data centres under R-APDRP schemes and has also introduced computerized billing, MDAS, AMR etc. across the State. Further, ERP and billing is being rolled out to all units of the Board which has necessitated regular AMC of the total hardware, support of the various applications and ATS charges of the different licenses essentially required to run and maintain the IT systems. The Petitioner has submitted that separate account heads has been created for accounting AMC and ATS expenses (A/c head 74.810 R/M to Data Centre and Disaster Recovery Centre) under the sub-head office equipment, the details of which have been given in the table below:

**Table 118: HPSEB: Submission - AMC and ATS Charges under R&M in the last 3 years (Rs. Cr.)**

| Description  | FY 2014-15  | FY 2015-16  | FY 2016-17   |
|--------------|-------------|-------------|--------------|
| AMC Charges  | 1.05        | 4.23        | 10.06        |
| ATS Charges  | 1.65        | 2.38        | 3.81         |
| <b>Total</b> | <b>2.70</b> | <b>6.61</b> | <b>13.87</b> |

- 6.10.3 The Petitioner has submitted that the expenditure towards AMC and ATS charges are being met under R&M of the IT system and has thus led to higher expenditure in FY17.
- 6.10.4 The Commission is of the view that while R&M expense on IT systems is critical to providing state-of-the-art facilities, it is important to ensure that the various IT solutions being adopted are well integrated with each other. For this, the Petitioner may explore the need for a unified IT consultant to reduce duplication in efforts and explore the operatability between different platforms. Further, the Commission observes that the Petitioner is yet to submit any tangible benefits from the various IT initiatives being undertaken such as computerized billing, ERP implementation, etc. in the form of detailed circle-wise data of energy sales, loss levels, reliability and quality indices, etc. Also, information with respect to details of various element including employee numbers and load, break-up of employees, capital expenditure, capitalization, etc. is not being adequately maintained by the Petitioner.
- 6.10.5 During the processing of the MYT Tariff Petition, information gaps and inconsistencies in data submitted by the Petitioner have been one of the biggest challenges for the Commission. **Given the poor quality and management of data inspite of several IT initiatives undertaken by**

**HPSEBL under various schemes, the Commission directs the Petitioner to undertake adequate measures for utilizing its IT infrastructure for generating monthly, quarterly and annual MIS reports and utilize the information for planning and decision-making. Also, the Commission directs the Petitioner to make use of these MIS reports to provide comprehensive and reliable information with respect to compliance on directives given by the Commission in this Order in a time bound manner. Also, a summary of monthly/ quarterly compliances undertaken by the Petitioner against the directives issued in this Order is required to be furnished by the Petitioner along with the APR Petition.**

- 6.10.6 With respect to the higher R&M expense for FY17, it is noted that in the past two years, the Commission has been approving R&M expense as approved in the MYT Order resulting in surplus of Rs. 7.98 Cr. in FY15 and Rs. 8.66 Cr. in FY16 vis-à-vis the actual expense for the respective years. As also mentioned in the Tariff Order for FY19, the Commission is of the view that surplus R&M available from the past years FY15 and FY16 shall be utilized towards higher IT related R&M expenditure during FY17 and FYFY18. Accordingly, the Commission considers it prudent to continue with the R&M expense approved for FY17 in the 2<sup>nd</sup> APR Order.
- 6.10.7 In line with the provisions of MYT Regulations, 2011, the Commission has approved R&M expense at the same level for the distribution business as approved in the 2<sup>nd</sup> APR Order for FY17.

**Table 119: R&M Approved for FY17 (Rs. Cr.)**

| Particulars  | 2 <sup>nd</sup> APR Order | Petition | Now Approved (Trued-up) |
|--------------|---------------------------|----------|-------------------------|
| R&M Expenses | 51.69                     | 66.26    | 51.69                   |

## **6.11 Administrative and General Expenses**

- 6.11.1 Similar to R&M expenses, the Petitioner has claimed higher A&G expense in FY17. As against Rs. 42.89 Cr. approved in 2<sup>nd</sup> APR for FY17, the Petitioner had claimed actual A&G expense of Rs. 57.92 Cr. in the tariff petition. In response to the queries of the Commission, the Petitioner admitted that it has erroneously claimed Rs. 6.76 Cr. against compensation paid for non-compliance of RPPO under A&G expense in FY17 and subsequently revised its claim to Rs. 51.16 Cr. which is higher than the approved A&G expense by Rs. 8.27 Cr.
- 6.11.2 The Petitioner in its tariff petition had submitted that the increase in A&G expense is largely due to increase in fees and subscription charges in FY17 which comprised of a one-time arranger fee of Rs. 11.74 Cr. on account of bond issuance of Rs. 300 Cr. (FY 2015-16). In its response to repeated queries of the Commission, the Petition clarified that these Non-SLR Taxable Bonds of Rs 300 Cr. were raised during the FY 2015-16 to meet out the various committed liabilities on account of operational expenditure and proceeds of the same were utilized for making payment of power purchase liability which includes SJVNL & other generating stations. The Petitioner also submitted that

no approval has been obtained from the Commission as HPSEBL has raised the said bonds to manage Cash flow position and further, Commission has never allowed any interest expense for such bonds in the past. Therefore, the Commission finds no merit in considering the expense towards issuance of these bonds and has therefore, disallowed these expenses as a part of the trueing-up of A&G expense for FY17.

- 6.11.3 In view of the adjustments in the actual A&G expenses for FY17 as discussed above, the Commission feels the approved A&G expenses is adequate to meet the actual expenses (Rs. 39.42 Cr. excluding arranger fees) and has therefore retained the approved A&G expense as per 2<sup>nd</sup> APR for FY17 as shown in the table below:

**Table 120: A&G Approved for FY17 (Rs. Cr.)**

| Particulars  | 2 <sup>nd</sup> APR Order | Petition | Now Approved (Trued-up) |
|--------------|---------------------------|----------|-------------------------|
| A&G Expenses | 42.89                     | 51.16*   | 42.89                   |

\* as per revised submission of Petitioner

## 6.12 Total O&M Charges

- 6.12.1 Accordingly, the Commission approves the total O&M expense for FY17 as provided in the table below:

**Table 121: Total O&M Expenses Approved for FY17 (Rs. Cr.)**

| Particulars                   | 2 <sup>nd</sup> APR Order | Petition        | Now Approved (Trued-up) |
|-------------------------------|---------------------------|-----------------|-------------------------|
| Net Employee Cost             | 1,425.29                  | 1,603.09        | 1,418.75                |
| R&M Expenses                  | 51.69                     | 66.26           | 51.69                   |
| Net A&G Expense               | 42.89                     | 51.16           | 42.89                   |
| <b>Total O&amp;M Expenses</b> | <b>1,519.87</b>           | <b>1,720.51</b> | <b>1,513.33</b>         |

## 6.13 Interest and Finance Charges

- 6.13.1 The Commission has reviewed and revised the Interest and Finance charges to the extent of change in working capital and consumer security deposit as per the audited accounts for FY17. The interest on capital loans shall be trued-up based on the true-up of capital expenditure and capitalization at the end of the Control Period FY15-19.
- 6.13.2 The working capital requirements and interest on working capital has been revised and approved as follows:

**Table 122: Trued-up Interest on Working Capital for FY17 (Rs. Cr.)**

| Particulars                                   | 2 <sup>nd</sup> APR Order | Petition | Trued-up |
|---|---------------------------|----------|----------|
| O&M Expenses for one month                    | 126.74                    | 143.38   | 126.11   |
| Receivables equivalent to 2 months            | 827.68                    | 729.55   | 729.55   |
| Maintenance Spares 40% of the R&M expense for | 1.72                      | 2.21     | 1.72     |

| Particulars                                  | 2 <sup>nd</sup> APR Order | Petition      | Trued-up      |
|--|---------------------------|---------------|---------------|
| one month                                    |                           |               |               |
| Less: Consumer Security Deposit              | 314.2                     | 274.02        | 274.02        |
| Less: One Month Power Purchase               | 235.55                    | 257.97        | 251.82        |
| <b>Working Capital Requirement</b>           | <b>406.39</b>             | <b>343.14</b> | <b>331.54</b> |
| <b>Interest on Working Capital (@12.79%)</b> | <b>52.32</b>              | <b>44.20</b>  | <b>42.40</b>  |

6.13.3 Further, the interest on consumer security deposit has been considered as per the audited accounts of FY17 and is approved as below:

**Table 123: Trued-up Interest on Consumer Security Deposit for FY17 (Rs. Cr.)**

| Particulars                                  | Now Approved (Trued-up) |
|--|-------------------------|
| Opening                                      | 247.73                  |
| Additions                                    | 26.29                   |
| Closing                                      | 274.02                  |
| <b>Interest on Consumer security deposit</b> | <b>12.73</b>            |

6.13.4 Based on the revision in interest on working capital and consumer security deposit, the total interest expense approved for final truing-up for FY17 is as below.

**Table 124: Trued up Interest and Finance Charges for FY17 (Rs. Cr.)**

| Particulars                                 | Approved in 2 <sup>nd</sup> APR Order | Petition      | Now Approved (Trued-up) |
|---|---------------------------------------|---------------|-------------------------|
| Interest on Long term loans                 | 154.06                                | 154.06        | 154.06                  |
| Interest on Working Capital                 | 52.32                                 | 44.20         | 42.40                   |
| Interest on Consumer security deposit       | 26.34                                 | 12.73         | 12.73                   |
| <b>Total Interest &amp; Finance Charges</b> | <b>232.73</b>                         | <b>210.99</b> | <b>209.19</b>           |

#### 6.14 Other Controllable Parameters

6.14.1 As per the HPERC MYT Regulations, 2011, any variation in actual capital expenditure and subsequent variations in depreciation, interest cost and return on equity with respect to the figures approved in the MYT Order shall be considered at the end of the MYT Control Period.

6.14.2 It is observed that the details with respect to scheme-wise capital expenditure and capitalization is not submitted by the Petitioner vis-à-vis the approved capital expenditure and capitalization for the respective year in its true-up petition. **The Commission directs the Petitioner to submit information with respect to capital expenditure, capitalization, funding, etc. along with the true-up for the respective year failing which the Commission shall not undertake any true-up. The Petitioner must also submit the Asset Commissioning Certificates for HT works issued by the competent authority for assets capitalized in the respective year.**

- 6.14.3 With respect to depreciation and return on equity, the Commission has retained the amount at the same level as approved in the MYT and 2<sup>nd</sup> APR Order for FY17.

**Table 125: Depreciation and Return on Equity approved for FY17 (Rs. Cr.)**

| Particulars      | 2 <sup>nd</sup> APR Approved | Petition | Trued-up |
|------------------|------------------------------|----------|----------|
| Depreciation     | 80.90                        | 80.90    | 80.90    |
| Return on Equity | 30.24                        | 30.24    | 30.24    |

### 6.15 Non-Tariff Income

- 6.15.1 The non-tariff income is required to be deducted from the ARR of the Petitioner. The Petitioner has claimed non-tariff income of Rs. 221.44 Cr. towards distribution business for true-up of FY17.
- 6.15.2 The Commission has been considering the entire non-tariff income as part of the distribution business as the generation tariff is determined plant-wise without considering any non-tariff income.
- 6.15.1 In the 2<sup>nd</sup> APR Order for FY17, the Commission had included Rs. 25 Cr. towards S&I works done in the past by HPSEBL. Against this, in its response to the Commission's query, the Petitioner has submitted that no amount has been recovered during FY17. Therefore, the Commission has considered nil income from S&I in FY17.
- 6.15.2 Also, an amount of Rs. 92.49 Cr. is observed as Wheeling Charges Recovery in the audited accounts. In response to a query of the Commission, the Petitioner was able to provide only partial break-up of this amount as shown below:

**Table 126: HPSEBL Submission – Details of Wheeling Charges Recovery for FY17**

| BH   | Name of Party   | Amount (in lakh) |
|------|-----------------|------------------|
| 61.8 | Malana Power Co | 700.97           |
|      | HVPNL           | 74.08            |
|      | PTC             | 3188.18          |
|      | GOHP            | 32.31            |
|      | BYPL            | 56.97            |
|      | BRPL            | 3.18             |
|      | PSPCL           | 458.67           |
|      | UPCL            | 0.98             |
|      | NTPC            | 209.38           |
|      | Yogindra Power  | 156.06           |
|      | Kanchanga Power | 118.99           |
|      | <b>Total</b>    | <b>4999.77</b>   |

- 6.15.3 Further, the Petitioner also submitted that the recovery of wheeling charges also includes Rs. 73.25 Cr. on account of recovery by HPSEBL from PTC on account of PGCIL charges for sale of GoHP free power. Since the above amount

has already been adjusted by the Commission in the HPSEBL's PGCIL charges approved under the power purchase cost, Rs. 73.25 Cr. has been reduced from the overall wheeling charges recovery.

- 6.15.4 Additionally, the Petitioner has also booked an income of Rs. 9.65 Cr. against O&M charges recovered from HPPTCL in FY17. The Petitioner was unable to submit the details of the account head in which the amount has been booked in the Profit and Loss Statement for FY17. **The Commission directs the Petitioner to maintain separate account heads for recovery of O&M charges from HPPTCL and submit the details of such charges separately in the subsequent tariff filings.** In the absence of such details in the current year, the Commission has assumed the above cost to be included in the wheeling charges for FY17, in line with the approach adopted in the Tariff Order for FY19.
- 6.15.5 The Commission therefore, approves the Non-Tariff income for FY17 as summarised below:

**Table 127: Trued-up Non-Tariff Income for FY17 (Rs. Cr.)**

| Particulars   | Trued-up      |
|---|---------------|
| Meter Rent/Service Line Rentals                       | 47.53         |
| Recovery for theft of Power / Malpractices            | 0.01          |
| Wheeling Charges Recovery                             | 19.96         |
| Miscellaneous Charges from Consumers                  | 3.32          |
| <b>Sub-Total</b>                                      | <b>70.81</b>  |
| Interest on Staff loans & Advances                    | 0.46          |
| Income from Investments                               | 0.45          |
| Delayed Payment Charges from PGCIL                    | 0.79          |
| Interest on Advances to Suppliers / Contractors       | 1.07          |
| Income fee collected against Staff Welfare Activities | 0.08          |
| Miscellaneous Receipts                                | 30.31         |
| PLVC charges  | 46.08         |
| <b>Sub-Total</b>                                      | <b>79.24</b>  |
| S&I Activity  | -             |
| Income from Trading                                   | 2.73          |
| <b>Sub-Total</b>                                      | <b>2.73</b>   |
| <b>Total Non-Tariff Income</b>                        | <b>152.78</b> |

## 6.16 Prior Period Income/ Expense

- 6.16.1 It is observed that the Petitioner has considered prior period expense of Rs. 80.58 Cr. without going into merits of the prior period income and expense booked in the audited accounts. The Commission has considered the break-up of this amount as per audited accounts and undertaken a prudence check of the various elements reflected under this head.
- 6.16.2 The Commission has observed that out of the total amount of Rs. 80.58 Cr. claimed by the Petitioner, majority of the income are book adjustment to

write-back provisions or comply with audit observations and have not resulted in any additional income.

6.16.3 Also, the Commission raised several queries on the following claims of the Petitioner which have been summarised below along with the response submitted by the Petitioner:

- a) **Short Provision for Power Purchase of Rs. 49.78 Cr. pertaining to previous year:** The audited accounts for FY17 shows Rs. 49.78 Cr. under this head which has claimed by the Petitioner as prior period expenditure. In its response, the Petitioner submitted that the amount pertains to a receivable from GoHP due to HPSEBL due to higher tariff charged by GoHP in FY 2006-07. HPSEBL has written off this amount from HPSEBL's books by debiting the amount to prior period expense, the amount being in the form of a bad debt for more than five years. The Commission has analysed the matter at length and arrived at the conclusion that the said amount cannot be allowed as a pass-through in the tariff since HPSEBL should have pursued the matter with GoHP in subsequent years by way of upfront payment from the Govt. or in the form of an adjustment against future power purchase cost. The matter is being brought to light after 10 years to comply with audit observations of writing off the non-recovery from GoHP. The Commission is of the view that the consumers of the state cannot be burdened with the non-recovery of the dues from GoHP and therefore it would be imprudent to approve the same. Accordingly, the Commission decides to disallow the above cost as part of true-up for FY17.
- b) **Other prior period expense of Rs. 20.53 Cr.:** The Petitioner has also claimed other prior period expense of Rs. 20.53 Cr. In its response to the Commission's query, the Petitioner submitted that this amount pertains to inter-unit transactions of generation business which have been adjusted due to difference between the assets and liabilities of Khauli, Larji PCC, Dharamshala and Investigation Division, R/Peo as booked by the field units and headquarters. Further, it was observed that while the Petitioner has claimed prior period expense of Rs. 20.53 Cr. on this account, an amount of Rs. 130.96 Cr. appearing against prior period income is also reflected under the prior period income/ expense and has not been claimed by the Petitioner. Since these amount pertains to generation business and the entries are of the nature of book adjustments, the Commission has not considered the same as part of the distribution business true-up for FY17.

6.16.4 The prior period income/ expense approved by the Commission for FY17 is given in the table below:

**Table 128: Prior Period Expenses/Income approved for FY17 (Rs. Cr.)**

| Particulars                                     | Account Code | As per accounts | HPSEBL's Submission | Trued-up |
|---|--------------|-----------------|---------------------|----------|
| Receipt from consumers relating to prior period | 65.2         | -               | -                   | -        |
| Interest income for prior period                | 65.4         | -               | -                   | -        |
| Excess prov. for income tax p/year              | 65.5         | -               | -                   | -        |
| Excess prov. of depreciation in prior period    | 65.6         | (0.03)          | -                   | -        |

| Particulars   | Account Code | As per accounts | HPSEBL's Submission | Trued-up      |
|---|--------------|-----------------|---------------------|---------------|
| Excess prov. of Interest & Finance charges                | 65.7         | (18.24)         | -                   | -             |
| Other excess prov. in prior period                        | 65.8         | (130.96)        | -                   | -             |
| Other income relating to prior period                     | 65.9         | (0.74)          | (0.34)              | (0.34)        |
| <b>Total Prior Period income</b>                          | <b>65</b>    | <b>(149.98)</b> | <b>(0.34)</b>       | <b>(0.34)</b> |
| Short provision for power purchase previous year          | 83.1         | 49.78           | 49.78               | -             |
| Operating expense of previous year                        | 83.3         | 0.001           | -                   | -             |
| Employee cost relating to previous year                   | 83.5         | 10.19           | 10.13               | -             |
| Depreciation under provided in previous year              | 83.6         | 0.47            | 0.47                | -             |
| Interest and other finance charges relating previous year | 83.7         | 20.53           | -                   | -             |
| Other charges relating to previous year                   | 83.8         | 1.77            | 20.53               | -             |
| <b>Total Prior Period Expenses</b>                        | <b>83</b>    | <b>82.75</b>    | <b>80.92</b>        | <b>-</b>      |
| <b>Net Prior Period Expenses/(Income)</b>                 |              | <b>(22.45)</b>  | <b>80.58</b>        | <b>(0.34)</b> |

### 6.17 Amount towards RPPO Compensation Fund

- 6.17.1 The Commission in its Order dated 14<sup>th</sup> Feb'17 against the Petition No. 30/2016 has directed HPSEBL to deposit the compensation amount of Rs. 6.762 Cr. in a separate fund already created by HPSEBL in its accounts as RPPO Compensation Fund for non-compliance of RPPO in FY15.
- 6.17.2 Against this, the Petitioner has submitted that it has created a separate dedicated bank account for RPPO Fund with UCO Bank, Vidhan Sabha Branch, Shimla. To meet the direction of the Commission, the Petitioner has submitted that an amount of Rs. 5.41 Cr. has been deposited during FY 2016-17 in the fund and a payment of Rs. 1.325 Cr. was made to IEX for purchase of Solar RECs. Based on the clarification sought by the Commission, the Petitioner submitted that the amount paid to IEX was not booked under power purchase cost.
- 6.17.3 The Commission has therefore, approved the amount of Rs. 6.76 Cr. in the ARR of FY17. **Further, the Commission directs the Petitioner to prepare the list of schemes for utilizing 80% of the compensation amount deposited for creation of sub-transmission infrastructure for RE projects in line with the Tariff Order for FY18 dated 14<sup>th</sup> February, 2017 of the Commission. Also, the Petitioner is directed to submit detailed cost benefit analysis and DPRs for the schemes proposed to be financed from this fund and take prior approval from the Commission before implementation of the proposed works.**



## 6.18 Aggregate Revenue Requirement

6.18.1 The ARR approved by the Commission in the 2<sup>nd</sup> APR Order, as submitted by the Petitioner in its true-up petition and now approved by the Commission for FY17 are shown in the table below:

**Table 129: Summary of Trued-up ARR for FY17 approved by the Commission (Rs. Cr.)**

| Particulars                                | 2 <sup>nd</sup> APR Order | Petition        | Now Approved (Trued-up) |
|--|---------------------------|-----------------|-------------------------|
| Power Purchase Expenses                    | 2,826.54                  | 3,183.70        | 3,095.18                |
| <b>Operation &amp; Maintenance Costs</b>   | <b>1,519.87</b>           | <b>1,720.51</b> | <b>1,513.33</b>         |
| <i>Employee Cost</i>                       | 1,425.29                  | 1,603.09        | 1,418.75                |
| <i>R&amp;M Cost</i>                        | 51.69                     | 66.26           | 51.69                   |
| <i>A&amp;G Cost</i>                        | 42.89                     | 51.16           | 42.89                   |
| Additional amount for Safety Measures      | 1.00                      | -               | -                       |
| Interest & Financing Charges               | 232.73                    | 210.99          | 209.19                  |
| Depreciation                               | 80.90                     | 80.90           | 80.90                   |
| Return on Equity                           | 30.24                     | 30.24           | 30.24                   |
| Provision for Bad & Doubtful Debtors       | -                         | 3.21            | -                       |
| Add: Amount towards RPPO compensation fund |                           | 6.76            | 6.76                    |
| Less: Non-Tariff & Other Income            | (244.55)                  | (221.44)        | (152.78)                |
| Less: Net Prior Period Expenses            | -                         | 80.58           | (0.34)                  |
| <b>Aggregate Revenue Requirement</b>       | <b>4,446.73</b>           | <b>5,095.45</b> | <b>4,782.47</b>         |

## 6.19 Adjustments to ARR

6.19.1 In the 2<sup>nd</sup> APR Order for FY17, the Commission had also undertaken true-up of past years and approved the following amounts:

### a) Impact of Final True up of FY13 and FY14:

In accordance with the 2<sup>nd</sup> APR for FY17, the Commission had approved adjustment of Rs. 386.34 Cr. along with carrying cost in the ARR for FY17 in line with the Petitioner's claim.

### b) Impact of Provisional Gap of FY16:

In the 2<sup>nd</sup> APR of FY17, the Commission had adjusted the ARR for FY17 in order to reverse the impact of incentive grant of Rs. 132.99 Cr. approved in the Tariff Order for FY16 considering the submission of the Petitioner that the amount was never transferred by the GoHP. However, the Commission while truing-up the ARR of FY16 has adjusted the amount in FY16 itself as also mentioned in the Tariff Order for FY19. The Petitioner has thus, erroneously claimed Rs. 132.99 Cr. in the ARR of FY17 which has been disallowed by the Commission.

6.19.2 The trued-up ARR for FY17 as approved by the Commission after considering the approved adjustments is as below:

**Table 130: Final Approved ARR after Adjustments for FY17 (Rs. Cr.)**

| Particulars                               | Approved        |
|---|-----------------|
| <b>Aggregate Revenue Requirement</b>      | <b>4,782.47</b> |
| <u>Add :</u>                              |                 |
| Impact of Final Truing up for FY13 & FY14 | 386.34          |
| <b>Total ARR including adjustments</b>    | <b>5,168.81</b> |

**6.20 Revenue Gap**

6.20.1 The Revenue Gap/Surplus for FY17 based on the approved trued-up costs and revenues of HPSEBL is as determined below:

**Table 131: Approved Revenue Gap for FY17 (Rs. Cr.)**

| Particulars                               | Trued-up Surplus/(Gap) |
|---|------------------------|
| <b>Aggregate Revenue Requirement</b>      | <b>4,782.47</b>        |
| <u>Add:</u>                               |                        |
| Impact of Final Truing up for FY11 & FY12 | 386.34                 |
| <b>Total ARR including adjustments</b>    | <b>5,168.81</b>        |
| <b>Revenue</b>                            |                        |
| Revenue from sale of power within state   | 4,377.28               |
| Revenue from sale of power outside state  | 778.14                 |
| <b>Total Revenue</b>                      | <b>5,155.42</b>        |
| <b>Revenue Surplus/(Gap)</b>              | <b>(13.39)</b>         |

**6.21 Carrying Cost**

6.21.1 The Petitioner has requested for approval of the revenue gap along with carrying cost as per the provisions of clause (2) of Regulations 11 as amended by HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) (Second Amendment) Regulations, 2013.

6.21.2 The Commission has undertaken final true-up of uncontrollable parameters for FY17 based on the audited accounts of the respective years in this Order. As per the true-up, the following revenue surplus and gap was determined for FY17:

**Table 132: Approved Revenue Surplus / (Gap) for FY17 (Rs. Cr.)**

| Particulars                      | Amount  |
|----------------------------------|---------|
| Revenue Surplus / (Gap) for FY17 | (13.39) |

6.21.3 As per the Regulation 11(2), carrying cost is to be provided as below:

*"The distribution licensee, for the approved true-up of any year over and above that approved in the Tariff Order for that year, shall be entitled to a carrying cost at the Base Rate of State Bank of India plus 350 basis points and for any true-up resulting in less than that approved in the Tariff Order for that year, the carrying cost shall be recovered at the same rate."*

6.21.4 Accordingly, carrying cost is determined based on the opening and closing amount of revenue surplus/ (gap) and the cumulative amount has been adjusted in the ARR for FY20 in the subsequent Chapter. The computation of carrying cost and cumulative revenue surplus/ (gap) is summarized in table below:

**Table 133: Approved Carrying Cost for Revenue Surplus/ (Gap) (Rs. Cr.)**

| <b>Particulars</b>   | <b>FY17</b>    | <b>FY18</b>    | <b>FY19</b>    |
|--|----------------|----------------|----------------|
| Opening Gap  | -              | (14.25)        | (16.07)        |
| Surplus/ (Gap) on account of truing-up of uncontrollable parameters for FY16 | (13.39)        | -              | -              |
| Closing  | (13.39)        | (14.25)        | (16.07)        |
| <i>Interest Rate for Carrying Cost</i>                                       | 12.79%         | 12.79%         | 12.79%         |
| Carrying Cost  | (0.86)         | (1.82)         | (2.05)         |
| <b>Total (Gap)/Surplus</b>   | <b>(14.25)</b> | <b>(16.07)</b> | <b>(18.12)</b> |

# 7 ANALYSIS OF BUSINESS PLAN FOR FOURTH CONTROL PERIOD FROM FY20 TO FY24

## 7.1 Background

- 7.1.1 The MYT Framework as defined under clause 4 of the MYT Regulations, 2011 is based on a Business Plan of the distribution licensee for the entire Control Period, which is to be submitted to the Commission prior to the beginning of the Control Period.
- 7.1.2 In accordance to the provisions of the MYT Regulations, 2011, the Petitioner has submitted the Business Plan taking cognizance of the existing internal factors and external business environment affecting the business. HPSEBL has submitted that the Business Plan is a dynamic document and needs regular update taking into account the changes in the internal and external environment and these changes would be intimated to the Commission from time to time.
- 7.1.3 In this section, the Commission has analysed the Business Plan submitted by the Petitioner for the fourth Control Period from FY 2019-20 to FY 2023-24 in line with the provisions under the MYT Regulations, 2011.

## 7.2 Objective of the Business Plan

- 7.2.1 Regulation 36 of the MYT Regulations, 2011 states,  
 "36. Beginning of the control period – business plan filings

In the base year, prior to the filing of multi-year ARR cum Tariff petition, the *distribution licensee shall file a business plan approved by its board of directors. The business plan shall be for the entire control period and shall, interalia, contain:-*

- (a) *Sales/demand forecast for each customer category and sub-categories for each year of the control period;*
- (b) *Distribution loss reduction trajectory for each year of the control period;*
- (c) *Collection efficiency for each year of the control period;*
- (d) *Power procurement plan – comprising monthly/annual Demand (MW) and Energy (MU) requirements, along with economic depictions, based upon the power procurement sources (existing/upcoming), sales forecasts (restricted/unrestricted demand, base load/peak load/off load power requirement) and distribution loss*

*trajectory and may also include energy conservation, energy efficiency and demand side management measures:*

*Provided that, the licensee may source its primary power requirements from long-term/ medium-term sources and only unforeseen shortfalls may be sourced from short-term sources:*

*Provided further that, an additional quantum of 5% of the power requirement may be kept as contingent surplus to take care of events resulting in shortfall on account of reasons beyond the control of the licensee:*

*Provided also that, where the Commission has stipulated a percentage of the total consumption of electricity in the area of a distribution licensee to be purchased from co-generation and renewable sources of energy, the power procurement plan of such distribution licensee shall include the plan for procurement from such sources at least up to the specified level;*

- (e) Capital investment plan (CAPEX plan): The Commission shall approve the capital investment of the licensee for the control period, the CAPEX plan being based upon load forecasts, load flow studies/power evacuation plans/plan drawn by the State Transmission Utility (STU), system improvement (distribution loss reduction, reliability / quality of supply etc.) and the corresponding capitalization schedule and financing plan, the appropriate capital structure of each scheme proposed and cost of financing (interest on debt and return on equity), terms of loan agreements, etc:*

*Provided that, the consumer contributions towards cost of capital assets and the assets so created shall be accounted for separately as per standard accounting principles;*

- (f) The Operation and Maintenance (O&M): The filing shall be in accordance with the provisions of sub-regulation (1-a) of regulation 17 of these regulations and shall include the fresh recruitments proposed at various levels and the major Repair and Maintenance (R&M) works proposed during each year of the control period along with estimated costs;*
- (g) Details of depreciation based on the useful life of the asset and capitalisation schedules for each year of the control period;*
- (h) A set of targets proposed for other items such as collection efficiency, bad debts, working capital, quality of supply targets, etc. The targets shall be consistent with the capital investment plan proposed by the licensee;*
- (i) Proposals for other items such as external parameters used for indexation (inflation, etc.);*
- (j) Other information: This shall include any other details considered appropriate by the distribution licensee for consideration during determination of tariff; and*
- (k) The filings in addition to the control period data, shall also contain the data for the cost and revenue parameters for the last three years."*

- 7.2.2 The Commission observed several deficiencies in the Business Plan submitted by the Petitioner and held multiple discussions to validate the data furnished by the Petitioner. Further, the Commission also pointed out that the Petitioner had submitted incomplete details for last three years along with the Business Plan as envisaged in the MYT Regulations, 2011. The Petitioner in its subsequent responses provided additional data on various financial parameters for the last three years as a part of the revised submission of distribution formats.
- 7.2.3 The Commission has thus, analysed each of the following elements of the Business Plan in detail in the subsequent sections:
- Sales/Demand Forecast
  - Distribution loss reduction & collection efficiency trajectory
  - Power procurement plan
  - Capital investment plan & Capitalization schedule
  - HR Plan

### **7.3 Forecast of Number of Consumers, Connected Load and Energy Sales**

- 7.3.1 In its tariff petition, the Petitioner had submitted sales and consumer related data upto FY 2017-18. In spite of several queries and reminders for submission of sales data for full year /ten months of FY 2018-19, the Petitioner was only able to provide data for six months of FY 2018-19. Therefore, the Commission has estimated the base year (i.e. FY 2018-19) values considering actuals for past years and six months of FY 2018-19. For future projections, the Commission has analysed Compounded Annual Growth Rate (CAGR) and year-on-year (y-o-y) growth rates of consumer numbers, average consumption per consumer, average connected load per consumer and average load factor for each category for the last five years.
- 7.3.2 Further, during the technical validation rounds, the Commission also enquired into the current nature of recording formats for number of consumers, connected load and energy sales. The Petitioner in its response to the Commission has submitted that it is yet to rollout the billing software in all the circles/divisions and therefore, at present, data is not being captured at the slab level for each tariff consumer category from all the electrical circles. **The Commission directs the Petitioner to ensure that the entire data for all sub-categories of the tariff schedule is streamlined till the filing of next tariff petition and the roll-out is completed in the pending circles. The Petitioner is required to submit these circle-wise, month-wise, sub-category-wise details of number of consumers, connected load and energy sales for subsequent years along with the tariff petition.**
- 7.3.3 Till such time, the Commission has continued with its previous approach for estimating number of consumers, connected load and energy sales of the base year, i.e. FY 2018-19 by analysing past trends and actual data for first six months.
- 7.3.4 The detailed approach for projection of number of consumers, connected load and energy sales is provided in the subsequent sections.

**Projection of Number of Consumers**

- 7.3.5 The growth in number of consumers in the last five years is driven by a number of initiatives / Central schemes such as Saubhagya, Deen Dayal Upadhyay Gram Jyoti Yojana (DDUGJY) dedicated to improving last mile connectivity and implemented by the Petitioner. Therefore, the Commission has independently analysed the Compounded Annual Growth Rate (CAGR) and year-on-year (y-o-y) growth rates of number of consumers for each tariff category in the last five years.
- 7.3.6 The Commission had observed some deficiencies in the submissions of Petitioner. During submission of responses to the queries of the Commission, the Petitioner revised the number of consumers estimated in FY19 and additionally submitted that it has proposed nil growth in the number of temporary consumers.
- 7.3.7 For each consumer category, the Commission has adopted the following approach for projection of number of consumers:
- a) In case of domestic consumers, the Commission has observed that the number of consumers have been growing consistently at 2.5%. The Commission has therefore, considered the 5 year CAGR at 2.5% as the growth rate.
  - b) For non-domestic non-commercial category, the Commission has considered 3 year CAGR at 3.5% as the growth rate.
  - c) In case of commercial consumers, growth has remained range bound between 2.5% - 3%. The Commission has therefore, considered 2.8% (5 year CAGR) as the growth rate for fourth Control Period.
  - d) In case of temporary connections, the Commission has observed that the number of consumers has been increasing year-on-year and has therefore, considered a 5% growth.
  - e) For small & medium power, the Petitioner has submitted that due to negative external changes such as increasing input costs and reduced incentives, the number of consumers have been adversely impacted. However, due to recent initiatives such as 10% rebate on energy charges for new consumers and incremental consumption, the Petitioner expects the adverse impact to reduce. In line with the submissions, the Commission has considered a marginal increase of 0.5% in the number of small and medium power consumers.
  - f) Similarly, in case of large power category, the growth in number of consumers has been adversely affected due to closure of steel industries and aforementioned reasons. The Commission has considered a marginal increase of 0.5% for projecting number of consumers during fourth Control Period.
  - g) The Petitioner has submitted that in case of government irrigation & water pumping and agriculture, current Govt. schemes to promote agriculture using energy efficiency measures such as KUSUM (Kisan Urja Suraksha Evam Uthaan Mahaabhiyan) etc. have led to consistent growth in the last two years. The Commission has therefore, considered 4% growth for the

category irrigation & water pumping and 7.9% for agriculture respectively in the number of consumers in this category for the fourth Control Period.

- h) For remaining categories of public lighting and bulk supply the Commission has considered 5 year CAGR of 3.0% and 0.8%, respectively, for projecting the number of consumers in the fourth Control Period.

7.3.8 Based on the above growth rates, the Commission has projected the following number of consumers in the fourth Control Period:

**Table 134: Number of Consumers projected in fourth Control Period**

| S.No.      | Category                         | FY19           | FY20           | FY21           | FY22           | FY23           | FY24           |
|------------|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|            |                                  | R.E.           | Proj.          | Proj.          | Proj.          | Proj.          | Proj.          |
| 1.         | Domestic                         | 2048625        | 2099625        | 2151895        | 2205466        | 2260371        | 2316642        |
| 2.         | NDNC                             | 29300          | 30329          | 31394          | 32497          | 33639          | 34821          |
| 3.         | Commercial                       | 275341         | 283167         | 291216         | 299493         | 308006         | 316761         |
| 4.         | Temporary                        | 7807           | 8197           | 8607           | 9037           | 9489           | 9963           |
| 5.         | Small Power                      | 30684          | 30837          | 30991          | 31146          | 31302          | 31459          |
| 6.         | Medium Power                     | 1984           | 1994           | 2004           | 2014           | 2024           | 2034           |
| 7.         | Large Power                      | 1758           | 1766           | 1774           | 1782           | 1790           | 1798           |
| 8.         | Govt. Irrigation & Water Pumping | 7023           | 7304           | 7596           | 7900           | 8216           | 8545           |
| 9.         | Public Lighting                  | 1060           | 1091           | 1123           | 1156           | 1190           | 1225           |
| 10.        | Irrigation & Agriculture         | 31478          | 33965          | 36649          | 39545          | 42669          | 46040          |
| 11.        | Bulk Supply                      | 273            | 275            | 277            | 279            | 281            | 283            |
| <b>12.</b> | <b>Total</b>                     | <b>2435333</b> | <b>2498550</b> | <b>2563526</b> | <b>2630315</b> | <b>2698977</b> | <b>2769571</b> |

### **Projection of Connected Load**

7.3.9 After analysing the growth trends and historical data for number of consumers, the Commission has analysed the growth in load per consumer and the CAGR and y-o-y growth rates of connected load for each tariff category in the last five years. Finally, the Commission has also analysed the submissions of the Petitioner and projected the connected load using the following approach:

- The connected load of domestic consumers had been growing at a rate of 5% – 6% in the last 5 years. Therefore, the Commission has considered the 3 year CAGR at 5.5% as the growth rate.
- For non-domestic non-commercial category, it was observed that after considerable y-o-y increase in connected load till FY16, the growth rate has slowed down in the last 2 years. The Commission has, therefore considered y-o-y growth of 5.8% in FY18 for projecting the connected load in this category for the fourth Control Period.
- In case of commercial consumers, the Commission has considered 5 year CAGR of 5.3% as the growth rate for connected load during fourth Control Period.
- In case of temporary connections, the Commission has considered nil growth in connected load.



- e) For small & medium power, the Commission has considered recent annual growth trend of 1.4% and 0.8% for small and medium power respectively.
- f) In case of large industries, the Commission has analysed the growth trend of load per consumer in the last 5 years. The Commission had considered 1% growth (5 year CAGR) in the load per consumer for FY18 and projected the overall load for this category during the fourth Control Period based on the projected number of consumers as discussed in the previous section.
- g) For Govt. irrigation and water supply, the Commission has considered 3.8% (5 year CAGR) growth for projecting the connected load during fourth Control Period.
- h) For public lighting, the Commission has observed that the connected load has remained range bound. Therefore, nil growth rate (5 year CAGR) during fourth Control Period has been considered.
- i) In case of agriculture, it was observed that there has been significant increase in connected load of this category in FY18. In response to the Commission's query, the Petitioner submitted that the subsidy offered by the GoHP for agricultural consumers has encouraged the overall consumption for this category. The Commission has therefore, considered a normalized growth rate of 7.8% in connected load.
- j) For bulk supply, the Commission has considered 3 year CAGR of 1.6% for projecting the connected load in the fourth Control Period.

7.3.10 Based on the above growth rates, the Commission had projected the following connected load for the fourth Control Period:

**Table 135: Connected Load (in MW) projected in fourth Control Period**

| S.No.      | Category                         | FY19        | FY20        | FY21        | FY22        | FY23        | FY24        |
|------------|----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|            |                                  | R.E.        | Proj.       | Proj.       | Proj.       | Proj.       | Proj.       |
| 1.         | Domestic                         | 3667        | 3868        | 4081        | 4305        | 4543        | 4793        |
| 2.         | NDNC                             | 209         | 221         | 234         | 248         | 262         | 277         |
| 3.         | Commercial                       | 758         | 798         | 841         | 885         | 932         | 982         |
| 4.         | Temporary                        | 40          | 40          | 40          | 40          | 40          | 40          |
| 5.         | Small Power                      | 255         | 258         | 262         | 266         | 269         | 273         |
| 6.         | Medium Power                     | 143         | 144         | 145         | 146         | 147         | 148         |
| 7.         | Large Power                      | 1,545       | 1,567       | 1,590       | 1,613       | 1,636       | 1,660       |
| 8.         | Govt. Irrigation & Water Pumping | 324         | 337         | 350         | 363         | 377         | 392         |
| 9.         | Public Lighting                  | 6           | 6           | 6           | 6           | 6           | 6           |
| 10.        | Irrigation & Agriculture         | 201         | 216         | 233         | 251         | 271         | 292         |
| 11.        | Bulk Supply                      | 127         | 129         | 131         | 133         | 136         | 138         |
| <b>12.</b> | <b>Total</b>                     | <b>7276</b> | <b>7586</b> | <b>7913</b> | <b>8257</b> | <b>8619</b> | <b>9001</b> |

**Projection of Energy Sales**

- 7.3.11 HPSEBL has estimated sales for FY19 at 8856 MU as base for projection and projected energy sales within the State at 9103 MU, 9349 MU, 9603 MU, 9866 MU and 10137 MU for FY20, FY21, FY22, FY23 and FY24 respectively. While doing so, the Petitioner has considered normalized CAGR of sales per consumer in the past 6 years and combined it with the effect of growth in consumers for sales projections.
- 7.3.12 The Commission has analysed the projected sales for each category considering the approach adopted by the Petitioner. For more realistic projections, the Commission has sourced the 6 months actual sales for FY19 from the Petitioner. Thereafter, the Commission has estimated revised sales for FY19 and considered the same as base for the purpose of projections of sales for the fourth Control Period.
- 7.3.13 Further, the Commission has analyzed year-on-year variations in sales as well as the short term, medium term and long term trends in sales and computed CAGR for different lengths of time (2 years, 3 years, 4 years, 5 years, 6 years, 8 years and 10 years) for all categories of consumers. The Commission has also computed the average consumption levels per consumer, average load per consumer and load factor for each category in the last 5 years. The energy sales thus projected has combined the effect of anticipated load growth, consumer growth and average load factor. Finally, the Commission has projected month-on-month energy sales for each category based on the seasonal trends in the last 3 years.
- 7.3.14 On the basis of such analysis, the Commission approves total sales of 9101 MU, 9363 MU, 9635 MU, 9917 MU and 10209 MU for FY20, FY21, FY22, FY23 and FY24 respectively, which shows an average growth rate of 3% year-on-year. The Commission approves sale for each category of consumer as detailed below.

**Domestic Sales**

- 7.3.15 The growth rates of energy sales to domestic category have shown a consistent decline between FY14 to FY17 with negative growth in FY17. In FY18, there has been slight revival in energy sales with growth of 3.7%.
- 7.3.16 As already discussed, the Commission has considered a growth of 2.5% in the number of consumers in the domestic category. Further, the Commission has analysed the average consumption per consumer and its growth in the last 5 years. The average consumption per consumer has remained almost stagnant with slight growth witnessed in FY18 and therefore, the Commission has considered a marginal growth of 0.6% (4 year CAGR) in the average consumption per consumer for the Control Period.
- 7.3.17 Based on the average consumption per consumer and the number of consumers projected for each year of the Control Period, the Commission has projected the energy sales for domestic category, which translates into a 3.1% y-o-y growth.

**Non-Domestic Non-Commercial Supply (NDNCS)**

- 7.3.18 In case of non-domestic non-commercial supply, the Commission has observed that there has been some revival in energy consumption in FY18 after sales remaining range bound in this category between FY15 – FY17.
- 7.3.19 The Commission has approved the energy sales to NDNC category based on the combined effect of growth in number of consumers (3.5%) and 5 year CAGR growth in average consumption per consumer (1.1%). This translates into a 4.7% y-o-y growth during fourth Control Period.

**Commercial Supply**

- 7.3.20 The sales to commercial category have seen a consistent high growth over the last few years, ranging from year on year growth of 5% to 10%.
- 7.3.21 Considering the trend, the Commission feels that the growth of sales in commercial category is expected to remain high and therefore, an overall y-o-y increase of 5.8% has been considered for projection of energy sales during fourth Control Period. This is based on the anticipated growth in number of consumers (2.8%) and the 4 year CAGR growth in consumption per consumer (2.9%) for commercial category.

**Industrial Power Supply**

- 7.3.22 During the last MYT Period, it was observed that industrial sales witnesses a slump in FY16. In subsequent years, there has been a slight revival in consumption of large industries in FY17 and FY18. However, consumption of small and medium enterprises has been consistently declining over the last 2 years. In order to boost the consumption of energy by the industrial consumers, the Commission has approved changes in the tariff structure leading to rationalization and reduction in tariff which are detailed in the Tariff Design chapter. The Commission expects that the changes in the tariff design shall encourage the industrial consumers to draw higher quantum of power.

**Small and Medium Industrial Power Supply**

- 7.3.23 An assessment of CAGR growth of sales in this category indicates a year-on-year declining trend since FY16. As already mentioned, the Petitioner has submitted that this category has been most affected due to negative external changes such as increasing input costs and reduced incentives.
- 7.3.24 Based on the Petitioner's submissions and expected increase due to tariff rationalization, the Commission has considered a conservative growth rate of 0.5% in energy consumption in this category during the fourth Control Period. This growth rate has been arrived at by combining the effect of anticipated growth in small and medium industrial consumers and growth in average consumption per consumer in the last 5 years.
- 7.3.25 The Commission has considered the share of sales to small and medium industry supply for past two years, to allocate the proposed total sales in this category separately between small industrial consumers and medium industrial consumers.

### **Large Industrial Power Supply**

- 7.3.26 An analysis of past year-on-year growth of sales for last six years in this category indicates slight revival in the last two years after a negative growth in FY16. The Commission for large industries has also analysed the average load factor and its growth trends in the last 6 years. It was observed that the average load factor for large industries has also marginally improved in FY18 due to rebates/incentives provided in the last tariff order.
- 7.3.27 The Commission has therefore, considered a 0.6% growth (5 year CAGR) in average load factor and combined its effect with the anticipated load growth for large industries to compute the energy sales during the fourth Control Period. Thus, using the aforementioned approach the Commission has considered y-o-y growth rate as 2.1% for the fourth Control Period.
- 7.3.28 In the absence of segregated data for EHT, HT-1 and HT-2 for large industries for current and past years, the Commission has considered the proportion of sales to HT-1 and EHT & HT-2 sales based on the last two years average proportion of sales in the respective sub-categories. **In subsequent tariff filings, the Petitioner is required to provide detailed segregated and month-wise accounts of EHT, HT-1 and HT-2 energy sales, connected load and number of consumers. Further, the Petitioner is also required to provide a bifurcation of sales during normal, peak and night hours for each month of the respective year.**

### **Govt. Irrigation and Water Supply**

- 7.3.29 The number of consumers in this category have been steadily increasing in the last 5 years. The Commission has therefore, considered an average y-o-y growth of 4.5% for sales projection based on the combined effect of 4% increase in number of consumers and 0.5% increase (5 year CAGR) in average consumption per consumer.

### **Public Lighting**

- 7.3.30 In case of public lighting, the energy sales has remained range bound in the last 5 years. The Commission has therefore, considered a moderate growth of 4% for fourth Control Period.

### **Agricultural Supply**

- 7.3.31 The Petitioner has submitted that a steady increase is expected in the number of consumers in agriculture due to the thrust on the sector and the multiple initiatives taken by the Govt. on the demand and supply side of the agricultural sector. The Commission has also analysed the growth trend in the average consumption per consumer in the category during the last 5 years and observed steady growth. Therefore, while projecting the energy sales, the Commission has factored in the anticipated increase in consumers (7.9%) for projection projecting sales during the fourth Control Period which translates to an overall growth of 11.5%.

### **Bulk Supply**

- 7.3.32 In case of bulk supply, negative or stagnant trend is observed over a period of 3-5 years. However, the sales to this category in recent two years i.e. FY17

and FY18 has been increasing. The Commission has accordingly considered a growth rate of 2.4% for fourth Control Period based on the annual increase observed in FY18 over the previous year.

### **Temporary Supply**

- 7.3.33 For temporary supply, the Commission has projected sales keeping in mind the anticipated growth in number of connections while keeping the average consumption per connection constant. This has resulted in a y-o-y growth of 5% in energy sales during the fourth Control Period.
- 7.3.34 Based on the detailed approach above, the Commission approves the following sales to retail consumers within the State for the fourth Control Period:

**Table 136: Energy Sales (in MU) projected in fourth Control Period**

| S.No.      | Category                         | FY19        | FY20        | FY21        | FY22        | FY23        | FY24         |
|------------|----------------------------------|-------------|-------------|-------------|-------------|-------------|--------------|
|            |                                  | R.E.        | Proj.       | Proj.       | Proj.       | Proj.       | Proj.        |
| 1.         | Domestic                         | 2072        | 2137        | 2204        | 2274        | 2345        | 2419         |
| 2.         | NDNC                             | 151         | 158         | 165         | 173         | 181         | 190          |
| 3.         | Commercial                       | 600         | 635         | 672         | 710         | 752         | 795          |
| 4.         | Temporary                        | 38          | 40          | 42          | 44          | 46          | 48           |
| 5.         | Small Power                      | 84          | 84          | 85          | 85          | 86          | 86           |
| 6.         | Medium Power                     | 118         | 118         | 119         | 120         | 120         | 121          |
| 7.         | Large Power                      | 4,913       | 5,016       | 5,121       | 5,229       | 5,338       | 5,450        |
| 8.         | Govt. Irrigation & Water Pumping | 632         | 661         | 691         | 722         | 755         | 789          |
| 9.         | Public Lighting                  | 12          | 12          | 13          | 13          | 14          | 14           |
| 10.        | Irrigation & Agriculture         | 69          | 77          | 86          | 96          | 107         | 120          |
| 11.        | Bulk Supply                      | 157         | 161         | 165         | 169         | 173         | 177          |
| <b>12.</b> | <b>Total</b>                     | <b>8847</b> | <b>9101</b> | <b>9363</b> | <b>9635</b> | <b>9917</b> | <b>10209</b> |

### **7.4 Transmission and Distribution Loss**

- 7.4.1 The Petitioner has proposed T&D losses based on the actual loss of 11.43% for FY17, provisional loss level of 10.69% for FY18 and estimated loss of 10.50% for FY19. The segregation of intra-state transmission losses and the distribution losses occurring on the HPSEBL's distribution system has not been provided.
- 7.4.2 The Commission in its MYT Order for Second Control Period dated July 19, 2011 had observed that:

*"It was mutually decided between the HPSEBL and the HPPTCL that the HPSEBL will continue to operate and maintain the transmission lines so vested in the HPPTCL with effect from 10th June 2010. However, a formal agreement in this respect was entered into between the HPPTCL and the HPSEBL on 20<sup>th</sup> November 2010. In accordance with the terms of the agreement, the HPPTCL was required to pay annual charges to the HPSEBL for O&M of transmission lines. **This in effect means that in addition to HPSEBL's own EHV network, the operation and maintenance of these transmission lines remain with the distribution licensee for all practical purposes. Therefore, the Commission has decided not to set the separate***

**target for intra-transmission losses and the trajectory set out as follows includes the transmission losses on account of lines transferred to the transmission licensee:"**

- 7.4.3 In spite of the Commission directions, appropriate metering arrangement between the transmission and distribution interfaces is still to be undertaken. While the Commission had approved cost to HPPTCL for installation of energy meters to have a greater accuracy for energy balance, no measures have been taken in this regard. Further, no significant addition in intra-state transmission network is planned during the fourth Control Period. Therefore, the Commission has decided to continue with the T&D loss trajectory for the HPSEBL.
- 7.4.4 In the MYT Order for third Control Period, the Commission had approved the T&D loss trajectory of 12.80%, 12.60%, 12.40%, 12.20% and 12.00% for FY15, FY16, FY17, FY18 & FY19 respectively based on the provisional T&D loss figure of 13.00% for FY14 submitted by the Petitioner. As against the approved T&D loss, the Petitioner has submitted actual losses as summarized in the table below:

**Table 137: Approved and Actual T&D Loss submitted by the Petitioner for third Control Period**

| Particulars       | FY15   | FY16   | FY17   | FY18   | FY19    |
|-------------------|--------|--------|--------|--------|---------|
| Approved T&D Loss | 12.80% | 12.60% | 12.40% | 12.20% | 12.00%  |
| Actual T&D Loss   | 11.46% | 12.09% | 11.43% | 10.69% | 10.50%* |

\* Revised estimate for FY19

- 7.4.5 It has been observed that in the third Control Period, the Petitioner has been able to overachieve the target set by the Commission for each year of the third Control Period. The Commission observes that large amount of capital expenditure for strengthening and augmentation of the distribution network during last two Control Periods has led to this improvement in losses.
- 7.4.6 Since this is the start of a new Control Period comprising of five years, and keeping in mind the actual loss levels in previous years, the Commission is of the view that the T&D loss trajectory should be realistic, so that licensee is incentivized for better performance. Therefore, the Commission has taken a fair approach while fixation of the T&D trajectory for the fourth Control Period and has approved losses as per the past performance and proposal of the Petitioner. At the same time, the Petitioner should also undertake appropriate measures to ensure that they meet the year on year loss targets approved by the Commission in order to ensure sustainable tariff for the consumers in the State. The Commission believes that the Petitioner has shown significant improvement with respect to the approved loss trajectory during third Control Period and shall be able to meet the nominal reduction approved in the fourth Control Period as well.
- 7.4.7 While the performance of the Petitioner with respect to loss reduction has been encouraging, it has been observed that the Petitioner has not been submitting division-wise losses along with the tariff petition. **The Petitioner is thus, directed to submit quarterly T&D loss levels for all circles and divisions to the Commission. Further, the Petitioner is directed to identify circles**

***/ divisions with high T&D loss levels and prepare a roadmap for measures to be undertaken during the fourth Control Period for aligning the loss in these circles/ divisions with the average loss targets. The Petitioner should submit the roadmap with proposed actions to the Commission within three months from issuance of this Order.***

- 7.4.8 For the Control Period, the Commission has considered the T&D loss of 10.50% for FY19 submitted by the Petitioner as the base and considered a reduction of 0.20% each year to reach a level of 9.50% by the end of the Control Period. The year-wise approved T&D loss for the fourth Control Period is summarized in the table below:

**Table 138: Approved T&D loss for fourth Control Period**

| Particulars       | FY20   | FY21   | FY22  | FY23  | FY24  |
|-------------------|--------|--------|-------|-------|-------|
| Approved T&D Loss | 10.30% | 10.10% | 9.90% | 9.70% | 9.50% |
| Loss Reduction    | 0.20%  | 0.20%  | 0.20% | 0.20% | 0.20% |

- 7.4.9 The gain/loss arising from the over-achievement / under-achievement in T&D loss shall be treated as per Regulation 15 of MYT Regulations, 2011 for the fourth Control Period.

## **7.5 Collection Efficiency**

- 7.5.1 As per provisions of the MYT Regulations 2011, the Petitioner is required to propose the collection efficiency for each year of the Control Period along with its Business Plan filing.
- 7.5.2 The Petitioner has neither submitted category-wise collection efficiency for past years nor provided any trajectory for the future years of the fourth Control Period in the tariff petition. In response to the Commission's query, the Petitioner submitted the following details for past years:

**Table 139: HPSEBL Submission – Category-wise collection efficiency for FY15 to FY18**

| Particulars                | FY15     | FY16     | FY17     | FY18     |
|----------------------------|----------|----------|----------|----------|
| Revenue Assessed (Rs. Cr.) | 4,289.44 | 4,315.95 | 6,866.09 | 7,830.13 |
| Revenue Realised (Rs. Cr.) | 4,139.83 | 4,272.39 | 7,074.46 | 7,703.36 |
| Collection Efficiency (%)  | 96.51%   | 98.99%   | 103.03%  | 98.38%   |

- 7.5.3 The Commission has observed that the details of revenue assessed and realised for FY17 and FY18 as submitted by the Petitioner are not in line with the actual revenue from sale within the State. Therefore, keeping in view that the Petitioner has been able to achieve 98.99% collection efficiency in FY16, the Commission has approved a collection efficiency of 99.50% for each year during the fourth Control Period. **The Commission takes serious concern with regard to the negligence shown by the Petitioner in complying with the provisions of the Regulations and directs the Petitioner to submit accurate category-wise collection efficiency for past three years along with its tariff filing for each subsequent year.**

## 7.6 Quality of Supply and Services

7.6.1 As per the Regulation 34 of the MYT Regulations, 2011 the Petitioner is also required to submit targets for quality of supply indices such as SAIFI, SAIDI, MAIFI, etc. Further, the Petitioner is also required to submit the wheeling network availability and supply availability as prescribed under:

*“The licensee shall propose baseline and performance trajectory for quality parameters for wheeling and retail supply business in its business plan as specified in the Standards of Performance Regulations framed under sub-section (1) of section 57 and sub-section (1) of section 59, read with clauses (za) and (zb) of sub-section (2) of section 181, of the Act.”*

7.6.2 It was observed that the Petitioner has not submitted the aforementioned details as a part of Business Plan filing. After several queries, the Petitioner has submitted historical details on average SAIFI, SAIDI, CAIDI and CAIFI as shown in the table below:

**Table 140: HPSEBL Submission – SAIFI, SAIDI, CAIDI, CAIFI in last 3 years**

| Year       | Avg SAIDI (Hrs.) | Avg. SAIFI | Avg CAIDI (Hrs.) | Avg CAIFI |
|------------|------------------|------------|------------------|-----------|
| FY 2015-16 | 42.60            | 0.67       | 63.70            | 0.01      |
| FY 2016-17 | 34.78            | 0.74       | 47.09            | 0.01      |
| FY 2017-18 | 26.50            | 0.69       | 38.22            | 0.01      |

7.6.3 The Petitioner has not proposed any performance trajectory on supply standards for the fourth Control Period as mandated under the MYT Regulations, 2011. Further, the Petitioner has only submitted partial details for wheeling and supply availability and the data provided is inadequate for approving the wheeling and supply targets for the fourth Control Period.

7.6.4 **In view of the non-submission of data for computing wheeling and supply availability, the Commission directs the Petitioner to compile the requisite data and submit quarterly reports on parameters such as SAIDI, SAIDI, wheeling and supply availability etc. for each division and circle in excel form with linkages on consolidation of these numbers to compute the parameters for the state as a whole. Based on the data furnished by the Petitioner, the Commission shall take a view on this at the time of Mid-Term Review.**

## 7.7 Energy Requirement

7.7.1 The Commission’s estimates of energy requirement at distribution periphery for each year of the fourth Control Period are based on the sales and T&D loss reduction trajectory approved by the Commission. The Commission’s estimates for power requirement are tabulated as follows:

**Table 141: Approved Energy Requirement for fourth Control Period**

| Particulars  | FY20   | FY21   | FY22   | FY23   | FY24   |
|--|--------|--------|--------|--------|--------|
| Sales (MU)   | 9,101  | 9,363  | 9,635  | 9,917  | 10,209 |
| Approved Loss (%)  | 10.30% | 10.10% | 9.90%  | 9.70%  | 9.50%  |
| Energy Requirement at State Periphery for own consumption (MU) | 10,146 | 10,415 | 10,694 | 11,982 | 11,281 |



## 7.8 Power Purchase

- 7.8.1 The power purchase expense is the single largest component in the ARR. Hence, it is imperative that this element of cost is estimated with utmost care based on the most efficient and prudent way of procuring power from the numerous sources and generating stations through long term, short-term arrangements and through bilateral purchase agreements.
- 7.8.2 The Commission has exercised due caution in estimating power purchase cost of the Petitioner. The Commission has made reasonable assumptions for PLF, auxiliary consumption and transmission losses to arrive at the quantum of energy available to the HPSEBL during the Control Period.
- 7.8.3 For projection of power purchase units during the fourth Control Period, the Commission has considered the historical data on gross generation and units received by the utility upto FY19. Since at the time of filing, quantum and cost data from all generating stations was available for FY19, the Commission has incorporated the most recent trends in the projections for fourth Control Period.
- 7.8.4 The following power generating stations have been considered for the purpose of estimation of power availability for the Control Period:
- HPSEBL's own generating stations
  - Purchase from Central Generating Stations of NTPC, NHPC, SJVNL, NPCIL and THDC;
  - Purchase from BBMB and shared stations;
  - Purchase from Baspa, private HEPs above 25 MW, private SHPs up to 25 MW and under APPC mechanism for REC;
  - Purchase of Free and Equity power from the GoHP;
  - Purchase from Solar and Waste to Energy Projects
  - New Plants expected to be commissioned during the Control Period;
  - Purchase through bilateral short term arrangements;
- 7.8.5 In the following sub sections, methodology and assumptions considered for estimation of power availability from the above mentioned sources have been discussed.

### **Allocation and Energy Availability from Own Generating Stations**

- 7.8.6 Based on the existing arrangements between the HPSEBL and GoHP, the Commission has considered 100% allocation from HPSEBL's own generating stations except those stations where HPSEBL is obligated to supply free power to the GoHP.
- 7.8.7 Due to considerable delay by the Petitioner in the filing of the MYT Petition for fourth Control Period for Generation Business, the Commission has considered energy availability from the HPSEBL's own generating stations based on the design energy considered in the MYT Order for the third Control Period for HPSEBL Generation Business and Tariff Order for 8 plants issued on 15.01.2014 against Petition No. 54/2013.
- 7.8.8 Further, it was observed that the Petitioner did not file a separate tariff petition for Ghanvi-II as directed by the Commission in its Tariff Order for FY 2018-19

dated 4<sup>th</sup> May, 2018 although the plant started operations in FY14. In absence of any such proposal, the Commission has continued with the design energy considered in the MYT Order for the third Control Period.

7.8.9 In case of Uhl-III (3X33, 100 MW), the Petitioner has submitted that the first unit of Uhl-III is expected to commission on 15<sup>th</sup> June, 2019, second unit on 15<sup>th</sup> July, 2019 and third unit by 31<sup>st</sup> August, 2019. Therefore, the Commission has projected full year generation from Uhl-III Sep' 2019 onwards. Therefore, the design energy from Uhl-III has been considered similar to that considered by the Petitioner. The energy availability from Uhl-III has been covered under the sub-section on New Stations.

7.8.10 The table below summarizes HPSEBL's share, generation and auxiliary consumption considered by the Commission for the projection of power purchase quantum from own generating stations above 25 MW for the MYT Control Period whereas the generation from power projects below 25 MW has been considered under renewable power (non-solar).

**Table 142: Allocation and Energy Availability from Own Generating Stations for fourth Control Period**

| Name of Generating Station    | Capacity (MW) | Generation (MUs) | HPSEBL Share (%) | Auxiliary Consumption (%) | Annual Energy available during FY20 to FY24 (MUs) |
|-------------------------------|---------------|------------------|------------------|---------------------------|---|
| Larji                         | 126.00        | 586.82           | 88%              | 1.20%                     | 510.20  |
| Bhaba                         | 120.00        | 464.70           | 100%             | 1.20%                     | 459.12  |
| Bassi                         | 60.00         | 346.83           | 100%             | 0.70%                     | 344.40  |
| Giri                          | 60.00         | 289.55           | 100%             | 0.70%                     | 287.52  |
| <b>Total Energy Available</b> |               |                  |                  |                           | <b>1,601.24</b>                                   |

\*Excluding own generating stations with capacity of less than 25MW Allocation

#### **Allocation and Energy Availability from Firm Share in Central Generating Stations**

7.8.11 The State of Himachal Pradesh has firm allocated share in Central Sector Generating Stations (CGS) of National Thermal Power Corporation (NTPC), National Hydroelectric Power Corporation (NHPC), Satluj Jal Vidyut Nigam Limited (SJVN) and Nuclear Power Corporation Limited (NPCIL). Besides this, the Petitioner has firm allocated share in few other Central Sector Generating Stations (CGS) of NHPC, NTPC, Tehri Hydro Development Corporation (THDC) which were surrendered during the third Control Period by the Petitioner.

7.8.12 In addition to the firm share allocation, the Petitioner also received unallocated share from these central generating stations during the third Control Period which was also curtailed from FY17 onwards. The distribution of this unallocated power among the constituents of Northern Region is decided from time to time, based on the power requirement and power shortage in different States. Currently, the Petitioner is receiving unallocated share (15 MW) from select NTPC stations namely, Unchahar-I, II, III & IV, Rihand-I, II, III,

Singrauli Super Thermal Plant (SSTP) and Dadri-II as part of bundled power from Singrauli Solar plant.

- 7.8.13 The Commission has therefore, considered allocation of firm and unallocated power from CGS in accordance with latest allocations issued by the Northern Regional Power Committee.
- 7.8.14 The energy available from NTPC (except gas based stations) has been considered based on the average PLF achieved by respective generating stations during the last 3 years (FY17 to FY19), based on the data available from CEA. In case of gas based stations (Anta, Auriya and Dadri), the Commission has considered the normalized PLF during FY16, FY17 and FY19. The Commission has considered normative auxiliary consumption as approved by CERC to arrive at the energy generated from each of these stations.
- 7.8.15 In case of Koldam HEP, the Commission has considered the average energy generated by the station in the last 3 years for estimating future energy availability during the fourth Control Period.
- 7.8.16 The Petitioner further submitted that it has surrendered firm power of 4.22% from Unchahar-IV w.e.f. 12.04.2018. Unallocated share is continued at 0.22% for bundling with Singrauli solar power. Similarly, in response to the Commission's letter, the Petitioner has also submitted that it has surrendered power from Meja-I TPS from COD vide NRPC letter dated 03.12.2018.
- 7.8.17 In case of NPCIL plants, the Commission has considered the average PLF for last 4 years (FY16 to FY19) along with normative auxiliary consumption for projecting the energy availability from these stations.
- 7.8.18 In case of generating stations of NHPC, average energy generated during the last 4 years has been considered for estimating future energy available from these stations. For SJVNL stations, the Commission has excluded the generation for FY19 due to less severe winters while estimating the generation for future years and has considered average energy generated during FY16, FY17 and FY18.
- 7.8.19 The table below summarizes the allocation as well as energy available from CGS during the MYT Control Period.

**Table 143: Allocation and Energy Availability from Central Generating Stations for 4<sup>th</sup> Control Period (MUs)**

| Name of Generating Station | Expected PLF/ Energy Generated | Aux Cons. | Energy (exbus) at expected PLF | HPSEB Share* | Annual Energy available to HPSEB at Expected PLF (FY15 to FY19) |
|----------------------------|--------------------------------|-----------|--------------------------------|--------------|---|
| <b>SJVNL</b>               |                                |           |                                |              |   |
| Nathpa Jhakri SOR          | 7,191                          | 1.20%     | 7,104.43                       | 2.47%        | 175.48  |
| Rampur SOR                 | 1986                           | 1.20%     | 1,962.44                       | 2.81%        | 55.14   |
| <b>Total</b>               |                                |           |                                |              | <b>230.62</b>   |
| <b>NPCIL</b>               |                                |           |                                |              |   |
| NAPP                       | 88.21%                         | 9.50%     | 3,076.97                       | 3.18%        | 97.85   |
| RAPP (V & VI)              | 85.90%                         | 9.50%     | 2,996.48                       | 3.40%        | 101.88  |
| <b>Total</b>               |                                |           |                                |              | <b>199.73</b>   |

| Name of Generating Station | Expected PLF/ Energy Generated | Aux Cons. | Energy (exbus) at expected PLF | HPSEB Share* | Annual Energy available to HPSEB at Expected PLF (FY15 to FY19) |
|----------------------------|--------------------------------|-----------|--------------------------------|--------------|---|
| <b>NTPC – Thermal</b>      |                                |           |                                |              |   |
| Anta (G)                   | 19.83%                         | 3.00%     | 706.57                         | 3.58%        | 25.30   |
| Auriya (G)                 | 14.85%                         | 3.00%     | 836.86                         | 3.32%        | 27.78   |
| Dadri (G)                  | 31.60%                         | 3.00%     | 2,227.82                       | 3.01%        | 67.06   |
| Unchahar-I*                | 73.56%                         | 9.00%     | 2,462.95                       | 1.74%        | 42.86   |
| Unchahar-II*               | 73.56%                         | 9.00%     | 2,462.95                       | 3.09%        | 76.11   |
| Unchahar-III*              | 73.56%                         | 9.00%     | 1,231.48                       | 4.04%        | 49.75   |
| Rihand-1 STPS*             | 86.48%                         | 8.50%     | 6,931.45                       | 3.69%        | 255.77  |
| Rihand-2 STPS*             | 86.48%                         | 6.50%     | 7,082.96                       | 3.51%        | 248.61  |
| Rihand-3 Units-1,2*        | 86.48%                         | 9.00%     | 6,893.57                       | 3.60%        | 248.24  |
| Kahalgaon-II               | 79.28%                         | 9.00%     | 9,479.43                       | 1.53%        | 145.04  |
| Singrauli STP*             | 85.23%                         | 6.50%     | 13,962.24                      | 0.19%        | 26.53   |
| Dadri-II*                  | 64.19%                         | 9.00%     | 5,014.24                       | 0.21%        | 10.53   |
| Unchahar-IV*               | 85.00%                         | 9.00%     | 3,387.93                       | 0.22%        | 7.45  |
| Koldam                     | 3184                           | 1.00%     | 3152.39                        | 15.00%       | 472.86  |
| <b>Total</b>               |                                |           |                                |              | <b>1703.87</b>  |
| <b>NHPC</b>                |                                |           |                                |              |   |
| Salal                      | 3,418.52                       | 1.00%     | 3,384.34                       | 0.99%        | 33.50   |
| Tanakpur                   | 448.82                         | 1.00%     | 444.33                         | 3.84%        | 17.06   |
| Chamera I                  | 2,419.18                       | 1.20%     | 2,390.15                       | 2.90%        | 69.31   |
| Chamera II                 | 1,490.76                       | 1.20%     | 1,472.87                       | 3.67%        | 54.05   |
| Uri                        | 2,871.01                       | 1.20%     | 2,836.55                       | 2.71%        | 76.87   |
| Dhauliganga                | 1,076.28                       | 1.20%     | 1,063.37                       | 3.57%        | 37.96   |
| <b>Total</b>               |                                |           |                                |              | <b>288.77</b>   |
| <b>Grand Total</b>         |                                |           |                                |              | <b>2,423.00</b>   |

\*including unallocated quota from Unchahar & Rihand stations, SSTP & Dadri-II received towards bundled solar power from Singrauli Solar

### **Allocation and Energy Availability from Equity Share in Generating Plants**

7.8.20 The GoHP has equity share of 22% and 26.10% in the Nathpa Jhakri and Rampur HEP respectively. The Commission has considered the average energy generated during FY16, FY17 and FY18 as discussed above for estimating availability from these stations. The GoHP equity share has been considered on the energy projected from the NJPS and Rampur HEP stations. The table below summarizes the equity share of energy available from NJPS during the Fourth MYT Control Period.

**Table 144: Allocation and Energy Availability from Equity Share in Generating Stations for 4<sup>th</sup> Control Period (MUs)**

| Name of Generating Station | Expected PLF/ Energy Generated | Aux Cons. | Energy (exbus) at expected PLF | HPSEB Share | Annual Energy available to HPSEBL at Expected PLF (FY15 to FY19) |
|----------------------------|--------------------------------|-----------|--------------------------------|-------------|--|
| Nathpa Jhakri Equity       | 7,191                          | 1.20%     | 7,104.43                       | 22.00%      | 1,562.97   |
| Rampur Equity              | 1986                           | 1.20%     | 1,962.44                       | 26.10%      | 512.20   |

**Energy Availability from Shared Generating Stations**

7.8.21 HP has fixed allocation from Shanan and Shanan (Extension) at 1 MW at 60% PLF and 45 MU respectively which has been considered for projecting availability from these stations for the fourth Control Period. For power availability from Yamuna, the Commission has considered the approved power generation as per the MYT Order for UJVNL Hydro Stations. In case of energy availability from Khara, the Commission has considered the approved power generation as per the UPERC Order for Khara for FY19.

**Table 145: Energy Availability from Shared Generating Stations for 4<sup>th</sup> Control Period (MUs)**

| Name of Generating Station                             | Expected PLF/ Energy Generated | Aux Cons. | HPSEB Share  | Annual Energy available to HPSEBL (FY20 to FY24) |
|--|--------------------------------|-----------|--------------|--|
| Shanan   | 60%                            | -         | Fixed at 1MW | 5.26   |
| Shanan (Extension)                                     | -                              | -         | Fixed 45MU   | 45.00  |
| Yamuna   | -                              | 1%        | 24.68%       | 387.81   |
| Khara  | -                              | 1%        | 20%          | 43.39  |
| <b>Total Available from Shared Generating Stations</b> |                                |           |              | <b>481.46</b>                                    |

**Allocation and Energy Availability from IPPs**

7.8.22 The total energy available from Baspa-II HEP has been considered as per the MYT Order for the fourth Control Period of Baspa approved by the Commission. Further, considering the secondary energy available from Baspa-II in the past, the Commission has projected additional energy available from the station based on the average historical energy generation during FY16, FY17 and FY18. The table below summarizes the energy availability for HPSEBL from Baspa-II:

**Table 146: Energy Availability from Baspa-II HEP for fourth Control Period (MUs)**

| Name of Generating Station | FY20 | FY21 | FY22 | FY23 | FY24 |
|----------------------------|------|------|------|------|------|
| Baspa II                   | 1050 | 1050 | 1050 | 1050 | 1050 |
| Baspa-II Secondary Energy  | 107  | 107  | 107  | 107  | 107  |

**Allocation and Energy Availability from Free Power**

- 7.8.23 The GoHP has free power entitlement from various generating stations of NTPC, NHPC, SJVNL, PSPCL, HPSEBL and IPPs in lieu of project site used by these generating stations. This power is available to HPSEBL for meeting its power requirement as per mutually agreed terms between HPSEBL and GoHP at a price fixed by the Commission.
- 7.8.24 The GoHP has 12% free power share in seven of the HPSEBL own generating stations viz. Ghanvi, Baner, Gaj, Larji, Khauli, Ghanvi-II, Uhl-III and in three NHPC plants (i.e. Bairasiul, Chamera-I, Chamera-II), Shanani (500 KW), Baspa II, Nathpa Jhakri. Further, it has 13% free power share in Chamera-III (NHPC), Kashang (HPPC), 20% in Malana, 4.6% in Ranjeet Sagar Dam and 16.23% in Chanju HEP. In addition to this, GoHP is scheduled to receive free power from new stations expected to commission during the fourth Control Period.
- 7.8.25 However, as per the earlier directions of the Commission as well as the proposal of Petitioner for the fourth Control Period, the Commission has considered free power availability only from those generating stations that are directly connected to the State Grid. While projecting the power generation from these generating stations, the Commission has considered the historical generation data from CEA for last 3-4 years (as the case may be) or design energy based on availability.
- 7.8.26 For projection of power availability during the fourth Control Period, the Commission has considered free power to be available to HPSEBL from the stations as per the submissions. The table given below shows the Commission's estimates of plant-wise energy availability to the HPSEBL during the fourth Control Period:

**Table 147: Energy Availability from Free Power for fourth Control Period (MUs)**

| Particulars  | FY20          | FY21          | FY22          | FY23          | FY24          |
|--|---------------|---------------|---------------|---------------|---------------|
| Shanan Share (Fixed)                                       | 2.63          | 2.63          | 2.63          | 2.63          | 2.63          |
| Ranjeet Sagar Dam Share (4.60%)                            | 68.77         | 68.77         | 68.77         | 68.77         | 68.77         |
| Malana (20%)*  | 67.45         | 67.45         | 67.45         | 67.45         | 67.45         |
| Baspa-II   | 156.06        | 156.06        | 156.06        | 156.06        | 156.06        |
| Ghanvi   | 11.07         | 11.07         | 11.07         | 11.07         | 11.07         |
| Baner  | 7.21          | 7.21          | 7.21          | 7.21          | 7.21          |
| Gaj  | 4.55          | 4.55          | 4.55          | 4.55          | 4.55          |
| Larji  | 69.57         | 69.57         | 69.57         | 69.57         | 69.57         |
| Khauli   | 5.95          | 5.95          | 5.95          | 5.95          | 5.95          |
| Uhl-III  | 25.10         | 47.30         | 47.30         | 47.30         | 47.30         |
| Ghanvi II  | 6.20          | 6.20          | 6.20          | 6.20          | 6.20          |
| Kashang  | 22.81         | 22.81         | 22.81         | 22.81         | 22.81         |
| Chanju   | 24.63         | 24.63         | 24.63         | 24.63         | 24.63         |
| Small HEP/ Private Micro – Free                            | 120.53        | 124.63        | 133.04        | 142.29        | 152.80        |
| <b>Total Power Available from GoHP share of Free Power</b> | <b>592.93</b> | <b>618.83</b> | <b>627.24</b> | <b>636.49</b> | <b>647.00</b> |

**Allocation and Energy Availability from BBMB**

7.8.27 In case of generating stations of BBMB, the average energy has been considered based on the energy generated during FY16, FY17 and FY18. For Dehar, the Commission has considered average energy generated during last 3 years while in case of Pong, the average energy generated during FY16, FY18 and FY19 has been considered as the actual generation during FY17 was significantly lower. The table below summarizes the allocation as well as energy available from BBMB stations during the fourth Control Period.

**Table 148: Allocation HPSEBL Share and Energy Availability from BBMB for fourth Control Period (MUs)**

| Name of Generating Station | Expected PLF/ Energy Generated | Aux Cons. | Energy (exbus) at expected PLF | HPSEB Share         | Annual Energy available to HPSEB at Expected PLF (FY15 to FY19) |
|----------------------------|--------------------------------|-----------|--------------------------------|---------------------|---|
| BBMB Old                   | -                              | -         | -                              | Fixed<br>1.2LU/ day | 43.80   |
| BBMB New                   | 4776                           | 1.00%     | 4729                           | 7.19%               | 339.99  |
| Dehar                      | 3166                           | 1.00%     | 3134                           | 5.75%               | 180.27  |
| Pong                       | 1630                           | 1.00%     | 1613                           | 2.97%               | 48.14   |
| <b>Total</b>               |                                |           |                                |                     | <b>612.20</b>   |

**Allocation and Energy Availability from Renewable Power (Non-Solar and Solar)**

7.8.28 The Petitioner is required to comply with the HPERC (Renewable Power Purchase obligation and its Compliance) Regulation, 2010 and its subsequent amendments wherein the Commission has approved the non-solar and solar renewable power procurement trajectory to be complied by the licensee. The targets laid down by the Commission as per Himachal Pradesh Electricity Regulatory Commission (Renewable Power Purchase Obligation and its Compliance) (Fifth Amendment) Regulations, 2018 for non-solar and solar power purchase is given in the table below:

**Table 149: RPO Targets (Non-Solar and Solar) for 4<sup>th</sup> Control Period**

| Particulars | Non-Solar | Solar  | Total  |
|-------------|-----------|--------|--------|
| FY 2019-20  | 10.25%    | 7.25%  | 17.50% |
| FY 2020-21  | 10.25%    | 8.75%  | 19.00% |
| FY 2021-22  | 10.50%    | 10.50% | 21.00% |

7.8.29 In the tariff petition, the Petitioner was required to provide status of RPO compliance for each year of the fourth Control Period based on the above targets. The Petitioner has provided only part details against the same. The Commission has considered the above targets for FY20 to FY22 for analysing power purchase to meet solar and non-solar RPO. Since the Commission is yet to fix targets for FY23 & FY24, the targets for FY22 have been continued for the respective years, till any further amendments.

**Renewable Power (Non-Solar)**

7.8.30 The Petitioner owns generating hydro power plants that are lower than 25MW capacity and qualify under the renewable power projects. In the absence of a generation petition as detailed earlier, the Commission has considered availability from these plants based on the availability approved in the MYT Order for the third Control Period for HPSEBL Generation Business and Tariff Order for 8 plants issued on 15.01.2014 against Petition No. 54/2013. The table given below summarizes HPSEBL's share, generation and auxiliary consumption considered by the Commission for the projection of power purchase quantum from own generating stations (less than 25MW capacity) for the fourth Control Period:

**Table 150: Allocation, HPSEBL share and Energy Availability from Own Generating Stations for 4<sup>th</sup> Control Period (MUs)**

| Name of Generating Station                 | Capacity (MW) | Generation (MUs) | HPSEBL Share | Auxiliary Consumption | Annual Energy available to HPSEBL (FY20 to FY24) |
|--|---------------|------------------|--------------|-----------------------|--|
| Andhra                                     | 16.95         | 87.30            | 100%         | 1.00%                 | 86.43  |
| Ghanvi                                     | 22.50         | 93.34            | 88%          | 1.20%                 | 81.15  |
| Baner                                      | 12.00         | 60.67            | 88%          | 1.00%                 | 52.86  |
| Gaj  | 10.50         | 38.31            | 88%          | 1.00%                 | 33.38  |
| Khaulti                                    | 12.00         | 49.95            | 88%          | 0.70%                 | 43.65  |
| Binwa                                      | 6.00          | 29.25            | 100%         | 0.70%                 | 29.05  |
| Thirot                                     | 4.50          | 17.74            | 100%         | 0.90%                 | 17.58  |
| Gumma                                      | 3.00          | 11.83            | 100%         | 1.00%                 | 11.71  |
| Holi                                       | 3.00          | 11.83            | 100%         | 1.00%                 | 11.71  |
| Bhaba Aug                                  | 4.50          | 17.74            | 100%         | 0.90%                 | 17.58  |
| Nogli                                      | 2.50          | 9.85             | 100%         | 1.00%                 | 9.75   |
| Rongtong                                   | 2.00          | 7.64             | 100%         | 1.00%                 | 7.56   |
| Sal-II                                     | 2.00          | 7.88             | 100%         | 1.14%                 | 7.79   |
| Chaba                                      | 1.75          | 7.67             | 100%         | 1.00%                 | 7.59   |
| Rukti                                      | 1.50          | 6.54             | 100%         | 1.00%                 | 6.47   |
| Chamba                                     | 0.45          | 1.77             | 100%         | 1.00%                 | 1.75   |
| Killar                                     | 0.30          | 1.16             | 100%         | 0.86%                 | 1.15   |
| Ghanvi-II                                  | 10.00         | 52.27            | 88%          | 1.20%                 | 45.45  |
| <b>Total Available from Own Generation</b> |               |                  |              |                       | <b>472.61</b>                                    |

7.8.31 In addition, the Petitioner has PPAs with various SHPs / IPPs / private micro hydel projects. Power from these projects is also considered towards meeting the non-solar renewable obligation of the Petitioner. The list of these SHPs/ private micro hydel projects along with installed capacities is provided below:



**Table 151: List of SHEPs and Private Micro Hydel projects along with Installed Capacity**

| <b>Name of Project.</b> | <b>Installed Capacity</b> |
|-------------------------|---------------------------|
| Raskat                  | 0.8 MW                    |
| Titang                  | 0.9 MW                    |
| Dehar                   | 5 MW                      |
| Baragran                | 4.9 MW                    |
| Maujhi                  | 4.5 MW                    |
| Ching                   | 1 MW                      |
| Manal/Chandni           | 6 MW                      |
| Aleo                    | 3 MW                      |
| Manjhal                 | 1 MW                      |
| Salag                   | 0.15 MW                   |
| Jiwa Kothari            | 1 MW                      |
| Marhi                   | 5 MW                      |
| Kothi                   | 200 KW                    |
| Juthed                  | 100 KW                    |
| Taraila                 | 5 MW                      |
| Gharola                 | 100 KW                    |
| Bramganga               | 5 MW                      |
| Sahu                    | 5 MW                      |
| Sarbari -1              | 4.5 MW                    |
| Upper Awa               | 5 MW                      |
| Purthi                  | 100 KW                    |
| Sural                   | 100 KW                    |
| Lingti                  | 400 KW                    |
| IKU-II                  | 5 MW                      |
| Shyang                  | 3 MW                      |
| Tarella-II              | 5 MW                      |
| Luni-III                | 5 MW                      |
| Andhra Stage-II         | 5 MW                      |
| Lower Baijnath Kuhl     | 1 MW                      |
| Upper Tarella           | 5 MW                      |
| Luni-II                 | 5 MW                      |
| Baner-III               | 5 MW                      |
| Manglad                 | 4.5 MW                    |
| Drinidhar               | 5 MW                      |
| Sainj                   | 5 MW                      |
| Gurahan                 | 1.5 MW                    |
| Maujhi-II               | 5 MW                      |
| Palor-I                 | 3 MW                      |

| Name of Project.     | Installed Capacity |
|----------------------|--------------------|
| Tangling             | 5 MW               |
| Gaj-II               | 1.5 MW             |
| Brahal               | 4 MW               |
| Upper Khauli         | 5 MW               |
| Jirah                | 4 MW               |
| IQU-I                | 4.5 MW             |
| Rakchad              | 5 MW               |
| Chirchand            | 5 MW               |
| Timbi                | 3 MW               |
| Binwa Parai          | 5 MW               |
| Dehar-II             | 1.5 MW             |
| Tarella-III          | 5 MW               |
| Sach                 | 900 KW             |
| Rukti-II             | 5 MW               |
| Sechi                | 4.5 MW             |
| Chakshi              | 2 MW               |
| Belij                | 5 MW               |
| Suman Sarwari Unit-I | 2.5 MW             |
| Masli                | 5 MW               |
| Dunali               | 5 MW               |
| Panwi                | 4 MW               |
| Dikleri              | 2 MW               |
| Binwa-IV             | 4 MW               |
| Hamal                | 2 MW               |
| Kotlu                | 1.8 MW             |
| Tulang               | 3 MW               |
| Kalm                 | 2 MW               |
| Ubharah              | 2.40 MW            |
| Kurtha               | 5 MW               |
| Aleo -II             | 4.80 MW            |
| Jogini-II            | 5.00 MW            |
| Neogal-II            | 4.50 MW            |
| Awa                  | 4.50 MW            |
| Shaung               | 3 MW               |
| Kurhed               | 4.50 MW            |
| Kartaul              | 2.4 MW             |
| Haripur Nallah       | 3 MW               |
| Solang               | 1 MW               |
| Gaj Top              | 3.80 MW            |
| Leond                | 2 MW               |

| Name of Project.                | Installed Capacity |
|---------------------------------|--------------------|
| Behna-I                         | 5 MW               |
| Billing                         | 400 KW             |
| Sarwari-III                     | 2 MW               |
| Serai                           | 2 MW               |
| <b>Total Capacity (&lt;5MW)</b> | <b>274.25 MW</b>   |
| Patikari                        | 16 MW              |
| Toss                            | 10 MW              |
| Sarbari-II                      | 5.4 MW             |
| Beas Kund                       | 9 MW               |
| Neogal                          | 15 MW              |
| Kurmi                           | 8 MW               |
| Brua                            | 9 MW               |
| <b>Total Capacity (&gt;5MW)</b> | <b>72.40 MW</b>    |
| <b>Grand Total</b>              | <b>346.65 MW</b>   |

7.8.32 The Commission has considered submission of the Petitioner with respect to the power procured from existing SHEPs during FY19 and considered the same for projecting energy availability during the Control Period. The Commission has considered an increase of 3% y-o-y in availability of power from private SHPs during the fourth Control Period in absence of details of upcoming SHPs provided by the Petitioner. The table below summarizes energy availability for HPSEBL from own and private small and micro hydel projects:

**Table 152: Energy Availability from Small Hydro Own and IPPs/Private Stations**

| Name of Generating Station             | Energy Available to HPSEBL |                 |                 |                 |                 |
|--|----------------------------|-----------------|-----------------|-----------------|-----------------|
|  | FY20                       | FY21            | FY22            | FY23            | FY24            |
| Small Hydro Own Generation             | 472.61                     | 472.61          | 472.61          | 472.61          | 472.61          |
| Small HEP/ Private Micro <5MW          | 1,079.25                   | 1,111.62        | 1,144.97        | 1,179.32        | 1,214.70        |
| Small HEP/ Private Micro >5MW          | 244.17                     | 251.50          | 259.04          | 266.81          | 274.82          |
| <b>Total Non-solar Renewable Power</b> | <b>1,796.03</b>            | <b>1,835.73</b> | <b>1,876.62</b> | <b>1,918.74</b> | <b>1,962.13</b> |

### **Renewable Power (Solar)**

7.8.33 The Petitioner is procuring solar power from NTPC's Singrauli Solar PV Power Project (15 MW) bundled with thermal power, in which 15 MW of power is being made available to HPSEBL from FY15 onwards. The bundling ratio of solar & conventional thermal would be 1:1 in MW terms. Further, the Petitioner has also submitted that it is procuring power from SECI we.f. 6<sup>th</sup> June, 2015 against contracted capacity of 20 MW.

7.8.34 Recently, the Govt. of HP has also notified a scheme to harness the solar power of 20 MW (Aggregate Capacity) from the projects ranging from 250kWp to 500kWp which are to be installed by Himachalis in the State and made it

mandatory for HPSEBL to procure power from the IPPs falling under the scheme. As a result, the Petitioner has also submitted details of energy from additional private solar plants. The Commission has considered the submission of the Petitioner and has projected energy availability considering an average CUF of 19% and 100% share from these plants for the fourth Control Period to the Petitioner. The details of these plants has been given in the table below:

**Table 153: HPSEBL Submission – Details of Additional Private Solar PV Projects**

| S. No.  | Name of Solar PV Plant        | Date of Synchronization of the Project | Installed Capacity (in MW) | Unit Projected (in MUs) | Tariff (Rs./ kWh) | Date of signing of PPA |
|---|-------------------------------|--|----------------------------|-------------------------|-------------------|------------------------|
| <b>A – Details of Commissioned Solar PV Projects upto 5 MW</b>                                  |                               |  |                            |                         |                   |                        |
| 1   | Jahu Solar PV                 | 20.02.2018                             | 4.00                       | 6.66                    | 5.25              | 31.03.2017             |
| 2   | Nand Solar PV                 | 19.03.2018                             | 5.00                       | 8.32                    | 5.25              | 31.03.2017             |
| 3   | GR Enterprises                | 30.03.2018                             | 1.00                       | 1.66                    | 4.37              | 31.03.2017             |
| 4   | Berra Dol                     | 07.12.2018                             | 5.00                       | 8.32                    | 4.31              | 31.03.2017             |
| 5   | Luckey Brass                  | 17.11.2018                             | 2.00                       | 3.33                    | 4.31              | 27.03.2018             |
|   | <b>Total (A)</b>              |  | <b>17.00</b>               | <b>28.29</b>            |                   |                        |
| <b>B – Details of Projects for which PPA has been signed but Commissioning not achieved yet</b> |                               |  |                            |                         |                   |                        |
| 6   | Haryana Powertech Project-I   | 31.03.2019                             | 1.00                       | 1.66                    | 4.37              | 31.03.2017             |
| 7   | Haryana Powertech Project-II  | 31.03.2019                             | 1.00                       | 1.66                    | 4.37              | 31.03.2017             |
| 8   | Surya Ushma                   | 31.03.2019                             | 5.00                       | 8.32                    | 4.31              | 31.03.2017             |
| 9   | RSV                           | 31.03.2019                             | 1.00                       | 1.66                    | 4.37              | 28.03.2018             |
| 10  | Kamlesh Thakur                | 31.07.2019                             | 0.90                       | 1.50                    | 4.20              | 26.11.2018             |
| 11  | Thakur Solar Project          | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 12  | EVAZ Solar Park               | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 13  | AYANNAZ Solar Park            | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 14  | Surya Kiran Solar Project     | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 15  | Sankhayan Solar Project       | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 16  | Lavanya surya Solar Project   | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 17  | Bhandari Ram Solar Project    | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 18  | Solar Power Project Rajakhasa | Before Jan. 2020                       | 0.25                       | 0.42                    | 4.20              | PPA signed in FY19     |

| S. No. | Name of Solar PV Plant            | Date of Synchronization of the Project | Installed Capacity (in MW) | Unit Projected (in MUs) | Tariff (Rs./ kWh) | Date of signing of PPA |
|--------|-----------------------------------|--|----------------------------|-------------------------|-------------------|------------------------|
| 19     | Aditya Urja Solar Project         | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 20     | Apex Solar Project                | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 21     | Mahima Negi chauhan Solar Project | Before Jan. 2020                       | 0.40                       | 0.67                    | 4.20              | PPA signed in FY19     |
| 22     | Dhar Solar Project                | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 23     | Viraj Energy Solar Project        | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 24     | Aashima Solar Project             | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 25     | Kui Kanda Nag Solar Project       | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 26     | Maa Durga Durah Solar Project     | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 27     | Devta Chambu Solar Power Project  | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 28     | Baldev Solar Power Project        | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 29     | Kamaksha Solar Power Project      | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 30     | Sadhai Solar Power Project        | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 31     | Chamba Solar Power Project        | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 32     | Swarghat Solar Power Project      | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 33     | Kasla Solar Power Project         | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 34     | Rathore-I Power Plant             | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 35     | Naman Solar Power Plant           | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 36     | Surya Urja Solar Project          | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 37     | Sunrays Power Solar Project       | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 38     | Ravi Urja Sola Project            | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |

| S. No. | Name of Solar PV Plant            | Date of Synchronization of the Project | Installed Capacity (in MW) | Unit Projected (in MUs) | Tariff (Rs./ kWh) | Date of signing of PPA |
|--------|-----------------------------------|--|----------------------------|-------------------------|-------------------|------------------------|
| 39     | Rijul Diwan Solar Power Project   | Before Jan. 2020                       | 0.40                       | 0.67                    | 4.20              | PPA signed in FY19     |
| 40     | Amin Chand Solar Project          | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 41     | Manisha Suman Solar Project       | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 42     | Amit Kumar Solar Project          | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 43     | Santosh Suman Solar Project       | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 44     | Sukhvinder Singh Solar PV Project | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 45     | Meena Patial Solar Project        | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 46     | Surya Shakti Solar Project        | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 47     | Surya UrjaSolar Project           | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 48     | Surya Dhara Solar Project         | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
| 49     | Surya Kiran Solar Project         | Before Jan. 2020                       | 0.50                       | 0.83                    | 4.20              | PPA signed in FY19     |
|        | <b>Total (B)</b>                  |  | <b>27.95</b>               | <b>46.52</b>            |                   |                        |
|        | <b>Grand Total (A+B)</b>          |  | <b>44.95</b>               | <b>74.81</b>            |                   |                        |

7.8.35 The Petitioner has submitted that balance solar power, if needed, shall be procured from other sources or RECs shall be purchased to meet the RPPO. The Commission has considered the submission of the Petitioner in this regard and has approved the following solar power purchase for the fourth Control Period:

**Table 154: Energy Availability from Solar Power (MUs) for fourth Control Period**

| Name of Generating Station      | Energy Available to HPSEBL |               |               |               |               |
|---------------------------------|----------------------------|---------------|---------------|---------------|---------------|
|                                 | FY20                       | FY21          | FY22          | FY23          | FY24          |
| Singrauli Solar                 | 19.06                      | 19.06         | 19.06         | 19.06         | 19.06         |
| SECI                            | 44.83                      | 44.83         | 44.83         | 44.83         | 44.83         |
| Additional Private Solar plants | 74.81                      | 74.81         | 74.81         | 74.81         | 74.81         |
| <b>Total</b>                    | <b>138.71</b>              | <b>138.71</b> | <b>138.71</b> | <b>138.71</b> | <b>138.71</b> |

### **Allocation and Energy Availability from Private Micro Hydel Projects (Purchase at APPC under REC Framework)**

7.8.36 The Petitioner also purchases power at APPC rate from small and micro hydel projects which are under the REC framework. The details of such plants along with the installed capacity are provided in table below:

**Table 155: List of Small and Micro HEPs along with Installed Capacity**

| <b>Name of Project</b> | <b>Installed Capacity</b> |
|------------------------|---------------------------|
| Balsio                 | 5 MW                      |
| Suman Sarwari-II       | 2.25 MW                   |
| Belij ka Nallah-II     | 3.50 MW                   |
| Shimla                 | 5 MW                      |
| Barhl Top              | 5 MW                      |
| Kotagad                | 3.5 MW                    |
| Upper Joiner           | 12 MW                     |
| Sumez                  | 14 MW                     |
| Jongini                | 16 MW                     |
| Baner-II               | 6 MW                      |

7.8.37 In case of power available from micro hydro projects under REC mechanism, the Commission has considered an increase of 3% in the energy generated in FY19 for each year during the fourth Control Period. The details of the same are provided below:

**Table 156: Energy Availability from IPPs and Private SHPs (MUs)**

| <b>Name of Generating Station</b> | <b>Energy Available to HPSEBL</b> |             |             |             |             |
|-----------------------------------|-----------------------------------|-------------|-------------|-------------|-------------|
|                                   | <b>FY20</b>                       | <b>FY21</b> | <b>FY22</b> | <b>FY23</b> | <b>FY24</b> |
| Small HEP/ Private Micro – REC    | 205.83                            | 212.01      | 218.37      | 224.92      | 231.67      |

### **Allocation and Energy Availability from New Projects**

7.8.38 The Commission has considered the commissioning schedule of the future stations based on data available from CEA, as per information submitted by the HPSEBL and other sources. The Commission has considered only those plants for which commissioning schedule are available from the information in CEA report or public domain.

7.8.39 It is important to note that for power from some of the projects submitted by the Petitioner i.e. Parbati-II, Parbati-III, Tehri, Koteshwar, SOR Koldam was surrendered by the Petitioner during the third Control Period for a tenure of 5 years and the Petitioner has considered these stations in its projections for fourth Control Period. Since the Petitioner is surplus during the fourth Control Period as discussed in detail in Para 8.5.25, the Commission has not considered power from these stations. Besides, the Petitioner has submitted that it has already surrendered power from some of the thermal stations such

as Unchahar-IV and Meja-I. Therefore, the Commission has not considered any power from these stations during the fourth Control Period.

- 7.8.40 The Commission feels that sufficient hydroelectric power is available within the State and therefore PPAs with costly stations should be avoided in normal course. However, if HPSEBL plans to enter into a PPA with these stations / is unable to surrender, prior approval of the Commission should be taken.
- 7.8.41 The Commission has considered energy availability from own generating station of HPSEBL i.e. Uhl-III as per the tentative commissioning dates proposed by the Petitioner. Power availability from the station has been considered as per the design energy of the plants. The allocation has been considered as 88% after deducting 12% share of free power to the GoHP.
- 7.8.42 Energy availability from other future stations has been considered as per the allocation submitted by the Petitioner. The Commission has assumed PLF of 90% for nuclear and 80% PLF for Waste to Energy (WTE) plants while the auxiliary consumption has been assumed at 9.5% for nuclear projects and nil for WTE projects. The table below summarizes the power availability from new generating stations projected for the fourth Control Period:

**Table 157: Energy Availability from New Generating Stations (MU)**

| Name of Plant                      | Installed Capacity (MW) | Year of Commissioning | Share of HPSEBL %age | HPSEBL Share (MU) |               |               |               |               |
|------------------------------------|-------------------------|-----------------------|----------------------|-------------------|---------------|---------------|---------------|---------------|
|                                    |                         |                       |                      | FY20              | FY21          | FY22          | FY23          | FY24          |
| <b>Own Station</b>                 |                         |                       |                      |                   |               |               |               |               |
| Uhl-III                            | 99                      | 2019-20               | 88%                  | 60.38             | 346.90        | 346.90        | 346.90        | 346.90        |
| <b>NPCIL</b>                       |                         |                       |                      |                   |               |               |               |               |
| RAPP (VII & VIII)                  | 1400                    | 2021-22               | 1.90%                | -                 | -             | 189.36        | 189.36        | 189.36        |
| <b>Waste to Energy</b>             |                         |                       |                      |                   |               |               |               |               |
| Shimla & Manali WTE                | 3.5                     | 2019-20               | 100%                 | 24.53             | 24.53         | 24.53         | 24.53         | 24.53         |
| <b>Total Power from New Plants</b> |                         |                       |                      | <b>84.91</b>      | <b>371.43</b> | <b>560.79</b> | <b>560.79</b> | <b>560.79</b> |

### **Allocation and Energy Availability from Other Sources, Bilateral and Short Term Arrangements**

- 7.8.43 Based on the analysis undertaken by the Commission in the above sections, it is observed that the Petitioner shall have adequate availability of power in the future (short term as well as medium term) which shall be in excess of the demand. Therefore, the Petitioner is required to undertake proper planning with respect to the power procurement from various sources.
- 7.8.44 For the purpose of projecting power purchase from Bilateral, Short-term arrangements and Banking, the Commission has carried out a month-wise demand supply analysis for each year of the fourth Control Period as given in the subsequent tables.
- 7.8.45 For the Control Period, the Commission has considered that the commercially prudent surplus power available during the summer months can be banked to



meet the shortfall during the winter months. Any further shortfall can be met from the GoHP free power and market purchases. However, the Petitioner may consider the most appropriate combination of banking and bilateral arrangement for meeting the deficit on commercial principles and with the intention of reducing the power purchase cost. Further, it was observed that the Petitioner had resorted to higher short-term purchase at a higher rate from energy exchanges in FY19 due to less severe winters.

7.8.46 The Commission feels that the demand-supply position was known in advance to the Petitioner and alternate arrangements through short-term competitive procurement could have been undertaken to avoid procurement of such costly power during FY19. **The Commission directs the Petitioner to undertake detailed forecasting of source-wise / month-wise power availability and demand for each year in advance and submit a report to the Commission seeking approval for procurement of power for estimated shortages exceeding 5% of total power procurement during any quarter. In absence of prior approval, the Commission would be constrained to consider most competitive prices prevailing during the period or disallow cost of such additional power procured.**

7.8.47 Based on the above discussion, the summary of energy availability for the fourth Control Period has been provided in the table below:

**Table 158: Summary of Energy Availability for fourth Control Period (in MUs)**

| Particulars                        | FY20             | FY21             | FY22             | FY23             | FY24             |
|------------------------------------|------------------|------------------|------------------|------------------|------------------|
| Total Own Generation               | 2,134.24         | 2,420.77         | 2,420.77         | 2,420.77         | 2,420.77         |
| Total Free Power                   | 592.93           | 618.83           | 627.24           | 636.49           | 647.00           |
| Total NTPC                         | 1,703.87         | 1,703.87         | 1,703.87         | 1,703.87         | 1,703.87         |
| Total NPCIL                        | 199.73           | 199.73           | 199.73           | 199.73           | 199.73           |
| Total NHPC                         | 288.77           | 288.77           | 288.77           | 288.77           | 288.77           |
| Total BBMB & Other Shared Stations | 1,093.66         | 1,093.66         | 1,093.66         | 1,093.66         | 1,093.66         |
| Total SJVNL & Others               | 2,305.80         | 2,305.80         | 2,305.80         | 2,305.80         | 2,305.80         |
| Total IPPs and Private SHPs        | 2,686.58         | 2,732.46         | 2,779.71         | 2,828.38         | 2,878.51         |
| Total Solar                        | 138.71           | 138.71           | 138.71           | 138.71           | 138.71           |
| Total Waste to Energy              | 24.53            | 24.53            | 24.53            | 24.53            | 24.53            |
| <b>Grand Total</b>                 | <b>11,168.82</b> | <b>11,527.12</b> | <b>11,862.57</b> | <b>11,920.49</b> | <b>11,981.13</b> |

7.8.48 Further, the summary of monthly demand supply positions during the fourth Control Period is shown in the tables below:

**Table 159: Monthly Demand Supply Position – FY20**

| Power Purchase                                | Apr      | May        | Jun        | Jul        | Aug        | Sep        | Oct          | Nov          | Dec          | Jan          | Feb          | Mar          | Total          |
|---|----------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| Sales (MU)                                    | 692      | 741        | 774        | 784        | 761        | 787        | 781          | 743          | 727          | 748          | 761          | 802          | <b>9,101</b>   |
| Losses  | 10.30%   | 10.30%     | 10.30%     | 10.30%     | 10.30%     | 10.30%     | 10.30%       | 10.30%       | 10.30%       | 10.30%       | 10.30%       | 10.30%       |                |
| Monthly Demand (MU) at Discom Periphery       | 772      | 826        | 863        | 875        | 848        | 877        | 870          | 829          | 810          | 834          | 848          | 894          | <b>10,146</b>  |
| Monthly Availability (MU) at Discom Periphery | 776      | 1,245      | 1,374      | 1,538      | 1,577      | 1,268      | 758          | 521          | 459          | 422          | 417          | 558          | <b>10,913</b>  |
| Deficit Power (MU) at Discom Periphery        | -        | -          | -          | -          | -          | -          | (112)        | (307)        | (351)        | (412)        | (431)        | (336)        | <b>(1,950)</b> |
| Deficit Power (MU) Ex Bus                     | -        | -          | -          | -          | -          | -          | (117)        | (319)        | (364)        | (428)        | (447)        | (348)        | <b>(2,022)</b> |
| Surplus Power (MU) at Discom Periphery        | 5        | 419        | 511        | 663        | 729        | 391        | -            | -            | -            | -            | -            | -            | <b>2,717</b>   |
| Surplus Power (MU) – Ex Bus                   | 5        | 434        | 530        | 688        | 756        | 405        | -            | -            | -            | -            | -            | -            | <b>2,818</b>   |
| <b>Net Surplus/ (Deficit) – Ex Bus</b>        | <b>5</b> | <b>434</b> | <b>530</b> | <b>688</b> | <b>756</b> | <b>405</b> | <b>(117)</b> | <b>(319)</b> | <b>(364)</b> | <b>(428)</b> | <b>(447)</b> | <b>(348)</b> | <b>796</b>     |

**Table 160: Monthly Demand Supply Position – FY21**

| Power Purchase                                | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    | Jan    | Feb    | Mar    | Total          |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------|
| Sales (MU)                                    | 712    | 762    | 796    | 807    | 783    | 809    | 803    | 765    | 748    | 770    | 783    | 825    | <b>9,363</b>   |
| Losses  | 10.10% | 10.10% | 10.10% | 10.10% | 10.10% | 10.10% | 10.10% | 10.10% | 10.10% | 10.10% | 10.10% | 10.10% |                |
| Monthly Demand (MU) at Discom Periphery       | 792    | 848    | 885    | 898    | 871    | 900    | 893    | 851    | 832    | 857    | 871    | 918    | <b>10,415</b>  |
| Monthly Availability (MU) at Discom Periphery | 814    | 1,294  | 1,426  | 1,604  | 1,650  | 1,310  | 778    | 530    | 463    | 423    | 419    | 561    | <b>11,271</b>  |
| Deficit Power                                 | -      | -      | -      | -      | -      | -      | (115)  | (321)  | (370)  | (434)  | (451)  | (356)  | <b>(2,047)</b> |

| Power Purchase                         | Apr       | May        | Jun        | Jul        | Aug        | Sep        | Oct          | Nov          | Dec          | Jan          | Feb          | Mar          | Total          |
|--|-----------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| (MU) at Discom Periphery               |           |            |            |            |            |            |              |              |              |              |              |              |                |
| Deficit Power (MU) Ex Bus              | -         | -          | -          | -          | -          | -          | (120)        | (333)        | (383)        | (450)        | (468)        | (370)        | <b>(2,124)</b> |
| Surplus Power (MU) at Discom Periphery | 21        | 446        | 541        | 706        | 779        | 410        | -            | -            | -            | -            | -            | -            | <b>2,904</b>   |
| Surplus Power (MU) – Ex Bus            | 22        | 463        | 561        | 732        | 808        | 425        | -            | -            | -            | -            | -            | -            | <b>3,012</b>   |
| <b>Net Surplus/ (Deficit) –Ex Bus</b>  | <b>22</b> | <b>463</b> | <b>561</b> | <b>732</b> | <b>808</b> | <b>425</b> | <b>(120)</b> | <b>(333)</b> | <b>(383)</b> | <b>(450)</b> | <b>(468)</b> | <b>(370)</b> | <b>888</b>     |

**Table 161: Monthly Demand Supply Position – FY22**

| Power Purchase                                | Apr       | May        | Jun        | Jul        | Aug        | Sep        | Oct          | Nov          | Dec          | Jan          | Feb          | Mar          | Total          |
|---|-----------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| Sales (MU)                                    | 733       | 784        | 819        | 830        | 806        | 832        | 826          | 787          | 770          | 793          | 805          | 849          | <b>9,635</b>   |
| Losses  | 9.90%     | 9.90%      | 9.90%      | 9.90%      | 9.90%      | 9.90%      | 9.90%        | 9.90%        | 9.90%        | 9.90%        | 9.90%        | 9.90%        |                |
| Monthly Demand (MU) at Discom Periphery       | 813       | 870        | 909        | 922        | 894        | 924        | 917          | 874          | 855          | 880          | 894          | 943          | <b>10,694</b>  |
| Monthly Availability (MU) at Discom Periphery | 841       | 1,329      | 1,464      | 1,649      | 1,690      | 1,338      | 800          | 547          | 480          | 440          | 436          | 582          | <b>11,597</b>  |
| Deficit Power (MU) at Discom Periphery        | -         | -          | -          | -          | -          | -          | (117)        | (327)        | (375)        | (440)        | (458)        | (361)        | <b>(2,077)</b> |
| Deficit Power (MU) Ex Bus                     | -         | -          | -          | -          | -          | -          | (121)        | (339)        | (389)        | (456)        | (475)        | (374)        | <b>(2,155)</b> |
| Surplus Power (MU) at Discom Periphery        | 28        | 459        | 555        | 727        | 796        | 415        | -            | -            | -            | -            | -            | -            | <b>2,980</b>   |
| Surplus Power (MU) – Ex Bus                   | 29        | 476        | 576        | 754        | 826        | 430        | -            | -            | -            | -            | -            | -            | <b>3,091</b>   |
| <b>Net Surplus/ (Deficit) –Ex Bus</b>         | <b>29</b> | <b>476</b> | <b>576</b> | <b>754</b> | <b>826</b> | <b>430</b> | <b>(121)</b> | <b>(339)</b> | <b>(389)</b> | <b>(456)</b> | <b>(475)</b> | <b>(374)</b> | <b>936</b>     |

**Table 162: Monthly Demand Supply Position – FY23**

| Power Purchase                                | Apr       | May        | Jun        | Jul        | Aug        | Sep        | Oct          | Nov          | Dec          | Jan          | Feb          | Mar          | Total          |
|---|-----------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| Sales (MU)                                    | 754       | 807        | 843        | 855        | 829        | 857        | 850          | 810          | 793          | 817          | 829          | 875          | <b>9,917</b>   |
| Losses  | 9.70%     | 9.70%      | 9.70%      | 9.70%      | 9.70%      | 9.70%      | 9.70%        | 9.70%        | 9.70%        | 9.70%        | 9.70%        | 9.70%        |                |
| Monthly Demand (MU) at Discom Periphery       | 835       | 893        | 933        | 946        | 919        | 949        | 941          | 897          | 878          | 904          | 918          | 969          | <b>10,982</b>  |
| Monthly Availability (MU) at Discom Periphery | 847       | 1,336      | 1,470      | 1,657      | 1,699      | 1,345      | 803          | 549          | 482          | 442          | 438          | 586          | <b>11,655</b>  |
| Deficit Power (MU) at Discom Periphery        | -         | -          | -          | -          | -          | -          | (138)        | (348)        | (396)        | (463)        | (480)        | (382)        | <b>(2,207)</b> |
| Deficit Power (MU) Ex Bus                     | -         | -          | -          | -          | -          | -          | (143)        | (361)        | (411)        | (480)        | (498)        | (396)        | <b>(2,289)</b> |
| Surplus Power (MU) at Discom Periphery        | 12        | 443        | 537        | 710        | 780        | 396        | -            | -            | -            | -            | -            | -            | <b>2,879</b>   |
| Surplus Power (MU) – Ex Bus                   | 13        | 459        | 557        | 737        | 810        | 411        | -            | -            | -            | -            | -            | -            | <b>2,987</b>   |
| <b>Net Surplus/ (Deficit) – Ex Bus</b>        | <b>13</b> | <b>459</b> | <b>557</b> | <b>737</b> | <b>810</b> | <b>411</b> | <b>(143)</b> | <b>(361)</b> | <b>(411)</b> | <b>(480)</b> | <b>(498)</b> | <b>(396)</b> | <b>697</b>     |

**Table 163: Monthly Demand Supply Position – FY24**

| Power Purchase                          | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   | Jan   | Feb   | Mar   | Total         |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|
| Sales (MU)                              | 776   | 830   | 867   | 880   | 854   | 882   | 875   | 834   | 816   | 841   | 853   | 901   | <b>10,209</b> |
| Losses                                  | 9.50% | 9.50% | 9.50% | 9.50% | 9.50% | 9.50% | 9.50% | 9.50% | 9.50% | 9.50% | 9.50% | 9.50% |               |
| Monthly Demand (MU) at Discom Periphery | 857   | 917   | 958   | 972   | 944   | 974   | 967   | 922   | 902   | 929   | 943   | 995   | <b>11,281</b> |
| Monthly Availability (MU) at Discom     | 853   | 1,343 | 1,477 | 1,665 | 1,708 | 1,352 | 807   | 552   | 484   | 443   | 440   | 591   | <b>11,715</b> |

| Power Purchase                         | Apr        | May        | Jun        | Jul        | Aug        | Sep        | Oct          | Nov          | Dec          | Jan          | Feb          | Mar          | Total          |
|--|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| Periphery                              |            |            |            |            |            |            |              |              |              |              |              |              |                |
| Deficit Power (MU) at Discom Periphery | (4)        | -          | -          | -          | -          | -          | (159)        | (370)        | (418)        | (486)        | (503)        | (405)        | <b>(2,345)</b> |
| Deficit Power (MU) Ex Bus              | (4)        | -          | -          | -          | -          | -          | (165)        | (384)        | (434)        | (504)        | (521)        | (420)        | <b>(2,432)</b> |
| Surplus Power (MU) at Discom Periphery | -          | 426        | 519        | 693        | 764        | 378        | -            | -            | -            | -            | -            | -            | <b>2,780</b>   |
| Surplus Power (MU) – Ex Bus            | -          | 442        | 538        | 719        | 793        | 392        | -            | -            | -            | -            | -            | -            | <b>2,883</b>   |
| <b>Net Surplus/ (Deficit) –Ex Bus</b>  | <b>(4)</b> | <b>442</b> | <b>538</b> | <b>719</b> | <b>793</b> | <b>392</b> | <b>(165)</b> | <b>(384)</b> | <b>(434)</b> | <b>(504)</b> | <b>(521)</b> | <b>(420)</b> | <b>451</b>     |

### **Merit Order Purchase including for Banking**

7.8.49 As per the monthly demand supply analysis detailed above, it is observed that the Petitioner would be surplus during summer months and deficit during winter months. Therefore, the Petitioner must undertake appropriate banking arrangements for meeting the deficit during winter months. For this purpose, it is important that the Petitioner is fully aware of the cost of power from various sources and the merit order so that it is able to take decisions based on commercial principles as discussed in Chapter 8.

### **7.9 Capital Investment Plan**

7.9.1 Regulation 9 of the MYT Regulations, 2011 states,

#### **"9. Capital Investment**

- (1) *The Commission shall approve capital investment plan of the licensees for the control period commensurate with load growth, rural electrification, system extension, distribution loss reduction and quality improvement proposed in the business plan.*
- (2) *The distribution licensee shall be required to take scheme wise approval for capital investment for creation of new assets at 33 kV and above, but for creation of new assets below 33 kV and network augmentation approval will be required as block of scheme.*
- (3) *Capital investment plan submitted by the licensee shall also provide details of on-going projects that will spill into the control period and new projects for creation of new assets at 33 kV and above that will commence during the control period but may extend beyond the control period.*
- (4) *The investment plan shall be scheme-wise and with respect to each circle/scheme shall include-*
  - a. *purpose of investment (i.e. replacement of existing assets, meeting load growth, technical loss reduction, non-technical loss reduction, meeting reactive energy requirements, customer service improvement, improvement in quality and reliability of supply, etc.);*
  - b. *Capital structure;*
  - c. *Capitalisation Schedule;*
  - d. *Financing Plan;*
  - e. *Cost-benefit analysis; and*
  - f. *Improvement in operational efficiency envisaged in the control period, etc."*

7.9.2 Further, Regulation 36 of the MYT Regulations, 2011 states that the Business Plan must comprise of,

- (e) *"Capital investment plan (CAPEX plan): The Commission shall approve the capital investment of the licensee for the control period, the CAPEX plan being based upon load forecasts, load flow studies/power evacuation plans/plan drawn by the State*

*Transmission Utility (STU), system improvement (distribution loss reduction, reliability / quality of supply etc.) and the corresponding capitalization schedule and financing plan, the appropriate capital structure of each scheme proposed and cost of financing (interest on debt and return on equity), terms of loan agreements, etc:*

*Provided that, the consumer contributions towards cost of capital assets and the assets so created shall be accounted for separately as per standard accounting principles;"*

7.9.3 The Petitioner has submitted a Business Plan for distribution business with details of capital investment to be incurred during each year of the fourth Control Period. The Petitioner has proposed various capital works with a total expenditure of Rs. 6229 Cr. during the fourth Control Period, broadly categorized into ongoing and new works. Each of these heads comprises of the following broad schemes:

- EHV Schemes
- HT works at 33/11 kV level which include construction of new substations, lines, augmentation, renovation and modernization
- General Service Connection Scheme (GSC)
- IT Initiatives
- Deposit Works

7.9.4 The capital investment plan as submitted by the Petitioner has been summarized in the table below.

**Table 164L HPSEBL Submission – Capital Investment Plan proposed for fourth Control Period**

| Particulars of Scheme                         | FY 20         | FY 21         | FY 22         | FY 23        | FY 24        | Total         |
|---|---------------|---------------|---------------|--------------|--------------|---------------|
| <b>Ongoing Schemes</b>                        |               |               |               |              |              |               |
| <b>EHV Schemes</b>                            |               |               |               |              |              |               |
| ONGOING WORKS IN ES CIRCLE HPSEBL HAMIRPUR    | 107.83        | 54.42         | 52.50         | 20.20        | 0.00         | <b>234.95</b> |
| ONGOING WORKS IN ES CIRCLE HPSEBL SHIMLA      | 84.44         | 103.74        | 53.92         | 18.15        | 7.72         | <b>267.98</b> |
| <b>Sub Total (A)</b>                          | <b>192.27</b> | <b>158.16</b> | <b>106.42</b> | <b>38.35</b> | <b>7.72</b>  | <b>502.93</b> |
| <b>North Zone</b>                             |               |               |               |              |              |               |
| (OP) Circle, Kangra                           | 76.90         | 4.29          | 4.97          | 5.74         | 5.79         | 97.68         |
| (OP) Circle, Una                              | 33.52         | 2.68          | -             | -            | -            | 36.20         |
| <b>Sub Total (North Zone)</b>                 | <b>110.42</b> | <b>6.97</b>   | <b>4.97</b>   | <b>5.74</b>  | <b>5.79</b>  | <b>133.87</b> |
| <b>Central Zone</b>                           |               |               |               |              |              |               |
| <b>(OP) Circle, Bilaspur</b>                  | 67.65         | 17.90         | 12.07         | 8.00         | 1.25         | <b>106.87</b> |
| <b>(OP) Circle, Kullu</b>                     | 4.29          | 1.83          | 1.05          | 0.30         | 0.15         | <b>7.62</b>   |
| <b>Sub Total (C)</b>                          | <b>71.94</b>  | <b>19.73</b>  | <b>13.12</b>  | <b>8.30</b>  | <b>1.40</b>  | <b>114.49</b> |
| <b>Grand Total of Ongoing Schemes (A+B+C)</b> | <b>374.63</b> | <b>184.86</b> | <b>124.51</b> | <b>52.39</b> | <b>14.91</b> | <b>751.30</b> |
| <b>New Schemes</b>                            |               |               |               |              |              |               |
| <b>EHV Schemes</b>                            |               |               |               |              |              |               |
| <b>ES CIRCLE HPSEBL HAMIRPUR</b>              | 25.66         | 65.82         | 72.10         | 20.50        | 5.00         | <b>189.08</b> |

| Particulars of Scheme   | FY 20          | FY 21          | FY 22          | FY 23         | FY 24         | Total          |
|---|----------------|----------------|----------------|---------------|---------------|----------------|
| <b>ES CIRCLE HPSEBL SHIMLA</b>                                    | 93.30          | 259.72         | 214.00         | 108.00        | 33.00         | <b>708.02</b>  |
| <b>Sub Total</b>  | <b>118.96</b>  | <b>325.54</b>  | <b>286.10</b>  | <b>128.50</b> | <b>38.00</b>  | <b>897.10</b>  |
| <b>North Zone</b>   |                |                |                |               |               |                |
| (OP) Circle, Kangra   | 24.08          | 131.76         | 81.91          | 49.76         | 42.87         | <b>330.38</b>  |
| (OP) Circle, Una  | 29.14          | 47.54          | 35.17          | 32.10         | 29.49         | <b>173.43</b>  |
| (OP) Circle, Dalhousie  | 54.40          | 132.72         | 88.37          | 78.84         | 73.79         | <b>428.11</b>  |
| <b>Sub Total (North Zone)</b>                                     | <b>107.61</b>  | <b>312.02</b>  | <b>205.44</b>  | <b>160.70</b> | <b>146.15</b> | <b>931.93</b>  |
| <b>South Zone</b>   |                |                |                |               |               |                |
| Shimla Circle   | 23.40          | 24.34          | 19.42          | 8.12          | 3.93          | <b>79.21</b>   |
| Rampur Circle   | 13.56          | 19.68          | 21.58          | 7.29          | 9.85          | <b>71.96</b>   |
| Nahan Circle  | 40.74          | 42.54          | 30.53          | 23.79         | 20.42         | <b>158.01</b>  |
| Rohroo Circle   | 13.72          | 9.84           | 7.02           | 7.42          | 6.42          | <b>44.43</b>   |
| Solan Circle  | 22.57          | 15.50          | 10.15          | 4.73          | 2.65          | <b>55.60</b>   |
| <b>Circle as a whole</b>  |                |                |                |               |               |                |
| Consumer Services and electrification (GSC Schemes) (All Circles) | 246.54         | 233.12         | 220.11         | 223.56        | 240.84        | <b>1164.16</b> |
| Deposit Scheme under different Circles under Chief Engineer       | 20.00          | 20.00          | 20.00          | 20.00         | 20.00         | <b>100.00</b>  |
| <b>Sub Total (South Zone)</b>                                     | <b>380.52</b>  | <b>365.03</b>  | <b>328.80</b>  | <b>294.91</b> | <b>304.11</b> | <b>1673.37</b> |
| <b>Central Zone</b>   |                |                |                |               |               |                |
| (OP) Circle, Hamirpur   | 43.14          | 31.08          | 23.19          | 18.94         | 15.12         | <b>131.45</b>  |
| (OP) Circle, Kullu  | 93.52          | 74.63          | 51.28          | 41.60         | 34.70         | <b>295.73</b>  |
| (OP) Circle, Bilaspur   | 75.41          | 56.02          | 55.08          | 55.75         | 50.53         | <b>292.79</b>  |
| (OP) Circle, Mandi  | 109.89         | 50.14          | 39.92          | 34.82         | 56.72         | <b>291.48</b>  |
| <b>Sub Total</b>  | <b>321.96</b>  | <b>211.87</b>  | <b>169.47</b>  | <b>151.10</b> | <b>157.06</b> | <b>1011.45</b> |
| <b>CAPEX in respect of IT-Cell</b>                                | <b>209.00</b>  | <b>317.00</b>  | <b>413.00</b>  | <b>24.50</b>  | <b>-</b>      | <b>963.50</b>  |
| <b>Grand Total of New CAPEX to be undertaken</b>                  | <b>1138.05</b> | <b>1531.45</b> | <b>1402.82</b> | <b>759.72</b> | <b>645.32</b> | <b>5477.35</b> |
| <b>Total CAPEX (Existing and New)</b>                             | <b>1512.68</b> | <b>1716.31</b> | <b>1527.33</b> | <b>812.10</b> | <b>660.23</b> | <b>6228.65</b> |

7.9.5 Based on the initial scrutiny of the Business Plan submitted by the Petitioner, substantial gaps were observed with respect to details regarding the various schemes/ works proposed for the fourth Control Period. The Petitioner had neither clarified the purpose of various schemes proposed during the Control Period nor provided details of works covered under each head or under various business units (circles). In response to the several queries and clarifications sought during deficiency note and TVS, it is observed that the various works proposed by the Petitioner lacks any review and basis.

7.9.6 The Commission feels that the Petitioner has not made adequate efforts for planning its infrastructure and investment for the fourth Control Period in line with the provisions of the MYT Regulations 2011.

7.9.7 Further, as part of deficiency letter, the Petitioner was asked to submit the details of capital expenditure, capitalization and CWIP during each year of the third Control Period. At the time of issuance this Order, the Commission has received only partial details of scheme-wise break-up of capital expenditure, capitalization and CWIP for distribution schemes. Additionally, in response to several queries of the Commission, the Petitioner kept revising the figures for



actual capital expenditure undertaken during the third Control Period. The Petitioner has also not been submitting quarterly progress reports of capital expenditure and capitalization to the Commission as directed in the previous tariff orders that shows the negligent approach of the Petitioner. The Commission, therefore takes a strict view of such a casual approach of the Petitioner and **directs the Petitioner to furnish quarterly progress reports of capital expenditure and capitalization for distribution business along with details of schemes and their funding pattern regularly. While doing so, the Petitioner must prepare detailed formats, compile these details from each circle on a regular basis and submit consolidated sheets with details of each scheme to the Commission for review rather than submitting individual capital expenditure and capitalization for each scheme separately. These details must, inter alia also include progress on Centrally Sponsored schemes, details of IDC against each scheme, sanctioned cost of the project, date of approval and funding pattern.**

7.9.8 The Commission feels that the proposed capital expenditure for the fourth Control Period is very high and lacks adequate basis. Also, absence of adequate details regarding actual capital expenditure and capitalization undertaken by the Petitioner in the previous years adds to difficulties in approving the capital investment plan for the fourth Control Period. Therefore, the Commission is left with no other option but to analyse the various submissions with respect to capital expenditure for FY14 - FY19 made by the Petitioner in response to the queries of the Commission. For FY19, the Commission has considered average capital expenditure for the past four years. Based on the scrutiny and analysis of information, the Commission has tentatively considered the following capital expenditure for the third Control Period for the purpose of approval of capital expenditure and opening GFA for fourth Control Period:

**Table 165: Capital Expenditure and Capitalization considered towards third Control Period (Rs. Cr.)**

| Particulars         | FY15   | FY16   | FY17   | FY18   | FY19*  | Total           |
|---------------------|--------|--------|--------|--------|--------|-----------------|
| Capital Expenditure | 451.39 | 582.30 | 286.65 | 594.32 | 478.66 | <b>2,393.31</b> |
| Capitalization      | 394.71 | 507.64 | 423.81 | 375.45 | 425.40 | <b>2,127.01</b> |

\* Considered based on average of last four years

7.9.9 The detailed analysis of the investment plan proposed vis-à-vis the actual capital expenditure submitted for third Control Period is given in the subsequent paragraphs.

### ***EHV Schemes***

7.9.10 The Petitioner has submitted that it shall continue with existing works under ongoing EHV schemes of third Control Period during the fourth Control Period. Alongside, the Petitioner has also proposed a list of new EHV works for the fourth Control Period. The summary of these schemes as submitted by the Petitioner and the total proposed capital expenditure of Rs. 1400.02 Cr. under them for each year of the fourth Control Period is given in the table below:

**Table 166: HPSEBL Submission - Summary of Capital Expenditure on EHV Schemes during 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                       | FY20          | FY21          | FY22          | FY23          | FY24         | Total          |
|-----------------------------------|---------------|---------------|---------------|---------------|--------------|----------------|
| <b>Ongoing EHV Schemes – (A)</b>  |               |               |               |               |              |                |
| ES CIRCLE HAMIRPUR                | 107.83        | 54.42         | 52.50         | 20.20         | -            | <b>234.95</b>  |
| ES CIRCLE SHIMLA                  | 84.44         | 103.74        | 53.92         | 18.15         | 7.72         | <b>267.98</b>  |
| <b>Sub Total (A)</b>              | <b>192.27</b> | <b>158.16</b> | <b>106.42</b> | <b>38.35</b>  | <b>7.72</b>  | <b>502.93</b>  |
| <b>New EHV Schemes – (B)</b>      |               |               |               |               |              |                |
| ES CIRCLE HAMIRPUR                | 25.66         | 65.82         | 72.10         | 20.50         | 5.00         | <b>189.08</b>  |
| ES CIRCLE SHIMLA                  | 93.30         | 259.72        | 214.00        | 108.00        | 33.00        | <b>708.02</b>  |
| <b>Sub-Total (B)</b>              | <b>118.96</b> | <b>325.54</b> | <b>286.10</b> | <b>128.50</b> | <b>38.00</b> | <b>897.10</b>  |
| <b>Total Capex on EHV Schemes</b> | <b>311.23</b> | <b>483.7</b>  | <b>392.52</b> | <b>166.85</b> | <b>45.72</b> | <b>1400.02</b> |

7.9.11 Out of the Rs. 1400.02 Cr. capex proposed under EHV schemes during the fourth Control Period, the Petitioner has proposed Rs. 502.93 Cr. for ongoing schemes. Since work on most of the spillover / ongoing schemes have already been initiated by HPSEBL, the Commission has allowed this overall capital expenditure of Rs. 502.93 Cr. during the fourth Control Period. However, it was also observed that while proposing this expenditure the Petitioner has front-loaded the impact of these works in FY20. In the absence of tentative completion schedules of each work, the Commission has therefore, evenly spread out the balance capital expenditure on ongoing schemes equally in the first three years of the fourth Control Period as given in Table 168.

7.9.12 Further, from the list of new EHV works proposed, it was observed that the Petitioner has proposed new schemes at 66kV and above for the fourth Control Period including creation of new 132 kV lines, substations etc. In response to the information sought by the Commission, the Petitioner has submitted DPRs for few schemes. Some of these schemes at 132 kV level have also been proposed by HPPTCL in their investment plan for the fourth Control Period.

7.9.13 During the technical validation session, the Commission had asked the Petitioner to clarify if any concurrence/approval of HPPTCL (STU in this case), which has the primary responsibility of planning and co-ordination of intra-state transmission system in the State was taken for executing these works. In its response, the Petitioner has submitted that the EHV schemes proposed by HPSEBL involves works on those EHV substations that are owned, operated and maintained by the Petitioner and HPPTCL has no mandate in respect of such works. The Petitioner further submitted that, clause 4.3 of Himachal Pradesh Power Sector Reforms Transfer Scheme, 2010 states,

*"The HPSEB Ltd. while acting as distribution licensee shall be entitled to lay and operate such electric lines, sub-stations and electrical plant that is primarily maintained for the purpose of distributing electricity in the area of supply of HPSEB Ltd., notwithstanding that such line, sub-station or electrical plant are high pressure cables or overhead lines*

or associated with such high pressure cables or overhead liens; or used incidentally for the purpose of transmitting electricity for others, in accordance with Electricity Act, 2003 or the Rules framed there under.”

7.9.14 In light of this submission, the Commission observes that the provisions of Transfer Scheme are subject to rules and provisions of the Electricity Act, 2003. The relevant provisions of the Electricity Act, 2003 state,

“39. (1) The State Government may notify the Board or a Government Company as the State Transmission Utility..

(2) The functions of State Transmission Utility shall be –

(a) to undertake transmission of electricity through intra-State transmission system;

(b) to discharge all functions of planning and co-ordination relating to intra-State transmission system...”

7.9.15 The Commission, therefore does not concur with the views of the Petitioner and is of the view that going forward, all new works of 66kV and above under EHV schemes should to be undertaken by the State Transmission Utility (STU) in the State. Such a process shall ensure that in future years, HPPTCL can gradually assume the role of full-fledged STU in the State and would ensure that duplication of infrastructure does not happen. In this regard, **the Petitioner is also directed to share the EHV Planning Report and load flow studies conducted for the proposed EHV works with HPPTCL for future investment planning.**

7.9.16 As a result, the Commission has analysed the nature of work under each new scheme along with its DPR (for those submitted). While doing so, the Commission has inter alia approved those schemes which include augmentation of 132/11 kV, 66/11kV, 33/11kV transformers at existing substations. Other remaining works which could be taken up by the HPPTCL, being the STU and responsible for construction and maintenance of high voltage network, have not been approved by the Commission as part of business plan for HPSEBL for the fourth Control Period. The list of approved works under EHV scheme is given in the table below.

**Table 167: List of New EHV Schemes for Hamirpur and Shimla Circles as approved by the Commission**

| S. No.                    | Description of Scheme/works  | Scheme cost (Rs. Cr.) |
|---------------------------|--|-----------------------|
| <b>ES Circle Hamirpur</b> |  |                       |
| 1.                        | Augmentation of 33/11kV, 2X3.15 MVA transformers into 2x6.3 MVA at 220/132kV sub-station Mattansidh  | 1.18                  |
| 2.                        | Addition & alteration of Control Room Building at 132/33/11kV sub-station Anu.   | 0.25                  |
| 3.                        | Augmentation of 33/11kV, 2X6.3 MVA Power Transformer to 33/11kV, 2X10 MVA Power Transformer at 132/33/11kV sub-stations Rakkar (Una) & augmentation of 33/11kV, 2X5 MVA Power Transformer to 33/11kV, 2X6.3MVA Power Transformer at 132/33/11kV sub-station Amb. | 3.75                  |
| 4.                        | Estimate for special repair of office building of 220 kV ES Division Jassure.  | 0.20                  |
| 5.                        | Estimate for special repair of residential colony of 220 kV ES Division at Jassure.  | 0.15                  |

| S. No.                  | Description of Scheme/works  | Scheme cost (Rs. Cr.) |
|-------------------------|--|-----------------------|
| 6.                      | Construction of store cum workshop shed at 132/33 kV sub-station Kurthala (Tissa).                                   | 0.40                  |
| 7.                      | Estimate for special repair of residential colony of 132 kV sub-station Kangra.                                      | 0.15                  |
|                         | <b>Sub-Total – (A)</b>   | <b>6.08</b>           |
| <b>ES Circle Shimla</b> |  |                       |
| 8.                      | Providing additional 132/33kV, 50 MVA Power Transformer at existing 132/33kV Solan sub-station.                      | 10.00                 |
| 9.                      | Scheme for providing Spare equipments for various Divisions under ES Wing, HPSEBL, Hamirpur                          | 6.00                  |
| 10.                     | Addition and alteration in existing Divisional & Sub-Divisional building under ES Circle, Totu, Shimla-11.           | 0.50                  |
| 11.                     | Augmentation of 2x6.3MVA, 66/11kV Power Transformers into 2x10 MVA at 66/22/11kV sub-station Sainj                   | 8.00                  |
| 12.                     | Estimate for providing additional 1 No. Tower between strcture No. 257 to 258 Kotla to Nathpa line near Badhal.      | 0.52                  |
| 13.                     | Installation of 66/33kV, 20 MVA Power Transformer at 66/33/11kV Malpur sub-station                                   | 3.50                  |
| 14.                     | Augmentation of 132/11kV, 16/20 MVA Power Transformer by 132/11kV, 25/31.5 MVA at 132/66/11kV sub-station Barotiwala | 6.00                  |
|                         | <b>Sub-Total – (B)</b>   | <b>34.52</b>          |
| <b>15.</b>              | <b>New EHV Schemes</b>   | <b>40.60</b>          |

7.9.17 The capital expenditure for all EHV schemes as approved by the Commission has been summarized in the table below:

**Table 168: Capital Expenditure for EHV schemes as approved the Commission for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                       | FY20          | FY21          | FY22          | FY23         | FY24         | Total         |
|-----------------------------------|---------------|---------------|---------------|--------------|--------------|---------------|
| <b>Ongoing EHV Schemes – (A)</b>  |               |               |               |              |              |               |
| ES CIRCLE HAMIRPUR                | 107.83        | 54.42         | 52.50         | 20.20        | -            | <b>234.95</b> |
| ES CIRCLE SHIMLA                  | 84.44         | 103.74        | 53.92         | 18.15        | 7.72         | <b>267.98</b> |
| <b>Sub Total (A)</b>              | <b>192.27</b> | <b>158.16</b> | <b>106.42</b> | <b>38.35</b> | <b>7.72</b>  | <b>502.93</b> |
| <b>New EHV Schemes – (B)</b>      |               |               |               |              |              |               |
| ES CIRCLE HAMIRPUR                | 1.22          | 1.22          | 1.22          | 1.22         | 1.22         | <b>6.08</b>   |
| ES CIRCLE SHIMLA                  | 6.90          | 6.90          | 6.90          | 6.90         | 6.90         | <b>34.52</b>  |
| <b>New EHV Schemes</b>            | <b>8.12</b>   | <b>8.12</b>   | <b>8.12</b>   | <b>8.12</b>  | <b>8.12</b>  | <b>40.60</b>  |
| <b>Total Capex on EHV Schemes</b> | <b>200.39</b> | <b>166.28</b> | <b>114.54</b> | <b>46.47</b> | <b>15.84</b> | <b>543.53</b> |

### **Other Ongoing Works**

7.9.18 Besides EHV Schemes which form the major component of the entire capital investment plan proposed by the Petitioner, the Petitioner has also proposed spillover works from the remaining schemes (HT works, GSC schemes, New Buildings, Minor Works, etc.) from third Control Period for North Zone and Central Zone as summarized in the table below.

**Table 169: HPSEBL Submission - Capital Expenditure on Other Ongoing Schemes for 4<sup>th</sup> Control Period (Rs. Cr.)**

| S. No.      | Particulars   | FY20          | FY21         | FY22         | FY23         | FY24        | Total         |
|-------------|---|---------------|--------------|--------------|--------------|-------------|---------------|
| <b>A</b>    | <b>North Zone</b>   |               |              |              |              |             |               |
| <b>(I)</b>  | <b>(OP) Circle, Kangra</b>  |               |              |              |              |             |               |
| 1.          | New 33/11 KV S/Stn. & 22 KV control Points                            | 6.95          | -            | -            | -            | -           | <b>6.95</b>   |
| 2.          | Aug. of 33/11 KV S/Stn. or 33/22 KV S.Stn. control points             | 2.50          | -            | -            | -            | -           | <b>2.50</b>   |
| 3.          | New 33 KV line  | 1.98          | -            | -            | -            | -           | <b>1.98</b>   |
| 4.          | Renovation & modernization of 33/11 KV S/Stn./Control point equipment | 0.80          | -            | -            | -            | -           | <b>0.80</b>   |
| 5.          | Scheme for release of General Service connection                      | 64.68         | 4.29         | 4.97         | 5.74         | 5.79        | <b>85.45</b>  |
| <b>(II)</b> | <b>(OP) Circle, Una</b>   |               |              |              |              |             |               |
| 1.          | Spillover works   | 26.99         | 2.68         | -            | -            | -           | <b>29.67</b>  |
| 2.          | Circle as a whole   |               |              |              |              |             |               |
| 3.          | Miscellaneous   | 6.53          | -            | -            | -            | -           | <b>6.53</b>   |
|             | <b>Sub Total – North Zone</b>   | <b>110.42</b> | <b>6.97</b>  | <b>4.97</b>  | <b>5.74</b>  | <b>5.79</b> | <b>133.87</b> |
| <b>B</b>    | <b>Central Zone</b>   |               |              |              |              |             |               |
| <b>(I)</b>  | <b>(OP) Circle, Bilaspur</b>  | 67.65         | 17.90        | 12.07        | 8.00         | 1.25        | <b>106.87</b> |
| <b>(II)</b> | <b>(OP) Circle, Kullu</b>   | 4.29          | 1.83         | 1.05         | 0.30         | 0.15        | <b>7.62</b>   |
|             | <b>Sub-Total – Central Zone</b>                                       | <b>71.94</b>  | <b>19.73</b> | <b>13.12</b> | <b>8.30</b>  | <b>1.40</b> | <b>114.49</b> |
| <b>C</b>    | <b>Total Capex on other ongoing schemes (A + B)</b>                   | <b>182.36</b> | <b>26.70</b> | <b>18.09</b> | <b>14.04</b> | <b>7.19</b> | <b>248.37</b> |

7.9.19 During the tariff proceedings, the Petitioner was required to provide the detailed list of these ongoing works, year-wise capital expenditure incurred against these till date, sanctioned cost, revised completion dates, reasons for spillage, basis for revised estimate etc. The Petitioner in its response submitted partial details of works under electrical circles of North and South Zone.

7.9.20 In the absence of complete details, the Commission has restricted itself from approving the capital expenditure under each work proposed. Instead, the Commission has analysed the historical capital expenditure against these broad schemes in each year of the third Control Period and approved capital expenditure for each year during the fourth Control Period keeping in mind the ongoing schemes and new works as discussed in subsequent paras.

### **HV Schemes**

7.9.21 The Petitioner has proposed new and ongoing HV works for each electrical circle for the fourth Control Period as summarized in the table below. These include construction of new 33/11kV substation and lines, 22 kV Control Points,

augmentation of 33/11 kV substations and lines & renovation and modernization of 33/11 kV substation/control points along with ongoing works from the third Control Period. In response to several letters issued by the Commission, the Petitioner has provided part details of these schemes proposed under each circle.

**Table 170: Capital Expenditure for HV Schemes proposed by the Petitioner for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars     | FY20          | FY21         | FY22          | FY23          | FY24          | Total           |
|-----------------|---------------|--------------|---------------|---------------|---------------|-----------------|
| Ongoing Schemes | 111.15        | 22.41        | 13.12         | 8.30          | 1.40          | <b>156.38</b>   |
| New works       | 496.19        | 414.39       | 290.12        | 219.05        | 207.17        | <b>1,626.91</b> |
| <b>Total</b>    | <b>607.34</b> | <b>436.8</b> | <b>303.24</b> | <b>227.35</b> | <b>208.57</b> | <b>1,783.30</b> |

7.9.22 Against the proposed capital expenditure of Rs. 1783 Cr. for the fourth Control Period, the Commission has observed that the Petitioner has undertaken capital expenditure upto the tune of approx. Rs. 375 Cr. under this scheme during FY14 to FY18 and therefore, the capex now being proposed by the Petitioner is very high and lacks detailing. Further, the Petitioner has not submitted any DPRs or cost benefit analysis studies against these works.

7.9.23 Despite the absence of such details, the Commission has taken a lenient view keeping in mind the need for strengthening the sub-transmission network in the State and has approved a capital expenditure of Rs. 1000 Cr. (Rs. 200 Cr. each year) for completion of ongoing schemes and new works proposed under HV schemes during fourth Control Period. **The Commission directs the Petitioner to submit necessary details (DPRs, cost estimates, purpose of investment, tentative completion dates etc.) and seek investment approval before initiating new works as proposed in the capital investment plan.**

### **General Service Connection (GSC) Scheme**

7.9.24 Similar to HV works, the Petitioner has proposed very high capital expenditure for GSC Schemes for the fourth Control Period. Despite several queries during tariff proceedings, the Petitioner was unable to explain the nature of works undertaken as a part of this scheme. During the technical validation session, the Petitioner clarified that the scheme covers LT works and inter alia, includes the following works:

- Laying down of new 22/11 kV Lines
- Augmentation & reorganization of 11 kV lines
- New DTRs of 11/0.4kV
- Augmentation of existing DTRs of 11/0.4kV
- Installation of Capacitor Bank
- Laying down of new LT lines
- Augmentation, reorganization and re-conductoring of LT Lines
- Conversion of LT to HT
- Release of New Service Connection

- Replacement, augmentation and reorganization of services
- Metering on LT & HT
- Other works such as providing additional poles, earthing, replacement of CT/PT etc.

7.9.25 The capital expenditure proposed by the Petitioner against ongoing GSC schemes and new works across all electrical circles has been summarized below:

**Table 171: Capital Expenditure for GSC Schemes proposed by the Petitioner for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars     | FY20          | FY21          | FY22          | FY23          | FY24          | Total           |
|-----------------|---------------|---------------|---------------|---------------|---------------|-----------------|
| Ongoing Schemes | 64.68         | 4.29          | 4.97          | 5.74          | 5.79          | <b>85.45</b>    |
| New works       | 246.54        | 403.50        | 342.36        | 335.55        | 351.38        | <b>1,679.33</b> |
| <b>Total</b>    | <b>311.22</b> | <b>407.79</b> | <b>347.33</b> | <b>341.29</b> | <b>357.17</b> | <b>1764.8</b>   |

7.9.26 It has been observed that the capital expenditure proposed by the Petitioner for new works is considerably higher. Historically, the Petitioner has incurred approx. Rs. 400 Cr. during FY14 to FY18 on GSC schemes translating to annual expenditure of Rs. 80 Cr. each year. The Commission feels that the proposed expenditure of Rs. 1765 Cr. (approx. Rs. 350 Cr. each year) is very high and cannot be approved in absence of identification of proposed works under this scheme. Therefore, the Commission has approved an annual expenditure of Rs. 125 Cr. each year for the fourth Control Period translating to total capital expenditure of Rs. 625 Cr. on ongoing and new works under GSC scheme which it considers reasonable based on the past expenditure undertaken by the Petitioner under such works. **The Commission directs the Petitioner to submit necessary division-wise / circle-wise details (including DPRs, cost estimates, purpose of investment, tentative completion dates, funding, etc.) of the works proposed to be undertaken each year along with APR Petition for the respective year.**

### **Miscellaneous Schemes**

7.9.27 In addition to the HV and GSC schemes, the Petitioner has also proposed capital investment for new buildings and minor works – both ongoing and new which have been summarized below:

**Table 172: Capital Expenditure for Miscellaneous Schemes proposed by the Petitioner for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars     | FY20         | FY21         | FY22         | FY23         | FY24         | Total         |
|-----------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Ongoing Schemes | 6.53         | -            | -            | -            | -            | <b>6.53</b>   |
| New works       | 47.36        | 51.03        | 51.24        | 32.12        | 28.78        | <b>210.53</b> |
| <b>Total</b>    | <b>53.90</b> | <b>51.03</b> | <b>51.24</b> | <b>32.12</b> | <b>28.78</b> | <b>217.06</b> |

7.9.28 In response to the clarifications, the Petitioner has not been able to provide any details or nature of works to be undertaken during the fourth Control Period. The Commission is of the view that expenditure in this category being miscellaneous in nature cannot be approved at such high levels as proposed by

the Petitioner. Therefore, the Commission approves Rs. 25 Cr. each year towards miscellaneous works for the fourth Control Period. **Further, the Petitioner is directed to provide information with respect to such miscellaneous works undertaken during each year along with the APR and Mid-term Review petition.**

### Deposit Works

7.9.29 With regard to deposit works, the Commission has considered the submission of the Petitioner and approved capital expenditure of Rs. 20 Cr. for each year of the fourth Control Period.

### IT Schemes

7.9.30 In the overall capex plan for the fourth Control Period, the Petitioner had proposed an overall capital expenditure of Rs. 963.50 Cr. towards IT initiatives during the fourth Control Period. However, no details with respect to the works to be undertaken during the Control Period was provided in the tariff petition. After several reminders and queries of the Commission, the Petitioner provided some details and summary of the proposed works as part of its submission dated 30.05.2019. Based on these details and revised submissions, the Commission has reviewed the works proposed under this head. The following revised details were submitted by the Petitioner in response to the queries of the Commission:

**Table 173: HPSEBL Submission – Details of IT Initiatives proposed for 4<sup>th</sup> Control Period (Rs. Cr.)**

| S. No. | Particulars   | Nature of Expense | FY20          | FY21          | FY22          | FY23         |
|--------|---|-------------------|---------------|---------------|---------------|--------------|
| 1      | GIS Software upgradation  | Capital           | 4             | -             | -             | -            |
| 2      | Phase out of old server, network devices and Switching to cloud services  | Capital           | 5             | 5             | 5             | 5            |
| 3      | Change over to Hana Data Base SAP ERP   | Capital           |               |               | 15            | 15           |
| 4      | Replacement of old PC/ desktop, printers, network switches photocopiers, Fax machines, UPS in the field offices and replacement of SBMs                 | Capital           | 3             | 3.5           | 4.0           | 4.5          |
| 5      | Implementing Computerized Consumer Complaint handling System  | Capital           | 2.5           | -             | -             | -            |
| 6      | Replacement of existing Meters with Smart meter implementation in the State   | Capital           | 89            | 380           | 482           | -            |
| 7      | Consultancy for preparing future road map of computerization, simplification of existing procedures/process for prompt quality service to the consumer. | A&G               | 2             | -             | -             | -            |
| 8      | Survey and laying of independent communication network along with associated accessories in the state, Preparation of BOM.                              | A&G               | 1.5           | 1.5           | -             | -            |
|        | <b>Total</b>  |                   | <b>107.00</b> | <b>390.00</b> | <b>506.00</b> | <b>24.50</b> |



7.9.31 The Commission has analysed the broad schemes proposed in respect to IT Cell which includes the following works:

- **GIS Software upgradation:**

The Petitioner has submitted that it has implemented the GIS/GPS asset mapping including Consumer indexing and valuation of assets of HPSEB Ltd for which GIS Software ArcGIS of ESRI was procured and installed. Under this project, following GIS infrastructure hardware/software is installed at Data Centre:

**Table 174: HPSEBL Submission – Details of GIS infrastructure**

| S. No. | Description          | Version |
|--------|----------------------|---------|
| 1.     | Application Server 1 | 9.2     |
| 2.     | Application Server 2 | 9.2     |
| 3.     | Arc FM               | 9.2     |
| 4.     | Database Server 1    |         |
| 5.     | Database Server 2    |         |
| 6.     | Oracle               | 10g R2  |

The Petitioner has submitted that GIS mapping of entire State upto 2012 stands completed. Thereafter only need-based updation is being carried out. Currently updation of 14 towns covered under R-APDRP part-A scheme and ESD Kala Amb where Smart grid Pilot Project stand implemented is being done through LOA issued vide No: HPSEBL/CE(Comm)/GIS-Updation/Vol-V/Part-B-4038-54 dated 12/12/2018. Further, Govt. of India has launched Integrated Power Development Scheme (IPDS) for the urban areas under which IT system is to be extended in 40 additional towns for which scheme stands sanctioned by M/s PFC vide letter No: 02:16:IPDS:HPSEBL:Himachal Pradesh/049416 dated 6/7/2017. Under the IPDS GIS data updation of the 40 towns will be required for integration with the following applications implemented at HPSEB Ltd.

- Billing and revenue management
- Store management
- Electrical Network Management (Load Flow Analysis Software)
- Energy Auditing and Accounting Software
- Customer Relationship Management (CRM)
- Management Information System (MIS)

The GIS application Arc GIS and Arc-FM version 9.2 currently used in HPSEBL is outdated and the same stands expired in 2011 for which no support is available. Also, the support of windows server 2003 (OS) also stands expired and thus needs upgradation/renewal which has been proposed under the capital expenditure under this head in view of budgetary commercial proposal received from M/s ESRI India for upgrade of Existing ESRI GIS licenses and purchase of New/ Additional Licenses as per the requirement of HPSEB Ltd. The Petitioner has, thus proposed a capital expenditure of Rs. 4 Cr. for these works in FY20.

- **Phase out of old server, network devices and switching to cloud services:**

The Petitioner has submitted that servers, Network devices and other associated accessories were purchased at DC and DRC during 2010-11 and 2011-12 under APDRP, R-APDRP and ERP projects. Out of 247 Physical Servers (Total Servers i/c virtual 335 Nos) 158 servers have been declared End of Sale/support till 2018 and rest 89 Nos shall fall in this category in the subsequent years i.e. 2019-2023. Similar condition exists for 300 Nos. network devices.

Further, the Petitioner has submitted that for implementing IT Solutions in future which also comprises of Smart Meters / AMI in the entire state, instead of going in for expansion of Data Centre for creating additional computing and storage capacity, the Petitioner intends to switch over to cloud services for housing some non-critical applications, computing and storage requirements. This will reduce the requirement of housing physical servers/storages in the existing Data Centre. However, the Petitioner submitted that this shall be done after carrying out proper cost-benefit analysis.

Therefore, in order to replace these outdated and obsolete items and partially switch over to Cloud services, the Petitioner has submitted its plan to replace the same in time bound manner in the next 4 years i.e. FY 19-23 at the estimated cost of Rs 20 Cr.

- **Changeover to Hana Database SAP ERP:**

Presently HPSEBL is using SAP ERP ECC6.0 version which has embedded Oracle database. SAP Hana is the current latest version and the Petitioner has submitted that it is likely that HPSEBL has to switch over to this system in the year FY 2021-22. Thus, a cost of Rs. 30 Cr has been estimated for the Control Period.

- **Replacement of old PC/desktop, printers, network switches, etc. in the field offices and replacement of SBMs:**

For running computerized billing, computers and other accessories were procured by the Petitioner during FY 2010-11 and FY 2011-12 which have now become outdated and obsolete. The Petitioner submitted that these systems are operating on Windows XP and Windows 7 for which M/s Microsoft Inc. has stopped support. Thus, these systems are highly vulnerable to virus attacks. Recently, HPSEBL implemented Centralized Security Solution from TrendMicro to protect the systems from internal and external threats of Virus, Malware, Ransomware etc. but HPSEBL is not able to put these systems on this solution, as it does not support the obsolete operating systems like Window XP and Window 7.

Due to hardware constraints, HPSEBL is not in a position to upgrade the operating systems as well. Thus, it is submitted that it is essential to replace these old systems for smooth running of Billing Application, SAP ERP and other applications in future. For this, the Petitioner has proposed to replace this system in phased manner for which capital expenditure of Rs. 15 Cr. has been estimated over next 4 years.

- **Implementing Computerized Consumer Complaint Handling System:**

In order to revamp/upgrade the existing Consumer Complaint Handling System, the Petitioner has proposed capex of Rs 2.5 Cr during 2019-20. In the present mechanism, the Petitioner has witnessed certain gaps which are being addressed through the newly introduced Complaint handling Mechanism in SAP ISU Billing. In the coming years, the Petitioner has submitted that it proposes to receive complaints through CM helpline which is to be integrated in the existing Call Centre. The complaint shall then be processed using an escalation matrix being developed by DIT.

7.9.32 The Commission has provisionally approved the IT schemes proposed by the Petitioner for the fourth Control Period. It is observed that all the schemes have not been firmed up and the Petitioner has proposed indicative time frames and cost regard to each of these schemes. Therefore, for the approval of capital expenditure for the fourth Control Period, the Commission has considered provisional amount of Rs. 10 Cr. each year towards these IT schemes (excluding smart metering). **Further, the Petitioner is directed to submit the details of each of the scheme along with other supporting documents (DPR, cost-benefit, appropriate approval Board/ other competent authorities, funding, etc.) and seek approval from the Commission before implementation.**

#### Rollout of Smart Metering

7.9.33 The proposed IT schemes also included a large amount (Rs. 912.83 Cr.) towards implementation of smart metering in the state. As part of its proposal, the Petitioner has proposed a pilot scheme for initial implementation of smart metering in Shimla and Dharamshala and subsequent rollout in the entire State in the fourth Control Period as provided in the table below:

**Table 175: Smart Metering Proposal and Capital Expenditure submitted by Petitioner**

| Description   | FY 2019-20                              | FY 2020-21                            | FY 2021-22                               | Total                  |
|---|---|---------------------------------------|--|------------------------|
| <b>No. of Smart Meters to be installed (No.s)</b>                           | 1,35,000                                | 10,00,000                             | 12,67,200                                | 24,00,000              |
| <b>Indicative Capex Expenditure</b>   | Rs. 51.30 Cr. (based on PFCCL Proposal) | Rs. 380 Cr. (based on PFCCL proposal) | Rs. 481.53 Cr. (based on PFCCL proposal) | Rs. 912.83 Cr.         |
| <b>PFCCL Charges as PDMA, Interest on Debt @10.5%, O&amp;M and FMS cost</b> | Rs. 38 Cr. (Based on PFCCL proposal)    | Not considered in Capex cost          | Not considered in Capex cost             | Rs. 38 Cr.             |
| <b>Consultancy Charges @15%</b>   | --                                      | Rs. 57 Crore                          | Rs. 72.22 crore                          | Rs. 129.22 Cr.         |
| <b>Total Indicative Expenditure</b>   |   |                                       |  | <b>Rs. 1080.05 Cr.</b> |

7.9.34 During the tariff proceedings, the Commission enquired if the Petitioner has conducted any cost-benefit analysis of rollout of smart metering scheme in the entire State for all urban and rural consumers. In response, the Petitioner during the first technical validation session submitted that such a study has not been undertaken yet. The Petitioner further clarified that the based on the

successful implementation of the pilot scheme, the smart metering roll out would be extended for the rest of the State. Therefore, considering that the implementation of the pilot project would take upto two years for implementation, the Commission feels it adequate to consider the approval of pilot phase for Shimla and Dharamshala as part of the fourth Control Period and subsequent roll-out for whole of the state can be considered at the time of Mid-term Review.

- 7.9.35 As per the details and modalities of the scheme submitted by the Petitioner, it is observed that a proposal has been submitted by PFCCCL for pilot phase. As per the proposal, in the first phase, the scheme is being partly funded (Rs. 23 Cr. out of the total capex of Rs. 51.30 Cr.) through IPDS grant and remaining recovery is to be done through charging 2.5% of capex cost per year for initial implementation period of 2 years and thereafter at Rs. 53/consumer/month as meter rent for the next 7 years.
- 7.9.36 As the proposed structure is in form of OPEX model where part of the payment as well as recovery shall be done over a period of seven years post implementation of the scheme, treating the entire amount as capital expenditure may not be prudent. Further, the Petitioner has not been able to provide justification with respect to consultancy charges of 15% proposed in the submission. Based on the modalities of the scheme, the Commission has considered the capital expenditure to be borne by the Petitioner for the first phase of implementation in Shimla and Dharamshala equivalent to the lumpsum amount receivable as grant from GoI under IPDS scheme and 2.5% of capex cost per year required to be borne by HPSEBL for first 2 years of the fourth Control Period. The Commission has further considered 4% of project cost as consultancy charges as given below.

**Table 176: Capital Expenditure approved for Smart Metering during 4<sup>th</sup> Control Period (Rs. Cr.)**

| Description                   | FY20         | FY21        | FY22 | FY23 | FY24 |
|-------------------------------|--------------|-------------|------|------|------|
| 2% of capital cost            | 1.29         | 1.29        | -    | -    |      |
| Grant portion of capex        | 23.07        | -           | -    | -    | -    |
| Consultancy Charges @4%       | 3.56         | -           | -    | -    |      |
| <b>Smart Metering – Total</b> | <b>27.92</b> | <b>1.29</b> | -    | -    | -    |

- 7.9.37 **With regard to the pilot phase of implementation of smart metering scheme, the Petitioner is directed to furnish quarterly status and progress on the implementation of the smart metering scheme to the Commission.**
- 7.9.38 Based on the discussions above with respect to each scheme, the Commission, has provisionally considered a total amount of Rs. 2,473 Cr. towards capital expenditure during the fourth Control Period as summarized in the table below:

**Table 177: Capital Expenditure approved by the Commission (Rs. Cr.)**

| S.No.     | Particulars   | FY20          | FY21          | FY22          | FY23          | FY24          | Total           |
|-----------|---|---------------|---------------|---------------|---------------|---------------|-----------------|
| <b>1.</b> | <b>Old EHV Schemes</b>                              | 167.64        | 167.64        | 167.64        | -             | -             | <b>502.93</b>   |
| <b>2.</b> | <b>New Schemes</b>                                  |               |               |               |               |               |                 |
| A.        | EHV Schemes   | 8.12          | 8.12          | 8.12          | 8.12          | 8.12          | <b>40.60</b>    |
| B.        | Consumer Services and electrification (GSC Schemes) | 125.00        | 125.00        | 125.00        | 125.00        | 125.00        | <b>625.00</b>   |
| C.        | New s/s, augmentation, line & R&M                   | 200.00        | 200.00        | 200.00        | 200.00        | 200.00        | <b>1,000.00</b> |
| D.        | Deposit Scheme                                      | 20.00         | 20.00         | 20.00         | 20.00         | 20.00         | <b>100.00</b>   |
| E.        | Capex in respect of IT Cell                         | 10.00         | 10.00         | 10.00         | 10.00         | 10.00         | <b>50.00</b>    |
| F.        | Capex in respect of Smart metering                  | 27.92         | 1.29          | -             | -             | -             | <b>29.21</b>    |
| G.        | Miscellaneous                                       | 25.00         | 25.00         | 25.00         | 25.00         | 25.00         | <b>125.00</b>   |
| <b>3.</b> | <b>Total</b>  | <b>583.68</b> | <b>557.05</b> | <b>555.76</b> | <b>388.12</b> | <b>388.12</b> | <b>2,472.74</b> |

7.9.39 During the review of capital investment proposal for the fourth Control Period, the Commission observed that the Petitioner has not carried out sufficient planning for the subsequent Control Period. The Commission in its letter no. HPERC-F(1)-5/2018-2477 dated 22.12.2018 had directed the Petitioner to initiate work on the Business Plan for the fourth Control Period so as to provide sufficient time to gather information from the field units and prepare a comprehensive capital investment proposal for the Control Period. Despite providing adequate time post the submission of Business Plan, the Petitioner was only able to provide part details. Further, information provided on capital expenditure for past years lacked consistency and appropriateness even for financial years for which audited accounts have been prepared. The Commission takes a strict view of such a callous approach of the Petitioner with respect to capital investment which is one of the most important aspect for the distribution utility. Therefore, the Petitioner is required to adhere to the following set of directives:

- a) The Petitioner is directed to submit the complete details of the proposed schemes along with the cost benefit analysis and obtain the scheme-wise approval (excluding the central sponsored schemes like IPDS and DDUGJY etc.) in accordance with the provisions of the Regulations for the capital expenditure to be incurred during each year of the fourth Control Period as per the annual investment plan drawn for the purpose.
- b) In these submissions, the licensee shall also indicate the sources of funding including its own contribution, debt, grant and consumer contribution.
- c) The licensee shall streamline its process for decision making, financing, tendering and contracting to enhance its capacities for speedy execution of schemes for cost efficiency and quality of service enhancement.

- d) The Petitioner shall submit the quarterly progress report of actual capital investment within one month of the respective quarter. The licensee is required to separately furnish details of IDC against each scheme.
- e) The Petitioner must also submit a short descriptive note for each work stating the purpose of investment, expected benefits and expected COD along with quarterly physical and financial progress reports.
- f) The licensee shall undertake only such works as considered viable based on the cost benefit analysis.
- g) Submission of detailed note on schemes for schemes which have been provisionally approved by the Commission for the fourth Control Period accompanied by DPR, time-frame for implementation, funding, approvals, other relevant documents.
- h) The licensee shall ensure timely completion and compliance of the loss reduction targets as well as various other conditions associated with IPDS and DDUGJY schemes. In case the licensee fails to get any loan converted into grant due to non-compliance of any condition, the Commission shall not allow any such loan as pass through in the ARR.
- i) The Commission shall review the capital investment for each year during the mid-term review and at the end of the Control Period based on the actual capital investment carried out by the Petitioner.

## 7.10 Asset Capitalisation

7.10.1 In the Business Plan submitted by the Petitioner, the capitalization schedule is based on a phasing ratio of the capital expenditure to be incurred during the fourth Control Period. Since the proposed works were not mapped to expected COD / timelines, the Petitioner has submitted the capitalization schedule based on assumptions as given in the table below:

**Table 178: HPSEBL Submission- Phasing ratio for Capitalization of Proposed Capex**

| FY 20 | FY 21 | FY 22 | FY 23 | FY 24 |
|-------|-------|-------|-------|-------|
| 20%   | 25%   | 25%   | 15%   | 15%   |

7.10.2 Based on the phasing ratio above, the Petitioner has proposed the following capitalization each year for the fourth Control Period as shown in the table below:

**Table 179: HPSEBL Submission- Proposed Capitalization for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                       | FY 20      | FY 21      | FY 22      | FY 23      | FY 24      | Total       |
|-----------------------------------|------------|------------|------------|------------|------------|-------------|
| <b>Capitalization ratio</b>       | <b>20%</b> | <b>25%</b> | <b>25%</b> | <b>15%</b> | <b>15%</b> | <b>100%</b> |
| Capitalization structure proposed | 228        | 285        | 285        | 171        | 171        | 1138        |
| Capitalization structure proposed | 306        | 383        | 383        | 230        | 230        | 1531        |
| Capitalization structure proposed | 281        | 351        | 351        | 210        | 210        | 1403        |
| Capitalization structure proposed | 152        | 190        | 190        | 114        | 114        | 760         |
| Capitalization structure proposed | 129        | 161        | 161        | 97         | 97         | 645         |

| Particulars                                      | FY 20       | FY 21       | FY 22       | FY 23      | FY 24      | Total       |
|--|-------------|-------------|-------------|------------|------------|-------------|
| Capitalization plan for New schemes (A)          | 1095        | 1369        | 1369        | 822        | 822        | 5477        |
| Capitalization of investments prior to FY 19 (B) | 375         | 185         | 125         | 52         | 15         | 751         |
| <b>Total Capitalization (A+B)</b>                | <b>1470</b> | <b>1554</b> | <b>1494</b> | <b>874</b> | <b>837</b> | <b>6229</b> |

- 7.10.3 In the absence of detailed works under each scheme and respective completion dates, the Commission asked the Petitioner to submit the actual capitalisation for distribution business during the third Control Period. In response to the queries, the Petitioner submitted partial details of capitalisation for past few years. Further, the scheme-wise capitalisation details submitted by the Petitioner were found to be inconsistent with capitalisation schedule submitted in the distribution formats for the third Control Period. While clarifying the reasons for this, the Petitioner submitted that the capitalisation figures in distribution formats based on audited figures obtained from the field units/circles while the scheme-wise break-up has been prepared from SAP systems which are in the process of implementation across circles for accurate results.
- 7.10.4 The Commission is unable to understand the reason for non-submission of proper details of capitalization for the financial years for which audited accounts are already available. This reflects on poor level of accounts being maintained by the Petitioner. In the Audited Accounts as well, several audit paras towards non-compliance with respect to accounting standards have been mentioned. **The Commission takes serious note on the book keeping and internal audit procedures and directs the Petitioner to undertake adequate steps to strengthen the accounts team and processes in order to ensure compliance to accounting standards. The Petitioner is required to submit a detailed note and proposed actions to ensure compliance to this directive within three months of issuance of this Order.**
- 7.10.5 Due to these deficiencies, the Commission has provisionally accepted the capitalization for the third Control Period as submitted by the Petitioner in the distribution formats, subject to final truing up of controllable parameters of the third Control Period. The Petitioner must ensure that it has streamlined its audited statements with the capitalization reports generated from SAP system and consolidated the asset capitalization certificates for HT works at the time of final truing up for subsequent years and truing-up of the controllable parameters. Further, **the Petitioner is directed to ensure that the annual capitalisation reports of each true-up year are prepared in advance before the tariff filing process is initiated along with their asset capitalization certificates for HT works issued by competent authority. In the absence of such details, the Commission shall disallow any asset addition during the year at the time of true-up.**
- 7.10.6 In absence of adequate details for past years, the Commission has estimated the opening CWIP for fourth Control Period based on the details of capital expenditure and capitalization for the third Control Period submitted by the Petitioner. Further, for approving the capitalization for each year of the fourth

Control Period, the Commission has considered capitalization of 40% of the total of opening CWIP and capital expenditure approved for the respective year. The capitalization rate considered for the fourth Control Period is based on the average of actual capitalization rate during the third Control Period.

- 7.10.7 Based on the above, the Commission has determined the following capitalization schedule for the investments proposed during the Control Period. The Commission would like to clarify that capitalization approved for the fourth Control Period is provisional and is subjected to true-up on the basis of actual capital investment made and the schemes commissioned by the Petitioner during each year of the fourth Control Period. The approved capitalization is summarized in table below:

**Table 180: Approved Capitalization for the 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                             | FY20   | FY21   | FY22   | FY23   | FY24   |
|---|--------|--------|--------|--------|--------|
| Opening CWIP                            | 837.90 | 852.95 | 846.00 | 841.06 | 737.51 |
| Add: Capital Investment during the year | 583.68 | 557.05 | 555.76 | 388.12 | 388.12 |
| Less: Capitalization @40%               | 568.63 | 564.00 | 560.71 | 491.67 | 450.25 |
| Closing CWIP                            | 852.95 | 846.00 | 841.06 | 737.51 | 675.38 |

## 7.11 Human Resources Plan

- 7.11.1 As per Regulation 36 of the MYT Regulations, 2011,

*(f) The Operation and Maintenance (O&M): The filing shall be in accordance with the provisions of sub-regulation (1-a) of regulation 17 of these regulations and shall include the fresh recruitments proposed at various levels and the major Repair and Maintenance (R&M) works proposed during each year of the control period along with estimated costs;*

- 7.11.2 In accordance with the provision of the Regulations, the Petitioner is required to submit a detailed recruitment plan for the subsequent Control Period as part of its Business Plan filing. However, the Petitioner did not submit a human resources plan with details of planned recruitments and retirements as a part its Business Plan submission for the fourth Control Period. After repeated queries during tariff proceedings, the Petitioner has submitted a partial HR Plan for HPSEBL has a whole (including other functions like generation, S&I, etc.).

- 7.11.3 While doing so, the Petitioner has also submitted the details of recruitments made in the last 6 years for the entire business as given in the table below:

**Table 181: HPSEBL Submission – Year-wise breakup of Recruitments made by HPSEBL during last six years**

| S. No. | Name of Category | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------|------------------|------|------|------|------|------|------|
| 1      | AE(E)/IT         | 24   | 25   | 5    | 18   | -    | -    |
| 2      | AE(C/M)          | -    | 2    | 10   | 11   | -    | -    |
| 3      | AO               | -    | -    | -    | 2    | -    | -    |



| S. No.    | Name of Category     | 2013      | 2014       | 2015       | 2016       | 2017        | 2018       |
|-----------|----------------------|-----------|------------|------------|------------|-------------|------------|
| 4         | Law Officer          | -         | -          | -          | 3          | -           | -          |
| 5         | JE(E)                | -         | 48         | 68         | 64         | 235         | 32         |
| 6         | JE(C/M)              | -         | 22         | -          | 2          | 26          | -          |
| 7         | JDM                  | -         | 1          | 9          | 0          | -           | -          |
| 8         | Clerk                | -         | -          | -          | 24         | -           | -          |
| 9         | Computer Operator    | -         | 83         | -          | -          | 5           | -          |
| 10        | Stenotypist          | -         | -          | 12         | -          | -           | -          |
| 11        | Supdt. DA            | 5         | -          | 5          | 1          | -           | -          |
| 12        | JOA(IT)              | -         | -          | -          | 0          | 310         | 22         |
| 13        | Lineman              | -         | -          | -          | 68         | 0           | -          |
| 14        | SSA                  | -         | -          | -          | 23         | 0           | -          |
| 15        | Electrician          | -         | -          | -          | 32         | 0           | -          |
| 16        | Jr. T/Mate           | -         | -          | 624        | -          | 774         | 48         |
| 17        | Junior Helper(S/Stn) | -         | -          | -          | -          | 245         | -          |
| 18        | Jr. Helper(M&T)      | -         | -          | -          | -          | 23          | -          |
| 19        | Jr. Helper(PH_E)     | -         | -          | -          | -          | 138         | -          |
| 20        | Jr. Helper(HM)       | -         | -          | -          | -          | 85          | -          |
| 21        | JOA(Accounts)        | -         | -          | -          | -          | 125         | -          |
| 22        | JE(IT)               | -         | -          | -          | -          | -           | 10         |
| 23        | Company Secretary    | -         | -          | -          | -          | -           | 1          |
| <b>24</b> | <b>Total</b>         | <b>29</b> | <b>181</b> | <b>733</b> | <b>248</b> | <b>1966</b> | <b>113</b> |

7.11.4 The Petitioner has also submitted the expected retirement plan at each level for the fourth Control Period. A summary of the total retirements each year is summarized in table below:

**Table 182: HPSEBL Submission - Retirement Plan of entire HPSEBL for 4<sup>th</sup> Control Period**

| Designation       | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|-------------------|------|------|------|------|------|------|
| Total Retirements | 1209 | 1298 | 1115 | 1275 | -    | -    |

7.11.5 The Petitioner however, was not able to provide break-up of the above number of employees across the various functions, i.e. generation, distribution, S&I, etc. Therefore, due to lack of availability of information relating to employee retirement and recruitment specifically for the distribution business, the Commission does not find any merit for reviewing the HR plan of HPSEBL. Since the number of retirements during each year of the fourth Control Period outnumbers the recruitment plan for each year, the Commission has considered nil growth factor in the number of employees for the fourth Control Period.

7.11.6 **Further, the Commission directs the Petitioner to maintain separate records of actual number of employees against the sanctioned positions involved in distribution, generation, deputation, BVPCL, S&I and other respective departments. The Petitioner is also directed to furnish the opening, addition, retirement and closing number of**

**employees for each year at the time of true-up and ARR filing. The Petitioner must duly submit the findings of the Special Committee established under the Chief Engineer (Central Zone) to assess the manpower requirements in Operation, Generation and Transmission wings and any other manpower studies being undertaken by the licensee to the Commission within three months of issuance of this Order.**

# 8 ANALYSIS OF AGGREGATE REVENUE REQUIREMENT (ARR) FOR FOURTH CONTROL PERIOD

## 8.1 Background

8.1.1 The MYT Framework as defined under Regulation 4 of the MYT Regulations, 2011 (as amended) states,

### **"4. Multi Year Tariff (MYT) Framework**

*The Commission shall adopt multi year tariff framework for approval of ARR and expected revenue from tariffs and charges for the control period. The multi year tariff framework shall be based on the following:-*

- (a) **Business Plan** of the distribution licensee for the entire control period to be submitted to the Commission for approval, prior to the beginning of the control period;
- (b) **Applicant's forecast of expected wheeling tariff and retail supply** tariff for each year of the control period, based on the reasonable assumptions of the underlying financial and operational parameters, as submitted in the business plan;
- (c) **Trajectory for specific parameters** shall be stipulated by the Commission, where the performance of the applicant is sought to be improved through incentives and disincentives;
- (cc) **Uncontrollable parameters** shall include power purchase and power sale by the distribution licensee;
- (d) **Annual Performance Review (APR)** shall be conducted for the variations in performance on account of uncontrollable parameters for each year of the control period vis-à-vis the ARR approved in the first year of the control period for those years;
- (dd) **Mid-term Performance Review (MPR)** shall be conducted for the year after the mid-year of the control period and shall comprise the annual performance review for that year on account of uncontrollable parameters and for the variations in performance on account of controllable parameters for the control period vis-à-vis the ARR approved in the first year of the control period;
- (e) **Profit sharing** shall be applied on the profits arising from the distribution licensee's better performance vis-à-vis distribution loss targets and targets for the other controllable parameters specified by the Commission. The distribution licensee shall be free to utilise its share in the profit.
- (f) **Variation in revenue /cost** on account of uncontrollable factors shall be tried up annually during the annual performance review."

- 8.1.2 In line with the MYT Regulations 2011, the Commission has approved the Business Plan for the fourth Control Period FY 2019-20 to FY 2023-24 in the previous Chapter.
- 8.1.3 In this Chapter, the Commission has analysed the MYT Petition and subsequent submissions made by the Petitioner towards the ARR of each year during the fourth Control Period from FY 2019-20 to FY 2023-24. The claim of the Petitioner has been analysed based on the actual performance during the past Control Period and provisions under the MYT Regulations, 2011.
- 8.1.4 Similar to the Business Plan submitted by the Petitioner, the Commission observed several deficiencies in the MYT Petition submitted by the Petitioner and held several rounds of technical validation to validate the data furnished by the Petitioner. The Petitioner in its responses provided additional data on various financial parameters and revised its claim due to several inadvertent errors in their ARR claim for the Control Period, that have been discussed at length in the subsequent sections.
- 8.1.5 For determination of the ARR for each year of the fourth Control Period, the Commission has considered the approved sales / demand forecast, T&D loss, energy requirement, power procurement plan, capital expenditure and capitalization schedule, funding plan, etc. as part of the Business Plan for the fourth Control Period in the previous chapter. In accordance with the provisions of the MYT Regulations 2011, Business Plan approved for the Control Period and audited accounts / provisional numbers for past years, the Commission has projected the following ARR parameters for the fourth Control Period:
- Power purchase cost
  - Operation and Maintenance Expenses (including Employee Expenses, A&G expense and R&M expense)
  - Capital related costs like return on equity, interest on capital loans, depreciation
  - Interest on working capital
  - Non –tariff income
- 8.1.6 The methodology adopted by the Commission for approval of each ARR parameter is detailed in the subsequent sections.

## **8.2 Energy Sales**

- 8.2.1 As discussed in the chapter on Business Plan, the Commission has analysed the consumer growth, average consumption per consumer, average connected load per consumer and average load factor for each category in the last five years. Based on the Compounded Annual Growth Rate (CAGR) and year-on-year (y-o-y) growth rates of these factors for the last five years and data for first six months of FY 2018-19, the Commission has approved the following energy sales for each year of the fourth Control Period:

**Table 183: Energy Sales (in MU) projected in 4<sup>th</sup> Control Period**

| S.No.      | Category                         | FY20        | FY21        | FY22        | FY23        | FY24         |
|------------|----------------------------------|-------------|-------------|-------------|-------------|--------------|
|            |                                  | Proj.       | Proj.       | Proj.       | Proj.       | Proj.        |
| 1.         | Domestic                         | 2137        | 2204        | 2274        | 2345        | 2419         |
| 2.         | NDNC                             | 158         | 165         | 173         | 181         | 190          |
| 3.         | Commercial                       | 635         | 672         | 710         | 752         | 795          |
| 4.         | Temporary                        | 40          | 42          | 44          | 46          | 48           |
| 5.         | Small Power                      | 84          | 85          | 85          | 86          | 86           |
| 6.         | Medium Power                     | 118         | 119         | 120         | 120         | 121          |
| 7.         | Large Power                      | 5,016       | 5,121       | 5,229       | 5,338       | 5,450        |
| 8.         | Govt. Irrigation & Water Pumping | 661         | 691         | 722         | 755         | 789          |
| 9.         | Public Lighting                  | 12          | 13          | 13          | 14          | 14           |
| 10.        | Irrigation & Agriculture         | 77          | 86          | 96          | 107         | 120          |
| 11.        | Bulk Supply                      | 161         | 165         | 169         | 173         | 177          |
| <b>12.</b> | <b>Total</b>                     | <b>9101</b> | <b>9363</b> | <b>9635</b> | <b>9917</b> | <b>10209</b> |

### 8.3 Transmission and Distribution Loss

8.3.1 During the third Control Period, the Petitioner has been reporting overachievement of the T&D loss trajectory. Therefore, based on the actual T&D losses of 11.43% for FY17, provisional loss level of 10.69% for FY18 and estimated loss of 10.50% for FY19 as submitted by the Petitioner, the Commission has approved the following T&D Losses as part of the Business Plan for the fourth Control Period:

**Table 184: Approved T&D loss for 4<sup>th</sup> Control Period**

| Particulars       | FY20   | FY21   | FY22  | FY23  | FY24  |
|-------------------|--------|--------|-------|-------|-------|
| Approved T&D Loss | 10.30% | 10.10% | 9.90% | 9.70% | 9.50% |
| Loss Reduction    | 0.20%  | 0.20%  | 0.20% | 0.20% | 0.20% |

8.3.2 For the Control Period, the Commission has considered the T&D loss of 10.50% for FY19 submitted by the Petitioner as the base and considered a reduction of 0.20% each year to reach a level of 9.50% by the end of the Control Period.

8.3.3 The gain/loss arising from the over-achievement / under-achievement in T&D loss shall be treated as per Regulation 15 of MYT Regulations, 2011 for the fourth Control Period.

### 8.4 Energy Requirement

8.4.1 The Commission's estimates of energy requirement at distribution periphery for the Control Period are based on the approved sales and T&D loss for the respective years. The Commission's estimates for power requirement are tabulated as follows:-

**Table 185: Approved Energy Requirement for 4<sup>th</sup> Control Period**

| Particulars  | FY20   | FY21   | FY22   | FY23   | FY24   |
|--|--------|--------|--------|--------|--------|
| Sales (MU)   | 9,101  | 9,363  | 9,635  | 9,917  | 10,209 |
| Approved Loss (%)  | 10.30% | 10.10% | 9.90%  | 9.70%  | 9.50%  |
| Energy Requirement at State Periphery for own consumption (MU) | 10,146 | 10,415 | 10,694 | 11,982 | 11,281 |

## 8.5 Power Purchase Cost

8.5.1 The Commission has analysed the demand-supply situation during the fourth Control Period at length in the previous chapter on Business Plan. The Commission has made reasonable assumptions for PLF, auxiliary consumption, design energy, historical data on gross generation and units received by the utility upto FY19 and transmission losses to arrive at the quantum of energy available to the HPSEBL during the Control Period from various stations.

8.5.2 The following power generating stations have been considered for the purpose of estimation of power availability for the Control Period:

- HPSEBL's own generating stations
- Purchase from Central Generating Stations of NTPC, NHPC, SJVNL, NPCIL and THDC;
- Purchase from BBMB and shared stations;
- Purchase from Baspa, private HEPs above 25 MW, private SHPs up to 25 MW and under APPC mechanism for REC;
- Purchase of Free and Equity power from the GoHP;
- Purchase from Solar and Waste to Energy Projects
- New Plants expected to be commissioned during the Control Period;
- Purchase through bilateral short term arrangements;

8.5.3 The power availability projected by the Commission from various sources as part of the Business Plan is summarized in table below:

**Table 186: Summary of Energy Availability for 4<sup>th</sup> Control Period (in MUs)**

| Particulars                        | FY20             | FY21             | FY22             | FY23             | FY24             |
|------------------------------------|------------------|------------------|------------------|------------------|------------------|
| Total Own Generation               | 2,134.24         | 2,420.77         | 2,420.77         | 2,420.77         | 2,420.77         |
| Total Free Power                   | 592.93           | 618.83           | 627.24           | 636.49           | 647.00           |
| Total NTPC                         | 1,703.87         | 1,703.87         | 1,703.87         | 1,703.87         | 1,703.87         |
| Total NPCIL                        | 199.73           | 199.73           | 199.73           | 199.73           | 199.73           |
| Total NHPC                         | 288.77           | 288.77           | 288.77           | 288.77           | 288.77           |
| Total BBMB & Other Shared Stations | 1,093.66         | 1,093.66         | 1,093.66         | 1,093.66         | 1,093.66         |
| Total SJVNL & Others               | 2,305.80         | 2,305.80         | 2,305.80         | 2,305.80         | 2,305.80         |
| Total IPPs and Private SHPs        | 2,686.58         | 2,732.46         | 2,779.71         | 2,828.38         | 2,878.51         |
| Total Solar                        | 138.71           | 138.71           | 138.71           | 138.71           | 138.71           |
| Total Waste to Energy              | 24.53            | 24.53            | 24.53            | 24.53            | 24.53            |
| <b>Grand Total</b>                 | <b>11,168.82</b> | <b>11,527.12</b> | <b>11,862.57</b> | <b>11,920.49</b> | <b>11,981.13</b> |

- 8.5.4 In the following sub sections, the Commission has estimated the cost of the projected power purchase quantum along with certain assumptions thereof, from each of the above sources. While doing so, the Commission has exercised due caution in analysing the recent trends and available tariff orders of the stations.
- 8.5.5 The tariff for Central Generating Stations (CGS) is determined by Hon'ble Central Electricity Regulatory Commission (CERC) for a Control Period of five years. The last tariff approved by Hon'ble CERC is for the Control Period FY 2014-19. It is observed that the new CERC (Terms and Conditions of Tariff) Regulations, 2019 for determination of tariff for CGS for the Control Period 2020-24 has been issued on 7<sup>th</sup> March, 2019. However, the Tariff Orders for the generating stations are yet to be issued. Therefore, the impact on the fixed cost for central generating stations cannot be determined with certainty at the time of issuance of this Order. In absence of the tariff orders for CGS, the Commission has considered appropriate assumption for projecting the power purchase cost for the fourth Control Period which are detailed in the write-up of respective sources.

#### **Generation Cost of HPSEBL Own Generating Stations**

- 8.5.6 Due to considerable delay by the Petitioner in the filing of the MYT Petition for fourth Control Period for Generation Business, the Commission has relied on its MYT Order for third Control Period for Generation Business of HPSEBL dated 15.01.2014 against Petition no. 54/2013. In the said Order, the Commission had determined the AFC for each of the existing stations, excluding eight stations for which generic tariff has been approved. The Commission has continued with the AFC determined for FY20 with an escalation of 3% y-o-y for determining the power purchase cost during the fourth Control Period from these stations. The Commission takes a strict view of the non-timely submission of HPSEBL's Generation petition and is of the view that the Petitioner must ensure that the tariff petitions are filed as per the timelines stipulated in the MYT Regulations, 2011.
- 8.5.7 It was observed that at the time of this Order, the Petitioner is yet to file a detailed tariff petition for determination of AFC for Uhl-III. The Petitioner in the MYT Tariff Petition has submitted that in the absence of any reference rate/AFC, the rate of sale of Bhabha has been considered. Since Uhl-III is a new plant, the Commission is of the view that the tariff of this plant is not comparable with that of Bhabha HEP. Therefore, the Commission has considered a provisional tariff of Rs. 4.5 per unit for Uhl-III in the fourth Control Period.
- 8.5.8 Further, the generic tariff of Rs. 2.25 per unit as approved by the Commission in its Order dated 15.01.2014 against Petition No. 54/2013 has been considered for the balance eight stations, i.e. Ghanvi, Khauli, Thiroat, Gumma, Holi, Bhabha Aug, Sal-II and Killar. Further, it was observed that the Petitioner has also proposed a rate of Rs. 2.25 per unit for Ghanvi-II. Despite the fact that the plant achieved commissioning in FY14 and directives by the Commission in its previous Orders, the Petitioner has not submitted a separate tariff petition for Ghanvi II. Therefore, the Commission feels it appropriate to consider the generic tariff of Rs. 2.25 per unit in line with other small generating stations of HPSEBL for the fourth Control Period.

**Cost of Free Power**

- 8.5.9 As per Commission's Order dated 15.05.2019, the purchase rate of free power available to HPSEBL from GoHP has been fixed at 256 paise/unit for FY20. Therefore, in order to project the power purchase cost for the Control Period, the Commission has considered 256 paise/unit as the rate of free power available to the Petitioner from GoHP for the entire Control Period. The Commission clarifies that the rate of free power considered by the Commission for FY21 to FY24 is provisional and would be reassessed at the time of APR Order for the respective year.

**Cost of Power from NTPC Stations**

- 8.5.10 In the absence of Tariff Orders of the respective years for CGS, the Commission has considered the fixed cost approved for FY19 for the NTPC stations with an escalation of 1% y-o-y and has applied the allocation to the state of HP for approving the fixed cost from the respective CGS plants for the fourth Control Period.
- 8.5.11 The variable cost for existing NTPC thermal generating stations, including Fuel Price Adjustment (FPA) for the Control Period has been based upon the actual power purchase data for FY19, as submitted by HPSEBL in Form 4a. An escalation of 3% has been applied for coal and gas based plants to arrive at the variable cost for subsequent years. Other Charges (per unit) have been considered to be at the same level as per actual for FY19 submitted by HPSEBL in Form 4a.

**Cost of Power from NHPC Stations**

- 8.5.12 As reasoned earlier, the tariff order for NHPC stations for 2020-24 is yet to be issued by Hon'ble CERC. Therefore, the Commission has considered an annual escalation of 1% on the annual charges approved by the CERC for FY19 and has applied the allocation of power from these plants to the State of HP to compute the charges payable by the Petitioner for the fourth Control Period. The other charges paid by NHPC are considered to be at the level as actually paid by HPSEBL during FY19.
- 8.5.13 The Commission has considered a provisional tariff of Rs. 4.50/ per unit in case of new hydro projects of NHPC which are expected to be commissioned during the fourth Control Period.

**Cost of Power from NPCIL Stations**

- 8.5.14 The cost of power for NPCIL plants were approved and notified by the Department of Atomic Energy (DAE) as per Tariff Notifications No. 4/08/02/2018-Power/3852 & 3859 dated 22.03.2018 for a block period of FY2017-18 to FY2021-22. Accordingly, the Commission has considered the DAE approved rates for the respective years of the fourth Control Period. In FY23, an escalation of 4% has been considered in anticipation of the revision expected for the next block period of NPCIL stations.



- 8.5.15 The Commission has considered a provisional tariff of Rs. 4.50/ per unit in case of new nuclear projects of NPCIL which are expected to be commissioned during the fourth Control Period.

***Cost of Power from BBMB and Other Shared Stations***

- 8.5.16 The cost of power from BBMB, Dehar, Pong and Shanan has been considered based on the actual power purchase cost during FY19 submitted by the Petitioner. For subsequent years, the Commission has considered an escalation of 1% on the variable charges.
- 8.5.17 For Yamuna stations, approved annual charges by UERC have been considered as per the MYT Tariff Order for FY20 to FY22 dated 27.02.2019 for UJVNL. For subsequent years, the Commission has escalated these charges by 8% based on the average increase during FY20-22 in the annual charges determined by UERC in the MYT Order of UJVNL.
- 8.5.18 In case of Khara HEP, the Commission has considered the rate per unit for FY20 as approved by UPERC in the MYT Order for FY18 to FY20. For subsequent years, the Commission has considered an annual escalation of 1% in the average rate.

***Cost of Power from SJVNL Stations***

- 8.5.19 In absence of a tariff approved by Hon'ble CERC for the period FY20-24 for Nathpa Jhakri and Rampur HEP, the Commission has considered the annual charges approved by CERC for FY19 and has considered the fixed and energy charges as per the applicable CERC tariff regulations. Further, the Commission has considered an annual escalation rate of 1% each year for projecting the fixed and energy charge from these stations. The other charges have been considered based on actual for FY19 as submitted by the Petitioner.

***Cost of Power from IPPs and Private SHPs***

- 8.5.20 The Commission has considered the Annual Fixed Cost from Baspa Plant as per the Tariff Order for fourth Control Period for Baspa issued by the Commission. Further, the Commission has also considered cost towards secondary energy based on the PPA provisions. Additional cost towards higher availability from Baspa plant has also been considered.
- 8.5.21 For projecting the power purchase cost from private SHPs, average rate of power from private SHP during FY19 has been considered along with existing quantum of power being available from various private SHPs during the Fourth Control. For the additional quantum being projected to be available during the fourth Control Period, the Commission has considered the revised generic tariff approved for the small and micro SHPs as per the Suo-moto Order dated 24.03.2018.
- 8.5.22 APPC for purchase of power from SHPs generator in the State availing REC facility has been considered as per the Commission's Order dated 26<sup>th</sup> November, 2018 in petition No.34/2018 for determination of APPC i.e. at the rate of Rs. 2.25/ unit.

**Cost of Power from Solar Plants**

- 8.5.23 The Petitioner has been procuring bundled power from Singrauli Solar power plant. The Commission has considered the cost of thermal power (15 MW) in the previous sections. For solar power of 15 MW, a rate of Rs. 7.87 per unit has been considered as per the actual rate in FY19. Similarly, as per the claim of the Petitioner, power from SECI has been considered at a rate of Rs.5.50 per unit for the fourth Control Period.
- 8.5.24 In addition to the solar power being procured by HPSEBL from Singrauli solar power plant and SECI, additional quantum has been considered from private solar IPPs in line with the claim of the Petitioner. The rate of these private solar plants has been considered as the weighted average rate for all plants for which PPAs have been signed by the Petitioner.

Table 187: Source wise Power Purchase Cost for 4<sup>th</sup> Control Period

| Name of Station               | FY20            |                | FY21            |                | FY22            |                | FY23            |                | FY24            |                |
|-------------------------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|
|                               | MUs             | Cost (Rs. Cr.) | MUs             | Cost (Rs. Cr.) | MUs             | Cost (Rs. Cr.) | MUs             | Cost (Rs. Cr.) | MUs             | Cost (Rs. Cr.) |
| <b>Own Generation</b>         |                 |                |                 |                |                 |                |                 |                |                 |                |
| Bhaba                         | 459.12          | 36.83          | 459.12          | 37.94          | 459.12          | 39.08          | 459.12          | 40.25          | 459.12          | 41.46          |
| Bassi                         | 344.40          | 27.86          | 344.40          | 28.70          | 344.40          | 29.56          | 344.40          | 30.45          | 344.40          | 31.36          |
| Giri                          | 287.52          | 26.79          | 287.52          | 27.59          | 287.52          | 28.42          | 287.52          | 29.27          | 287.52          | 30.15          |
| Andhra                        | 86.43           | 12.61          | 86.43           | 12.99          | 86.43           | 13.37          | 86.43           | 13.78          | 86.43           | 14.19          |
| Ghanvi                        | 81.15           | 18.26          | 81.15           | 18.26          | 81.15           | 18.26          | 81.15           | 18.26          | 81.15           | 18.26          |
| Baner                         | 52.86           | 11.40          | 52.86           | 11.74          | 52.86           | 12.10          | 52.86           | 12.46          | 52.86           | 12.83          |
| Gaj                           | 33.38           | 11.90          | 33.38           | 12.25          | 33.38           | 12.62          | 33.38           | 13.00          | 33.38           | 13.39          |
| Larji                         | 510.20          | 117.64         | 510.20          | 121.17         | 510.20          | 124.80         | 510.20          | 128.54         | 510.20          | 132.40         |
| Khaulti                       | 43.65           | 9.82           | 43.65           | 9.82           | 43.65           | 9.82           | 43.65           | 9.82           | 43.65           | 9.82           |
| Binwa                         | 29.05           | 6.87           | 29.05           | 7.08           | 29.05           | 7.29           | 29.05           | 7.51           | 29.05           | 7.73           |
| Thirot                        | 17.58           | 3.96           | 17.58           | 3.96           | 17.58           | 3.96           | 17.58           | 3.96           | 17.58           | 3.96           |
| Gumma                         | 11.71           | 2.64           | 11.71           | 2.64           | 11.71           | 2.64           | 11.71           | 2.64           | 11.71           | 2.64           |
| Holi                          | 11.71           | 2.64           | 11.71           | 2.64           | 11.71           | 2.64           | 11.71           | 2.64           | 11.71           | 2.64           |
| Bhaba Aug                     | 17.58           | 3.96           | 17.58           | 3.96           | 17.58           | 3.96           | 17.58           | 3.96           | 17.58           | 3.96           |
| Nogli                         | 9.75            | 3.73           | 9.75            | 3.84           | 9.75            | 3.96           | 9.75            | 4.07           | 9.75            | 4.20           |
| Rongtong                      | 7.56            | 2.65           | 7.56            | 2.73           | 7.56            | 2.81           | 7.56            | 2.89           | 7.56            | 2.98           |
| Sal-II                        | 7.79            | 1.75           | 7.79            | 1.75           | 7.79            | 1.75           | 7.79            | 1.75           | 7.79            | 1.75           |
| Chaba                         | 7.59            | 2.18           | 7.59            | 2.25           | 7.59            | 2.32           | 7.59            | 2.39           | 7.59            | 2.46           |
| Rukti                         | 6.47            | 1.07           | 6.47            | 1.10           | 6.47            | 1.14           | 6.47            | 1.17           | 6.47            | 1.21           |
| Chamba                        | 1.75            | 0.42           | 1.75            | 0.43           | 1.75            | 0.45           | 1.75            | 0.46           | 1.75            | 0.48           |
| Killar                        | 1.15            | 0.26           | 1.15            | 0.26           | 1.15            | 0.26           | 1.15            | 0.26           | 1.15            | 0.26           |
| Uhl III - BVPCL               | 60.38           | 27.17          | 346.90          | 156.11         | 346.90          | 156.11         | 346.90          | 156.11         | 346.90          | 156.11         |
| Ghanvi II                     | 45.45           | 10.23          | 45.45           | 10.23          | 45.45           | 10.23          | 45.45           | 10.23          | 45.45           | 10.23          |
| <b>Total - Own Generation</b> | <b>2,134.24</b> | <b>342.62</b>  | <b>2,420.77</b> | <b>479.41</b>  | <b>2,420.77</b> | <b>487.51</b>  | <b>2,420.77</b> | <b>495.84</b>  | <b>2,420.77</b> | <b>504.43</b>  |

| Name of Station                | FY20          |                | FY21          |                | FY22          |                | FY23          |                | FY24          |                |
|--------------------------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|
|                                | MUs           | Cost (Rs. Cr.) | MUs           | Cost (Rs. Cr.) | MUs           | Cost (Rs. Cr.) | MUs           | Cost (Rs. Cr.) | MUs           | Cost (Rs. Cr.) |
| <b>GoHP Power</b>              |               |                |               |                |               |                |               |                |               |                |
| Shanan Share                   | 2.63          | 0.67           | 2.63          | 0.67           | 2.63          | 0.67           | 2.63          | 0.67           | 2.63          | 0.67           |
| Ranjeet Sagar Dam Share        | 68.77         | 17.60          | 68.77         | 17.60          | 68.77         | 17.60          | 68.77         | 17.60          | 68.77         | 17.60          |
| Malana                         | 67.45         | 17.27          | 67.45         | 17.27          | 67.45         | 17.27          | 67.45         | 17.27          | 67.45         | 17.27          |
| Baspa - II                     | 156.06        | 39.95          | 156.06        | 39.95          | 156.06        | 39.95          | 156.06        | 39.95          | 156.06        | 39.95          |
| Ghanvi                         | 11.07         | 2.83           | 11.07         | 2.83           | 11.07         | 2.83           | 11.07         | 2.83           | 11.07         | 2.83           |
| Baner                          | 7.21          | 1.85           | 7.21          | 1.85           | 7.21          | 1.85           | 7.21          | 1.85           | 7.21          | 1.85           |
| Gaj                            | 4.55          | 1.17           | 4.55          | 1.17           | 4.55          | 1.17           | 4.55          | 1.17           | 4.55          | 1.17           |
| Larji                          | 69.57         | 17.81          | 69.57         | 17.81          | 69.57         | 17.81          | 69.57         | 17.81          | 69.57         | 17.81          |
| Khaulti                        | 5.95          | 1.52           | 5.95          | 1.52           | 5.95          | 1.52           | 5.95          | 1.52           | 5.95          | 1.52           |
| Uhl-III                        | 25.51         | 6.53           | 47.30         | 12.11          | 47.30         | 12.11          | 47.30         | 12.11          | 47.30         | 12.11          |
| Ghanvi II                      | 6.20          | 1.59           | 6.20          | 1.59           | 6.20          | 1.59           | 6.20          | 1.59           | 6.20          | 1.59           |
| Kashang                        | 22.81         | 5.84           | 22.81         | 5.84           | 22.81         | 5.84           | 22.81         | 5.84           | 22.81         | 5.84           |
| Chanju                         | 24.63         | 6.31           | 24.63         | 6.31           | 24.63         | 6.31           | 24.63         | 6.31           | 24.63         | 6.31           |
| Small HEP/Private Micro - Free | 120.53        | 30.86          | 124.63        | 31.91          | 133.04        | 34.06          | 142.29        | 36.43          | 152.80        | 39.12          |
| <b>Total - GoHP Power</b>      | <b>592.93</b> | <b>151.79</b>  | <b>618.83</b> | <b>158.42</b>  | <b>627.24</b> | <b>160.57</b>  | <b>636.49</b> | <b>162.94</b>  | <b>647.00</b> | <b>165.63</b>  |
|                                |               |                |               |                |               |                |               |                |               |                |
| <b>NTPC</b>                    |               |                |               |                |               |                |               |                |               |                |
| Anta                           | 25.30         | 19.70          | 25.30         | 20.13          | 25.30         | 20.57          | 25.30         | 21.03          | 25.30         | 21.50          |
| Auriya                         | 27.78         | 25.77          | 27.78         | 26.33          | 27.78         | 26.91          | 27.78         | 27.50          | 27.78         | 28.11          |
| Dadri (G)                      | 67.06         | 40.95          | 67.06         | 41.96          | 67.06         | 43.00          | 67.06         | 44.08          | 67.06         | 45.18          |
| Unchahar-I*                    | 42.86         | 17.87          | 42.86         | 18.29          | 42.86         | 18.73          | 42.86         | 19.18          | 42.86         | 19.64          |
| Unchahar-II*                   | 76.11         | 31.70          | 76.11         | 32.47          | 76.11         | 33.26          | 76.11         | 34.07          | 76.11         | 34.91          |
| Unchahar-III*                  | 49.75         | 22.86          | 49.75         | 23.39          | 49.75         | 23.93          | 49.75         | 24.48          | 49.75         | 25.05          |
| Rihand-1 STPS*                 | 255.77        | 56.77          | 255.77        | 58.03          | 255.77        | 59.32          | 255.77        | 60.66          | 255.77        | 62.02          |
| Rihand-2 STPS*                 | 248.61        | 52.25          | 248.61        | 53.45          | 248.61        | 54.69          | 248.61        | 55.96          | 248.61        | 57.26          |

| Name of Station                             | FY20            |                | FY21            |                | FY22            |                | FY23            |                | FY24            |                |
|---|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|
|   | MUs             | Cost (Rs. Cr.) | MUs             | Cost (Rs. Cr.) | MUs             | Cost (Rs. Cr.) | MUs             | Cost (Rs. Cr.) | MUs             | Cost (Rs. Cr.) |
| Rihand-3 Units-1,2*                         | 248.24          | 71.62          | 248.24          | 73.01          | 248.24          | 74.44          | 248.24          | 75.91          | 248.24          | 77.41          |
| Singrauli STPS*                             | 26.53           | 5.50           | 26.53           | 5.63           | 26.53           | 5.76           | 26.53           | 5.90           | 26.53           | 6.04           |
| Kahalgaon – II                              | 145.04          | 50.28          | 145.04          | 51.43          | 145.04          | 52.61          | 145.04          | 53.82          | 145.04          | 55.07          |
| Dadri-II TPS*                               | 10.53           | 5.93           | 10.53           | 6.07           | 10.53           | 6.21           | 10.53           | 6.35           | 10.53           | 6.50           |
| Kol dam HEP                                 | 472.86          | 226.52         | 472.86          | 228.69         | 472.86          | 230.88         | 472.86          | 233.09         | 472.86          | 235.32         |
| Unchahar IV*                                | 7.45            | 3.52           | 7.45            | 3.60           | 7.45            | 3.68           | 7.45            | 3.76           | 7.45            | 3.85           |
| <b>Total - NTPC</b>                         | <b>1,703.87</b> | <b>631.21</b>  | <b>1,703.87</b> | <b>642.47</b>  | <b>1,703.87</b> | <b>654.00</b>  | <b>1,703.87</b> | <b>665.79</b>  | <b>1,703.87</b> | <b>677.87</b>  |
| <b>NPCIL</b>                                |                 |                |                 |                |                 |                |                 |                |                 |                |
| NAPP  | 97.85           | 31.32          | 97.85           | 31.32          | 97.85           | 31.32          | 97.85           | 32.57          | 97.85           | 32.57          |
| RAPP (V & VI)                               | 101.88          | 41.27          | 101.88          | 41.27          | 101.88          | 41.27          | 101.88          | 42.92          | 101.88          | 42.92          |
| RAPP (VII & VIII)                           | -               | -              | -               | -              | 189.36          | 85.21          | 189.36          | 85.21          | 189.36          | 85.21          |
| <b>Total - NPCIL</b>                        | <b>199.73</b>   | <b>72.58</b>   | <b>199.73</b>   | <b>72.58</b>   | <b>389.09</b>   | <b>157.79</b>  | <b>389.09</b>   | <b>160.70</b>  | <b>389.09</b>   | <b>160.70</b>  |
| <b>NHPC</b>                                 |                 |                |                 |                |                 |                |                 |                |                 |                |
| Salal                                       | 33.50           | 6.54           | 33.50           | 6.58           | 33.50           | 6.62           | 33.50           | 6.65           | 33.50           | 6.69           |
| Tanakpur                                    | 17.06           | 5.35           | 17.06           | 5.41           | 17.06           | 5.46           | 17.06           | 5.52           | 17.06           | 5.57           |
| Chamera-I                                   | 69.31           | 12.88          | 69.31           | 13.01          | 69.31           | 13.14          | 69.31           | 13.27          | 69.31           | 13.40          |
| Chamera-II                                  | 54.05           | 10.38          | 54.05           | 10.49          | 54.05           | 10.59          | 54.05           | 10.70          | 54.05           | 10.80          |
| Uri   | 76.87           | 11.45          | 76.87           | 11.57          | 76.87           | 11.68          | 76.87           | 11.80          | 76.87           | 11.92          |
| Dhauliganga                                 | 37.96           | 8.99           | 37.96           | 9.08           | 37.96           | 9.17           | 37.96           | 9.27           | 37.96           | 9.36           |
| <b>Total - NHPC</b>                         | <b>288.77</b>   | <b>55.60</b>   | <b>288.77</b>   | <b>56.13</b>   | <b>379.19</b>   | <b>97.35</b>   | <b>379.19</b>   | <b>98.29</b>   | <b>379.19</b>   | <b>99.25</b>   |
| <b>Other CG &amp; Other Shared Stations</b> |                 |                |                 |                |                 |                |                 |                |                 |                |
| BBMB Old                                    | 43.80           | 5.40           | 43.80           | 5.45           | 43.80           | 5.51           | 43.80           | 5.56           | 43.80           | 5.62           |
| BBMB New                                    | 339.99          | 33.63          | 339.99          | 33.97          | 339.99          | 34.31          | 339.99          | 34.65          | 339.99          | 35.00          |
| Dehar                                       | 180.27          | 17.46          | 180.27          | 17.64          | 180.27          | 17.82          | 180.27          | 17.99          | 180.27          | 18.17          |

| Name of Station                                     | FY20            |                | FY21            |                | FY22            |                | FY23            |                | FY24            |                |
|---|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|
|   | MUs             | Cost (Rs. Cr.) | MUs             | Cost (Rs. Cr.) | MUs             | Cost (Rs. Cr.) | MUs             | Cost (Rs. Cr.) | MUs             | Cost (Rs. Cr.) |
| Pong  | 48.14           | 2.50           | 48.14           | 2.53           | 48.14           | 2.55           | 48.14           | 2.58           | 48.14           | 2.60           |
| Shanan (available to HPSEB)                         | 5.26            | 0.21           | 5.26            | 0.21           | 5.26            | 0.22           | 5.26            | 0.22           | 5.26            | 0.22           |
| Shanan Ext (available to HPSEB)                     | 45.00           | 0.94           | 45.00           | 0.95           | 45.00           | 0.96           | 45.00           | 0.97           | 45.00           | 0.98           |
| Yamuna  | 387.81          | 49.79          | 387.81          | 53.72          | 387.81          | 58.01          | 387.81          | 62.63          | 387.81          | 67.62          |
| Khara   | 43.39           | 3.82           | 43.39           | 3.86           | 43.39           | 3.90           | 43.39           | 3.93           | 43.39           | 3.97           |
| <b>Total – Other CG &amp; Other Shared Stations</b> | <b>1,093.66</b> | <b>113.75</b>  | <b>1,093.66</b> | <b>118.33</b>  | <b>1,093.66</b> | <b>123.25</b>  | <b>1,093.66</b> | <b>128.53</b>  | <b>1,093.66</b> | <b>134.18</b>  |
| <b>SJVNL</b>  |                 |                |                 |                |                 |                |                 |                |                 |                |
| Nathpa Jhakri HEP                                   | 175.48          | 38.04          | 175.48          | 38.42          | 175.48          | 38.81          | 175.48          | 38.98          | 175.48          | 39.59          |
| Nathpa Jhakri Equity                                | 1,562.97        | 338.83         | 1,562.97        | 342.21         | 1,562.97        | 345.63         | 1,562.97        | 347.21         | 1,562.97        | 352.57         |
| Rampur SOR  | 55.14           | 17.26          | 55.14           | 17.42          | 55.14           | 17.59          | 55.14           | 17.66          | 55.14           | 17.92          |
| Rampur Equity                                       | 512.20          | 159.38         | 512.20          | 160.91         | 512.20          | 162.45         | 512.20          | 163.15         | 512.20          | 165.57         |
| <b>Total - SJVNL</b>                                | <b>2,305.80</b> | <b>553.51</b>  | <b>2,305.80</b> | <b>558.96</b>  | <b>2,305.80</b> | <b>564.47</b>  | <b>2,305.80</b> | <b>567.01</b>  | <b>2,305.80</b> | <b>575.65</b>  |
| <b>Other IPPs &amp; Private SHPs</b>                |                 |                |                 |                |                 |                |                 |                |                 |                |
| Small HEP/ Private Micro<5MW                        | 1,079.25        | 307.59         | 1,111.62        | 316.81         | 1,144.97        | 326.32         | 1,144.97        | 336.11         | 1,214.70        | 346.19         |
| Small HEP/ Private Micro>5MW                        | 244.17          | 63.48          | 251.50          | 65.39          | 259.04          | 67.35          | 259.04          | 69.37          | 274.82          | 71.45          |
| Small HEP/ Private Micro - REC                      | 205.83          | 46.31          | 212.01          | 47.70          | 218.37          | 49.13          | 218.37          | 50.61          | 231.67          | 52.13          |
| Baspa - II  | 1,050.06        | 178.51         | 1,050.06        | 227.86         | 1,050.06        | 229.96         | 1,050.06        | 232.06         | 1,050.06        | 234.16         |
| Baspa - II Secondary Energy                         | 107.27          | 43.68          | 107.27          | 43.68          | 107.27          | 43.68          | 107.27          | 43.68          | 107.27          | 43.68          |
| <b>Total – IPPs &amp; Private SHPs</b>              | <b>2,686.58</b> | <b>693.57</b>  | <b>2,732.46</b> | <b>701.45</b>  | <b>2,779.71</b> | <b>716.45</b>  | <b>2,779.71</b> | <b>731.83</b>  | <b>2,878.51</b> | <b>747.61</b>  |

| Name of Station              | FY20             |                 | FY21             |                 | FY22             |                 | FY23             |                 | FY24             |                 |
|------------------------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|
|                              | MUs              | Cost (Rs. Cr.)  | MUs              | Cost (Rs. Cr.)  | MUs              | Cost (Rs. Cr.)  | MUs              | Cost (Rs. Cr.)  | MUs              | Cost (Rs. Cr.)  |
| <b>Solar</b>                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |                 |
| Singrauli Solar              | 19.06            | 15.01           | 19.06            | 15.01           | 19.06            | 15.01           | 19.06            | 15.01           | 19.06            | 15.01           |
| SECI Solar                   | 44.83            | 24.67           | 44.83            | 24.67           | 44.83            | 24.67           | 44.83            | 24.67           | 44.83            | 24.67           |
| Additional Solar Power       | 74.81            | 33.33           | 74.81            | 33.33           | 74.81            | 33.33           | 74.81            | 33.33           | 74.81            | 33.33           |
| <b>Total - Solar</b>         | <b>138.71</b>    | <b>73.01</b>    | <b>138.71</b>    | <b>73.01</b>    | <b>138.71</b>    | <b>73.01</b>    | <b>138.71</b>    | <b>73.01</b>    | <b>138.71</b>    | <b>73.01</b>    |
| <b>Co-Gen</b>                |                  |                 |                  |                 |                  |                 |                  |                 |                  |                 |
| <b>Waste to Energy (WTE)</b> | 24.53            | 19.38           | 24.53            | 19.38           | 24.53            | 19.38           | 24.53            | 19.38           | 24.53            | 19.38           |
| <b>Grant Total</b>           | <b>11,168.82</b> | <b>2,653.02</b> | <b>11,527.12</b> | <b>2,880.13</b> | <b>11,862.57</b> | <b>3,053.77</b> | <b>11,920.49</b> | <b>3,103.32</b> | <b>11,981.13</b> | <b>3,157.70</b> |

**Merit Order Purchase including for Banking**

- 8.5.25 As per the demand-supply analysis, the Commission has observed that after meeting the power requirement within the State (including the losses and contingency reserve of additional 200 MUs) and banking requirements at a reasonable purchase rates for meeting the deficit power during winters, the utility shall be left with surplus power. This surplus power is the most expensive power in the merit order which is primarily available from thermal CGS. The Petitioner should either avoid purchasing power from such stations by surrendering their allocation on longer time periods or should make appropriate arrangements for disposal of such surplus power in a manner that average cost of procurement of such surplus power is realized. This is essential considering the fact that any shortfall in recovery from sale of this surplus power shall put additional burden on the consumers in the State, which is not prudent.
- 8.5.26 It is observed that the Petitioner in its projections for power procurement have considered the availability of power from various Central Generating Stations such as Tehri, Koteshwar, SOR share of Koldam, Parbati-II, Parbati-III and Chamera-III which were earlier surrendered for a period of five years and shall return to the Petitioner during the fourth Control Period. During the TVS, the Petitioner clarified that the period of surrender shall be complete during FY 2019-20 and the power from these stations would be available to HPSEBL in case the period is not extended. In light of the above and the demand-supply position assessment for the fourth Control Period, the Commission feels that power from the above-mentioned sources may not be required by the Petitioner during the Control Period. The Petitioner has also submitted that the average rates from these stations are considerably high and range between Rs. 4.21 per unit to Rs. 5.45 per unit, **the Commission directs the Petitioner to pursue the matter with Ministry of Power for continuation of the surrendered power from these stations for an additional period of five years.**
- 8.5.27 The merit order for each year has been prepared based on the power purchase cost from each station and considering the status of plant i.e. owned generating station, must run stations, power purchase towards renewable power obligations, etc. The merit order for each year of the fourth Control Period is summarized in tables below:

**Table 188: Approved Merit Order for FY20**

| S.No.      | Stations   | Units (Mus) | Cost (Rs. Cr.) | Rate (Rs. /Unit) |
|------------|--|-------------|----------------|------------------|
|            | <b><u>Power Procurement for Supply in the State</u></b>    |             |                |                  |
| <b>I</b>   | <b>Clean Energy</b>  |             |                |                  |
| <b>(A)</b> | <b>Green (Renewable) Energy</b>                            |             |                |                  |
| (i)        | SHP own generation   | 473         | 106            | 2.25             |
| (ii)       | SHP PPAs Preferential Tariff (Excluding on APPC under REC) | 1,323       | 371            | 2.80             |
| (iii)      | Solar  |             |                |                  |



| S.No.      | Stations   | Units (Mus)   | Cost (Rs. Cr.) | Rate (Rs. /Unit) |
|------------|--|---------------|----------------|------------------|
| (a)        | NTPC Singrauli   | 19            | 15             | 7.87             |
| (b)        | SECI   | 45            | 25             | 5.50             |
| (c)        | Private Solar  | 75            | 33             | 4.45             |
| (iv)       | Waste to Energy  | 25            | 19             | 7.90             |
| <b>(B)</b> | <b>Green Energy Hydel Source</b>   |               |                |                  |
| (i)        | Own generation   | 1,662         | 236            | 1.42             |
| (ii)       | BBMB and other shared projects   |               |                | -                |
| (a)        | BBMB   | 612           | 59             | 0.96             |
| (b)        | Shanan & Shanan Ext.   | 50            | 1              | 0.23             |
| (c)        | Yamuna & Khara   | 431           | 54             | 1.24             |
| (iii)      | Baspa -IPP   | 1,157         | 222            | 1.92             |
| (iv)       | SoR Share NHPC   | 289           | 56             | 1.93             |
| (v)        | NJPS equity share  | 1,563         | 339            | 2.17             |
| (vi)       | On APPC under REC framework  | 206           | 46             | 2.25             |
| (vii)      | GoHP Free Power in Projects directly connected to HPSEBL   | 593           | 152            | 2.56             |
| (viii)     | SoR Share NJPS   | 175           | 38             | 2.17             |
| (ix)       | SoR Share Rampur   | 55            | 17             | 3.13             |
| (x)        | Equity Power Rampur  | 512           | 159            | 3.11             |
| <b>(C)</b> | <b>Clean Energy Nuclear</b>  |               |                |                  |
| (i)        | NPCIL  | 200           | 73             | 3.63             |
| <b>II</b>  | <b>Conventional Thermal Sources</b>  |               |                |                  |
| (i)        | Singrauli STPS   | 27            | 5              | 2.07             |
| (ii)       | Rihand-2 STPS  | 249           | 52             | 2.10             |
| (iii)      | Rihand-1 STPS  | 256           | 57             | 2.22             |
| (iv)       | Rihand-3 Units-1,2   | 248           | 72             | 2.89             |
| (v)        | Kahalgaon - II   | 145           | 50             | 3.47             |
| (vi)       | Unchahar-II  | 12            | 5              | 4.16             |
|            | <b>Total (I + II)</b>  | <b>10,401</b> | <b>2,263</b>   | <b>2.18</b>      |
| <b>A</b>   | <b><u>Contingent Purchase if required in case of shortfall in availability or increase in demand</u></b> |               |                |                  |
| (i)        | Unchahar-II  | 64            | 27             | 4.16             |
| (ii)       | Unchahar-I   | 43            | 18             | 4.17             |
| (iii)      | Unchahar-III   | 50            | 23             | 4.59             |
| (iv)       | Unchahar IV  | 7             | 4              | 4.73             |
| (v)        | Kol dam HEP  | 36            | 17             | 4.79             |
| <b>B</b>   | <b><u>Surpluses for Trading due to PPA obligation</u></b>  |               |                |                  |
| (i)        | Koldam HEP   | 437           | 209            | 4.79             |
| (ii)       | Dadri-II TPS   | 11            | 6              | 5.64             |
| (iii)      | Dadri (G)  | 67            | 41             | 6.11             |

| S.No. | Stations           | Units (Mus)   | Cost (Rs. Cr.) | Rate (Rs. /Unit) |
|-------|--------------------|---------------|----------------|------------------|
| (iv)  | Anta (G)           | 25            | 20             | 7.79             |
| (v)   | Auriya (G)         | 28            | 26             | 9.27             |
|       | <b>Grand Total</b> | <b>11,169</b> | <b>2,653</b>   | <b>2.38</b>      |

\*including own generation from less than 25MW projects

**Table 189: Approved Merit Order for FY21**

| S.No.      | Stations   | Units (Mus) | Cost (Rs. Cr.) | Rate (Rs. /Unit) |
|------------|--|-------------|----------------|------------------|
|            | <b><u>Power Procurement for Supply in the State</u></b>    |             |                |                  |
| <b>I</b>   | <b>Clean Energy</b>  |             |                |                  |
| <b>(A)</b> | <b>Green (Renewable) Energy</b>                            |             |                |                  |
| (i)        | SHP own generation   | 473         | 108            | 2.28             |
| (ii)       | SHP PPAs Preferential Tariff (Excluding on APPC under REC) | 1,363       | 382            | 2.80             |
| (iii)      | Solar  |             |                |                  |
| (a)        | NTPC Singrauli   | 19          | 15             | 7.87             |
| (b)        | SECI   | 45          | 25             | 5.50             |
| (c)        | Private Solar  | 75          | 33             | 4.45             |
| (iv)       | Waste to Energy  | 25          | 19             | 7.90             |
| <b>(B)</b> | <b>Green Energy Hydel Source</b>                           |             |                |                  |
| (i)        | Own generation   | 1,948       | 372            | 1.91             |
| (ii)       | BBMB and other shared projects                             |             |                | -                |
| (a)        | BBMB   | 612         | 60             | 0.97             |
| (b)        | Shanan & Shanan Ext.                                       | 50          | 1              | 0.23             |
| (c)        | Yamuna & Khara   | 431         | 58             | 1.34             |
| (iii)      | Baspa -IPP   | 1,157       | 272            | 2.35             |
| (iv)       | SoR Share NHPC   | 289         | 56             | 1.94             |
| (v)        | NJPS equity share  | 1,563       | 342            | 2.19             |
| (vi)       | On APPC under REC framework                                | 212         | 48             | 2.25             |
| (vii)      | GoHP Free Power in Projects directly connected to HPSEBL   | 619         | 158            | 2.56             |
| (viii)     | SoR Share NJPS   | 175         | 38             | 2.19             |
| (ix)       | SoR Share Rampur   | 55          | 17             | 3.16             |
| (x)        | Equity Power Rampur  | 512         | 161            | 3.14             |
| <b>(C)</b> | <b>Clean Energy Nuclear</b>                                |             |                |                  |
| (i)        | NPCIL  | 200         | 73             | 3.63             |
| <b>II</b>  | <b>Conventional Thermal Sources</b>                        |             |                |                  |
| (i)        | Singrauli STPS   | 27          | 6              | 2.12             |
| (ii)       | Rihand-2 STPS  | 249         | 53             | 2.15             |
| (iii)      | Rihand-1 STPS  | 256         | 58             | 2.27             |
| (iv)       | Rihand-3 Units-1,2   | 248         | 73             | 2.94             |

| S.No.    | Stations   | Units (Mus)   | Cost (Rs. Cr.) | Rate (Rs. /Unit) |
|----------|--|---------------|----------------|------------------|
| (v)      | Kahalgaon - II   | 69            | 24             | 3.55             |
|          | <b>Total (I + II)</b>  | <b>10,671</b> | <b>2,452</b>   | <b>2.30</b>      |
| <b>A</b> | <b><u>Contingent Purchase if required in case of shortfall in availability or increase in demand</u></b> |               |                |                  |
| (i)      | Kahalgaon - II   | 76            | 27             | 3.55             |
| (ii)     | Unchahar-II  | 76            | 32             | 4.27             |
| (iii)    | Unchahar-I   | 43            | 18             | 4.27             |
| (iv)     | Unchahar-IV  | 5             | 2              | 4.70             |
| <b>B</b> | <b><u>Surpluses for Trading due to PPA obligation</u></b>  |               |                |                  |
| (i)      | Unchahar-III   | 45            | 21             | 4.70             |
| (ii)     | Unchahar IV  | 7             | 4              | 4.83             |
| (iii)    | Kol dam HEP  | 473           | 229            | 4.84             |
| (iv)     | Dadri-II TPS   | 11            | 6              | 5.76             |
| (v)      | Dadri (G)  | 67            | 42             | 6.26             |
| (vi)     | Anta (G)   | 25            | 20             | 7.96             |
| (vii)    | Auriya (G)   | 28            | 26             | 9.48             |
|          | <b>Grand Total</b>   | <b>11,527</b> | <b>2,880</b>   | <b>2.50</b>      |

Table 190: Approved Merit Order for FY22

| S.No.      | Stations   | Units (Mus) | Cost (Rs. Cr.) | Rate (Rs. /Unit) |
|------------|--|-------------|----------------|------------------|
|            | <b><u>Power Procurement for Supply in the State</u></b>    |             |                |                  |
| <b>I</b>   | <b>Clean Energy</b>  |             |                |                  |
| <b>(A)</b> | <b>Green (Renewable) Energy</b>                            |             |                |                  |
| (i)        | SHP own generation   | 473         | 110            | 2.32             |
| (ii)       | SHP PPAs Preferential Tariff (Excluding on APPC under REC) | 1,404       | 394            | 2.80             |
| (iii)      | Solar  |             |                |                  |
| (a)        | NTPC Singrauli   | 19          | 15             | 7.87             |
| (b)        | SECI   | 45          | 25             | 5.50             |
| (c)        | Private Solar  | 75          | 33             | 4.45             |
| (iv)       | Waste to Energy  | 25          | 19             | 7.90             |
| <b>(B)</b> | <b>Green Energy Hydel Source</b>                           |             |                |                  |
| (i)        | Own generation   | 1,948       | 378            | 1.94             |
| (ii)       | BBMB and other shared projects                             |             |                | -                |
| (a)        | BBMB   | 612         | 60             | 0.98             |
| (b)        | Shanan & Shanan Ext.                                       | 50          | 1              | 0.23             |
| (c)        | Yamuna & Khara   | 431         | 62             | 1.44             |
| (iii)      | Baspa -IPP   | 1,157       | 274            | 2.36             |
| (iv)       | SoR Share NHPC   | 379         | 97             | 2.57             |

| S.No.      | Stations  | Units (Mus)   | Cost (Rs. Cr.) | Rate (Rs. /Unit) |
|------------|---|---------------|----------------|------------------|
| (v)        | NJPS equity share   | 1,563         | 346            | 2.21             |
| (vi)       | On APPC under REC framework   | 218           | 49             | 2.25             |
| (vii)      | GoHP Free Power in Projects directly connected to HPSEBL  | 627           | 161            | 2.56             |
| (viii)     | SoR Share NJPS  | 175           | 39             | 2.21             |
| (ix)       | SoR Share Rampur  | 55            | 18             | 3.19             |
| (x)        | Equity Power Rampur   | 512           | 162            | 3.17             |
| <b>(C)</b> | <b>Clean Energy Nuclear</b>   |               |                |                  |
| (i)        | NPCIL   | 389           | 158            | 4.06             |
| <b>II</b>  | <b>Conventional Thermal Sources</b>   |               |                |                  |
| (i)        | Singrauli STPS  | 27            | 6              | 2.17             |
| (ii)       | Rihand-2 STPS   | 249           | 55             | 2.20             |
| (iii)      | Rihand-1 STPS   | 256           | 59             | 2.32             |
| (iv)       | Rihand-3 Units-1,2  | 248           | 74             | 3.00             |
| (v)        | Kahalgaon - II  | 22            | 8              | 3.63             |
|            | <b>Total (I + II)</b>   | <b>10,960</b> | <b>2,602</b>   | <b>2.37</b>      |
| <b>A</b>   | <b>Contingent Purchase if required in case of shortfall in availability or increase in demand</b> |               |                |                  |
| (i)        | Kahalgaon - II  | 123           | 45             | 3.63             |
| (ii)       | Unchahar-II   | 76            | 33             | 4.37             |
| (iii)      | Unchahar-I  | 1             | 0.4            | 4.37             |
| <b>B</b>   | <b>Surpluses for Trading due to PPA obligation</b>  |               |                |                  |
| (i)        | Unchahar-I  | 42            | 18             | 4.37             |
| (ii)       | Unchahar-III  | 50            | 24             | 4.81             |
| (iii)      | Kol dam HEP   | 473           | 231            | 4.88             |
| (iv)       | Unchahar IV   | 7             | 4              | 4.94             |
| (v)        | Dadri-II TPS  | 11            | 6              | 5.90             |
| (vi)       | Dadri (G)   | 67            | 43             | 6.41             |
| (vii)      | Anta (G)  | 25            | 21             | 8.13             |
| (viii)     | Auriya (G)  | 28            | 27             | 9.69             |
|            | <b>Grand Total</b>  | <b>11,863</b> | <b>3,054</b>   | <b>2.57</b>      |

Table 191: Approved Merit Order for FY23

| S.No.      | Stations   | Units (Mus) | Cost (Rs. Cr.) | Rate (Rs. /Unit) |
|------------|--|-------------|----------------|------------------|
|            | <b>Power Procurement for Supply in the State</b>           |             |                |                  |
| <b>I</b>   | <b>Clean Energy</b>  |             |                |                  |
| <b>(A)</b> | <b>Green (Renewable) Energy</b>                            |             |                |                  |
| (i)        | SHP own generation   | 473         | 111            | 2.35             |
| (ii)       | SHP PPAs Preferential Tariff (Excluding on APPC under REC) | 1,446       | 405            | 2.80             |

| S.No.      | Stations  | Units (Mus)   | Cost (Rs. Cr.) | Rate (Rs. /Unit) |
|------------|---|---------------|----------------|------------------|
| (iii)      | Solar   |               |                |                  |
| (a)        | NTPC Singrauli  | 19            | 15             | 7.87             |
| (b)        | SECI  | 45            | 25             | 5.50             |
| (c)        | Private Solar   | 75            | 33             | 4.45             |
| (iv)       | Waste to Energy   | 25            | 19             | 7.90             |
| <b>(B)</b> | <b>Green Energy Hydel Source</b>  |               |                |                  |
| (i)        | Own generation  | 1,948         | 385            | 1.97             |
| (ii)       | BBMB and other shared projects  |               |                | -                |
| (a)        | BBMB  | 612           | 61             | 0.99             |
| (b)        | Shanan & Shanan Ext.  | 50            | 1              | 0.24             |
| (c)        | Yamuna & Khara  | 431           | 67             | 1.54             |
| (iii)      | Baspa -IPP  | 1,157         | 276            | 2.38             |
| (iv)       | SoR Share NHPC  | 379           | 98             | 2.59             |
| (v)        | NJPS equity share   | 1,563         | 347            | 2.22             |
| (vi)       | On APPC under REC framework   | 218           | 49             | 2.25             |
| (vii)      | GoHP Free Power in Projects directly connected to HPSEBL  | 636           | 163            | 2.56             |
| (viii)     | SoR Share NJPS  | 175           | 39             | 2.22             |
| (ix)       | SoR Share Rampur  | 55            | 18             | 3.20             |
| (x)        | Equity Power Rampur   | 512           | 163            | 3.19             |
| <b>(C)</b> | <b>Clean Energy Nuclear</b>   |               |                |                  |
| (i)        | NPCIL   | 389           | 161            | 4.13             |
| <b>II</b>  | <b>Conventional Thermal Sources</b>   |               |                |                  |
| (i)        | Singrauli STPS  | 27            | 6              | 2.22             |
| (ii)       | Rihand-2 STPS   | 249           | 56             | 2.25             |
| (iii)      | Rihand-1 STPS   | 256           | 61             | 2.37             |
| (iv)       | Rihand-3 Units-1,2  | 248           | 76             | 3.06             |
| (v)        | Kahalgaon - II  | 145           | 54             | 3.71             |
| (vi)       | Unchahar-I  | 43            | 19             | 4.48             |
| (vii)      | Unchahar-II   | 64            | 29             | 4.48             |
|            | <b>Total (I + II)</b>   | <b>11,248</b> | <b>2,738</b>   | <b>2.43</b>      |
| <b>A</b>   | <b>Contingent Purchase if required in case of shortfall in availability or increase in demand</b> |               |                |                  |
| (i)        | Unchahar-II   | 12            | 5              | 4.48             |
| (ii)       | Unchahar-III  | 50            | 24             | 4.92             |
| (iii)      | Koldam HEP  | 139           | 68             | 4.93             |
| <b>B</b>   | <b>Surpluses for Trading due to PPA obligation</b>  |               |                |                  |
| (i)        | Koldam HEP  | 334           | 165            | 4.93             |
| (ii)       | Unchahar IV   | 7             | 4              | 5.05             |
| (iii)      | Dadri-II TPS  | 11            | 6              | 6.03             |

| S.No. | Stations           | Units (Mus)   | Cost (Rs. Cr.) | Rate (Rs. /Unit) |
|-------|--------------------|---------------|----------------|------------------|
| (iv)  | Dadri (G)          | 67            | 44             | 6.57             |
| (v)   | Anta (G)           | 25            | 21             | 8.31             |
| (vi)  | Auriya (G)         | 28            | 28             | 9.90             |
|       | <b>Grand Total</b> | <b>11,920</b> | <b>3,103</b>   | <b>2.60</b>      |

Table 192: Approved Merit Order for FY24

| S.No.      | Stations   | Units (Mus) | Cost (Rs. Cr.) | Rate (Rs. /Unit) |
|------------|--|-------------|----------------|------------------|
|            | <b><u>Power Procurement for Supply in the State</u></b>    |             |                |                  |
| <b>I</b>   | <b>Clean Energy</b>  |             |                |                  |
| <b>(A)</b> | <b>Green (Renewable) Energy</b>                            |             |                |                  |
| (i)        | SHP own generation   | 473         | 113            | 2.39             |
| (ii)       | SHP PPAs Preferential Tariff (Excluding on APPC under REC) | 1,490       | 418            | 2.80             |
| (iii)      | Solar  |             |                |                  |
| (a)        | NTPC Singrauli   | 19          | 15             | 7.87             |
| (b)        | SECI   | 45          | 25             | 5.50             |
| (c)        | Private Solar  | 75          | 33             | 4.45             |
| (iv)       | Waste to Energy  | 25          | 19             | 7.90             |
| <b>(B)</b> | <b>Green Energy Hydel Source</b>                           |             |                |                  |
| (i)        | Own generation   | 1,948       | 391            | 2.01             |
| (ii)       | BBMB and other shared projects                             |             |                | -                |
| (a)        | BBMB   | 612         | 61             | 1.00             |
| (b)        | Shanan & Shanan Ext.                                       | 50          | 1              | 0.24             |
| (c)        | Yamuna & Khara   | 431         | 72             | 1.66             |
| (iii)      | Baspa -IPP   | 1,157       | 278            | 2.40             |
| (iv)       | SoR Share NHPC   | 379         | 99             | 2.62             |
| (v)        | NJPS equity share  | 1,563       | 353            | 2.26             |
| (vi)       | On APPC under REC framework                                | 232         | 52             | 2.25             |
| (vii)      | GoHP Free Power in Projects directly connected to HPSEBL   | 647         | 166            | 2.56             |
| (viii)     | SoR Share NJPS   | 175         | 40             | 2.26             |
| (ix)       | SoR Share Rampur   | 55          | 18             | 3.25             |
| (x)        | Equity Power Rampur  | 512         | 166            | 3.23             |
| <b>(C)</b> | <b>Clean Energy Nuclear</b>                                |             |                |                  |
| (i)        | NPCIL  | 389         | 161            | 4.13             |
|            |  |             |                |                  |
| <b>II</b>  | <b>Conventional Thermal Sources</b>                        |             |                |                  |
| (i)        | Singrauli STPS   | 27          | 6              | 2.28             |
| (ii)       | Rihand-2 STPS  | 249         | 57             | 2.30             |
| (iii)      | Rihand-1 STPS  | 256         | 62             | 2.42             |

| S.No.    | Stations   | Units (Mus)   | Cost (Rs. Cr.) | Rate (Rs. /Unit) |
|----------|--|---------------|----------------|------------------|
| (iv)     | Rihand-3 Units-1,2   | 248           | 77             | 3.12             |
| (v)      | Kahalgaon - II   | 145           | 55             | 3.80             |
| (vi)     | Unchahar-I   | 43            | 20             | 4.58             |
| (vii)    | Unchahar-II  | 76            | 35             | 4.59             |
| (viii)   | Koldam HEP   | 226           | 112            | 4.98             |
|          | <b>Total (I + II)</b>  | <b>11,546</b> | <b>2,905</b>   | <b>2.52</b>      |
| <b>A</b> | <b><u>Contingent Purchase if required in case of shortfall in availability or increase in demand</u></b> |               |                |                  |
| (i)      | Kol dam HEP  | 200           | 100            | 4.98             |
| <b>B</b> | <b><u>Surpluses for Trading due to PPA obligation</u></b>  |               |                |                  |
| (i)      | Kol dam HEP  | 47            | 23             | 4.98             |
| (ii)     | Unchahar-III   | 50            | 25             | 5.04             |
| (iii)    | Unchahar IV  | 7             | 4              | 5.16             |
| (iv)     | Dadri-II TPS   | 11            | 6              | 6.17             |
| (v)      | Dadri (G)  | 67            | 45             | 6.74             |
| (vi)     | Anta (G)   | 25            | 21             | 8.50             |
| (vii)    | Auriya (G)   | 28            | 28             | 10.12            |
|          | <b>Grand Total</b>   | <b>11,981</b> | <b>3,158</b>   | <b>2.64</b>      |

8.5.28 The Commission expects that the Petitioner would make appropriate arrangements each year for disposal of the surplus power in a manner that it is able to recover the high cost of this power.

#### **No Future PPAs from Sources outside Himachal Pradesh**

8.5.29 The Commission reiterates that since HPSEBL and Government of HP are surplus in power, the allocation from hydro stations outside State upcoming in the future should be avoided as HP is already having abundantly existing and upcoming hydro power projects within the State. HPSEBL should not enter in to PPAs for such upcoming projects and if at all HPSEBL feels the need to do so on merit, prior approval of the Commission shall be taken. Similarly, no PPA or purchase from upcoming thermal sources shall be made in future without prior approval of the Commission.

8.5.30 During summer season when the power is surplus, HPSEBL can bank that power for its usage during winter season for meeting the base load. The Petitioner can thus avoid purchase of costly power from new thermal generating plants by such banking arrangement. If however HPSEBL feels that it needs thermal power to meet its base load requirements, it should observe financial prudence in doing so.

8.5.31 For the purpose of disposal of this surplus power, the Commission has considered the average sale rate of such surplus power in the last 2 years, i.e. FY18 and FY19 as per the submission of the Petitioner.

- 8.5.32 For the fourth Control Period, the Commission has considered contingency surplus of 200 MU to meet the contingencies arising from unforeseen demand or unexpected problems in power generation and availability. This buffer/contingency surplus shall also help in reducing the marginal power purchase cost of the utility and, if not required for demand within state, can be disposed off through inter-state sales. It will also help in avoiding over-drawl from the system for maintaining grid discipline. The disposal of this contingency surplus has also been considered at the same rate as considered for surplus power. **In this regard, the Commission directs the Petitioner to undertake load-forecasting activities that would support HPSEBL in power planning and optimize the cost of power purchase as well as maximize the revenue earned by the Petitioner from its surplus power.**



Table 193: Power Purchase Summary approved for 4<sup>th</sup> Control Period

| Power Purchase Summary             | FY20          |                |                 | FY21          |                |                 | FY22          |                |                 | FY23          |                |                 | FY24          |                |                 |
|------------------------------------|---------------|----------------|-----------------|---------------|----------------|-----------------|---------------|----------------|-----------------|---------------|----------------|-----------------|---------------|----------------|-----------------|
|                                    | MUs           | Cost (Rs. Cr.) | Rate (Rs./ kWh) | MUs           | Cost (Rs. Cr.) | Rate (Rs./ kWh) | MUs           | Cost (Rs. Cr.) | Rate (Rs./ kWh) | MUs           | Cost (Rs. Cr.) | Rate (Rs./ kWh) | MUs           | Cost (Rs. Cr.) | Rate (Rs./ kWh) |
| Total Own Generation               | 2,134         | 343            | 1.61            | 2,421         | 479            | 1.98            | 2,421         | 488            | 2.01            | 2,421         | 496            | 2.05            | 2,421         | 504            | 2.08            |
| Total Free Power                   | 593           | 152            | 2.56            | 619           | 158            | 2.56            | 627           | 161            | 2.56            | 636           | 163            | 2.56            | 647           | 166            | 2.56            |
| Total NTPC                         | 1,704         | 631            | 3.70            | 1,704         | 642            | 3.77            | 1,704         | 654            | 3.84            | 1,704         | 666            | 3.91            | 1,704         | 678            | 3.98            |
| Total NPCIL                        | 200           | 73             | 3.63            | 200           | 73             | 3.63            | 389           | 158            | 4.06            | 389           | 161            | 4.13            | 389           | 161            | 4.13            |
| Total NHPC                         | 289           | 56             | 1.93            | 289           | 56             | 1.94            | 379           | 97             | 2.57            | 379           | 98             | 2.59            | 379           | 99             | 2.62            |
| Total BBMB & Other Shared Stations | 1,094         | 114            | 1.04            | 1,094         | 118            | 1.08            | 1,094         | 123            | 1.13            | 1,094         | 129            | 1.18            | 1,094         | 134            | 1.23            |
| Total SJVNL & Others               | 2,306         | 554            | 2.40            | 2,306         | 559            | 2.42            | 2,306         | 564            | 2.45            | 2,306         | 567            | 2.46            | 2,306         | 576            | 2.50            |
| Total IPPs and Private SHPs*       | 2,711         | 659            | 2.43            | 2,757         | 721            | 2.61            | 2,804         | 736            | 2.62            | 2,853         | 751            | 2.63            | 2,903         | 767            | 2.64            |
| Total Solar                        | 139           | 73             | 5.26            | 139           | 73             | 5.26            | 139           | 73             | 5.26            | 139           | 73             | 5.26            | 139           | 73             | 5.26            |
| <b>Grand Total</b>                 | <b>11,169</b> | <b>2,653</b>   | <b>2.38</b>     | <b>11,527</b> | <b>2,880</b>   | <b>2.50</b>     | <b>11,863</b> | <b>3,054</b>   | <b>2.57</b>     | <b>11,920</b> | <b>3,103</b>   | <b>2.60</b>     | <b>11,981</b> | <b>3,158</b>   | <b>2.64</b>     |

\* includes Waste to Energy Projects

## 8.6 PGCIL & HPPTCL Charges

8.6.1 PGCIL Charges have been approved for the Control Period based on the actual inter-state transmission charges paid by the Petitioner during FY18 (after netting off any amount recoverable from PTC on account of PGCIL wheeling charges) with an escalation of 7% each year.

8.6.2 In addition to this, the Petitioner has also proposed the impact of the following charges:

### a) **POWERGRID Kala Amb Transmission Assets (PKATL Assets):**

For PKATL assets, the Petitioner has submitted that it has been paying non-POC charges from July 2017 onwards to PGCIL towards POWERGRID Kala Amb Transmission Assets (PKATL assets) i.e. GIS Substation 7x105 MVA (1-ph), 400/220 kV at Kala Amb (HP) and LILO of Karcham Wangtoo-Abdullapur 400kV D/C and 40% Series Compensation (COD of the Asset: 12th July 2017). The bills have been accepted provisionally in line with the CERC Order dated 22.08.2014 in Petition No. 93/TT/2014, CERC Order dated 04.01.2017 in petition No. 155/MP/2016 of Patran Transmission Company Limited and Regional Transmission Accounts for the respective month issued by NRPC.

In the petition No. 104/MP/2018, the Petitioner had contended that transmission charges for PKATL assets shall be included in PoC mechanism and recovered from all constituents of NR. Hon'ble CERC in Order dated 18.09.2018 in Petition No. 104/MP/2018 has allowed 15.5% charges recovery through PoC mechanism and 84.5% of total annual charges from the Petitioner till the downstream transmission network is made ready by HPPTCL & connected with GIS Substation 7x105 MVA (1-ph), 400/220 kV at Kala Amb (HP). The Petitioner submitted that it has appealed before Hon'ble APTEL against the CERC order dated 18.09.2018.

However, despite several queries of the Commission, the Petitioner was unable to explain the reasons for delay in construction of downstream network. Considering the punitive nature of the charge being levied on HPSEBL and pending decision on the appeal filed by HPSEBL with Hon'ble APTEL, the Commission disallows this additional claim to be passed onto the consumer.

### b) **02 No. 220kV Line Bays (HPSEBL Future Bays at Hamirpur POWERGRID Substation in NR):**

Similarly, the Petitioner has submitted that it is paying non-POC Charges to PGCIL towards 02 No. 220kV Line Bays (HPSEBL Future Bays) at Hamirpur Sub Station in Northern Region as per Tariff approved by CERC in Petition No. 99/TT/2014 from March 2017 onwards. The annual charges for the HPSEBL future bays at Hamirpur are Rs. 68 lakh approximately.

For similar reasons as detailed above, the Commission has disallowed the additional amount claimed by the Petitioner towards future bays at Hamirpur.

- 8.6.3 HPPTCL charges have been considered as approved by the Commission in the MYT Order of HPPTCL for the fourth Control Period. The summary of the PGCIL and HPPTCL transmission charges approved for fourth Control Period are summarized in table below:

**Table 194: Approved PGCIL & HPPTCL Charges for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                       | FY20          | FY21          | FY22          | FY23          | FY24          |
|-----------------------------------|---------------|---------------|---------------|---------------|---------------|
| PGCIL Charges                     | 290.56        | 310.90        | 332.67        | 355.95        | 380.87        |
| HPPTCL Charges                    | 9.76          | 13.21         | 23.65         | 34.32         | 33.87         |
| <b>Total Transmission Charges</b> | <b>300.32</b> | <b>324.11</b> | <b>356.32</b> | <b>390.27</b> | <b>414.74</b> |

### 8.7 Other Power Purchase related Charges

- 8.7.1 The SLDC charges are considered as approved in the MYT Order for the fourth Control Period for HPSLDC.
- 8.7.2 The Short-Term Open Access charges (STOA) have been approved based on the actual open access charges submitted by the Petitioner for FY17 with an annual escalation of 7%. The same would be trued-up along with other power purchase cost, based on actual amount paid. The summary of SLDC charges and open access charges are provided in table below:

**Table 195: Approved SLDC & STOA Charges for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars         | FY20         | FY21         | FY22         | FY23         | FY24          |
|---------------------|--------------|--------------|--------------|--------------|---------------|
| SLDC Charges        | 5.12         | 7.82         | 9.06         | 10.24        | 11.20         |
| Open Access Charges | 70.01        | 74.91        | 80.16        | 85.77        | 91.77         |
| <b>Total</b>        | <b>75.13</b> | <b>82.73</b> | <b>89.21</b> | <b>96.00</b> | <b>102.97</b> |

### 8.8 Capital Investment Plan

- 8.8.1 The Petitioner has submitted a Business Plan for distribution business, as already discussed in Chapter 7, with details of capital investment to be incurred during each year of the fourth Control Period. The Petitioner has proposed various capital works with a total expenditure of Rs. 6229 Cr. during the fourth Control Period.
- 8.8.2 Against, the capital expenditure proposed, the Commission has provisionally approved a total amount of Rs. 2,473 Cr. towards capital expenditure during the fourth Control Period as summarized in the table below:

**Table 196: Capital Expenditure approved for fourth Control Period (Rs. Cr.)**

| S.No. | Particulars     | FY20   | FY21   | FY22   | FY23 | FY24 | Total         |
|-------|-----------------|--------|--------|--------|------|------|---------------|
| 1.    | Old EHV Schemes | 167.64 | 167.64 | 167.64 | -    | -    | <b>502.93</b> |
| 2.    | New Schemes     |        |        |        |      |      |               |
| A.    | EHV Schemes     | 8.12   | 8.12   | 8.12   | 8.12 | 8.12 | <b>40.60</b>  |

| S.No.     | Particulars   | FY20          | FY21          | FY22          | FY23          | FY24          | Total           |
|-----------|---|---------------|---------------|---------------|---------------|---------------|-----------------|
| B.        | Consumer Services and electrification (GSC Schemes) | 125.00        | 125.00        | 125.00        | 125.00        | 125.00        | <b>625.00</b>   |
| C.        | New s/s, augmentation, line & R&M                   | 200.00        | 200.00        | 200.00        | 200.00        | 200.00        | <b>1,000.00</b> |
| D.        | Deposit Scheme                                      | 20.00         | 20.00         | 20.00         | 20.00         | 20.00         | <b>100.00</b>   |
| E.        | Capex in respect of IT Cell                         | 10.00         | 10.00         | 10.00         | 10.00         | 10.00         | <b>50.00</b>    |
| F.        | Capex in respect of Smart metering                  | 27.92         | 1.29          | -             | -             | -             | <b>29.21</b>    |
| G.        | Miscellaneous                                       | 25.00         | 25.00         | 25.00         | 25.00         | 25.00         | <b>125.00</b>   |
| <b>3.</b> | <b>Total</b>  | <b>583.68</b> | <b>557.05</b> | <b>555.76</b> | <b>388.12</b> | <b>388.12</b> | <b>2,472.74</b> |

### 8.9 Asset Capitalisation

8.9.1 As per the approval of Business Plan covered in the previous Chapter, the Commission has determined the following capitalization schedule for the investments proposed during the fourth Control Period

**Table 197: Capitalization Schedule for the 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                             | FY20   | FY21   | FY22   | FY23   | FY24   |
|---|--------|--------|--------|--------|--------|
| Opening CWIP                            | 837.90 | 861.95 | 860.40 | 858.70 | 757.09 |
| Add: Capital Investment during the year | 583.68 | 557.05 | 555.76 | 388.12 | 388.12 |
| Less: Capitalization                    | 568.63 | 564.00 | 560.71 | 491.67 | 450.25 |
| Closing CWIP                            | 852.95 | 846.00 | 841.06 | 737.51 | 675.38 |

8.9.2 The Commission would like to clarify that approved capital expenditure and capitalization is provisional and is subjected to review and amendment at the time of Mid-term Review and shall be trued-up on the basis of actual capital investment made and the schemes commissioned by the Petitioner during the fourth Control Period.

### 8.10 GFA and Means of Financing

8.10.1 For determination of opening Gross Fixed Assets (GFA) for the fourth Control Period, the Commission has considered closing GFA for FY14 as approved in the true-up of controllable parameters for Second Control Period as part of the Mid-Term Review Order dated 17.04.2017. Further, net additions each year during the third Control Period has been considered in line with the provisional numbers of capitalization considered by the Commission. Based on the approved capitalization and capital expenditure as discussed above, the opening and closing GFA for the fourth Control Period is provided below:

**Table 198: GFA approved for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars              | FY20     | FY21     | FY22     | FY23     | FY24     |
|--------------------------|----------|----------|----------|----------|----------|
| Opening GFA              | 6,092.09 | 6,660.72 | 7,224.72 | 7,785.43 | 8,277.10 |
| Addition during the year | 568.63   | 564.00   | 560.71   | 491.67   | 450.25   |
| Closing GFA              | 6,660.72 | 7,224.72 | 7,785.43 | 8,277.10 | 8,727.35 |

- 8.10.2 With respect to funding of the capitalization, the Petitioner had proposed 10% of the proposed capitalization to be funded through grant, while for the balance debt:equity of 70:30 has been proposed.
- 8.10.3 The Petitioner was asked to provide scheme-wise break-up of proposed capital expenditure and funding sources. However, the Petitioner submitted that the funding for the proposed capital expenditure has not been tied-up and therefore normative debt-equity has been considered for funding of the capex during fourth Control Period. Subsequently, details of capitalization and funding undertaken during the third Control Period was sought from the Petitioner. However, the Petitioner has not been able to submit the details of capitalization and break-up of funding of various schemes during third Control Period.
- 8.10.4 During the TVS, the Petitioner mentioned that for recent works, a debt-equity of 90:10 is being availed from financial institutions. Also, from the expenditure statements submitted for last five years, it is observed that the Petitioner is availing debt to the extent of 90% for majority of its works including HV, GSC, etc. For funding of approved capitalization for the fourth Control Period, the Commission has considered 25% of the approved capitalization each year to be funded through a mix of grants, consumer contribution and deposit works. For the balance capitalization, debt-equity equivalent to 90:10 has been considered in line with the funding of works being executed by the Petitioner. Actual funding availed by the Petitioner against the approved works shall be considered at the time of truing-up for the controllable parameters of the fourth Control Period.
- 8.10.5 The funding considered by the Commission against the approved capitalization during the fourth Control Period is as shown in the table below:

**Table 199: Funding approved by the Commission for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                                 | FY20          | FY21          | FY22          | FY23          | FY24          |
|---|---------------|---------------|---------------|---------------|---------------|
| Grant/ Consumer Contribution/ Deposit Works | 142.16        | 141.00        | 140.18        | 122.92        | 112.56        |
| Debt  | 383.83        | 380.70        | 378.48        | 331.88        | 303.92        |
| Equity                                      | 42.65         | 42.30         | 42.05         | 36.88         | 33.77         |
| <b>Total Capitalization</b>                 | <b>568.63</b> | <b>564.00</b> | <b>560.71</b> | <b>491.67</b> | <b>450.25</b> |

## 8.11 Operation and Maintenance (O&M) Expenses

- 8.11.1 MYT Regulations, 2011 provides the following for determination of O&M expenses:

*"17 (1) Operation and Maintenance (O&M) expenses shall include: -*

- (a) salaries, wages, pension contribution and other employee costs;
- (b) administrative and general expenses;
- (c) repairs and maintenance expenses; and
- (d) other miscellaneous expenses, statutory levies and taxes (except corporate income tax).

17 (1-a) (i) The licensee shall propose separate trajectories of norms for each of the components of O&M expenses viz., employee cost, R&M expense and A&G expense;

.....

(xii) Based on the proposal submitted by the licensee, the Commission shall fix the norms for the said purposes which shall be taken into account for determining the trajectories for various components of O&M expenses for the remaining years of the control period;

(xiii) Till such time the norms are fixed by the Commission, the trajectories of various components of O&M expenses shall be submitted by the licensee and determined by the Commission on the basis of the actual costs for the previous years in accordance with the provisions of these regulations;”

8.11.2 As per Regulation 17 (1a) of the MYT Regulations, 2011, the licensee is required to propose separate trajectories of norms for each component of O&M expenses i.e. Employee cost, R&M expense and A&G expense. However, the Petitioner has not proposed any norms for each component of O&M expenses and has projected each component as per actual cost for past years with an escalation factor.

8.11.3 It is observed that key information required for approval of norm based O&M i.e. number of employees, number of employees per substation, line length of network, etc. is not available. In absence of adequate details required for approving norm based O&M expense and absence of any proposal by the Petitioner, the Commission has considered past year actuals for the purpose of approving each element of the O&M expenses.

8.11.4 The escalation factor to be applied for projecting the O&M parameters has been considered as per the HPERC MYT Regulations, 2011. The Commission has calculated the Consumer Price Index (CPIinflation) and Wholesale Price Index (WPIinflation) based on the average increase in the CPI and WPI respectively for immediately preceding three or five years before the base year, whichever is higher. The summary of the escalations considered for projection of O&M elements for the fourth Control Period is provided in table below:

**Table 200: CPI and WPI rates considered by the Commission**

| Particulars                          | CPI inflation | WPI inflation |
|--------------------------------------|---------------|---------------|
| Average increase in last three years | 5.76%         | 1.49%         |

8.11.5 Further, the Petitioner has proposed additional expenditure under the heads of R&M and A&G expense for the fourth Control Period. During the tariff proceedings, the Commission has enquired into the nature and purpose of each of these new heads before approving the same. The detailed approach adopted by the Commission for approval of O&M expense has been discussed in subsequent sections.

## 8.12 Employee Cost

8.12.1 The Petitioner has submitted the following employee expense for FY17, FY18 and first six months of FY19 for distribution business based on actual and provisional accounts:

**Table 201: HPSEBL Submission - Actual Employee Expenses for FY17, FY18 and six months of FY19 (Rs. Cr.)**

| Particulars                    | FY17             | FY18                        | FY19 (6 months) |
|--------------------------------|------------------|-----------------------------|-----------------|
| Salary Expenses                | 967.93           | 872.77                      | -               |
| Terminal Benefits              | 667.92           | 978.79 <sup>\$</sup>        | -               |
| <b>Gross Employee Expenses</b> | <b>1635.85</b>   | <b>1,851.56</b>             | -               |
| Less: Capitalization           | 32.76            | 44.80                       | -               |
| <b>Net Employee Expenses</b>   | <b>1,603.09*</b> | <b>1,806.76<sup>#</sup></b> | <b>653.13</b>   |

<sup>\$</sup> claim revised in subsequent submissions

\*includes a provision of Rs. 137.10 Cr.

<sup>#</sup>includes a provision of Rs. 35.60 Cr.

8.12.2 The Commission observed that the employee expenses submitted by the Petitioner for FY17 and FY18 had certain inconsistencies and also certain amount has been provisioned each year in the employee expenses shown in the table above. For FY17, the Commission has discussed each of these provisions in detail in Chapter 6 and considered actual employee expenses as Rs. 1,510.15 Cr. against 1,635.85 Cr. submitted by the Petitioner in FY17.

8.12.3 In a similar exercise, the Commission observed that there has been considerable increase in employee expenses in FY18. In response to the Commission's letter, the Petitioner clarified that the amount of gratuity in FY18 was erroneously shown as Rs. 287.50 which was later corrected to Rs. 57.26 Cr. While explaining this difference, the Petitioner submitted that an increase in this amount is due to misclassification of accounts head in the provisional accounts. This submission shows that the provisional employee expenses in FY18 were effectively to the tune of Rs. 1,549.63 Cr., much lower than the original employee expenses submitted by the Petitioner.

8.12.4 After considering the revised submissions and clarifications provided by the Petitioner for respective years, the Commission has considered the following actual employee expenses for projection during fourth Control Period:

**Table 202: Actual Employee Expenses considered for FY17 & FY18 (Rs. Cr.)**

| S. No.   | Particulars   | FY17                      | FY18                      |
|----------|---|---------------------------|---------------------------|
| <b>A</b> | <b>Salaries &amp; Other Staff Cost</b>                        | <b>967.93</b>             | <b>872.77</b>             |
|          | <u>Less Provisions:</u>                                       |                           |                           |
|          | - Provision of Interim Relief - Employees                     | 60.96                     | -                         |
|          | - Leave Encashment  | 10.29                     | 10.29                     |
| <b>B</b> | <b>Salaries &amp; Other Staff Cost (excluding provisions)</b> | <b>896.68</b>             | <b>862.48</b>             |
| <b>C</b> | <b>Terminal benefits</b>                                      | <b>679.32<sup>#</sup></b> | <b>757.26<sup>#</sup></b> |

| S. No.   | Particulars                                     | FY17            | FY18            |
|----------|---|-----------------|-----------------|
|          | <u>Less Provisions:</u>                         |                 |                 |
|          | - Gratuity                                      | 13.99           | 13.99           |
|          | - Pension                                       | 11.32           | 11.32           |
|          | - Provision of Interim Relief - Pensioners      | 40.54           | -               |
| <b>D</b> | <b>Terminal benefits (excluding provisions)</b> | <b>613.47</b>   | <b>731.95</b>   |
| <b>E</b> | <b>Gross Employee Cost (B+D)</b>                | <b>1,510.15</b> | <b>1,594.43</b> |

# netted off for pension of employees on deputation

8.12.5 The Commission has therefore, considered the revised submission of employee expenses for FY18 as the base for projecting the employee cost for the fourth Control Period. Further, the Commission has adopted the alternative approach of determining employee expenses based on historical costs as laid down in Regulation 17(3) of the MYT Regulations, 2011 and using the formula:

$$EMP_n = (EMP_{n-1}) * (1+G_n) * (CPI_{inflation})$$

8.12.6 With respect to growth factor ( $G_n$ ) to be considered for the fourth Control Period, the Petitioner was asked to submit a detailed human resource plan for the distribution business which shall include, inter alia, opening employees, retirements each year, number of employee required to be recruited, etc. After several reminders, the Petitioner has not been able to submit necessary details for the distribution function as required by the Commission. Therefore, the Commission has considered nil growth factor in the computation of the employee cost. Further, the Commission had considered a CPI inflation rate of 5.76% based on average of last three years as per the MYT Regulations, 2011.

### **Projection of Terminal Benefits**

8.12.7 It was observed that the Petitioner has not submitted the projections of terminal benefits in line with the HPERC (Terms and Conditions for sharing of Cost of Terminal Benefits of Personnel of the erstwhile Himachal Pradesh State Electricity Board and Successor Entities) Regulations, 2015 despite several directions in the past and as part of the current tariff filings.

8.12.8 In the absence of any proposal by the Petitioner, the Commission for the purpose of projection of terminal benefits has considered the actual terminal benefits (excluding provision for unfunded liabilities and arrears on account of 7<sup>th</sup> Pay Commission) as per the revised submission of the Petitioner for FY18 and an escalation of 7% per annum (based on historical growth). Any changes in the terminal liabilities shall be considered as per actual at the time of true-up for the respective years.

8.12.9 Further, the HPERC (Terms and Conditions for sharing of Cost of Terminal Benefits of Personnel of the erstwhile Himachal Pradesh State Electricity Board and Successor Entities) Regulations, 2015 state that the terminal benefits of HPSEBL is required to be apportioned between the time period of Pre-Transfer Scheme and Post-Transfer Scheme and the return approved on GoHP equity share as well as pension contribution of employees on deputation in commissioned projects and in BVPCL, Projects and S&I is to be adjusted against the terminal benefits component (Pre-Transfer Scheme) of the employee cost of HPSEBL.



- 8.12.10 In response to break-up of pension contribution received for employees on deputation and in generation, BVPCL, Projects and S&I sought by the Commission, the Petitioner has stated that the terminal benefits booked in accounts have already been netted off for pension contribution received for employees on deputation. With respect to pension for generation employees, the Petitioner was not able to provide any break-up / assessment of pension against generation and BVPCL, Projects and S&I. In the absence of these details, the Commission has netted off the terminal benefits for the pension contribution for generation employees and BVPCL, Projects and S&I. The Commission has considered the pension contribution against these businesses as approved by the Commission for FY19 with an annual escalation of 7% for subsequent years of the fourth Control Period.
- 8.12.11 Further, the Petitioner has considered the average capitalization rate of 4.42% based on the last two years (i.e. FY17 and FY18) for projection of capitalization during the fourth Control Period.
- 8.12.12 Based on the assumptions and methodology considered for determination of employee cost, the amount of employee expenses along with pension approved in the ARR for the fourth Control Period is provided in table below:

**Table 203: Employee Expenses approved for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars  | FY20            | FY21            | FY22            | FY23            | FY24            |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| Employee Cost  | 964.76          | 1,020.36        | 1,079.16        | 1,141.35        | 1,207.13        |
| Pension and Terminal benefits  | 838.01          | 896.67          | 959.44          | 1,026.60        | 1,098.46        |
| <i>Pension of employee retired till 31.3.2010</i>                          |                 |                 |                 |                 |                 |
| <i>Pension &amp; Terminal benefits of employee retired after 31.3.2010</i> |                 |                 |                 |                 |                 |
| <b>Gross Employee Cost</b>   | <b>1,802.77</b> | <b>1,917.03</b> | <b>2,038.60</b> | <b>2,167.95</b> | <b>2,305.59</b> |
| <i>Less:</i>   |                 |                 |                 |                 |                 |
| Return on GoHP Equity approved for Generation and Distribution             | (47.50)         | (47.50)         | (47.50)         | (47.50)         | (47.50)         |
| Pension Contribution of employee on deputation                             | -               | -               | -               | -               | -               |
| Pension Contribution of generation employees (tentative)                   | (10.39)         | (11.11)         | (11.89)         | (12.72)         | (13.61)         |
| Pension Contribution of BVPCL, Projects & S&I employees                    | (3.98)          | (4.26)          | (4.56)          | (4.87)          | (5.22)          |
| Capitalization   | (42.68)         | (45.14)         | (47.74)         | (50.49)         | (53.40)         |
| <b>Net Employee Cost</b>   | <b>1,698.22</b> | <b>1,809.02</b> | <b>1,926.91</b> | <b>2,052.36</b> | <b>2,185.86</b> |

### 8.13 Repairs and Maintenance (R&M) Expense

- 8.13.1 As per HPERC MYT Regulations, 2011, the R&M expenses are determined based on the following formula:

$$R\&M_n = K * GFA_{n-1}$$

Where, 'K' is a constant (expressed in %) governing the relationship between R&M costs and Gross Fixed Assets (GFA) for the nth year.

8.13.2 The Commission has computed a K-factor of 1.19% based on the average of actual R&M expense for distribution business in the last three years (FY16, FY17 & FY18) as a percentage of opening GFA of the respective years. The K factor determined as percentage of GFA is summarized below:

**Table 204: K Factor approved by the Commission**

| Particulars                  | FY16         | FY17     | FY18     |
|------------------------------|--------------|----------|----------|
| Opening GFA (Rs. Cr.)        | 4,359.79     | 4,867.43 | 5,291.24 |
| Actual R&M Expense (Rs. Cr.) | 38.13        | 66.26*   | 71.13*   |
| R&M as % of GFA (%)          | 0.87%        | 1.36%    | 1.34%    |
| <b>Average K Factor (%)</b>  | <b>1.19%</b> |          |          |

\* includes ~Rs. 18 Cr. in FY17 and ~Rs. 30 Cr. in FY18 as cost against data centre

8.13.3 As highlighted in the table above, the base year actual R&M expense also includes expenditure incurred by the Petitioner towards data centre as well.

8.13.4 The cost of data centre has been increasing with the operationalization of various IT schemes/ works. It is observed that the Petitioner has claimed additional R&M expenditure of Rs. 34.18 Cr. towards IT Cell related expenditure for each year of the fourth Control Period as given below:

**Table 205: HPSEBL Submission – R&M Expenditure proposed for IT Cell (Rs. Cr.)**

| S. No.    | Particulars   | FY 19<br>(Revised<br>Estimates) | FY 20<br>(Tentative<br>Estimates) |
|-----------|---|---------------------------------|-----------------------------------|
| 1         | Prov. cost of Annual Technical Services (ATS) charges for SAP (ERP)   | 1.71                            | 1.8                               |
| 2         | Prov. cost of AMC of Computer Hardware and Associated peripherals installed in Data Center under R-APDRP  | 2.42                            | 3.65                              |
| 3         | Prov. cost of AMC for 1 year for the application deployed at sub-division/ division/circle to run the normal operation of HPSEB for supplied (Part 2 AMC for rollover locations)  | 3.69                            | 0                                 |
| 4         | Actual ATS Charges for SAP-ISU Licenses (Computerized Billing), Sim card (for AMR&SBM) rental, ESD 61 Support and Maintenance Charges   | 16.39                           | 9.88                              |
| 5         | Prov. Cost for SAP ERP Central Support  | 4.5                             | 5                                 |
| 6         | Prov. cost of renewable/ATS of Software licenses in Disaster Recovery Center namely Microsoft, HP Software Storage Enterprise Edition, Oracle Products procured under R-APDRP under R-APDRP and CA, Sanovi tool, under R-APDRP/ERP project. | 1.35                            | 1.5                               |
| 7         | Other IT expenditure related to Data Centre   | 8.37                            | 11.38                             |
| <b>8</b>  | <b>Total</b>  | <b>38.46</b>                    | <b>33.18</b>                      |
| 9         | 3% contingency charges  | 1.15                            | 1.00                              |
| <b>10</b> | <b>Grand total</b>  | <b>39.61</b>                    | <b>34.18</b>                      |

8.13.5 As the base year R&M expense included expenditure towards IT cell, the Commission sought information for the purpose of demarcating expenses of new origin and segregate them from historical costs being incurred on the Data Centre/ Disaster Recovery Centre that are already included in the determination of K factor. The Commission also enquired into the basis for the projected cost and whether these were based on quotations invited by different vendors for undertaking proposed works. In response to the queries, the

Petitioner was not able to clarify that the IT expense of Rs. 39.61 Cr. and Rs. 34.18 Cr. proposed for FY19 and FY20, respectively has been estimated as expenditure on new works or includes annual recurring cost approved in the past.

- 8.13.6 The Commission concurs with the view of the Petitioner that the maintenance of the two data centres under R-APDRP have necessitated regular AMC of the total hardware, ATS of the various licenses and FMS charges. Further, several initiatives planned in future years such as computerized billing and further rollout of ERP implementation in remaining circles shall require SAP-ISU licenses and new AMCs. However, in absence of adequate details provided by the Petitioner with respect to recurring IT expense and new expense proposed to be incurred during the fourth Control Period, the Commission considers it adequate to provisionally allow Rs. 20 Cr. each year additionally during the fourth Control Period towards new R&M expenditure on data centre subject to true-up. **Further, the Commission directs the Petitioner to create separate account heads for AMC of hardware and ATS Charges to record expenditure incurred on maintenance of IT cell from FY 2019-20 onwards. Also, the Petitioner is required to submit the name of the contractor, award value, copy of LOA, timelines, classification of expense (i.e. ATS/AMC/FMS/any other) along with the true-up petition for each year going forward.**
- 8.13.7 The summary of R&M Expenses approved by the Commission for the Control Period is as shown as follows:

**Table 206: R&M Expenses approved by the Commission for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Approved   | FY20         | FY21         | FY22          | FY23          | FY24          |
|--|--------------|--------------|---------------|---------------|---------------|
| Opening GFA  | 6,092.09     | 6,660.72     | 7,224.72      | 7,785.43      | 8,277.10      |
| Average K Factor (%)                               | 1.19%        | 1.19%        | 1.19%         | 1.19%         | 1.19%         |
| <b>R&amp;M Expense</b>                             | <b>72.70</b> | <b>79.49</b> | <b>86.22</b>  | <b>92.91</b>  | <b>98.78</b>  |
| <u>Add:</u> Provisional amount towards data centre | 20.00        | 20.00        | 20.00         | 20.00         | 20.00         |
| <b>Total R&amp;M Expenses</b>                      | <b>92.70</b> | <b>99.49</b> | <b>106.22</b> | <b>112.91</b> | <b>118.78</b> |

#### 8.14 Administrative and General (A&G) Expense

- 8.14.1 As per HPERC MYT Regulations, 2011, the A&G expenses are determined based on the following formula:

$$A\&G_n = [(A\&G_{n-1}) * (WPI_{inflation})] + Provision_{(A\&G)};$$

Where, 'A&G<sub>n-1</sub> & A&G<sub>n</sub>' are administrative and general costs of the distribution licensee for the (n-1)<sup>th</sup> and n<sup>th</sup> year

Provision<sub>(A&G)</sub>: Cost for initiatives or other one-time expenses as proposed by the distribution licensee and validated by the Commission

- 8.14.2 The Petitioner has claimed significantly higher A&G Expense during the fourth Control Period as compared to the actual A&G expenditure during previous Control Period. In its tariff petition, the Petitioner submitted that the increase

in A&G expenses compared to the third Control Period is mainly due to additional vehicle charges for increased manpower mobility and IT cell related expenses i.e. data centre expenses at Kumar House, Shimla. Further, during the tariff proceedings, the Petitioner submitted an additional claim towards launching a Public Interaction Programme. The Commission has independently analysed these additional claims for each head in the subsequent paras.

- 8.14.3 In response to several queries regarding the additional claim, the Petitioner clarified that while the ATS, AMC and FMS charges for the data centre are booked under R&M, the connectivity and bandwidth charges for the data centre are being booked under A&G heads and the costs proposed under IT cell pertain to new connectivity charges as shown in Table 197 below.
- 8.14.4 With respect to the public interaction programme, the Petitioner submitted that it plans to launch initiatives such as starting Energy Clubs in schools, organizing Urja Melas etc. during the fourth Control Period for which it has proposed an additional expenditure of Rs. 33 lakhs in FY20.
- 8.14.5 The break-up of additional A&G expense proposed by the Petitioner is summarized below:

**Table 207: HPSEBL Submission – Details of Connectivity Charges & Cost of Public Interaction Programme for FY20**

| S.No.                                      | Description  | FY20 (Rs. Cr.) |
|--|--|----------------|
| <b>A&amp;G Expense towards Data Centre</b> |  |                |
| 1  | Prov. cost of payment of Elect. Bills in respect of DC, Shimla   | 0.55           |
| 2  | Prov. cost of payment of Elect. Bills in respect of DRC, Paonta.   | 0.55           |
| 3  | Prov. cost of MPLS/ VPNoBB connectivity for implementation of Billing and R-APDRP packages   | 2.05           |
| 4  | Prov. cost of connectivity for Data Center to Call Center at City ED, Shimla for IVRS and 10mbps internet line between Kumar house to Shimla OCB | 0.04           |
| 5  | Prov. cost of MPLS/VPNoBB connectivity for implementation ERP package  | 1.23           |
| 6  | Prov. Cost of secondary connectivity(Vodafone) between Data Center Shimla and Disaster Recovery Center Paonta                                    | 0.07           |
| 7  | Prov. cost of 2 MBPS Internet Leased Line.   | 0.01           |
| 8  | Expenditure on GIS/GPS updation of 14 towns under R-APDRP part-A & ESD Kala Amb.   | 0.61           |
| 9  | Payment to paytm & techprocess for payment collection through BBPS   | 0.3            |
| 10   | CSC transaction charges  | 0.39           |
| 11   | Prov. Cost for SMS Gateway   | 0.07           |
| <b>12</b>                                  | <b>Sub-Total (A)</b>   | <b>5.88</b>    |
| <b>Public Interaction Programme</b>        |  |                |
| 1  | Print media (advertisements in leading newspapers, magazines)  | 0.06           |
| 2  | Electronic media (continuation of existing programmes on Doordarshan, Radio, FM etc.)  | 0.05           |

| S.No.               | Description                                 | FY20 (Rs. Cr.) |
|---------------------|---|----------------|
| 3                   | Energy Clubs (to be established in schools) | 0.13           |
| 4                   | Urja Mela (exhibitions to be held)          | 0.09           |
| 5                   | Jan Sampark Gram Sabha                      | -              |
| <b>6</b>            | <b>Sub-Total (B)</b>                        | <b>0.33</b>    |
| <b>Vehicle Cost</b> |   |                |
| 7                   | Private vehicle hire charges                | 0.32           |
| <b>8</b>            | <b>Sub-Total (C)</b>                        | <b>0.32</b>    |
| <b>9</b>            | <b>Grand Total for One-Time Expenses</b>    | <b>6.53</b>    |

- 8.14.6 The Commission has determined the A&G expenses of the Petitioner for the Control Period using the methodology detailed in the HPERC MYT Regulations, 2011.
- 8.14.7 Accordingly, the Commission has computed the Gross A&G expense for FY19 (n-1<sup>th</sup> year) based on the average of actual A&G expense (adjusted for amount not pertaining to A&G expense or disallowed by the Commission) in the last three years and escalated for WPI. Capitalization rate has been considered as the average capitalization rate during the last 3 years (FY16 to FY18).
- 8.14.8 With respect to additional provision for one-time expenses during fourth Control Period, the Commission has analysed each claim of the Petitioner and is of the view that the charges against electricity bills for DC/DRC, print and electronic media under public interaction programme are already being incurred year-on-year. Since the Commission has revised the A&G expense for the base year based on actual expenditure during FY16 to FY18, these expenses are not of new origin and are already covered in the base cost.
- 8.14.9 Therefore, the Commission has approved the remaining amount after deducting the charges for electricity bills, advertising in print/ electronic media and vehicles as additional expenditure of new origin. The Commission has thus approved an additional amount of Rs. 22 lakhs towards public interaction programme (total amount of Rs. 33 lakhs) and Rs. 4.77 Cr. towards connectivity charges for each year of the fourth Control Period. **In regard to the provision approved under A&G expense by the Commission, the Petitioner is directed to separately furnish the details of amount of connectivity charges, name of the vendor, description of the expenditure incurred in the respective year along with similar details of previous three years at the time of true-up. Similarly, the Petitioner is required to create a separate head for new expenses incurred on public interaction programme during the fourth Control Period and furnish these details at the time of true up. In the absence of these details, the Commission shall be constrained to disallow these provisional expenses in the A&G expenses.**
- 8.14.10 The A&G expense approved by the Commission for the fourth Control Period is shown in table below:

**Table 208: A&G Expense approved for the 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars                          | FY20         | FY21         | FY22         | FY23         | FY24         |
|--------------------------------------|--------------|--------------|--------------|--------------|--------------|
| A&G Expense (A&G <sub>n-1</sub> )    | 44.99        | 45.66        | 46.35        | 47.04        | 47.74        |
| WPI Inflation (%)                    | 1.49%        | 1.49%        | 1.49%        | 1.49%        | 1.49%        |
| <b>Gross A&amp;G<sub>n</sub></b>     | <b>45.66</b> | <b>46.35</b> | <b>47.04</b> | <b>47.74</b> | <b>48.45</b> |
| Less: Capitalization Rate (%)        | 1.64%        | 1.64%        | 1.64%        | 1.64%        | 1.64%        |
| Capitalization                       | 0.75         | 0.76         | 0.77         | 0.78         | 0.80         |
| <b>Net A&amp;G Expense</b>           | <b>44.91</b> | <b>45.58</b> | <b>46.26</b> | <b>46.95</b> | <b>47.65</b> |
| Add: Provision for one-time expenses | 5.00         | 5.00         | 5.00         | 5.00         | 5.00         |
| <b>Total A&amp;G Expense</b>         | <b>49.91</b> | <b>50.58</b> | <b>51.26</b> | <b>51.95</b> | <b>52.65</b> |

### 8.15 Depreciation

- 8.15.1 The Petitioner has computed an average depreciation rate of 4% based on the allocated depreciation and assets towards distribution business for FY17 and FY18. The claim with respect to depreciation for the fourth Control Period is not found to be in line with the MYT Regulations, 2011. The depreciation rates arrived at by considering the actual depreciation and GFA proposed by the Petitioner for base years is higher than the depreciation rates in the regulations. Further, the Petitioner is yet to finalize its Fixed Asset Register (FAR) with details of useful life of assets, reconcile the original cost of assets and submit details of accumulated depreciation for each asset class. **The Commission directs the Petitioner to complete the ongoing exercise of preparing its Fixed Asset Register for distribution business prior to November 2019 and submit it with the subsequent tariff petition.**
- 8.15.2 In the absence of required details, the Commission has computed the average depreciation rate for each year based on the MYT Regulations, 2011 prescribed depreciation rates. The average of depreciation rates for the last 4 years (upto FY18) thus computed at 3.23% has been considered as the depreciation rate for the fourth Control Period. Further, the Commission has considered the opening and closing GFA of the distribution business as shown in Table 198. The Commission has applied the average depreciation rate of 3.23% on the average GFA for the respective year of the fourth Control Period.
- 8.15.3 Further, as per the Regulation 23 of the HPERC MYT Regulations, 2011 the depreciation shall be computed as follows:
- "Depreciation shall be calculated for each year of the Control Period, on the amount of original cost of the fixed assets of the corresponding year:*
- Provided that depreciation shall not be allowed on assets funded by capital subsidies/grants and consumer contributions:"*
- 8.15.4 The Petitioner was asked to provide details of funding of capitalization for the third Control Period. Despite several reminders, no details in this regard was made available. Based on the details of scheme-wise capital expenditure

undertaken by the Petitioner during the third Control Period, it was analysed that approximately 40% of expenditure was through Central Government schemes that were of the nature of grants or through consumer deposit works. In the absence of funding of capitalisation for third Control Period, as an alternative the Commission has considered funding of 40% through grants/ consumer contribution and balance 60% from debt for the third Control Period.

8.15.5 Accordingly, the Commission has reduced the amount of depreciation towards assets created from grants/consumer contribution for approving the depreciation for the fourth Control Period.

8.15.6 The summary of the GFA and depreciation approved by the Commission for the fourth Control Period is shown in table below:

**Table 209: Depreciation approved by the Commission for the 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars   | FY20          | FY21          | FY22          | FY23          | FY24          |
|---|---------------|---------------|---------------|---------------|---------------|
| <b>Total GFA</b>  |               |               |               |               |               |
| Opening GFA   | 6,092.09      | 6,660.72      | 7,224.72      | 7,785.43      | 8,277.10      |
| Addition  | 568.63        | 564.00        | 560.71        | 491.67        | 450.25        |
| Reduction   | -             | -             | -             | -             | -             |
| Closing GFA   | 6,660.72      | 7,224.72      | 7,785.43      | 8,277.10      | 8,727.35      |
|   |               |               |               |               |               |
| <b>Assets created from Grants/<br/>Consumer Contribution</b>      |               |               |               |               |               |
| Opening GFA   | 2,359.88      | 2,502.04      | 2,643.04      | 2,783.22      | 2,906.14      |
| Addition  | 142.16        | 141.00        | 140.18        | 122.92        | 112.56        |
| Closing GFA   | 2,502.04      | 2,643.04      | 2,783.22      | 2,906.14      | 3,018.70      |
|   |               |               |               |               |               |
| Depreciation on Total Assets                                      | 205.72        | 223.99        | 242.13        | 259.10        | 274.30        |
| <u>Less:</u>  |               |               |               |               |               |
| Depreciation on Assets created from Grants/ Consumer Contribution | 78.43         | 83.00         | 87.53         | 91.78         | 95.57         |
| <b>Net Depreciation</b>   | <b>127.29</b> | <b>140.99</b> | <b>154.60</b> | <b>167.33</b> | <b>178.73</b> |

## 8.16 Working Capital Requirement

8.16.1 The working capital requirement has been computed based on the Regulation 32 (as amended by Third Amendment) of HPERC MYT Regulations 2011, which states as:

*"The Commission shall calculate the working capital requirement for the retail business containing the following components: -*

- (a) O&M expenses for one month;
- (b) receivables for two months of revenue from sale of electricity;
- (c) maintenance spares @ 15% of O&M Expenses for one month;

*Provided that for working out maintenance spares requirement under working capital any provisions, terminal benefits & any arrears made shall not be considered and Less:*

- (i) power purchase costs for one month; and  
(ii) consumer security deposit, if any.”

8.16.2 Based on the approved O&M Expenses, expected revenue from sale of electricity, consumer security deposits and as per the MYT Regulations, 2011 the Commission approves the working capital requirement for the Control Period provided in the table as follows:

**Table 210: Working Capital Requirement approved by the Commission for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars   | FY20          | FY21          | FY22          | FY23          | FY24          |
|---|---------------|---------------|---------------|---------------|---------------|
| 1/12th of total O&M Expenses  | 153.40        | 163.26        | 173.70        | 184.77        | 196.44        |
| Revenue from sale of electricity equivalent to 2 months average billing                                 | 826.34        | 852.76        | 876.48        | 901.06        | 926.54        |
| Maintenance Spares 15% of the O&M expense for one month netted off for provisions and terminal benefits | 13.00         | 13.75         | 14.55         | 15.38         | 16.25         |
| Less: Consumer Security Deposit   | 393.06        | 429.40        | 465.73        | 502.06        | 538.40        |
| Less: One Month Power Purchase  | 252.37        | 273.91        | 291.61        | 298.03        | 306.28        |
| <b>Working Capital Requirement</b>  | <b>347.31</b> | <b>326.46</b> | <b>307.40</b> | <b>301.13</b> | <b>294.56</b> |

### 8.17 Interest and Financing Charges

- 8.17.1 For the purpose of claiming interest on capital loans, the Petitioner has considered the interest cost on outstanding loans, interest on new capex loans proposed for the fourth Control Period and as well as interest on UDAY Bonds.
- 8.17.2 It is observed that the interest claimed by the Petitioner is on account of all long-term loans which include REC, RGGVY, ADB, Non-SLR Bonds, Unsecured Bonds, State Government, etc. These loans comprise of both short-term and capital loans. Further, it is unclear whether the outstanding loans considered by the Petitioner as on 31.03.2018 are towards commissioned assets or include assets under CWIP for distribution business. Therefore, the Commission has independently analyzed interest charges for the fourth Control Period.
- 8.17.3 For projecting the interest on capital loans, the Commission has considered the trued-up funding of assets commissioned during the Second MYT Control Period, revised financing for the capitalisation provisionally considered by the Commission for the third Control Period and the approved financing plan for the additional capitalization for the fourth Control Period.

### Impact of UDAY Scheme

- 8.17.4 The Commission has considered the impact of restructuring of outstanding loans under UDAY scheme which was signed on 08.12.2016 and was a tripartite agreement between the GoI, GoHP and HPSEBL. As per the UDAY MoU, the outstanding debt level was Rs. 3854 Cr. (excluding debt taken by



HPSEBL for its Transmission, Generation and R-APDRP loans/assistance subject to final reconciliation) at the end of Sep' 2015 out of which 75% (Rs. 2890.50 Cr.) was to be taken over by GoHP in FY17.

- 8.17.5 It was observed that the outstanding loan of Rs. 2890.50 Cr. however, consists of both short-term loans (STL) as well as capital loans. The Commission has been historically allowing interest on capital loans towards assets capitalized each year and interest on working capital is determined separately as per norms prescribed under MYT Regulations, 2011.
- 8.17.6 Therefore, the Commission asked the Petitioner to clarify and provide details of outstanding loans, rate of interest for each of these along with their classification into capital loans and STL. Based on the information sought by the Commission with respect to the UDAY scheme, the Petitioner has submitted that GoHP floated UDAY bonds against the outstanding loans of Rs. 2890.50 Cr. out of which an amount of Rs. 536.07 Cr. is towards capital loans.
- 8.17.7 Further, the Petitioner submitted that these loans have already been taken over by the GoHP and UDAY bonds were issued against the same on 28.02.2017 for which the weighted average coupon rate discovered is 7.88%. This rate of interest is considerably lower than the WACC of term loans at 10.89% at the time of signing the MoU leading to annual savings in interest payments for the licensee.
- 8.17.8 The Commission also asked the Petitioner to clarify the structure of the arrangement between GoHP and HPSEBL. After several queries, the Petitioner submitted that as per the tripartite MoU, borrowings made by the State to restructure discom debt during FY17 was to be utilized for the purpose of discharging the discom debt and eventually transfer it to the licensee as a mix of grant, loan and equity as given in the table below:

**Table 211: Arrangement under Tripartite MoU between GoI, GoHP & HPSEBL**

| Year    | Total Debt to be taken over  | Transfer to discom in the form of grants (in Cr.) | Transfer to discom in the form of loan (in Cr.) | Transfer to discom in the form of equity (in Cr.) | Outstanding State loan of the discom (in Cr.) |
|---------|--|---|---|---|---|
| 2016-17 | 2890.50 Cr. (75% of the debt of Rs. 3854 Cr. outstanding as on 30.09.2015) | -   | 2890.50   | -   | 2890.50                                       |
| 2017-18 | -  | -   | -   | -   | 2890.50                                       |
| 2018-19 | -  | -   | -   | -   | 2890.50                                       |
| 2019-20 | -  | -   | -   | -   | 2890.50                                       |
| 2020-21 |  | 2167.50   | -   | 723.00  | -   |

- 8.17.9 The above table shows that the loan taken over by the Govt. is to be eventually converted in the form of grants and equity in FY 2020-21. However,

in its response to the Commission's query, the Petitioner submitted that subsequent to the tripartite agreement, a bipartite MoU was signed between HPSEBL and GoHP dated 24.01.2017 wherein following provisions were made:

- GoHP agreed to participate in UDAY scheme subject to the condition that GoHP shall issue back-to-back loans to HPSEBL at the same interest rates, terms and conditions at which UDAY bonds are issued.
- HPSEBL shall be liable for making repayments of loans as well as interest on its restructured loans under UDAY to GoHP as per UDAY loan raised by State Government.
- GoHP shall issue bonds to the tune of Rs. 2890.50 Cr. and disburse the proceeds of the bonds as back-to-back loan to HPSEBL for making payments to the lenders of the loans

8.17.10 The Petitioner also submitted that there is a moratorium on repayment for first five years. It is observed that as per the original agreement signed between the GoI, GoHP and HPSEBL, the entire quantum of loans eligible under the scheme was to be taken over by the GoHP and bonds were to be issued corresponding to the amount. This arrangement was made with the objective of improving the financial health of the distribution utility. However, the supplement agreement signed between GoHP and HPSEBL defeats the entire purpose of the scheme if HPSEBL is required to service the repayment and interest liability of the Bonds issued. Therefore, **the Commission directs the Petitioner to take up the matter for conversion of back-to-back arrangement with GoHP into a mix of equity and grants in future years as envisaged under the original tripartite agreement.**

8.17.11 As the scheme has already been implemented and HPSEBL is bearing the interest cost towards the UDAY bonds, the Commission has considered the quantum of capital loans converted under the UDAY scheme for the purpose of approving the interest on UDAY Bonds. Further, moratorium of five years as proposed by the Petitioner has been considered with repayment starting from FY23 onwards. The impact of interest on UDAY bonds for Third and fourth Control Period as approved by the Commission is shown in the table below:

**Table 212: Impact of UDAY Bonds (Rs. Cr.)**

| S.No.     | Particulars                                 | FY18         | FY19         | FY20         | FY21         | FY22         | FY23         | FY24         |
|-----------|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 1.        | Opening Capex Loans restructured under UDAY | 536.07*      | 536.07       | 536.07       | 536.07       | 536.07       | 536.07       | 482.46       |
| 2.        | Addition during the year                    | -            | -            | -            | -            | -            | -            | -            |
| 3.        | Repayment during the year                   | -            | -            | -            | -            | -            | 53.61        | 53.61        |
| 4.        | Closing Capex Loans restructured under UDAY | 536.07       | 536.07       | 536.07       | 536.07       | 536.07       | 482.46       | 428.86       |
| <b>5.</b> | <b>Interest on UDAY bonds</b>               | <b>42.24</b> | <b>42.24</b> | <b>42.24</b> | <b>42.24</b> | <b>42.24</b> | <b>40.13</b> | <b>35.91</b> |

\*Capex loans restructured under UDAY

8.17.12 The balance opening loan as on FY18 has been determined after reducing the amount of loan transferred to UDAY bonds and addition of loan each year has been considered in line with the funding of capitalization approved as discussed above.

8.17.13 Based on the above, the Commission has approved the following capital loan schedule for the fourth Control Period:

**Table 213: Loan Schedule approved for 4<sup>th</sup> Control Period**

| S. No. | Particulars               | FY17   | FY18                         | FY19   | FY20   | FY21     | FY22     | FY23     | FY24     |
|--------|---------------------------|--------|------------------------------|--------|--------|----------|----------|----------|----------|
| 1.     | Opening Loan              | 809.83 | 383.44<br>(919.51 – 536.07*) | 506.55 | 636.98 | 869.63   | 1,063.41 | 1,240.04 | 1,298.88 |
| 2.     | Addition during the year  | 254.29 | 225.27                       | 255.24 | 383.83 | 380.70   | 378.48   | 331.88   | 303.92   |
| 3.     | Repayment during the year | 144.60 | 102.16                       | 124.82 | 154.82 | 192.34   | 207.94   | 279.12   | 294.79   |
| 4.     | Closing Loan              | 919.51 | 506.55                       | 636.98 | 865.98 | 1,054.34 | 1,224.88 | 1,277.63 | 1,286.76 |

8.17.14 For calculation of interest on the capital loans, the Commission has considered the interest rate of the respective loans in third Control Period as approved in the Third MYT Order, whereas the interest on new loans has been considered at 11.50% based on the rate of interest of most recent loans in FY19.

8.17.14.1 The interest on working capital has been considered as per the Third Amendment in the MYT Regulations, 2011. Accordingly, rate of interest on working capital has been considered as equal to one year State Bank of India (SBI) MCLR as may be applicable as on 1<sup>st</sup> April of the Financial Year in which the Petition is filed plus 300 basis points.

8.17.15 Interest of consumer security deposit has been considered as per the Himachal Pradesh Electricity Regulatory Commission (Security Deposit) (Second Amendment) Regulations, 2015 which prescribes the use of weighted average of actual Bank Rate(s) for the previous year to calculate the interest rate on consumer security deposit.

8.17.16 The total statement of interest charges approved by the Commission is presented below:

**Table 214: Interest and Financing Charges approved for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Interest Schedule        | FY20  | FY21 | FY22 | FY23 | FY24 |
|--------------------------|-------|------|------|------|------|
| PFC                      | 0.08  | 0.06 | 0.04 | 0.02 | 0.01 |
| State Govt.              | 0.23  | 0.07 | -    | -    | -    |
| New Loans for FY 12-FY14 | 14.66 | 8.49 | 3.58 | 0.88 | -    |

| Interest Schedule                      | FY20          | FY21          | FY22          | FY23          | FY24          |
|--|---------------|---------------|---------------|---------------|---------------|
| Interest on UDAY Bonds                 | 42.24         | 42.24         | 42.24         | 40.13         | 35.91         |
| New Loan Schedule FY15-19 (after UDAY) | 54.20         | 46.68         | 39.16         | 31.64         | 24.12         |
| New Loan Schedule FY20-24              | 19.86         | 57.22         | 89.90         | 115.70        | 133.55        |
| <b>Interest on Capital Loans</b>       | <b>131.26</b> | <b>154.75</b> | <b>174.93</b> | <b>188.37</b> | <b>193.58</b> |
| Interest on Working Capital            | 38.72         | 36.40         | 34.27         | 33.58         | 32.84         |
| Interest on Consumer Deposit           | 24.68         | 27.07         | 29.46         | 31.86         | 34.25         |
| <b>Total Interest Expense Approved</b> | <b>194.66</b> | <b>218.22</b> | <b>238.67</b> | <b>253.80</b> | <b>260.67</b> |

### 8.18 Return on Equity

8.18.1 For the purpose of approval of Return on Equity for the fourth Control Period, the Commission has considered the closing equity for the Second Control Period and adjusted for equity addition towards provisional capitalization during the third Control Period for arriving at the opening balance for fourth Control Period.

8.18.2 During the fourth Control Period the Commission has considered debt:equity ratio as 90:10 ratio for funding of assets after deducting assets created out of grants/ consumer contribution. The Commission has, thus, approved RoE at the rate of 16% on the revised equity balances, as detailed in the table below:

**Table 215: Return on Equity approved by the Commission for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars     | FY20         | FY21         | FY22         | FY23         | FY24         |
|-----------------|--------------|--------------|--------------|--------------|--------------|
| Opening Equity  | 246.69       | 289.34       | 331.64       | 373.69       | 410.56       |
| Addition        | 42.65        | 42.30        | 42.05        | 36.88        | 33.77        |
| Closing Equity  | 289.34       | 331.64       | 373.69       | 410.56       | 444.33       |
| Rate of RoE (%) | 16%          | 16%          | 16%          | 16%          | 16%          |
| <b>RoE</b>      | <b>42.88</b> | <b>49.68</b> | <b>56.43</b> | <b>62.74</b> | <b>68.39</b> |

8.18.3 The Commission shall, however, true-up the funding and financing approved at the end of the fourth Control Period.

### 8.19 Non-tariff and Other Income

8.19.1 For the purpose of projection of non-tariff, the Commission has considered an increase of 5% over FY18 non-tariff income. The non-tariff approved by the Commission for the fourth Control Period is summarized in table below:

**Table 216: Non-Tariff & Other Income approved by the Commission for 4th Control Period (Rs. Cr.)**

| Particulars       | FY20   | FY21   | FY22   | FY23   | FY24   |
|-------------------|--------|--------|--------|--------|--------|
| Non-Tariff Income | 116.19 | 122.00 | 128.10 | 134.51 | 141.23 |

## 8.20 Aggregate Revenue Requirement

8.20.1 The table given as follows provides a summary view of the Aggregate Revenue Requirement of distribution business as approved by the Commission for the fourth Control Period:

**Table 217: Aggregate Revenue Requirement approved by the Commission for 4<sup>th</sup> Control Period (Rs. Cr.)**

| Particulars  | FY20            | FY21            | FY22            | FY23            | FY24            |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>Power Purchase Expenses for Supply in the State</b> | <b>3,028.47</b> | <b>3,286.97</b> | <b>3,499.30</b> | <b>3,576.31</b> | <b>3,675.41</b> |
| Cost of electricity purchase including own generation  | 2,653.02        | 2,880.13        | 3,053.77        | 3,090.03        | 3,157.70        |
| <i>Inter-State Charges</i>                             |                 |                 |                 |                 |                 |
| Power Grid Charges                                     | 290.56          | 310.90          | 332.67          | 355.95          | 380.87          |
| Open Access Charges                                    | 70.01           | 74.91           | 80.16           | 85.77           | 91.77           |
| <i>Intra-State Charges</i>                             |                 |                 |                 |                 |                 |
| HPPTCL Charges   | 9.76            | 13.21           | 23.65           | 34.32           | 33.87           |
| SLDC Charges   | 5.12            | 7.82            | 9.06            | 10.24           | 11.20           |
| <b>Operation &amp; Maintenance Costs</b>               | <b>1,840.84</b> | <b>1,959.09</b> | <b>2,084.40</b> | <b>2,217.23</b> | <b>2,357.29</b> |
| Employee Cost  | 1,698.22        | 1,809.02        | 1,926.91        | 2,052.36        | 2,185.86        |
| R&M Cost   | 92.70           | 99.49           | 106.22          | 112.91          | 118.78          |
| A&G Cost   | 49.91           | 50.58           | 51.26           | 51.95           | 52.65           |
| Interest & Financing Charges                           | 194.66          | 218.18          | 238.67          | 253.80          | 260.67          |
| Depreciation   | 127.29          | 140.99          | 154.60          | 167.33          | 178.73          |
| Return on Equity                                       | 42.88           | 49.68           | 56.43           | 62.74           | 68.39           |
| Less: Non-Tariff & Other Income                        | (116.19)        | (122.00)        | (128.10)        | (134.51)        | (141.23)        |
| <b>Aggregate Revenue Requirement</b>                   | <b>5,117.95</b> | <b>5,532.91</b> | <b>5,905.28</b> | <b>6,142.90</b> | <b>6,399.26</b> |

8.20.2 In addition to Distribution ARR of Rs. 5,117.95 Cr. approved for FY20, the Commission has considered the following adjustment in ARR for FY20:

**a) True-up of FY 2016-17 along with carrying cost**

The Commission has approved a revenue gap of Rs. 18.12 (along with carrying cost) towards true-up of FY17

**b) Impact of Order on Petition No. 25/2018 dated 29.10.2018 (carrying cost on proposed impact of shortfall on true-up of FY11 & FY12)**

The Commission has also approved the impact of disallowance of carrying cost in its Order on Petition No. 25/2018 based on the carrying cost to be allowed on the balance Rs. 100 Cr. S&I income in the final true-up Order of FY11 & FY12 dated 30.3.2015.

**c) Provision towards impact of HPSEBL generation petition**

The Commission has also considered a provision of Rs. 50 Cr. towards likely impact of HPSEBL generation petition in view of tariff revisions for plants like Bhabha, Ghanvi-II, etc.

**d) Provision towards impact of 7<sup>th</sup> Pay Commission revision**

An additional provision of Rs. 50 Cr. has been considered in FY20 towards arrears of 7<sup>th</sup> Pay Commission revision.

8.20.3 Considering the above adjustments and approved ARR for FY20, the revenue requirement for FY20 is summarized below:

**Table 218: Total Revenue Requirement for FY20 including past adjustments (Rs. Cr.)**

| Particulars  | Amount          |
|--|-----------------|
| <b>Aggregate Revenue Requirement for FY20</b>              | <b>5,117.95</b> |
| Add:   |                 |
| True-up Revenue Gap for FY17                               | 18.12           |
| Impact of Order on Petition No. 25/2018                    | 49.21           |
| Provision towards impact of generation petition            | 50.00           |
| Provision towards impact of 7 <sup>th</sup> Pay Commission | 50.00           |
| <b>Total Revenue Requirement approved</b>                  | <b>5,285.29</b> |

**8.21 Allocation of Distribution ARR into Wheeling and Retail Supply**

8.21.1 As per the MYT Regulations, 2011, the total Distribution ARR for the Control Period has to be allocated between Wheeling and Retail Supply business. The wheeling charges would be calculated on the Wheeling ARR and the Retail Tariffs would be calculated on the Retail Supply ARR.

8.21.2 The Petitioner has proposed the allocation of Distribution ARR into Wheeling and Retail Supply business based on the allocation approved by the Commission. In absence of segregated information for wheeling and retail supply being maintained by the Petitioner, the Commission has no alternative but to continue with the segregation approved in the previous MYT Order with certain modifications. The allocation statement considered by the Commission is as under:

**Table 219: Approved Allocation of ARR of Distribution Business**

| Particulars             | Wheeling | Retail Supply |
|-------------------------|----------|---------------|
| Power Purchase Expenses | 0%       | 100%          |
| PGCIL Charges           | 0%       | 100%          |
| HPPTCL Charges          | 0%       | 100%          |
| SLDC Charges            | 0%       | 100%          |
| Open Access Charges     | 0%       | 100%          |
| Employee Expenses       | 70%      | 30%           |
| R&M Expense             | 90%      | 10%           |

| Particulars                    | Wheeling | Retail Supply |
|--------------------------------|----------|---------------|
| A&G Expense                    | 60%      | 40%           |
| Interest and Financing Charges | 95%      | 5%            |
| Depreciation                   | 95%      | 5%            |
| Return on Equity               | 100%     | 0%            |
| Non-Tariff Income              | 0%       | 100%          |
| Wheeling Charges               | 100%     | 0%            |

8.21.3 The summary of Wheeling and Retail Supply ARR for Control Period is as shown below:

**Table 220: Approved ARR of Wheeling Business for the fourth Control Period (Rs. Cr.)**

| Particulars   | FY20            | FY21            | FY22            | FY23            | FY24            |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| Operation and Maintenance Costs                               | 1,302.14        | 1,386.20        | 1,475.19        | 1,569.45        | 1,668.60        |
| Interest & Financing Charges                                  | 184.93          | 207.30          | 226.72          | 241.10          | 247.62          |
| Depreciation  | 120.92          | 133.94          | 146.87          | 158.96          | 169.79          |
| Return on Equity  | 42.88           | 49.68           | 56.43           | 62.74           | 68.39           |
| Less: Wheeling charges recovered from short-term OA consumers | (23.10)         | (24.26)         | (25.47)         | (26.74)         | (28.08)         |
| <b>Wheeling ARR</b>   | <b>1,627.77</b> | <b>1,752.86</b> | <b>1,879.74</b> | <b>2,005.51</b> | <b>2,126.32</b> |

**Table 221: Approved ARR of Retail Supply Business for the fourth Control Period (Rs. Cr.)**

| Particulars                                     | FY20            | FY21            | FY22            | FY23            | FY24            |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| Power Purchase Expenses for Supply in the State | 3,028.47        | 3,286.97        | 3,499.30        | 3,576.31        | 3,675.41        |
| Operation and Maintenance Cost                  | 538.70          | 572.89          | 609.20          | 647.78          | 688.70          |
| Interest and Financing Charges                  | 9.73            | 10.91           | 11.93           | 12.69           | 13.03           |
| Depreciation                                    | 6.36            | 7.05            | 7.73            | 8.37            | 8.94            |
| Less: Non-Tariff Income & Other Income          | (93.09)         | (97.75)         | (102.63)        | (107.77)        | (113.15)        |
| <b>Aggregate Revenue Requirement</b>            | <b>3,490.18</b> | <b>3,780.07</b> | <b>4,025.53</b> | <b>4,137.38</b> | <b>4,272.92</b> |

# 9 TARIFF PHILOSOPHY AND DESIGN

## 9.1 Tariff Principles

- 9.1.1 The philosophy of tariff determination is primarily guided by the principles enshrined in Section 61 of the Electricity Act, 2003, Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2011, National Tariff Policy and the National Electricity Policy.
- 9.1.2 The Commission has issued amendments to the HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2011 on 1<sup>st</sup> November, 2013 wherein the Commission has laid down the principle of progressively moving towards the targeted roadmap of (-) 10% and (+) 5% of the average cost of supply by end of the fourth Control Period for all categories of consumers excluding life line consumers. The Commission has continued with the approach as per these regulations while approving tariff for the FY20.
- 9.1.3 However, the Regulation 41-B also states that during the interim periods as mentioned as sub regulations (3) and (4), the Commission shall, with an objective of broadly assessing, the trends and levels of category wise cost of supply for indicative purposes also carry out suitable exercise based on the available data, suitable assumptions and the concepts as may be considered appropriate. The assumptions and methodologies to be broadly followed for the allocation of costs for the purpose of cost to serve calculations has been considered similar to that followed in the MYT Order for the third Control Period.

## 9.2 Sales at Various Voltage Level

- 9.2.1 Accordingly, sales at various voltage levels have been worked out and are presented in the table below:

**Table 222: Sales at different Voltage Levels for FY20 (MUs)**

| S. No. | Category                              | Total Sales (MU) | EHT (>=66 kV) | HT (>=11 kV & <=33kV) | LT (< 11 kV) |
|--------|---------------------------------------|------------------|---------------|-----------------------|--------------|
| 1      | Domestic                              | 2,137            | -             | -                     | 2,137        |
| 2      | NDNCS                                 | 158              | -             | 47                    | 111          |
| 3      | Commercial (CS)                       | 635              | -             | 95                    | 540          |
| 4      | Small & Medium Industrial Power (SMS) | 203              | -             | -                     | 203          |



| S. No.    | Category                     | Total Sales (MU) | EHT (>=66 kV) | HT (>=11 kV & <=33kV) | LT (< 11 kV) |
|-----------|------------------------------|------------------|---------------|-----------------------|--------------|
| 5         | Large Power Supply (LS)      | 5,016            | 1,370         | 3,647                 | -            |
| 6         | Water (& Irrigation) Pumping | 739              | -             | 214                   | 524          |
| 7         | Street Lighting              | 12               | -             | -                     | 12           |
| 8         | Bulk supply                  | 161              | -             | 113                   | 48           |
| 9         | Temporary Supply             | 40               | -             | -                     | 40           |
| <b>10</b> | <b>Total (within State)</b>  | <b>9,101</b>     | <b>1,370</b>  | <b>4,116</b>          | <b>3,615</b> |

9.2.2 The cost to serve at different voltage level as calculated on this basis is indicated in the following table:

**Table 223: Cost to Serve for FY20**

| Particulars                           | Generation busbar | >=66 kV     | > 11 kV     | < 11 kV     | Total       |
|---------------------------------------|-------------------|-------------|-------------|-------------|-------------|
| Energy Input (MU)                     | 10,145.6          | 10,145.6    | 8,776.1     | 4,652.3     |             |
| Loss (MU)                             |                   | -           | -           | -           | -           |
| Sales at respective level (MU)        |                   | 1,369.5     | 4,123.8     | 3,607.3     | 9,100.6     |
| Cost at respective level (Rs. Crore)  | 2,719.7           | 689.5       | 734.7       | 605.2       | 4,749.1     |
| <u>Cost Allocation (Rs. per unit)</u> |                   |             |             |             |             |
| Power Purchase Cost                   |                   | 2.94        | 2.47        | 1.81        |             |
| Cost of Losses                        |                   | 0.08        | 0.14        | 0.30        |             |
| Transmission & Open Access Charges    |                   | 0.41        | 0.41        | 0.41        |             |
| Distribution Cost (> 33kV)            |                   | 0.67        | 0.53        | 0.57        |             |
| Distribution Cost (> 11 kV)           |                   |             | 1.08        | 0.98        |             |
| Distribution Cost (< 11 kV)           |                   |             |             | 1.73        |             |
| <b>Cost of Serve Model</b>            |                   | <b>4.11</b> | <b>4.63</b> | <b>5.76</b> | <b>5.28</b> |

\* Rs. 5.28 per unit is the average cost of supply without considering past gap and carrying cost

9.2.3 The above cost does not include the impact of the expenses pertaining to the past periods which have been approved at Rs. 18.12 Cr. on account of final truing-up of FY17 along with carrying cost, Rs. 49.21 Cr. on account of Review Order on Petition 25/2018, Rs. 50 Cr. on account of provision towards 7<sup>th</sup> Pay Commission arrears and provision of Rs. 50 Cr. on account of likely impact of generation petition considered in this Order. These amounts of the past gap and new provisions shall also have to be loaded to the above stated costs and shall increase the average cost of supply by about 18 paise per unit. The total average cost of supply including these provisions adds up to Rs. 5.47 per unit.

9.2.4 The Commission would like to clarify here that these calculations have been made only for indicative purposes and for assessing the trends and not for fixing the tariffs. However, the data relating to cost allocation shall be used for determining the voltage wise open access charges as adoption of an average

rate for this purpose shall otherwise be restrictive to open access, as discussed in separate chapter relating to open access.

9.2.5 In view of the provisions of the Regulations and also in absence of authentic information regarding voltage level cost and losses, the Commission has computed the average cost of supply, as also mandated in the National Tariff Policy and amended HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2011, for purpose of fixation of tariff for various categories of consumers for the first year of the fourth Control Period i.e. FY20.

9.2.6 The average cost of supply computed for FY20 is provided in the table below:

**Table 224: Average Cost of Supply for FY 2019-20 based on approved ARR**

| Particulars                                      | FY20        |
|--|-------------|
| Approved Aggregate Revenue Requirement (Rs. Cr.) | 5,117.95    |
| Less: Sale of Surplus Power (Rs. Cr.)            | 308.80      |
| Net Aggregate Revenue Requirement (Rs. Cr.)      | 4,809.16    |
| Projected Sales (MUs)                            | 9101        |
| <b>Average Cost of Supply (Rs./unit)</b>         | <b>5.28</b> |

9.2.7 The average cost of supply for FY 2019-20 works out to be Rs. 5.28 per unit which does not include the prior period and other adjustments as detailed in Para 9.2.3. Taking into account the adjustments, the average cost of supply comes out to be Rs. 5.47 per unit.

### 9.3 Revenue from Existing Tariff

9.3.1 The Commission has computed the revenue from various categories as per the sales approved for FY20 and the existing applicable tariff in the respective categories. The summary of the estimated revenue for the FY20 is summarized in table below:

**Table 225: Revenue for FY20 based on Existing Tariff**

| Consumer Category              | Sales (MUs)  | Revenue (Rs. Cr.) |
|--------------------------------|--------------|-------------------|
| <b>Industrial Power Supply</b> |              |                   |
| Small Industries               | 84           | 61                |
| Medium Industries              | 118          | 62                |
| Large Industries               | 5,016        | 2,779             |
| Domestic                       | 2,137        | 1,027             |
| Irrigation and Drinking Water  | 739          | 426               |
| Commercial                     | 635          | 371               |
| Bulk Supply                    | 161          | 99                |
| Non Domestic Non Commercial    | 158          | 90                |
| Public Lighting                | 12           | 6                 |
| Temporary                      | 40           | 37                |
| <b>Total</b>                   | <b>9,101</b> | <b>4,958</b>      |

#### 9.4 Revenue from Sale of Power Outside State

9.4.1 The Commission in Chapter 8 of this Tariff Order has mentioned regarding the need for HPSEBL to show commercial prudence in its power arrangements and avoid purchasing of costly surplus power. The sale of this surplus power have been considered similar to the purchase cost to exclude any impact of the difference in purchase and sale cost of this surplus power on the consumers in the State.

9.4.2 The Commission has also allowed for contingency buffer of 200 MU to maintain continuous supply in the State in case of any unforeseeable difficulty i.e. shutdown of any large generating station, increase in sales within State, etc. In case the power remains unused, the same is estimated to be sold at the average rate of sale in the last two years. The Petitioner should continue to sell surplus RE power which would help in better recovery rate for surplus power and reduce the burden on consumers.

9.4.3 The projected revenue from sale of power outside State is tabulated as follows:

**Table 226: Revenue from Sale of Power outside the State for FY20**

| Parameters  | Units (MUs) | Revenue (Cr.) | Cost (Rs. per unit) |
|---|-------------|---------------|---------------------|
| Sale of Contingent Purchase                         | 200         | 80.46         | 4.02                |
| Sale of Surpluses for Trading due to PPA obligation | 568         | 228.33        | 4.02                |
| <b>Total</b>  | <b>768</b>  | <b>308.80</b> | <b>4.02</b>         |

#### 9.5 Revenue Surplus/Gap at Existing Tariff for FY20

9.5.1 Taking into account the revenue from sale within state at existing tariffs, revenue estimated from sale of power outside state for FY20 is as follows:

**Table 227: Revenue Surplus/ Gap for FY20 based on Existing Tariff (Rs. Cr.)**

| Parameters   | Amount         |
|--|----------------|
| Approved Aggregate Revenue Requirement                               | 5117.95        |
| <u>Add:</u>  |                |
| Final Truing up of uncontrollable parameters for FY17                | 18.12          |
| Impact of Order on Petition 25/2018                                  | 49.21          |
| Provision towards likely impact of generation petition               | 50.00          |
| Provision towards impact of 7 <sup>th</sup> Pay Commission           | 50.00          |
| <b>Total Revenue Requirement for FY20</b>                            | <b>5285.29</b> |
| Less: Revenue from Sale of Power within the State at Existing Tariff | 4,958.06       |
| Less: Revenue from Sale of Power outside State                       | 308.80         |
| <b>Revenue Surplus/ (Gap)</b>  | <b>(18.43)</b> |

9.5.2 Considering the revenue from existing tariff, a revenue gap of Rs. 18.43 Cr. is observed for FY20. This revenue gap also takes into account the adjustments on account of revenue gap for final true-up of FY17 along with carrying cost, impact of Review Order on Petition 25/2018, and provision towards likely impact of generation petition and 7<sup>th</sup> Pay Commission arrears.

- 9.5.3 Based on the above table, it is observed that the Petitioner has a nominal revenue gap during FY20. Therefore, with a view to align the average realization with the average cost of supply for various consumer categories in line with the road map prescribed in the Tariff Regulations and also to meet the small revenue deficit, the Commission is reviewing the tariff for various categories in this Order as detailed below:

## **9.6 Changes in Tariff Structure**

- 9.6.1 In view of the revenue gap identified above and the submission of the Petitioner and other stakeholders with respect to changes in the tariff applicability and tariff structure, the proposed and approved tariff related changes are discussed as below:

### **Rationalization of Tariff**

#### ***Rationalization of Domestic Tariff***

- 9.6.2 With a view to align the tariff of all the consumer categories in line with the provisions of the MYT Regulations, 2011 which prescribe tariffs for the consumer categories, other than the life line category, are within (-)10% to (+)5% of the average cost of supply, the Commission has marginally increased the fixed and variable charges for the domestic category.

#### ***Rationalization of Fixed Charges across categories***

- 9.6.3 Tariff Policy encourages charging of two-part tariff from the consumers by way of fixed and variable charge. The fixed charge are towards recovery of fixed expenditure of the distribution licensee which is payable irrespective of the actual usage of electricity by the consumers. Therefore, the Commission allows recovery of fixed charges from various categories of consumers. It is observed that the existing fixed charges in case of LT consumers are low. In order to ensure that the utility is able to cater to reliable and quality supply, it is important to ensure that the Petitioner is ensured stable recovery of its fixed charges.
- 9.6.4 Accordingly, the Commission has revised the fixed charges for all categories of consumers where demand based fixed charges are not applicable. This has been done considering the lower recovery of fixed charges in tariff of such consumers vis-à-vis the increasing share of fixed cost in the ARR of the Petitioner.

#### ***Rationalization of Demand Charges and Additional Demand Charges***

- 9.6.5 The Commission has reviewed the applicability of additional demand charges applicable on various consumer categories. In view of the fact that these charges were being levied when there were network constraints in the state, the Commission is of the view that the existing network is sufficient to handle the load of the consumers in the state and higher cost of power procured during peak hours is being compensated through energy charges. Therefore, the Commission has abolished the levy of additional peak hours demand charges across all categories where the same was applicable.

- 9.6.6 In case of IDWPS category, it was brought to the notice of the Commission that the differential in LT and HT/EHT demand charges are substantially high resulting in consumers opting for LT load even when the load is higher. Therefore, the Commission has rationalized the demand charges for LT and HT consumers in the IDWPS category for maintaining neutral recovery of tariffs.

***Separate Energy Charges for EHV industrial consumers based on voltage-level***

- 9.6.7 The energy charges for the EHV consumers have been segregated based on the voltage level at which the consumer is connected i.e. 66kV, 132kV and 220kV and above. The Commission has considered a 5 paisa difference in energy charges for each of these voltage level.

***Rebate on energy charge for excess consumption for existing industrial consumers and energy charges for new industries***

- 9.6.8 The Petitioner has requested the Commission to consider the letter No. Ind.A(F) 19-11/2019 dated 22.06.2019 from Department of Industries and provide concessional rate for new industries and existing industrial consumers with additional power consumption. The Commission finds merit in providing incentive to new industries being set-up in the State and higher consumption by the existing industrial consumers. While the impact of such a change may not be computed in financial terms, the Commission approves the proposal of the Petitioner to allow a rebate of 15% discount on energy charges for additional power consumption beyond the level of FY 2018-19 for existing industrial units.
- 9.6.9 For new industrial consumers coming into production after 01.07.2019, the Commission finds merit in the proposal of the Petitioner and has approved energy charges at 15% lower than the notified tariff for the respective categories for a period of three years beginning 1.07.2019. It is clarified that the new industrial consumers which have come into production during 1.04.2018 to 30.06.2019 will continue to get 10% discount in the energy charge on the notified tariff for the respective category.

***Applicability of Domestic Tariff for Gosadans, Gaushalas and Cow Sanctuaries***

- 9.6.10 The Animal Husbandry Department, GoHP has submitted that running of Gosadans, Gaushalas and Cow Sanctuaries in the state is an agricultural related non-profit activity. However, these establishments are being covered under domestic and commercial categories and has requested for applicability of agriculture category.
- 9.6.11 The Commission has observed that such establishments with a load upto 5kW are currently being covered under domestic category and the balance are covered under commercial / NDNC category. The Commission is of the view that the power requirement of such establishments is limited as they have primarily lighting load and do not have any commercial activity. Also, considering the fact that sufficient subsidy is provided to the domestic category at lower consumption levels, it would be appropriate to cover these establishments under domestic category with a load relaxation upto 20KW.

Further, any misuse of power by such establishments would also be controlled by placing them under Domestic category.

### **Disconnection Charges**

9.6.12 It is observed that several other Government authorities/ departments have been requesting HPSEBL for disconnection of electricity connection of consumers due to non-compliance of statutory requirement of their respective departments. In such cases the authority or department requesting for disconnection, other than orders passed by Hon'ble Judges, shall be required to deposit the amount towards disconnection charges (as approved in Appendix A - Schedule of General and Service Charges) as well as fixed charges for three months in advance with HPSEBL.

### **Applicability of IDWPS on Poultry farms**

9.6.13 Poultry farms are being currently charged under industrial category. With reference to the clarification issued by the Director Industries, Government of Himachal Pradesh that the poultry farm does not qualify for manufacturing industry, the Commission feels that the activity falls under agriculture and allied activity and therefore considers it appropriate to place poultry farms under IDWPS category.

## **9.7 Approved Tariff**

9.7.1 Apart from the proposed changes in tariff, the Commission has retained the tariff structure as per the MYT Order for the third Control Period. The aforementioned tariff rationalization measures will lead to a minor 0.4% tariff hike. The existing tariff for each category is as under:

### **DS: Domestic Supply**

9.7.2 The existing schedule is applicable to consumers using electrical energy for lights, fans, heaters, cooking ranges, ovens, refrigerators, air conditioners, stereos, radios, televisions, mixers, grinders, electric iron, sewing/embroidery/knitting machines, domestic pumping sets and other domestic appliances in a single private house/flat, garage used for personal light motor vehicle or any other residential premises; Religious places with connected load up to 5 kW; Monasteries; Panchayat Ghars with connected load up to 5 kW; Patwarkhanas and Kanungoo Bhawans (Government Buildings only) with connected load up to 5 kW; Community Gausadans, Goshalas and Cow Sanctuaries managed by Government and Private institutions with connected load up to 20kW; Orphanages, homes for old people and homes for destitute; Working Women Hostels, Hostels attached to the educational institutions if supply is given separately to each hostel and the electricity charges are recovered from the students based on actual consumption; Leprosy Homes run by charity and un-aided by the Government; heritage hotels; Incredible India bed-and-breakfast; "Home Stay Units" in rural areas duly registered with the District Tourism Development Officer; and Offices of the Himachal Pradesh Senior Citizen Forum.

**Note:**

- (i) Where a portion of the dwelling is used regularly for the conduct of a business, the consumption in that portion shall be separately metered and billed under the appropriate Commercial or Industrial power tariff whichever is applicable. If separate circuits are not provided, the entire supply will be classified under "Commercial or Industrial Supply."
- (ii) Resale and supply to tenants, other flats etc. is strictly prohibited.
- (iii) No compounding will be permissible. For residential societies which wish to take a single point supply, this would be permitted, and the energy charges would be divided by the number of such units to determine the relevant slab. Thus if there are 10 dwelling units in a society and the energy consumption in a month is 3,500 units, the first 1,250 (125\*10) units would be charged at Rs 3.70 per kWh, the next 1,750 (175\*10) at Rs 4.60 per unit and the balance 500 units at Rs. 5.10 per unit. Consumer service charge shall be Rs. (40\*10).

9.7.3 The Commission, after a detailed analysis, approves the tariff for Domestic category as under:

**Table 228: Existing and Approved Tariff for Domestic Category**

| Description<br>Units/month              | Existing                |   | Approved                |                                |
|---|-------------------------|---|-------------------------|--------------------------------|
|   | Energy Charges (Rs/kWh) | Consumer Service Charges (Rs. /con/month) | Energy Charges (Rs/kWh) | Fixed Charges (Rs. /con/month) |
| 0-60 (Lifeline consumers including BPL) | 3.30                    | 40.00*                                    | 3.30                    | 40.00*                         |
| 0-125                                   | 3.90                    | 60.00                                     | 3.95                    | 70.00                          |
| 126-300                                 | 4.80                    | 60.00                                     | 4.85                    | 70.00                          |
| 301 & above                             | 5.40#                   | 60.00                                     | 5.45#                   | 70.00                          |
| Pre-paid meter \$                       | 4.80                    | NIL                                       | 4.85                    | NIL                            |

\*fixed charge for tribal and difficult area is also fixed at Rs. 40/month irrespective of consumption

#Heritage hotels, Incredible India bed-and-breakfast, homestay units in rural areas are to be charged under domestic category as per the HP Tourism Policy with energy charges for such consumers to be levied at 30% higher than the net energy charges payable (net off subsidy) by the consumers in the respective slab

\$ For Industries which are under PDCO due to non-payment of dues or are sick & closed, prepaid meter shall be provided upto load of 20 kW for lighting & security purpose only till regular Industrial Connection is restored.

9.7.4 The Commission is continuing with the approach followed during the previous Tariff Orders whereby it had extended the benefit of lower electricity tariff available for BPL households, also to very poor and marginalized consumers, in line with the principles laid out in Electricity Act, National Electricity Policy and National Tariff Policy.

9.7.5 The applicable rebates and surcharges for this category have been detailed in Part III of Annexure I of this Order.

**NDNC: Non Domestic Non Commercial Supply**

9.7.6 This schedule is applicable to Government and semi Government offices; Government – Hospitals, primary health centres, dispensaries and veterinary hospitals; Educational Institutions viz. Schools, Universities; I.T.Is, Colleges, Centre for Institute of Engineers, Sports Institutions, Mountaineering Institutions and allied sports and Libraries Hostels, Government Libraries, Centre for Institute of Engineers, Hostels and residential quarters attached to the educational institutions if supply is given at a single point; Religious places such as Temples, Gurudwaras, Mosques, Churches with connected load greater than 5 kW; Sainik and Government Rest Houses, Anganwari worker training centres, Mahila mandals, village community centers; Hospitals run on charity basis; Sarais and Dharamsalas run by Panchayats and Municipal Committees or by voluntary organizations; and Panchayat Ghars with connected load greater than 5 kW; Patwar Khanas and Kanungoo Bhawans (Government buildings only) with connected load greater than 5 kW; Office of Lawyers and Government recognized Non-Government Organizations (NGOs); Electric Charging Stations for electric vehicles; lifts operating under group housing societies, apartments, etc.

**Note:**

- (1) In the case of residences attached to the Government as well as private Institutions, the same shall be charged at the 'Domestic tariff' where further distribution to such residential premises is undertaken by the Petitioner and the Petitioner provides meters for individual consumers.
- (2) Lifts in residential premises shall be charged at the 'Domestic tariff'

9.7.7 The Commission has approved a nominal increase in the existing tariff for NDNCS category as shown in the table below:

**Table 229: Existing and Approved Tariff for NDNC Category**

| Slab           | Existing                  |   | Approved by Commission    |                                |
|----------------|---------------------------|---|---------------------------|--------------------------------|
|                | Energy Charges (Rs. /kWh) | Consumer Service Charges (Rs. /con/month) | Energy Charges (Rs. /kWh) | Fixed Charges (Rs. /con/month) |
| Up to 20kVA    | 5.00                      | 120.00                                    | 5.00                      | 130.00                         |
| Pre-paid meter | 4.90                      | NIL                                       | 4.90                      | NIL                            |

**Table 230: Existing and Approved Tariff for NDNCS Category: Above 20kVA**

| Slab        | Existing                 |   |                              | Approved by Commission   |                              |                              |
|-------------|--------------------------|---|------------------------------|--------------------------|------------------------------|------------------------------|
|             | Energy Charges (Rs/kVAh) | Consumer Service Charges (Rs/con/month) | Demand Charge (Rs/kVA/month) | Energy Charges (Rs/kVAh) | Fixed Charges (Rs/con/month) | Demand Charge (Rs/kVA/month) |
| Above 20kVA | 4.70                     | -                                       | 140                          | 4.70                     | -                            | 140                          |

9.7.8 The applicable rebates and surcharges for this category have been detailed in Part III of Annexure I of this Order.



**CS: Commercial Supply**

- 9.7.9 This schedule is applicable to consumers for lights, fans, appliances like pumping sets, central air conditioning plants, cold storages, lifts, heaters, embroidery machines, printing press, power press and small motors in all Commercial premises such as shops, business houses, cinemas, clubs, banks, private offices, private hospitals, petrol pumps, hotels/motels, welding sets, service stations, private nursing homes, private rest/guest houses, private research institutions, private coaching institutions, private museums, dry cleaning, garages and private auditoriums, departmental stores, restaurants, lodging and boarding houses, shopping malls and multiplexes. This schedule will also include all other categories, which are not covered by any other tariff schedule.
- 9.7.10 The Commission has approved a nominal increase in the existing tariff for the Commercial Supply category as shown in the tables below:

**Table 231: Existing and Approved Tariff for CS Category**

| Slab        | Existing                  |   | Approved by Commission    |                                |
|-------------|---------------------------|---|---------------------------|--------------------------------|
|             | Energy Charges (Rs. /kWh) | Consumer Service Charges (Rs. /con/month) | Energy Charges (Rs. /kWh) | Fixed Charges (Rs. /con/month) |
| Up to 20kVA | 5.10                      | 120.00                                    | 5.10                      | 130.00                         |

**Table 232: Existing and Approved Tariff for CS Category**

| Slab             | Existing                  |   |                              | Approved by Commission    |                              |                              |
|------------------|---------------------------|---|------------------------------|---------------------------|------------------------------|------------------------------|
|                  | Energy Charges (Rs/kVAh ) | Consumer Service Charges (Rs/con/month) | Demand Charge (Rs/kVA/month) | Energy Charges (Rs/kVAh ) | Fixed Charges (Rs/con/month) | Demand Charge (Rs/kVA/month) |
| Above 20-100 kVA | 4.85                      | -                                       | 110                          | 4.85                      | -                            | 110                          |
| Above 100kVA     | 4.75                      | -                                       | 170                          | 4.75                      | -                            | 170                          |

- 9.7.11 The applicable rebates and surcharges for this category have been detailed in Part III of Annexure I of this Order.

**SIP: Small Industrial Power Supply**

- 9.7.12 This schedule is applicable to industrial consumers with contracted demand not exceeding 50 kVA including pumps (other than irrigation pumping), Atta Chakkis, and also for supply to Information Technology Industry, limited only to IT Parks recognised by the State/Central Government. The Industrial type of Agricultural loads with connected load falling in the above-mentioned range and not covered by Schedule "IDWPS" shall also be charged under this schedule.
- 9.7.13 The Commission has approved a nominal increase in the existing tariff for the SIP category as shown in the tables below:

**Table 233: Existing and Approved Tariff for Small Industrial Supply**

| Slab                | Existing       |  |                                 | Approved       |                                 |                                 |
|---------------------|----------------|--|---------------------------------|----------------|---------------------------------|---------------------------------|
|                     | Energy Charges | Consumer Service Charges (Rs. /con/ month) | Demand Charges (Rs./kVA/ month) | Energy Charges | Fixed Charges (Rs. /con/ month) | Demand Charges (Rs./kVA /month) |
| Up to 20kVA         | 4.75 (Rs./kWh) | 130  | -                               | 4.75 (Rs./kWh) | 140                             | -                               |
| Above 20kVA - 50kVA | 4.60 (Rs/kVAh) | -  | 100                             | 4.60 (Rs/kVAh) | -                               | 100                             |

- 9.7.14 For existing industrial consumers, a rebate of 15% on energy charges shall be applicable for additional power consumption beyond the level of FY 2018-19.
- 9.7.15 For new industries which have come into production between 01.04.2018 to 30.06.2019, the energy charges shall be 10% lower than the approved energy charges for the respective category for a period of three years.
- 9.7.16 For new industries coming into production after 01.07.2019, the energy charges shall be 15% lower than the approved energy charges for the respective category for a period of 3 years.
- 9.7.17 The applicable rebates and surcharges for this category have been detailed in Part III of Annexure I of this Order.

#### **MIP: Medium Industrial Power Supply**

- 9.7.18 This schedule is applicable to industrial consumers with contracted demand above 50kVA and not exceeding 100 kVA including pumps (other than irrigation pumping), Atta Chakkis, and also for supply to Information Technology Industry, limited only to IT Parks recognised by the State/Central Government. The Industrial type of Agricultural loads with connected load falling in the above-mentioned range and not covered by Schedule "IDWPS" shall also be charged under this schedule.
- 9.7.19 The Commission, after a detailed analysis, has approved the tariff for the MIP category as shown in the tables below:

**Table 234: Existing and Approved Tariff for Medium Industrial Supply Category**

| Slab               | Existing                 |  |                               | Approved                 |                               |                               |
|--------------------|--------------------------|--|-------------------------------|--------------------------|-------------------------------|-------------------------------|
|                    | Energy Charges (Rs/kVAh) | Consumer Service Charges (Rs/con/ month) | Demand Charge (Rs/kVA/ month) | Energy Charges (Rs/kVAh) | Fixed Charges (Rs/con/ month) | Demand Charge (Rs/kVA/ month) |
| Above 50kVA-100kVA | 4.60                     | -  | 120                           | 4.60                     | -                             | 120                           |

- 9.7.20 For existing industrial consumers, a rebate of 15% on energy charges shall be applicable for additional power consumption beyond the level of FY 2018-19.

- 9.7.21 For new industries which have come into production between 01.04.2018 to 30.06.2019, the energy charges shall be 10% lower than the approved energy charges for the respective category for a period of three years.
- 9.7.22 For new industries coming into production after 01.07.2019, the energy charges shall be 15% lower than the approved energy charges for the respective category for a period of 3 years.
- 9.7.23 The applicable rebates and surcharges for this category have been detailed in Part III of Annexure I of this Order.

### LIPS: Large Industrial Power Supply

- 9.7.24 This schedule is applicable to all industrial power consumers with contracted demand exceeding 100 kVA including the Information Technology industry (limited only to IT parks recognized by the State/Central Government) and not covered by the schedule "IDWPS".
- 9.7.25 The Commission, after a detailed analysis, has approved a nominal increase in the existing tariff for the Large Industrial Power Supply category as shown in the tables below:

**Table 235: Existing and Approved Tariff for Large Industrial Power Supply Category**

| Slab                   | Existing                 |   |                              | Approved                 |                              |                              |
|------------------------|--------------------------|---|------------------------------|--------------------------|------------------------------|------------------------------|
|                        | Energy Charges (Rs/kVAh) | Consumer Service Charges (Rs/con/month) | Demand Charge (Rs/kVA/month) | Energy Charges (Rs/kVAh) | Fixed Charges (Rs/con/month) | Demand Charge (Rs/kVA/month) |
| EHT                    |                          |   |                              |                          |                              |                              |
| 220 kV and above       | 4.20                     |   | 425.00                       | 4.20                     |                              | 425.00                       |
| 132 kV                 | 4.20                     |   | 425.00                       | 4.25                     |                              | 425.00                       |
| 66 kV                  | 4.20                     |   | 425.00                       | 4.30                     |                              | 425.00                       |
| HT-1 (up to 1 MVA)     | 4.60                     | -                                       | 250.00                       | 4.60                     | -                            | 250.00                       |
| HT-2 (More than 1 MVA) | 4.30                     | -                                       | 400.00                       | 4.35                     | -                            | 400.00                       |

- 9.7.26 For existing industrial consumers, a rebate of 15% on energy charges shall be applicable for additional power consumption beyond the level of FY 2018-19.
- 9.7.27 For new industries which have come into production between 01.04.2018 to 30.06.2019, the energy charges shall be 10% lower than the approved energy charges for the respective category for a period of three years.
- 9.7.28 For new industries coming into production after 01.07.2019, the energy charges shall be 15% lower than the approved energy charges for the respective category for a period of 3 years.
- 9.7.29 The applicable rebates and surcharges for this category have been detailed in Part III of Annexure I of this Order.

**BS: Bulk Supply**

9.7.30 This schedule is applicable to general or mixed loads to M.E.S and other Military establishments, Central PWD Institutions, Hospitals, Departmental colonies, A.I.R Installations, Aerodromes, Bus Stands with single point connection, construction power to hydroelectric projects, tunnel construction and other similar establishments where further distribution to various residential and non-residential buildings is to be undertaken by the consumers for their own bonafide use and not for resale to other consumers with or without profit. However, in case of MES, this schedule shall continue to apply till such time M.E.S. do not avail open access.

9.7.31 The Commission has approved the tariff for the Bulk Supply category as shown in the tables below:

**Table 236: Existing and Approved Tariff for Bulk Supply**

| Slab | Existing                 |                                       |                            | Approved                 |                            |                            |
|------|--------------------------|---------------------------------------|----------------------------|--------------------------|----------------------------|----------------------------|
|      | Energy Charges (Rs/kVAh) | Consumer Service Charges (Rs/con/mth) | Demand Charge (Rs/kVA/mth) | Energy Charges (Rs/kVAh) | Fixed Charges (Rs/con/mth) | Demand Charge (Rs/kVA/mth) |
| LT   | 5.00                     | -                                     | 250.00                     | 4.80                     | -                          | 250.00                     |
| HT   | 4.50                     | -                                     | 350.00                     | 4.30                     | -                          | 350.00                     |
| EHT  | 4.10                     | -                                     | 350.00                     | 4.10                     | -                          | 350.00                     |

9.7.32 The applicable rebates and surcharges for this category have been detailed in Part III of Annexure I of this Order.

**SLS: Street Lighting Supply**

9.7.33 This schedule is applicable for Street Lighting system including traffic control signal systems on roads and Park lighting in Municipalities, Panchayats and Notified Committee areas.

9.7.34 The Commission has approved a nominal increase in the tariff for Street Lighting category as shown in the table below.

**Table 237: Existing and Approved Tariff for Street Lighting Supply Category**

| Existing                  |   | Approved by Commission    |                              |
|---------------------------|---|---------------------------|------------------------------|
| Energy Charges (Rs. /kWh) | Consumer Service Charges (Rs. /con/mth) | Energy Charges (Rs. /kWh) | Fixed Charges (Rs. /con/mth) |
| 4.95                      | 120.00                                  | 4.95                      | 130.00                       |

9.7.35 The applicable rebates and surcharges for this category have been detailed in Part III of Annexure I of this Order.

**TS: Temporary Metered Supply**

9.7.36 This schedule is applicable to all loads of temporary nature including exhibitions, touring talkies, circuses, fairs, melas, marriages, festivals, temporary supply for construction purposes including civil works by Government departments and other similar purposes for temporary needs only. This schedule shall also be applicable for consumers not having sanction/

completion plan for their premises from the appropriate authority. However, this tariff is not applicable to wheat threshers and paddy threshers which shall be covered under Irrigation and Drinking Water Pumping (IDWP) even for temporary connection.

- 9.7.37 The Commission has approved the tariff for Temporary Supply category as shown in the tables below:

**Table 238: Existing and Approved Tariff for Temporary Meter Category (upto 20kVA)**

| Slab        | Existing                  |   | Approved                  |                              |
|-------------|---------------------------|---|---------------------------|------------------------------|
|             | Energy Charges (Rs. /kWh) | Consumer Service Charges (Rs. /con/mth) | Energy Charges (Rs. /kWh) | Fixed Charges (Rs. /con/mth) |
| Up to 20kVA | 7.80                      | 200.00                                  | 7.00                      | 200.00                       |

**Table 239: Existing and Approved Tariff for Temporary Meter Category (above 20kVA)**

| Slab        | Existing                 |                                       |                            | Approved by Commission   |                            |                            |
|-------------|--------------------------|---------------------------------------|----------------------------|--------------------------|----------------------------|----------------------------|
|             | Energy Charges (Rs/kVAh) | Consumer Service Charges (Rs/con/mth) | Demand Charge (Rs/kVA/mth) | Energy Charges (Rs/kVAh) | Fixed Charges (Rs/con/mth) | Demand Charge (Rs/kVA/mth) |
| Above 20kVA | 6.30                     | -                                     | 400.00                     | 6.30                     | -                          | 400.00                     |

- 9.7.38 The applicable rebates and surcharges for this category have been detailed in Part III of Annexure I of this Order.

### **IDWPS: Irrigation and Drinking Water Pumping Supply**

- 9.7.39 The existing schedule is applicable to Government connections for water and irrigation pumping and also covers all consumption for bona fide Pump House lighting. This schedule shall also be applicable to private Irrigation Pumping loads. This schedule shall also be applicable to green houses, poly houses, mushroom growing, poultry farms and sheds, processing facilities for agriculture, pond fish culture in farmer's own agriculture land, pisci-culture, horticulture, floriculture and sericulture etc. where all such activities are undertaken by farmers only under this category. This schedule will also be applicable to temporary agricultural loads such as wheat threshers, paddy threshers, tokas, and cane crushers. This schedule shall be applicable to sewerage treatment plant.
- 9.7.40 Since this schedule of tariff covers 'processing facilities for agriculture', all consumers having processing facilities relating to agriculture such as seed treatment, etc. shall also be covered under this schedule. However, the consumers involved in manufacturing, processing and service sector activities based on agriculture produce such as mushroom processing, etc. shall be covered under relevant industrial schedule of tariff.
- 9.7.41 The Commission has approved the tariff for this category as shown in the tables below:

**Table 240: Existing and Approved Tariff for IDWPS upto 20kVA**

| Slab        | Existing                  |   | Approved                  |                              |
|-------------|---------------------------|---|---------------------------|------------------------------|
|             | Energy Charges (Rs. /kWh) | Consumer Service Charges (Rs. /con/mth) | Energy Charges (Rs. /kWh) | Fixed Charges (Rs. /con/mth) |
| Up to 20kVA | 3.70                      | 80.00                                   | 3.70                      | 90.00                        |

9.7.42 The two-part tariff applicable for IDWPS for connected load above 20 kVA shall be as shown in the table as follows:

**Table 241: Existing and Approved Tariff for IDWPS above 20kVA**

| Slab | Existing                 |                                       |                            | Approved                 |                            |                            |
|------|--------------------------|---------------------------------------|----------------------------|--------------------------|----------------------------|----------------------------|
|      | Energy Charges (Rs/kVAh) | Consumer Service Charges (Rs/con/mth) | Demand Charge (Rs/kVA/mth) | Energy Charges (Rs/kVAh) | Fixed Charges (Rs/con/mth) | Demand Charge (Rs/kVA/mth) |
| LT   | 5.00                     | -                                     | 50.00                      | 5.00                     | -                          | 100.00                     |
| HT   | 4.60                     | -                                     | 400.00                     | 4.60                     | -                          | 300.00                     |
| EHT  | 4.20                     | -                                     | 400.00                     | 4.20                     | -                          | 400.00                     |

9.7.43 The applicable rebates and surcharges for this category have been detailed in Part III of Annexure I of this Order.

**RT: Railway Traction**

9.7.44 The Commission has retained the existing tariff for Railway Traction as shown in the table below:

**Table 242: Existing and Approved Tariff for Railway Traction**

| Existing                 |                                       |                            | Approved                 |                            |                            |
|--------------------------|---------------------------------------|----------------------------|--------------------------|----------------------------|----------------------------|
| Energy Charges (Rs/kVAh) | Consumer Service Charges (Rs/con/mth) | Demand Charge (Rs/kVA/mth) | Energy Charges (Rs/kVAh) | Fixed Charges (Rs/con/mth) | Demand Charge (Rs/kVA/mth) |
| 4.70                     | -                                     | 400.00                     | 4.70                     | -                          | 400.00                     |

9.7.45 The applicable rebates and surcharges for this category have been detailed in Part III of Annexure I of this Order.

9.7.46 The average revenue realization as percentage of average cost based on the tariff approved for FY20 is provided below:

**Table 243: Average realization as % of Average CoS for DT20**

| Consumer Category             | FY20 (Approved Tariff) |
|-------------------------------|------------------------|
| Industrial Power Supply       | 102%                   |
| Domestic                      | 90%                    |
| Irrigation and Drinking Water | 106%                   |
| Commercial                    | 108%                   |
| Bulk Supply                   | 109%                   |

| Consumer Category | FY20<br>(Approved Tariff) |
|-------------------|---------------------------|
| NDNC              | 105%                      |

### 9.8 Overall Revenue-Expenditure Position of HPSEBL at Approved Tariff

9.8.1 The Commission has computed the revenue surplus/ gap for FY20 based on the approved ARR and approved tariff which is given in the table below:

**Table 244: Projected Revenue at Approved Tariff and Revenue Surplus/ (Gap) for FY20**

| Parameters  | Amount<br>(Rs. Cr.) |
|---|---------------------|
| Industrial Power Supply   |                     |
| Small Industries  | 60.47               |
| Medium Industries   | 61.16               |
| Large Industries  | 2,770.50            |
| Domestic  | 1,056.08            |
| Irrigation and Drinking Water   | 428.60              |
| Commercial  | 374.12              |
| Bulk Supply   | 95.66               |
| Non Domestic Non Commercial   | 90.61               |
| Public Lighting   | 6.21                |
| Temporary   | 35.10               |
| <b>Projected Revenue at Approved Tariff for FY20</b>                      | <b>4,978.52</b>     |
|   |                     |
| <b>Total Approved ARR (including prior period adjustments)</b>            | <b>5,285.29</b>     |
| Less: Revenue from Sale of Power within State at Approved Tariff for FY20 | 4,978.52            |
| Less: Revenue from sale of Power Outside State                            | 308.80              |
| <b>Revenue Surplus / (Gap)</b>  | <b>2.03</b>         |

9.8.2 Based on the above table it is observed that the Petitioner would have a marginal revenue surplus for FY20 which can be considered at the time of truing-up for the respective year. Further, any amount received by HPSEBL during FY20 and subsequently on account of sale of renewable energy certificates for excess RPPO quantum (solar and non-solar) of power purchase by the Petitioner shall also be considered at the time of truing-up of the respective year.

9.8.3 The Commission directs the Petitioner to transfer any surplus revenue realised in FY20 at approved tariffs to the MYT Contingency Reserve as per Regulation 12 of the HPERC (Terms and Condition for determination of Wheeling Tariff and Retail Supply Tariff) Regulation, 2011.

## 9.9 Subsidy by Government of Himachal Pradesh

9.9.1 The Govt. of Himachal Pradesh has made a provision of Rs. 475 Cr. in the financial budget for 2019-20, for providing rollback subsidy to electricity consumers of domestic and agriculture categories during the year.

9.9.2 In accordance with provisions of Section 65 of the Electricity Act, 2003, the Commission in terms of sub-regulation (5) of Regulation 42 of the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2011 in giving effect to the subsidy hereby makes the following provisions:

- a. The effective energy charges for Domestic Supply category, as proposed by the GoHP after accounting for Government subsidy, shall be as given in the table below:-

**Table 245: Subsidized tariff for Domestic category**

| Particulars        | Units/month       | Approved Tariff for FY20 (Rs./kWh) | GoHP Subsidy for FY19 (Rs./kWh) | Effective Tariff after subsidy (Rs./kWh) |
|--------------------|-------------------|------------------------------------|---------------------------------|--|
| Lifeline consumers | 0-60              | 3.30                               | 2.30                            | 1.00                                     |
| Other consumers    | 0-125             | 3.95                               | 2.40                            | 1.55                                     |
|                    | 126-300           | 4.85                               | 1.90                            | 2.95                                     |
|                    | Above 300         | 5.45                               | 1.05                            | 4.40                                     |
|                    | Prepaid consumers | 4.85                               | 1.90                            | 2.95                                     |

- b. With respect to agricultural consumers under Irrigation and Drinking Water Pumping Supply (IDWPS) category, the energy charges shall be Rs 0.50 per kWh to the consumer category up to contract demand upto 20 kVA. These revised energy charges on the account of Government subsidy would only be applicable to agricultural and allied activities, and which are paid for by individuals/ user groups but shall not be applicable for government supply.

- c. The above revised tariffs in respect of Domestic and Agricultural consumers shall be effective from July 1, 2019. HPSEBL shall give appropriate adjustments in consumer bills for the subsidy amount.

- d. In case the GoHP/ HPSEBL want to change the level of subsidy provided to above classes/ categories of consumers, they shall inform the Commission accordingly for necessary changes.

9.9.3 The Commission orders that subsidy amount shall be paid in advance to the HPSEBL as per the provisions of Section 65 of the Electricity Act, 2003, and reconciled after every quarter. HPSEBL is directed to submit quarterly report regarding the payment of subsidy as well as the outstanding amount; if any.

**In case the State Government fails to pay subsidy on time, interest on**



**such outstanding amounts shall be recoverable by the Petitioner.**

Further, in case the State Government fails to pay the subsidy, as per the provisions of Section 65 of the Act, the tariffs in respect of above two categories shall stand reverted back to the original tariff, as approved by the Commission in this tariff order.

# 10 OPEN ACCESS AND RENEWABLE POWER PURCHASE OBLIGATION

## 10.1 Introduction

10.1.1 The Commission has permitted Open Access to all the generators irrespective of installed capacity and to all the consumers having contract demand above 1 MVA. The Commission has also made enabling provisions for availing the Open Access in its MYT Regulations, 2011 by segregation of the ARR of the distribution licensee in to ARR for Retail Supply and Wheeling Supply. Accordingly, the Wheeling Tariff and Retail Supply Tariffs are being determined by the Commission for each year of the Control Period.

10.1.2 Based on the wheeling ARR approved in Para 8.21.3, the average wheeling charges for FY20 are as below:

**Table 246: Wheeling Charges for FY20**

| Particulars   | Amount     |
|---|------------|
| Total ARR for Wheeling Business approved for FY20 (Rs. Cr.) | 1,627.77   |
| Approved Energy Sales (MU)                                  | 9,101      |
| <b>Average Wheeling Charge (paise per unit)</b>             | <b>179</b> |

10.1.3 The above computed average wheeling charge of 179 paise is for the total distribution network of HPSEBL. Most of the open access consumers are utilizing higher voltage level of the network and therefore, applying the average wheeling charge would restrict the open access within the State. Therefore, for the purpose of promoting open access, the Commission has worked out the voltage-wise wheeling charge applicable for open access consumers at various voltage level.

10.1.4 Regulation 27 (2) of the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2011 stipulate that:

*"The distribution licensee shall maintain separate books of accounts for wheeling and retail supply business. For such period until accounts are segregated and separate books of accounts are maintained, the Commission shall stipulate the ratio of allocation of all expenses and return component, based on data obtained from the distribution licensee."*

10.1.5 In the absence of separate accounts for wheeling and retail supply business, the ARR of HPSEBL for FY20 have been segregated into wheeling and retail supply businesses in accordance with the allocation statement as detailed in

para 8.21.2. The various charges payable by the consumers availing open access have been determined in this chapter.

## 10.2 Wheeling Charges

- 10.2.1 The distribution system of HPSEBL consists of lines and associated equipment at various voltage levels of EHV, HV and LV connected with the generating stations, HPPTCL system and the consumers of HPSEBL. Accordingly, the charges for these consumers is required to be computed based on capacity basis (per MW) as against the short-term open access consumers for which the wheeling charges shall be determined based on per unit basis. However, the Commission has been approving per unit based wheeling charges at various voltage levels for both long-term and short-term open access consumers in the absence of actual demand, supply and cost at each voltage level. Despite repeated directions by the Commission in its previous Tariff Orders, the Petitioner has not been able to supply the required details in this regard. Also, for the fourth Control Period, the Petitioner has not submitted any proposal for the wheeling charges to be recovered from the open access consumers.
- 10.2.2 For the fourth Control Period, the Commission has decided to approve capacity based wheeling charges for long-term and medium-term open access consumers. The Commission feels that already adequate time has been provided to the Petitioner for submission of appropriate data for computation of capacity based wheeling charges and the same should be implemented now without any further delay. While the Commission has to rely on limited data available for computing long-term wheeling charges, however, improvements can be made in the subsequent orders when adequate data is made available by the Petitioner.
- 10.2.3 Wheeling costs are dependent on the voltage level at which the supply is wheeled and therefore form an integral part of the wheeling tariff. In the absence of actual voltage wise assets of HPSEBL, the Commission has apportioned the cost of HPSEBL's wheeling business of Rs. 1,627.77 Cr. as determined in the para 8.21.3, to various voltage classes. Accordingly, the Commission has determined the wheeling charges for the EHT (66 kV and above), HT (33 kV), HT (11 kV to less than 33 kV) and other voltage levels (less than 11 kV) of the distribution system. Certain reasonable assumptions have however been made, wherever required, in view of the non-availability of complete data which are detailed below:
- 10.2.4 The assumptions and methodology used by the Commission for computing the voltage-wise wheeling charges is as below:

### Assumptions

- 10.2.5 The Commission has considered the following assumptions:
- (1) Demand: The corresponding demand based on the sales of HPSEBL at each voltage level assuming a load factor of 60% has been considered along with the Capacity of the generators connected at the respective voltage level for computation of capacity based wheeling charges.
  - (2) Energy Input: Energy input into the State transmission system is considered for intra-state consumption. Also, the Commission has

considered the energy generation from the plants connected at the various voltage level for the computation of wheeling charges.

- (3) Category-wise sales have been allocated to different voltages proportionately based on past information, except for categories where sales data at different voltages is available, such as Large Industrial Power, Irrigation and Drinking Water Pumping, and Bulk Supply. Further, the estimated energy generated by the various generators connected at different voltage level have been considered additionally.
- (4) Data on cost segregation across voltage levels is done based on reasonable assumptions in absence of data submitted by the Petitioner. As the details provided in the Fixed Asset Register (FAR) is insufficient to determine the voltage-wise assets details, the Petitioner is required to submit the same during the next tariff filing, based on which the Commission shall revise the allocation of assets.

### Sales at various voltage levels

10.2.6 The sales at various voltage levels considered by the Commission are presented in the table as follows:

**Table 247: Estimated Sales at different Voltage Levels for FY20 (MU)**

| S. No.    | Category                              | FY 2019-20       |               |                      |              |
|-----------|---------------------------------------|------------------|---------------|----------------------|--------------|
|           |                                       | Total Sales (MU) | EHT (>=66 kV) | HT (>11 kV & <=33kV) | LT (<11 kV)  |
| 1         | Domestic                              | 2,137            | -             | -                    | 2,137        |
| 2         | NDNCS                                 | 158              | -             | 47                   | 111          |
| 3         | Commercial (CS)                       | 635              | -             | 95                   | 540          |
| 4         | Small & Medium Industrial Power (SMS) | 203              | -             | -                    | 203          |
| 5         | Large Power Supply (LS)               | 5,016            | 1,370         | 3,647                | -            |
| 6         | Water (& Irrigation) Pumping          | 739              | -             | 214                  | 524          |
| 7         | Street Lighting                       | 12               | -             | -                    | 12           |
| 8         | Bulk supply                           | 161              | -             | 113                  | 48           |
| 9         | Temporary Supply                      | 40               | -             | -                    | 40           |
| <b>10</b> | <b>Total (within State)</b>           | <b>9,101</b>     | <b>1,370</b>  | <b>4,116</b>         | <b>3,615</b> |

### Cost Segregation and Methodology

10.2.7 In the absence of cost allocation at each voltage level, the Commission has assessed the same based on certain relevant parameters including the pattern of usage of the system by consumers at various voltages, and found the rates worked out in table below to be reasonable. The Commission shall review the segregation once adequate details related to voltage-wise assets are made available by the Petitioner along with the subsequent tariff filing.

10.2.8 To arrive at the cost of wheeling at the various voltage levels, the total Wheeling ARR at various voltage levels has been apportioned to different voltage levels (i.e., EHT, HT and LT) in the following ratio:

**Table 248: Allocation of Wheeling cost across voltage levels**

| Particulars      | EHT<br>(>66 kV) | HT<br>(33 kV) | HT<br>(≥11 kV<br>& <33kV) | LT<br>(<11 kV) |
|------------------|-----------------|---------------|---------------------------|----------------|
| Allocation Ratio | 22%             | 20%           | 28%                       | 30%            |

10.2.9 The Wheeling ARR at higher voltage levels has been further apportioned to lower voltage levels, since the EHT and HT system is also being used for LT supply.

10.2.10 The Power handled at each voltage level has been estimated taking into account the demand of HPSEBL and capacity available. Also, energy flow at each voltage level has been estimated based upon the sales of HPSEBL and generation at each voltage level.

**Table 249: Allocation of estimated power handled and energy flow across different voltage levels**

| Particulars                  | EHT<br>(>66 kV) | HT<br>(33 kV) | HT<br>(≥11 kV<br>& <33kV) | LT<br>(<11 kV) |
|------------------------------|-----------------|---------------|---------------------------|----------------|
| Estimated Power handled (MW) | 881             | 563           | 620                       | 688            |
| Estimated Energy Flow (Mus)  | 3,542           | 2,523         | 2,995                     | 3,615          |

10.2.11 The approved wheeling charges as determined by the Commission are tabulated below:

**Table 250: Approved Wheeling Charges for Open Access Consumers for FY20**

| S.No. | Description   | EHT<br>(≥66kV)  | HT<br>(33kV)    | HT<br>(≥11kV &<br><33kV) | LT<br>(<11kV)   |
|-------|---|-----------------|-----------------|--------------------------|-----------------|
| 1     | Total Wheeling ARR (Rs. Cr.)  | 1627.77         |                 |                          |                 |
| 2     | Cost apportioned (Rs. Cr.)  | 341.83          | 325.55          | 455.78                   | 504.61          |
| 2     | Estimated Load (MW)   | 881             | 563             | 620                      | 688             |
| 3.    | Estimated Energy (MUs)  | 3,542           | 2,523           | 2,995                    | 3,615           |
| 4     | <b>Wheeling Charges for Long-term Open Access/ Medium term Open Access Customers (Rs. Per MW per month)</b> | <b>1,03,530</b> | <b>2,48,538</b> | <b>3,90,870</b>          | <b>8,11,393</b> |
| 5     | <b>Wheeling Charges for Short-term Open Access Customers (Paisa per unit)</b>                               | <b>27</b>       | <b>63</b>       | <b>132</b>               | <b>271</b>      |

10.2.12 The long-term and medium-term open access entail firm allocation of wheeling capacity by HPSEBL to the consumer availing open access as well as generators. Accordingly, the charges for these customers has been determined based on capacity basis (per MW) as against the short-term open access customers for which the wheeling charges has been determined based on per unit basis. Since the information considered by the Commission is estimated and based on various assumptions, the voltage-wise wheeling charges may not

be completely reflective of the actual costs. However, as mentioned in previous paras, the Commission feels that already much delay has been caused on this account and the long-term /medium-term and short-term customers should be charged appropriately. **Further, the Commission directs HPSEBL to provide all adequate details along with computation of voltage-wise wheeling charges from long-term and short-term consumers separately in the filing for first APR petition for the fourth Control Period.**

- 10.2.13 In case of generators, wheeling charges shall be levied on the contracted Power at the connection point in the distribution system.
- 10.2.14 In case the power is withdrawn from the distribution system at a voltage level which is different from the voltage level for injection of power into the distribution system, the wheeling charges corresponding to the lower voltage level shall be applicable.
- 10.2.15 In case where power is injected at HT level into an EHT substation of the licensee, the wheeling charges shall be worked out by allowing increase of 5% on the wheeling charges applicable for EHT system.
- 10.2.16 In case of Generators these will be applicable on the energy injected into the system.

### **10.3 Wheeling Charges for Renewable Generator**

- 10.3.1 In accordance with section 86(1)(e) read with section 61(h) of the Electricity Act, 2003, the Commission, for the promotion of renewable can provide suitable measures for connectivity with the grid. The small hydroelectric projects up to an installed capacity of 25 MW are covered under the renewable energy sources. In order to promote generation from these renewable sources, the Commission decides that the wheeling charges payable by the SHPs covered under renewable energy sources shall be comparable to the wheeling charges for the EHV category of open access consumers for FY20. However, the renewable energy generator shall have to bear the losses as per the actual connected voltage level. These concessional wheeling charges shall not be available to the renewable generators selling power, under Renewable Energy Certificate (REC) framework, to the open access consumers or in power exchange or bilateral sale outside the State or captive consumers availing certain portion of power as captive power producers.
- 10.3.2 It is observed that as per Amended Hydro Power Policy of Govt. of Himachal Pradesh dated 15.05.2018, the GoHP has decided to waive off open access charges payable by hydro projects having capacity of upto 25 MW, which shall be commissioned after the date of notification i.e. 15.05.2018, for use of intra-state transmission network. It is clarified that the Petitioner shall be required to recover the wheeling charges from these generators as fixed by the Commission in this Order. Further, the RE generators may claim the reimbursement of these charges from the GoHP as per the said notification.

#### 10.4 Wheeling Charges for Embedded Consumers availing Short-Term Open Access

10.4.1 The consumers availing short-term open access while simultaneously maintaining their contract demand with the distribution license shall, in addition to the applicable demand charges, pay wheeling charges @50% of the wheeling rates applicable at respective voltage levels. Such consumers shall, however, have to pay the distribution losses applicable at relevant voltage levels. However, if the consumer avails open access over and above the contract demand, full wheeling charges shall be payable. These wheeling charges shall be fixed, without any subsequent true-up.

#### 10.5 Additional Surcharge

10.5.1 The Commission had determined the Additional Surcharge for the consumers availing short-term open access vide its Tariff Order for FY19 dated 4<sup>th</sup> May, 2018. An additional surcharge of 54 paise per kWh had been determined in the Order.

10.5.2 The Petitioner along with its tariff petition, has made a fresh application for determination of additional surcharge of 44.45 paise per unit for FY20. The summary of the Petitioner's submission has already been covered in Chapter 4.

10.5.3 In line with the methodology adopted by the Commission in its previous orders for the reasons stated therein, the Commission has revised the additional surcharge for FY20. For the computation of additional surcharge, the overall annual fixed charges to be considered for the determination of additional surcharge at the injection point was worked out as 103 paise per unit in the following table:

**Table 251: Fixed Cost relating to Generating Capacity (at Generating Stations)**

| S.No.    | Name of the Plant                             | Capacity (in MW) | Expected Net Annual Generation (MUs) | AFC for FY18-19 (Rs. Cr.) | Annual Fixed Cost (p/unit) | Power Purchase during FY19 (MUs) | Total fixed cost of power purchase (Rs. Cr.) |
|----------|---|------------------|--------------------------------------|---------------------------|----------------------------|----------------------------------|--|
| 1        | Rihand-I                                      | 1000             | 6813                                 | 589.19                    | 86.48                      | 255.8                            | 22.12  |
| 2        | Rihand-II                                     | 1000             | 6962                                 | 499.44                    | 71.74                      | 248.6                            | 17.83  |
| 3        | Rihand-III                                    | 1000             | 6776                                 | 1021.98                   | 150.83                     | 248.2                            | 37.44  |
| <b>4</b> | <b>Total</b>                                  | <b>3000</b>      | <b>20551</b>                         | <b>2111</b>               | <b>309</b>                 | <b>752.62</b>                    | <b>77.39</b>                                 |
| <b>5</b> | <b>Average of fixed cost rate (paise/kWh)</b> |                  |                                      |                           |                            |                                  | <b>102.83</b>                                |

10.5.4 The Commission has worked out the per unit rate of the transmission charges of power grid and HPPTCL in the following table:

**Table 252: Fixed Cost relating to Power Grid & HPPTCL Transmission System (at Injection points)**

| Month   | PGCIL                       |  |                                | HPPTCL                             |
|---|-----------------------------|--|--------------------------------|------------------------------------|
|   | POC Slab Rate (Rs/MW/month) | Reliability Support Charges Rate (Rs/MW/month) | HVDC Charge Rate (Rs/MW/month) | Transmission Charges (Rs/MW/month) |
| Apr-18  | 65997                       | 26946  | 23015                          | 7518                               |
| May-18  | 65997                       | 26946  | 23015                          | 7518                               |
| Jun-18  | 65997                       | 26946  | 23015                          | 7518                               |
| Jul-18  | 55998                       | 29248  | 27324                          | 7518                               |
| Aug-18  | 55998                       | 29248  | 27324                          | 7518                               |
| Sep-18  | 55998                       | 29248  | 27324                          | 7518                               |
| Oct-18  | 63070                       | 30097  | 26352                          | 7518                               |
| Nov-18  | 63070                       | 30097  | 26352                          | 7518                               |
| Dec-18  | 63070                       | 30097  | 26352                          | 7518                               |
| Jan-19  | 83787                       | 26182  | 19712                          | 7518                               |
| Feb-19  | 83787                       | 26182  | 19712                          | 7518                               |
| Mar-19  | 83787                       | 26182  | 19712                          | 7518                               |
| <b>Average/month</b>  | <b>67213</b>                | <b>28118</b>                                   | <b>24101</b>                   | <b>7518</b>                        |
| <b>Average Fixed Cost@ Load Factor at injection point (paise/kWh)</b> | <b>19.46</b>                |  |                                | <b>1.22</b>                        |

10.5.5 The Commission has worked out the per unit basic rate of Power Grid charges and HPPTCL transmission charges as 19.46 paise per unit and 1.22 paise per unit respectively.

10.5.6 Based on the above details, the Commission has computed the rate of additional surcharge as 61 paise/kWh as per details given in the table below.

**Table 253: Computation of Additional Surcharge approved by the Commission for FY20**

| S.No.    | Particulars   | FC at injection point | FC at consumer end |
|----------|---|-----------------------|--------------------|
| 1        | Fixed Cost of Stranded Capacity (p/kWh)                                 | 102.83                | 107.50             |
| 2        | Transmission Charges  |                       |                    |
| i        | PGCIL (p/kWh)   | 19.46                 | 20.86              |
| ii       | HPPTCL (p/kWh)  | 1.22                  | 1.27               |
| 3        | Total Fixed Cost payable (1 + 2) (p/kWh)                                | 123.51                | 129.63             |
| 4        | Recovery of Fixed Charges as demand charges from EHT consumers          |                       | 82.30              |
| 5        | 50% of wheeling charges for EHT consumers (p/kWh)                       |                       | 13.48              |
| 6        | Net Recovery through Demand Charges, eligible for adjustment (p/kWh)    |                       | 68.82              |
| <b>7</b> | <b>Balance payable in shape of additional surcharge (p/kWh) (3 – 6)</b> |                       | <b>60.81</b>       |

10.5.7 The additional surcharge being determined above shall be applicable prospectively from 1<sup>st</sup> July, 2019 till the determination of the fresh rate.



## 10.6 Cross Subsidy Surcharge

10.6.1 Sub-regulation 2 of Regulation 3 of Himachal Pradesh Electricity Regulatory Commission (Cross Subsidy Surcharge, Additional Surcharge and Phasing of Cross Subsidy) Regulations, 2006 stipulates that the Consumers availing Open Access shall have to pay the Distribution Licensee Cross Subsidy Surcharge which shall be determined by the Commission on a methodology and surcharge formula mentioned in the National Tariff Policy.

10.6.2 The Commission has been approving the cross-subsidy surcharge applicable to open access consumers as per the formula specified in the National Tariff Policy 2006. Ministry of Power has notified a revised Tariff Policy dated 28<sup>th</sup> January 2016. As per the revised Tariff Policy, the cross-subsidy formula has been revised as under:

*Surcharge formula:*

$$S = T - [C / (1 - L / 100) + D + R]$$

*Where*

*S is the surcharge*

*T is the tariff payable by the relevant category of consumers, including reflecting the Renewable Purchase Obligation*

*C is the per unit weighted average cost of power purchase by the Licensee, including meeting the Renewable Purchase Obligation*

*D is the aggregate of transmission, distribution and wheeling charge applicable to the relevant voltage level*

*L is the aggregate of transmission, distribution and commercial losses, expressed as a percentage applicable to the relevant voltage level*

*R is the per unit cost of carrying regulatory assets*

*Provided that the surcharge shall not exceed 20% of the tariff applicable to the category of the consumers seeking open access*

10.6.3 The revised cross-subsidy surcharge formula has been considered for determination of cross-subsidy surcharge.

### **Cross-subsidy surcharge for Long-term and Medium-Term Open Access Consumers**

10.6.4 The Cross-subsidy Surcharge has been worked out based on the above methodology and formula as per the revised Tariff Policy. Further, the Commission in line with its HPERC (Cross Subsidy Surcharge, Additional Surcharge and Phasing of Cross Subsidy) Regulations, 2006, is required to reach a normative level of 20% of its opening level. Considering the same, the Cross Subsidy Surcharge computed and approved by the Commission for FY20 is tabulated below:

**Table 254: Approved Cross Subsidy Surcharge for Long-Term & Medium-term Open Access Consumers**

| S. No. | Description of Consumers                                    | Cross Subsidy Surcharge (S) (Rs./ unit) | 20% of Cross Subsidy Surcharge (Rs./ unit) | 20% of the Tariff applicable to respective category (Rs./unit) | Minimum of (B) & (C) (Rs./ unit) |
|--------|---|---|--|--|----------------------------------|
|        |   | (A)                                     | (B)  | (C)  | (D)                              |
| 1      | Large Industrial Power Supply EHT Consumers                 | 2.25                                    | 0.45                                       | 1.05   | 0.45                             |
| 2      | HT 2 Consumers  | 2.09                                    | 0.42                                       | 1.11   | 0.42                             |
| 3      | Irrigation & Drinking Water Supply Category - EHT Consumers | 2.56                                    | 0.51                                       | 1.11   | 0.51                             |
| 4      | Irrigation & Drinking Water Supply Category - HT Consumers  | 1.55                                    | 0.31                                       | 1.15   | 0.31                             |
| 5      | Bulk Supply Category - EHT Consumers                        | 2.52                                    | 0.50                                       | 1.10   | 0.50                             |
| 6      | Bulk Supply Category - HT Consumers                         | 1.51                                    | 0.30                                       | 1.14   | 0.30                             |

**Cross subsidy surcharge for Short-Term Open Access Consumers**

10.6.5 In case of short term open access by the consumer, the rates as per table above shall be applicable only in cases where open access is availed for the full day (24 hours of the day) and the same quantum of power is availed through open access throughout the day. However certain consumers may avail open access for certain hours of the day to meet part of their requirement. The computed cross-subsidy surcharge for peak hours for FY20 based on the above formula are marginally higher than the approved cross-subsidy surcharge for peak hours during FY19.

10.6.6 Further, as per the present tariff structure, the tariff during peak hours are higher than the normal hours and the cross subsidy surcharge computed as per revised formula will be higher as compared to normal hours. Therefore, the Commission has approved the cross subsidy surcharge for peak hours and non-peak hours considering 20% of the computed cross subsidy in line with its HPERC (Cross Subsidy Surcharge, Additional Surcharge and Phasing of Cross Subsidy) Regulations, 2006.

**Table 255: Cross Subsidy Surcharge for Short-Term Open Access Consumers during Time of the Day**

| S.No. | Description of Consumers                                    | Cross-subsidy surcharge for part of the day |                       |
|-------|---|---|-----------------------|
|       |   | Non-Peak Hours (Rs./unit)                   | Peak Hours (Rs./unit) |
| 1.    | Large Industrial Power Supply EHT Consumers                 | 0.45  | 0.72                  |
| 2.    | HT 2 Consumers  | 0.42  | 0.66                  |
| 3.    | Irrigation & Drinking Water Supply Category - EHT Consumers | 0.51  | 0.71                  |
| 4.    | Irrigation & Drinking Water Supply Category - HT Consumers  | 0.31  | 0.48                  |

| S.No. | Description of Consumers             | Cross-subsidy surcharge for part of the day |                       |
|-------|--------------------------------------|---|-----------------------|
|       |                                      | Non-Peak Hours (Rs./unit)                   | Peak Hours (Rs./unit) |
| 5.    | Bulk Supply Category - EHT Consumers | 0.50  | 0.50                  |
| 6.    | Bulk Supply Category - HT Consumers  | 0.30  | 0.30                  |

*Note: The cross subsidy surcharge as per Table above, as applicable shall be levied on the energy drawn at the delivery point in the distribution system through open access*

- 10.6.7 The Commission also feels that in some cases the consumers may have to avail Open Access because of inability of Distribution Licensee to supply power during certain specific hours for reasons of power shortages etc. In order to avoid any hardships to consumers, the Commission hereby stipulates that in cases where the Distribution Licensee has communicated in advance to the consumer about its inability to meet any part of power requirements of a consumer for a specific duration, the cross subsidy surcharge shall not be applicable for such part of the energy requirement (for which Distribution Licensee had expressed its inability to supply) as is met through open access during such periods.
- 10.6.8 The Commission has continuously endeavoured to reduce the cross-subsidy and has been guided by the principles laid down in the National Tariff Policy. Since the target of realization being (-)15% and (+)10% of average cost of supply was achieved for most categories by FY19, the Commission in the amendments to the Regulations, 2011 have laid down a road map for with a target that by end of fourth Control Period (i.e. FY24), tariff for consumer categories, other than lifeline consumers, shall be within (-)10% and (+)5% of the average cost of supply. However, for computation of cross-subsidy surcharge, the Commission is following the formula specified in the tariff policy notified by Government of India.

## 10.7 Infrastructure Development Charges

- 10.7.1 The Commission has notified HPERC (Recovery of Expenditure for supply of Electricity) Regulations 2012 vide Notification No. HPERC/419 dated 18.5.2012 which has been published in the Rajpatra, HP on 23.5.2012.
- 10.7.2 The Commission observes that HPSEBL has submitted a variation of 3.67% in the total normative rate as per Cost Data for FY 2017-18 over the previous year. However, the Petitioner has not proposed an increase on the existing rates of IDC on the basis of increase in the procurement cost of equipment/material as per Cost Data for FY 2017-18. This variation in normative rates may fetch nominal additional amount during current financial year, most of which shall be from the contribution from the new consumers. The incremental amount to be collected through this proposed hike may be very nominal as compared to the funds already available with HPSEBL for the CAPEX works. The Commission expects HPSEBL to carry on the CAPEX works expeditiously as there is no dearth of funds for the purpose and the Commission has been quite liberal in allowing funds for this purpose.
- 10.7.3 Taking into consideration above and other factors like energy load growth in the State, additional incremental revenue collection, available revenue with

HPSEBL collected on account of normative IDC, the Commission decides to extend the normative IDC rates and associated conditions as decided vide its Order dated 10<sup>th</sup> October, 2016 for FY20.

## 10.8 Distribution Losses

10.8.1 In addition to above charges, the Open Access consumers/customers shall have to bear the distribution losses in kind as per the provisions of the Open Access regulations and shall be credited to the respective licensees through energy accounting mechanism to the respective licensees. The distribution losses at following rates shall be applicable to the open access consumers/ Customers including generators, other licensees and traders:

**Table 256: Approved Loss Level for Open Access Consumers/ Customers**

| Voltage Level               | 220kV/<br>132kV | 66kV | 33kV | 22kV/11<br>kV | LT    |
|-----------------------------|-----------------|------|------|---------------|-------|
| Loss level (in % of energy) | 2.5%            | 4.0% | 6.0% | 8.0%          | 15.0% |

10.8.2 The losses at LT are for indicative purposes only as no open access may actually be availed on LT.

10.8.3 In order to provide non-discriminatory access to its system to the open access consumers/ customers, the HPSEBL shall maintain such systems in accordance with the provisions of the Himachal Pradesh Electricity Regulatory Commission (Distribution Performance Standards) Regulations, 2010.

## 10.9 Renewable Power Purchase Obligation (RPPO)

10.9.1 The Commission vide Regulation 4 of the HPERC (Renewable Power Purchase Obligation and its Compliance) Regulations, 2010 (read with amendments) had specified the minimum ceiling of solar and non-solar RPPO for the distribution licensee over a time span of ten years.

10.9.2 The Commission has also issued Himachal Pradesh Electricity Regulatory Commission (Renewable Power Purchase Obligation and its Compliance) (Third Amendment) Regulations, 2017 dated 24.03.2017 which proposes amendment to the minimum percentage of RPPO requirement. These regulations have fixed RPPO trajectory till FY2022. The Commission is yet to notify the targets for the years FY 2022-23 and FY 2023-24. For these years, the same targets as approved for the year FY2021-22 have been considered till further amendment.

10.9.3 Accordingly, the minimum RPPO of the distribution licensee for solar and non-solar energy for each year of the fourth Control Period is as under:

**Table 257: Minimum Quantum of Purchase from Renewable Sources**

| Particulars | Non-Solar | Solar  | Total  |
|-------------|-----------|--------|--------|
| FY 2019-20  | 10.25%    | 7.25%  | 17.50% |
| FY 2020-21  | 10.25%    | 8.75%  | 19.00% |
| FY 2021-22  | 10.50%    | 10.50% | 21.00% |
| FY 2022-23* | 10.50%    | 10.50% | 21.00% |
| FY 2023-24* | 10.50%    | 10.50% | 21.00% |

\* same targets for FY 2021-22 considered till further amendments

10.9.4 The Renewable Power Purchase Obligation (RPPO) in terms of actual quantum of energy consumption (excluding consumption met from hydro-electric sources of power) projected for fourth Control Period is as under:

**Table 258: Projected RPO Obligations (MUs)**

| Financial Year | Total Consumption (excluding hydro) (MU) | Total RPPO (MU) | Minimum Non-Solar RPPO (MU) | Minimum Solar RPPO (MU) |
|----------------|--|-----------------|-----------------------------|-------------------------|
| FY 2019-20     | 570.75                                   | 99.88           | 58.50                       | 41.38                   |
| FY 2020-21     | 482.11                                   | 91.60           | 49.42                       | 42.18                   |
| FY 2021-22     | 614.81                                   | 129.11          | 64.56                       | 64.56                   |
| FY 2022-23*    | 893.88                                   | 187.71          | 93.86                       | 93.86                   |
| FY 2023-24*    | 1,082.89                                 | 227.41          | 113.70                      | 113.70                  |

10.9.5 Therefore, based on the energy availability from non-solar and solar sources as detailed in Table 142 and Table 144 respectively, the Petitioner is expected to meet its non-solar and solar RPPO during the fourth Control Period.

# 11 DIRECTIONS AND ADVISORIES

## 11.1 Background

- 11.1.1 The Commission had issued directions and advisories to HPSEBL in the MYT Order for the third Control Period against which the Petitioner did not submit any compliance status as a part of the MYT tariff filing. During the processing of the MYT Petition for the fourth Control Period, after repeated queries, the Petitioner has submitted compliance status of the directions.
- 11.1.2 The following table summarizes the compliance status of old directives and new directions for the fourth Control Period against which the Petitioner is mandated to submit timely compliance status:

## 11.2 Compliance of Old Directives

| No.                | Directives Specified in Section 10 of the Order (Page 277)   | Status of Compliance   | Commission's View |                                   |      |        |             |      |                    |       |          |       |            |       |            |        |        |       |   |
|--------------------|--|--|-------------------|-----------------------------------|------|--------|-------------|------|--------------------|-------|----------|-------|------------|-------|------------|--------|--------|-------|---|
| 1                  | <p>The Petitioner is required to provide details of all categories and the details of principal outstanding, surcharge outstanding etc. as required under the directive. The Petitioner is directed to undertake category-wise and age-wise analysis of the arrears with breakup of the arrears into:</p> <ul style="list-style-type: none"> <li>Principal outstanding</li> <li>Surcharge outstanding</li> <li>Arrears of less than one years</li> <li>Arrears of one to five years</li> <li>Arrears older than five years</li> </ul> <p>The Commission also directs the</p> | <p>The detail is enclosed as "Annexure QIA". Further, the field units were imparted necessary directions to identify non-recoverable arrears and initiate proceeding for writing the same off.</p> <table border="1"> <thead> <tr> <th>Category</th> <th>Total amount outstanding (Rs. Cr)</th> </tr> </thead> <tbody> <tr> <td>I&amp;PH</td> <td>246.11</td> </tr> <tr> <td>MC/NAC etc.</td> <td>3.51</td> </tr> <tr> <td>Other Govt. Deptt.</td> <td>20.85</td> </tr> <tr> <td>Domestic</td> <td>69.77</td> </tr> <tr> <td>Commercial</td> <td>52.99</td> </tr> <tr> <td>Industrial</td> <td>350.80</td> </tr> <tr> <td>Others</td> <td>33.12</td> </tr> </tbody> </table> | Category          | Total amount outstanding (Rs. Cr) | I&PH | 246.11 | MC/NAC etc. | 3.51 | Other Govt. Deptt. | 20.85 | Domestic | 69.77 | Commercial | 52.99 | Industrial | 350.80 | Others | 33.12 | <p>It is observed from the details furnished by the Petitioner that out of the outstanding of Rs. 777 Cr., approx. Rs. 622 Cr. is less than one years and therefore the Commission considers that the same would be recoverable as all these consumers would be live and drawing energy from the HPSEBL.</p> <p>With respect to the balance amount of Rs. 155 Cr., data shows that majority of the dues are towards I&amp;PH and Industrial categories and should be recovered by the Petitioner.</p> <p>Therefore, the Commission hereby directs the Petitioner to make sincere efforts in mobilizing its resources for collection of outstanding arrears. The Petitioner is required to provide</p> |
| Category           | Total amount outstanding (Rs. Cr)  |  |                   |                                   |      |        |             |      |                    |       |          |       |            |       |            |        |        |       |   |
| I&PH               | 246.11   |  |                   |                                   |      |        |             |      |                    |       |          |       |            |       |            |        |        |       |   |
| MC/NAC etc.        | 3.51   |  |                   |                                   |      |        |             |      |                    |       |          |       |            |       |            |        |        |       |   |
| Other Govt. Deptt. | 20.85  |  |                   |                                   |      |        |             |      |                    |       |          |       |            |       |            |        |        |       |   |
| Domestic           | 69.77  |  |                   |                                   |      |        |             |      |                    |       |          |       |            |       |            |        |        |       |   |
| Commercial         | 52.99  |  |                   |                                   |      |        |             |      |                    |       |          |       |            |       |            |        |        |       |   |
| Industrial         | 350.80   |  |                   |                                   |      |        |             |      |                    |       |          |       |            |       |            |        |        |       |   |
| Others             | 33.12  |  |                   |                                   |      |        |             |      |                    |       |          |       |            |       |            |        |        |       |   |

| No. | Directives Specified in Section 10 of the Order (Page 277)   | Status of Compliance   |                              | Commission's View   |
|-----|--|--|------------------------------|---|
|     | Petitioner to identify non-recoverable arrears and initiate proceedings for writing the same off.  | <b>Total</b>   | <b>777.17</b>                | the details of the action taken in this regard along with the APR petition for FY21. Also, the Petitioner is required to provide the details of recoverable and non-recoverable arrears against all arrears greater than 1 years along with the subsequent tariff petition.   |
|     |  | <b>Age of receivables</b>  | <b>Total amount (Rs. Cr)</b> |   |
|     |  | Less than 1yr  | 621.74                       |   |
|     |  | 1yr to 5 yr  | 139.8                        |   |
|     |  | More than 5yr  | 15.54                        |   |
| 2   | As per the MYT Regulations, 2011, HPSEBL is required to take approval of each 33kV scheme separately along with supporting documents. The Petitioner is yet to file fresh application for approval of these schemes. Additionally, the Petitioner is required to submit the quarterly progress report of actual capital investment within one month of the respective quarter.   | HPSEBL is ensuring the compliance to same and all the schemes of 33kV and above voltage level are being sent to the Commission for approval before taking up the same for implementation /execution. |                              | It is observed that the compliance being undertaken is partial. As the expenditure proposed under the fourth Control Period is generic in nature and lacks details, the Petitioner is directed to take scheme-wise approval for all works at 33kV being initiated in the fourth Control Period prior to implementation /execution. In absence of approval of these works, the Commission shall not consider the cost of such schemes for the purpose of tariff determination.<br><br>Also, the petitioner is not submitting the quarterly progress report of the CAPEX. |
| 3   | The Petitioner is however, directed to improve account keeping with respect to capital schemes at the field as well as head office level. HPSEBL/Petitioner is yet to submit a compliance report for the steps undertaken as directed in the previous tariff order – <ul style="list-style-type: none"> <li>• The Petitioner is directed to submit actual details of capitalization for each year for the Control Period by September 30 of the following year to the Commission for scrutiny and year-wise capitalization of assets.</li> </ul> | The detail is enclosed as "Annexure Q1B"   |                              | The Petitioner has not been adhering to the directive and information submitted with regard to capital expenditure and capitalization is observed to be incorrect and lacks adequate details.<br>As the Commission has covered this matter in detail under the fresh directive, the current directive is hereby dropped.  |
| 4   | The Petitioner is directed to keep pursuing with the various developers/agencies for recovery of the balance   | HPSEBL is taking up the necessary steps in this direction and is ensuring the compliance to the same.  |                              | The compliance is noted. The Petitioner is further directed to provide developer-wise detail of amount outstanding towards S&I unit and   |

| No. | Directives Specified in Section 10 of the Order (Page 277)  | Status of Compliance   | Commission's View  |
|-----|---|--|--|
|     | amount booked under S&I.  |  | provide details of follow-up undertaken during each year and amount recovered from each developer. The above information is required to be submitted along with the APR petition for each year of the fourth Control Period.   |
| 5   | The Petitioner is further directed to submit all capital expenditure and capitalization details for the third Control Period along with Business Plan and Tariff Petition for the subsequent Control Period | The detail is enclosed as "Annexure Q1C"   | It is observed that the information submitted with regard to capital expenditure and capitalization is incorrect and lacks adequate details.<br>As the Commission has covered this matter in detail under the fresh directive, the current directive is dropped.   |
| 6   | The Petitioner is required to file the tariff petitions for Ghanvi-II HEP and Uhl-III HEP within three months from the date of this Order.  | HPSEBL is compiling the data for filing petition in respect of Ghanvi-II HEP and same shall be submitted to HPERC by 15 <sup>th</sup> July 2019. Revised Commissioning status of Uhl-III project stands submitted to HPERC.  | It is observed that the Petitioner is still to submit detailed petition with regard to Ghanvi II HEP despite the fact that the plant was commissioning in 2014. The Commission feels that such delay represents the callous approach on part of the Petitioner and is not a beneficial practice for an organization. In case these petitions are not filed in time, the petitioner shall not be eligible for any carrying cost on the gap approved by the Commission due to difference in tariff of these plants . |
| 7   | The Petitioner is required to provide accounting methodology for recognizing the capital expenditure and capitalization for various schemes / works.  | HPSEBL has prepared Accounting Manual, 2017 and detailed guidelines have been given in Chapter 6 (Capital Expenditure) for accounting & recognitions capital expenditure and capitalization of schemes/ works. (Photocopy enclosed as per Annexure Q1D).<br><br><b>Capitalization of assets</b> –Assets is to be capitalized when it is ready to be put to use. There are a few assets which are commissioned during the construction period itself such as township, temporary water supply, and power supply, office buildings .These can be | The compliance in this regard is noted. It is observed that from the audited paras of the statutory auditor that the proper capitalization of assets is not being carried out by the Petitioner. The Petitioner should undertake appropriate diligence in this regard.   |



| No. | Directives Specified in Section 10 of the Order (Page 277)   | Status of Compliance   | Commission's View  |
|-----|--|--|--|
|     |  | <p>capitalized as and when these assets are ready to use. Capitalization of an asset should be done on the basis of an Asset-Commissioning Certificate issued by the competent authority as per Delegation of Power. The issuance of the final Assets Commissioning Certificate takes time, a provisional one should be issued within the end of the year in which such assets were ready to be put to use to enable timely capitalization and commencement of charging of depreciation. As required for the subsequent units, are to be treated as capital additions in the year in which they are capitalized.</p> <p>Besides, instructions on classification of Capital &amp; R&amp;M have been issued to all field units as per Annexure 'Q1E'</p> |  |
| 8   | <p>With regards to actual sales, no. of consumers and connected load details for sub-categories (HT-1, HT-2 and EHT), the Petitioner is directed to maintain formats, reconcile the data submitted in the past years and submit it during subsequent tariff petitions.</p> | <p>HPSEBL has prepared the requisite formats and has integrated the same with the SAP ISU Billing software so that the requisite data is readily available. By September 2019 all the consumers shall be covered under computerized billing and thus the complete data shall be available for all future years.</p>  | <p>The Petitioner is directed to provide all required data along with the APR petitions for the fourth Control Period.</p>                                       |
| 9   | <p>The Petitioner must continue to pursue the matter with different entities (Generation, BVPCL, Projects and S&amp;I) and maintain proper records against pension contribution made by them. These details must be submitted along with subsequent tariff petitions.</p>  | <p>Pension has been charged on pro rata basis to different power houses in the Profit &amp; Loss statements &amp; balance sheets.</p> <p>The matter has been taken up with all the entities (all the generating Stations, BVPCL, Projects and S&amp;I, SJVNL &amp; HPPCL) of HPSEBL to provide list of employees serving in their institutions from 14.06.2010 to till date. However even after several reminders, requisite information is still awaited. As and when the requisite information will be received the pensioner liabilities will be shared between the utilities accordingly.</p>  | <p>The Petitioner is directed to finalize the details within three months of issuance of this Order and submit the details along with APR petition for FY21.</p> |

| No. | Directives Specified in Section 10 of the Order (Page 277)  | Status of Compliance   | Commission's View   |
|-----|---|--|---|
| 10  | The Petitioner is required to submit the report on voltage-wise cost of supply at the earliest and positively before 30th June 2018.  | Preliminary report on Voltage Wise Cost of supply stands submitted by M/s CRISIL and same is under consideration by HPSEBL. On finalization same shall be shared with HPERC.   | It is observed that considerable delay has already happened in this study. The Petitioner is directed to finalize and submit the findings of the study within three months of issuance of this Order. |
| 11  | The Petitioner must continue to forge similar partnerships with different payment gateways and financial institutions to pass on the benefits to consumers using digital platforms for bill payment.  | Besides existing payment gateway thorough HDFC bank, HPSEBL has been on boarded on BBPS (Bharat Bill Payment System) through Paytm & Tec process acting as Bharat Bill Payment Operating Unit (BBPOU) for making the payments electricity bills. On the BBPS platform the consumer can pay their bills at various Banking and Non Banking agencies which comprise of major banks like SBI, ICICI, HDFC, PNB, Bank of Baroda, Central Bank of India, Allahabad Bank, Canara Bank, Indian Overseas Bank, IndusInd Bank, J&K Bank, Punjab and Sindh Bnak, J&K Bank, United Bank, Federal Bank, DCB Bank, Yes Bank, Oriental Bank of Commerce & UCO Bank. The consumers can also make payments thorough PayTm, Mobikwik, PhonPe, Oxygen apps. BHIM UPI, Credit card, Debit Card, Net banking etc. Further, the HPSEBL is also in process to get integrated with others payment Gateway to provide more reliable services to consumers of HPSEBL. | The compliance is noted.  |
| 12  | The Petitioner is directed to complete the provision of furnishing details of security deposits in case of HT and EHT consumers along with monthly electricity bills for the balance 132 sub-divisions as per the time line committed i.e. by the end of 2018 and provide a status update for the same along with the subsequent tariff petition. | The detail of security deposits in case of HT and EHT consumers of 132 Elec. Sub Divisions are being shown in their respective bills. These ESDs were covered during the period 01/01/2018 to 31/01/2019 as per the schedule of switching over to ISU Billing solution from HCLI billing solution. This provision already exists in 59 Electrical Subdivisions having ISU  | The same should be extended to all billing units within three months of issuance of this Order and status of compliance to be provided to Commission.   |

| No. | Directives Specified in Section 10 of the Order (Page 277)  | Status of Compliance   | Commission's View  |
|-----|---|--|--|
|     |   | billing solution.  |  |
| 13  | Half-Yearly reporting of Capital Schemes and Works i.e. RGGVY, R-APDRP, etc. being undertaken by HPSEBL.  | <p><b>Half-Yearly report of Capital Schemes: R-APDRP Part-A:</b><br/>Under R-APDRP Part-A Project, FMS (Facility Management Services) is in process with effect from 01.11.2016. The final claim amounting to Rs. 88.46 Crore of R-APDRP Part-A along with "As Built" cost and quantity stands submitted to PFC on dated 03.01.2019</p> <p><b>IPDS IT phase-2:</b><br/>The DPR of IPDS IT phase-II for amounting to Rs.27.36 Crore for 40 towns in Himachal Pradesh was approved by Ministry of Power, GoI. M/s WAPCOS Ltd. has been appointed as Project Management Agent on 07.10.17. The award for system meters (i.e. Feeder, Boundary, DTR and HT Consumer meters) and combined CT-PT Units (11 kV/110 V) have been placed. The Request For Proposal (RFP) to appoint the IT Implementing Agency (ITIA) for IPDS IT phase-II was floated and Pre-Bid Conference was conducted on 30<sup>th</sup> and 31<sup>st</sup> October, 2017. The last date of submission was 04<sup>th</sup> April, 2018 after issuing six time extensions on account of nil response. Consequently, the said tender was cancelled on 19<sup>th</sup> June, 2018. The scope was revisited and fresh NIT comprising of upgradation/procurement of hardware and software, modern for remote metering for IPDS IT Phase-II and procurement of hardware for IPDS ERP was floated on 28<sup>th</sup> July, 2018. Now the last date of submission is 13<sup>th</sup> February, 2019 after issuing nine extensions.</p> | The Petitioner is required to provide year wise details of capital expenditure and capitalization undertaken as part of all central government funded capital schemes during the third Control Period. |
| 14  | Tariff Petitions for New Generating Stations - Ghanvi-II HEP is operational since April 2014 while Uhl-III HEP is expected to commission during FY18. | It is anticipated that the tentative commissioning schedule of Units from date of availability of water shall be:<br><b>Unit-I:</b> 15.06.2019   | The Petitioner is directed to file separate petition for determination of capital expenditure and approval of tariff for UHL-III hydro power   |

| No. | Directives Specified in Section 10 of the Order (Page 277)   | Status of Compliance   | Commission's View  |
|-----|--|--|--|
|     | HPSEBL is directed to file separate petition for determination of capital expenditure and approval of tariff for these hydro power stations at the earliest.   | <b>Unit-II:</b> 15.07.2019<br><b>UnitIII:</b> 31.08.2019   | station within six months of its commissioning along with all relevant data and documents.   |
| 15  | Steps to implement Accounting Procedures for Maintenance of data for Capital Works and schemes both at field-level and headquarter level. The details regarding steps proposed and undertaken by the HPSEBL is required to be submitted with subsequent APR filing.  | The Accounting Procedures for Maintenance of data for Capital Works and Schemes both at field-level and headquarter level have been circulated through the Accounting manual 2017, Part VI. Further, fields were also directed to keep the capitalisation/capital expenditure data strictly as per the HPERC guidelines.           | It is observed that inspite of several directives the Petitioner submissions with respect to capital works have not improved. The Petitioner is required to take adequate steps to collect and maintain data from the fields at the headoffice level. A compiled quarterly report (soft copy) of such data collected from the field should be provided to the Commission on quarterly basis. |
| 16  | The Commission directs the Petitioner to maintain details of contract demand, number of consumers and sales to each category and sub-category (particularly with respect to HT-1, HT-2 and EHV categories) and submit the same along with the subsequent tariff petitions.                                   | HPSEBL has integrated the formats for these details with Sap ISU billing software. Thus, these details shall be readily available once the computerized billing is fully implemented (by September 2019) and for future years all the details shall be submitted to HPERC.   | The Petitioner is directed to provide all required data along with the APR petitions for the fourth Control Period.  |
| 17  | The Petitioner is advised to run campaigns to educate the consumers for usage of energy efficient electric appliances for daily activities i.e. use of induction plates for cooking, water heating, etc. in order to reduce the carbon footprints in the State and promote consumption of clean hydro power, | The campaign to promote consumption of clean Hydro power will be included in the Public Interaction Programme and consumers will be advised accordingly to use energy efficient electric appliances for daily activities i.e use of induction plates for cooking, water heating etc. To reduce the carbon footprints in the State. | The Commission has approved additional cost towards such public campaigns as proposed by the Petitioner. The Petitioner is directed to provide year-wise details of expenditure incurred in the past against the approved expenditure along with the APR petition for the respective year.   |
| 18  | The petitioner must ensure that a new connection is released only after the completion certification for construction has been awarded during which the site must avail electricity at the temporary tariff.   | As per prevailing practice and as per instructions of Sales manual, a temporary connection is released for construction purpose only. Further, on completion of structure a new connection s released domestic;/commercial as the case may be.   | The compliance is noted.   |

| No. | Other Directives Specified in the Order   | Status of Compliance   | Commission's View   |
|-----|---|--|---|
| 1   | <p>Chairman (HPERC) directed HPSEBL to replace all defective DT Meters and other defective meters on war footing. As per HPSEBL's commitment 8140 DTR defective meters along with 43502 single phase defective meters and 978 three-phase defective meters shall be replaced within six months.</p> | <p><b>Reply From Op Circle, Dalhousie:</b><br/>           Out of 4135 no. DTR, 1903 defective DT meters are there which could not be replaced due to non-availability of meters and 54491 Electromechanical meters have been replaced with new electronic meter from FY 20113014 to ending 8/18 and there are 6058 Dead Stop / Defective Energy Meter.<br/>           However, there is budget provision amounting to Rs. 33 Lakhs for the FY 2018-19 for replacement of Dead stop/Defective energy meters with new electronic meter, these Energy Meters shall be replaced on allotment of Budget and receipt of Meters in phased manner.</p>   | <p>It is observed that significant amount of expenditure is being allowed to the Petitioner for undertaking capital works which is being unutilized each year. For the fourth Control Period as well, the Commission has kept sufficient amount towards various capital works. Therefore, the Commission directs the Petitioner to replace all remaining defective and non-function meters within six months of issuance of this Order and provide status update to the Commission.</p> |
| 2   | <p>Chairman, HPERC advised that the posts in Electrical Sub-Divisions must be filled up first so as to ensure proper billing and maintenance of the distribution system. Also, the technical staff should not be utilized for office works.</p>   | <p>For efficient and effective utilisation of our existing Human Recourse HPSEBL is conducting a Manpower Study. Also a special Committee under Chief Engineer (Central Zone) has been constituted in 2017 to assess the manpower requirements in Operation, Generation and Transmission wings. The committee has submitted its report in June 2018. Further, for effective use of our existing staff rationalization process was initiated in 2018 and the exact requirement of manpower in different offices has been analysed. While finalizing the report various factors such as existing strength, current requirement, employee cost and age profile etc. have been taken into consideration. The report stands submitted to BOD of HPSEBL and same shall be taken up for implementation after approval from BOD.<br/>           Besides this another study is being undertaken by M/s Feedback Infra Pvt. Ltd. to study the patterns of HPSEBL in comparison to neighbouring utilities and to report the best practices being implemented by other utilities and the scope of implementation of such practices in HPSEBL.</p> <p>Once these reports are available with HPSEBL, a</p> | <p>The Commission is of the view that substantial time would be elapsed in undertaking and implementing these manpower studies. The Petitioner should immediately address the manpower issues being faced at the sub-division level by way of reallocation of existing employees / technical staff at the sub-division level and provide the status of action taken within three months of issuance of this Order.</p>  |

| No. | Other Directives Specified in the Order   | Status of Compliance   | Commission's View   |
|-----|---|--|---|
|     |   | comprehensive plan shall be prepared to ensure the effective implementation of same.   |   |
| 3   | The Commission in its Mid-Term Review order dated 10th April, 2017 for HPSLDS has directed HPSEBL to ensure timely completion of all activities relating to operationalization of control room and transfer the SLDC assets to HPLDS for effective implementation of SLDC functions in the State of Himachal Pradesh in line with the requirements of Electricity Act, 2003 at the earliest but not later than 30th June, 2018. | The assets have been transferred by HPSEBL to SLDC to ensure the effective implementation of functions entrusted to SLDC.  | The compliance is noted.  |
| 4   | Petitioner has been directed to furnish the break-up of employee expenses as required under HPERC (Terms and Conditions for sharing of Cost of Terminal benefits of Personnel of the erstwhile Himachal Pradesh State Electricity Board and Successor Entities) Regulations, 2015   | The matter has been taken up with all the entities (all the generating Stations, BVPCL, Projects and S&I, SJVNL & HPPCL) of HPSEBL to provide list of employees serving in their institutions from 14.06.2010 to till date. However even after several reminders, requisite information is still awaited. As and when the requisite information will be received the pensioner liabilities will be shared between the utilities accordingly.   | The Petitioner is directed to finalize the details within three months of issuance of this Order and submit the details along with APR petition for FY21. |
| 5   | HPSEBL is directed to maintain separate heads for expenditure on IT systems.  | Accounting heads for monitoring different IT projects are different when a scheme is approved from the competent authority a unique scheme code is created in SAP and all the works sanctioned against that scheme are categorised under that scheme. For R/M of Data Centre/DRC Separate head i.e. 74.810 has been provide by F&A wing.<br><br>HPSEBL is maintaining separate heads for expenditure on IT Systems as under :<br>CWIP: 14.23 (Expenditure against Compressive IT schemes). | The compliance is noted. Details of expenditure related to past years should be provided along with each APR petition.                                    |

| No.             | Other Directives Specified in the Order  | Status of Compliance  | Commission's View   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
|-----------------|--|---|---|-------------|-----------------|-------------------------------|--------|--------|--------|--------|--------|---------------|--------|----------|--------|----------------------|--------|--------------------------------------|--------|-------------------------------|----|-------------|--------|--------------------------------|--------|--------------------|--------|---------------------------|--|
|                 |  | <p><u>Fixed Assets:-</u></p> <table border="1"> <thead> <tr> <th>BH</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>10.904 &amp; 10.950</td> <td>Computer &amp; peripheral devices</td> </tr> <tr> <td>10.951</td> <td>Laptop</td> </tr> <tr> <td>10.952</td> <td>Server</td> </tr> <tr> <td>10.953</td> <td>KIOSK Machine</td> </tr> <tr> <td>10.954</td> <td>IP Phone</td> </tr> <tr> <td>10.955</td> <td>Spot billing machine</td> </tr> <tr> <td>10.956</td> <td>Data processing / storage equipments</td> </tr> <tr> <td>10.957</td> <td>Computer Networking Accessori</td> </tr> </tbody> </table> <p>The Consolidate amount of above are shown in Balance Sheet of the Company against Fixed Assets schedule (Note No 2.11) .</p> <p><b>R&amp;M :-</b></p> <table border="1"> <thead> <tr> <th>BH</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>74.804</td> <td>R/M to Computer &amp; its peripher</td> </tr> <tr> <td>74.810</td> <td>R/M of data Centre</td> </tr> <tr> <td>74.811</td> <td>R/M of hardware/ software</td> </tr> </tbody> </table> <p><u>Admn. &amp; General Charges:</u><br/>76.198: Expenditure on IPAVAST connectives charges etc.<br/>The repair and maintenance and A&amp;G charges are shown in schedule of Profit &amp; Loss Statement as per note no 2.29.</p> | BH  | Description | 10.904 & 10.950 | Computer & peripheral devices | 10.951 | Laptop | 10.952 | Server | 10.953 | KIOSK Machine | 10.954 | IP Phone | 10.955 | Spot billing machine | 10.956 | Data processing / storage equipments | 10.957 | Computer Networking Accessori | BH | Description | 74.804 | R/M to Computer & its peripher | 74.810 | R/M of data Centre | 74.811 | R/M of hardware/ software |  |
| BH              | Description  |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 10.904 & 10.950 | Computer & peripheral devices  |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 10.951          | Laptop   |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 10.952          | Server   |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 10.953          | KIOSK Machine  |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 10.954          | IP Phone   |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 10.955          | Spot billing machine   |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 10.956          | Data processing / storage equipments   |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 10.957          | Computer Networking Accessori  |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| BH              | Description  |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 74.804          | R/M to Computer & its peripher   |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 74.810          | R/M of data Centre   |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 74.811          | R/M of hardware/ software  |   |   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 6               | The Petitioner is directed to submit the details of capital expenditure vis-à-vis the approved expenditure in its APR filings.   | Detail enclosed as "Annexure Q1C".  | Covered above   |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |
| 7               | During the technical validation session for True Up of FY 16, the Petitioner was directed to submit a concrete plan/readiness for implementation of the new provisions as proposed in the tariff petition of FY19 (prepaid meter | Comprehensive proposal for such measures is under consideration and HPSBEL shall submit the same to the Commission after taking into account the readiness of utility to implement such measures.   | The Petitioner should provide the proposal along with tariff Petition for FY21. |             |                 |                               |        |        |        |        |        |               |        |          |        |                      |        |                                      |        |                               |    |             |        |                                |        |                    |        |                           |  |

| No.                | Other Directives Specified in the Order   | Status of Compliance  | Commission's View   |               |                |                       |         |      |          |           |         |      |           |           |         |      |           |           |         |      |           |           |                    |      |           |  |   |
|--------------------|---|---|---|---------------|----------------|-----------------------|---------|------|----------|-----------|---------|------|-----------|-----------|---------|------|-----------|-----------|---------|------|-----------|-----------|--------------------|------|-----------|--|---|
|                    | installation, proposal of rebate of 3% on energy charge, proposal for increase in demand charges of cement industry, etc.)  |   |   |               |                |                       |         |      |          |           |         |      |           |           |         |      |           |           |         |      |           |           |                    |      |           |  |   |
| 8                  | Petitioner is directed to provide the details of the RPPO Compensation Fund and the balance available in the fund along with the next tariff filing.  | The details of RPPO Compensation Fund and other relevant information already stands submitted to the Commission with the petition.  | The compliance is noted   |               |                |                       |         |      |          |           |         |      |           |           |         |      |           |           |         |      |           |           |                    |      |           |  |   |
| 9                  | The Petitioner is directed to maintain proper records and provide break-up of industrial contracted demand, number of consumers and sales for each sub-category for past five years in future tariff filings.   | <p>The detail of Industrial Consumer with Connected Load/Contract Demand and Energy Sold from FY 2014-15 to till date is:</p> <table border="1"> <thead> <tr> <th>FY</th> <th>Ind. Consumer</th> <th>C/Load (in KW)</th> <th>Cont. Demand (in KVA)</th> </tr> </thead> <tbody> <tr> <td>2014-15</td> <td>2521</td> <td>65836.26</td> <td>40456.900</td> </tr> <tr> <td>2015-16</td> <td>2536</td> <td>69328.889</td> <td>42996.900</td> </tr> <tr> <td>2016-17</td> <td>2538</td> <td>71904.544</td> <td>40291.900</td> </tr> <tr> <td>2017-18</td> <td>2556</td> <td>69255.761</td> <td>39901.900</td> </tr> <tr> <td>2018-19 up to 7/18</td> <td>2556</td> <td>70628.788</td> <td></td> </tr> </tbody> </table> | FY  | Ind. Consumer | C/Load (in KW) | Cont. Demand (in KVA) | 2014-15 | 2521 | 65836.26 | 40456.900 | 2015-16 | 2536 | 69328.889 | 42996.900 | 2016-17 | 2538 | 71904.544 | 40291.900 | 2017-18 | 2556 | 69255.761 | 39901.900 | 2018-19 up to 7/18 | 2556 | 70628.788 |  | The Petitioner is required to provide category-wise details of contracted demand for last five years along with the Tariff Petition for FY21. |
| FY                 | Ind. Consumer   | C/Load (in KW)  | Cont. Demand (in KVA)   |               |                |                       |         |      |          |           |         |      |           |           |         |      |           |           |         |      |           |           |                    |      |           |  |   |
| 2014-15            | 2521  | 65836.26  | 40456.900   |               |                |                       |         |      |          |           |         |      |           |           |         |      |           |           |         |      |           |           |                    |      |           |  |   |
| 2015-16            | 2536  | 69328.889   | 42996.900   |               |                |                       |         |      |          |           |         |      |           |           |         |      |           |           |         |      |           |           |                    |      |           |  |   |
| 2016-17            | 2538  | 71904.544   | 40291.900   |               |                |                       |         |      |          |           |         |      |           |           |         |      |           |           |         |      |           |           |                    |      |           |  |   |
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| 2018-19 up to 7/18 | 2556  | 70628.788   |   |               |                |                       |         |      |          |           |         |      |           |           |         |      |           |           |         |      |           |           |                    |      |           |  |   |
| 10                 | The Petitioner is directed to avail RECs and take timely steps for sale of these RECs against the surplus solar power procured in order to ensure that the burden of higher tariff is not passed onto the consumer. The Commission shall consider the adjustments, if any, at the time of truing-up for the | HPSEBL is ensuring compliance to the directives of HPERC and is taking necessary steps in this regard.  | Details of RECs including opening balance, addition, sale, closing balance, amount recovered from sale during the last five years should be made available along with the subsequent tariff petition. |               |                |                       |         |      |          |           |         |      |           |           |         |      |           |           |         |      |           |           |                    |      |           |  |   |



| No. | Other Directives Specified in the Order  | Status of Compliance  | Commission's View  |
|-----|--|---|--|
|     | respective year.   |   |  |
| 11  | The Petitioner is directed to pursue with the MoP for surrender of its share in Gas Plants such as Anta, Auriya, Dadri and Kodlam HEP as the cost per unit from these stations is significantly higher than the alternate power procurement options available. | <p>In compliance to the directives of the HPERC to surrender costly thermal power from NTPC upcoming projects, it is added that HPSEBL with the best efforts has got the following project de-allocated for lifetime through Ministry of Power, GOI:</p> <ul style="list-style-type: none"> <li>i. North Karanpura</li> <li>ii. Barh-I STPP</li> <li>iii. Barh-II STPP</li> <li>iv. Unchahar-IV</li> <li>v. Meja</li> </ul> <p>In addition to above, the following hydro SOR entitlements from the different projects, as detailed below, also stands de-allocated for five years:</p> <ul style="list-style-type: none"> <li>i. Tehri (Rs. 4.65/unit)</li> <li>ii. Koteshwar (Rs. 4.21/unit)</li> <li>iii. Chamera-III (Rs. 4.25/unit)</li> <li>iv. Parbati-III (Rs. 5.45/unit)</li> <li>v. Koldam (Rs. 5.00/unit)</li> </ul> <p>Further, HPSEBL is making best possible efforts to de-allocate other costly sources and tie up with cheaper sources of power.</p> | The compliance is noted. Petitioner is directed to inform the status of such deallocation to the Commission. |
| 12  | The Commission directs the Petitioner to prepare a detailed proposal on the requirement and procurement of safety equipments and provide relevant details along with cost estimates for approval of the Commission.  | Detailed proposal on requirement and procurement of safety equipments is under preparation. The relevant details have been received from the field offices. HPSEBL shall submit the plan to the HPERC for consideration on finalization of same.  | The Petitioner should provide the proposal along with tariff Petition for FY21.                              |
| 13  | The Commission directs the Petitioner to transfer any surplus revenue realised in FY19 at approved tariffs to the MYT Contingency Reserve as per   | HPSEBL shall ensure the compliance to the directive of HPERC.   | Submission of the Petitioner is noted.   |

| No. | Other Directives Specified in the Order   | Status of Compliance   | Commission's View  |
|-----|---|--|--|
|     | Regulation 12 of the HPERC (Terms and Condition for determination of Wheeling Tariff and Retail Supply Tariff) Regulation, 2011.  |  |  |
| 14  | HPSEBL is directed to submit quarterly report regarding the payment of subsidy (to electricity consumers of domestic and agriculture categories during FY 2018-19) as well as the outstanding amount; if any.   | Sum of 14.87 Crore on account of subsidy extended to domestic and agriculture categories ending 7/2018:<br><b>Domestic:</b> 7.53 Cr.<br><b>Agriculture:</b> 3.04 Cr.<br><b>NDNC:</b> 2.46 Cr.<br><b>Commercial:</b> 3.95 Cr.<br><b>Industrial:</b> 6.68 Cr.<br><b>MC/NAC:</b> 1.79 Cr.<br><b>Others:</b> 1.33 CR.<br>Due to non finalisation of monthly accounts of HPSEBL during the current FY, the matter could not be taken up with the GoHP on quarterly basis. In this regard, efforts are being made to finalise the account. | Details provided by the Petitioner are inadequate. The Petitioner has not provided the details of subsidy billed each month and amount recovered each month against the assessed amount has not been provided.<br>HPSEBL is directed to submit <b>quarterly report</b> regarding the subsidy assessed and payment of subsidy (to electricity consumers of domestic and agriculture categories) as well as the outstanding amount; if any. Also, the Petitioner is required to make this submission on quarterly basis. |
| 15  | HPSEBL is directed to maintain account of consumers availing this facility of conversion to renewable power by payment of Rs. 1.50 per unit to HPSEBL and submit the same to the Commission on quarterly basis. | HPSEBL is ensuring compliance to the same and efforts are being made to finalize the accounts.   | No details have been submitted. The Petitioner is required to provide these details within three months of issuance of this Order.   |

## New Directives

### 11.3 Segregated Accounts for each Business head

- 11.3.1 In the management discussion, the Petitioner has submitted that it has identified five strategic Business Units i.e. Generation, Transmission, ALDC, Project & Distribution and are maintaining separate accounts for each Profit Centre. Further, segment wise Balance Sheet and Profit and Loss Accounts of each Strategic Business Unit is being shown / disclosed from FY 2011-12 onwards in the Notes to Accounts to the audited Balance Sheet / Financial Statements of the Company. The accounts of each business are also being audited by Statutory Auditors of the Company for consolidation of Balance Sheet of the HPSEBL.
- 11.3.2 However, based on the scrutiny of the submissions, it is observed that no details with respect to the five business units proposed by the Petitioner has been provided along with the MYT Petition or subsequent clarifications / queries sought by the Commission. On review of the segregation of assets and liabilities, revenue and expenditure for FY 2016-17, it is observed that the heads considered are not aligned with the business units proposed by the Petitioner. Distribution business unit is not reflected in these statements while Headquarters is coming as a separate business unit. Therefore, the segregated Balance sheet and P&L do not provide details with respect to the identified Business Units of the Petitioner.
- 11.3.3 Also, based on the data provided in the accounts, it is understood that no allocation of head office related expenditure has been done towards the generation or other business units. As per Note 2.32 (a), various expense heads like finance costs, depreciation are being reflected as negative amount under generation and transmission function.
- 11.3.4 Considering the several discrepancies in the segregated accounts being prepared by the Petitioner, the Commission is of the view that proper recording and allocation of common cost for the various functions of the Petitioner is not being done for preparation of segregated accounts. Also, detailing of various cost elements for each function have not been provided. Therefore, the segregation of accounts for the various functions is inappropriate and does not serve the required purpose.
- 11.3.5 In view of the same, the Commission directs the Petitioner to prepare detailed accounts for each Business Unit by maintaining separate account heads for each business unit and allocation of common costs across each business unit. The Petitioner is further directed to provide all subsequent accounts complying to the above direction of the Commission.

### 11.4 Separate heads in Accounts for recording of Open Access Charges

- 11.4.1 Based on the earlier directives of the Commission, the Petitioner submitted that it has created the separate heads for booking revenue from Cross Subsidy Surcharge and additional surcharge.
- 11.4.2 The Commission directs the Petitioner to streamline its accounting policy on this matter going forward and direct its field units to initiate the process of

booking revenue from CSS and additional surcharge in the respective account heads thus created. The Petitioner is further directed to ensure that segregated accounts with separate details of revenue recovered on account of CSS and additional surcharge are furnished in the subsequent tariff petitions.

### **11.5 Booking of O&M charges from HPPTCL**

11.5.1 The Commission observes that the Petitioner has been booking income against recovery of O&M charges from HPPTCL for which it has not been able to provide details of the account head in which the amount has been booked. The Commission directs the Petitioner to maintain separate account heads for recovery of O&M charges from HPPTCL and submit the details of such charges separately in the subsequent tariff filings.

### **11.6 Accounting Policies, Procedures and Book Keeping**

11.6.1 The Commission observes the serious discrepancies in the Annual Accounts of HPSEBL. The Commission takes serious note on the book keeping and internal audit procedures and directs the Petitioner to undertake adequate steps to strengthen the accounts team and processes in order to ensure compliance to accounting standards. The Petitioner is required to submit a detailed note and proposed actions to ensure compliance to this directive within three months of issuance of this Order.

### **11.7 Reduction of T&D losses**

11.7.1 It is observed by the Commission that the T&D losses of few select circles such as Rampur, Rohru, Mandi, Kullu, Kangra and Dalhousie are continued to remain much higher than acceptable levels in the State.

11.7.2 In view of the above, the Commission directs the Petitioner to submit the actual losses in all circles along with the true-up claim of each year in the tariff petition and provide a list of targeted measures undertaken to reduce loss levels in these circles.

### **11.8 Prior Approval from Commission**

11.8.1 As per the submission of the Petitioner, it has entered into an Interim agreement with HPPTCL for the drawal of HPSEBL's power of 11.4 MW through Phojal Substation of HPPTCL. In this regard, the Commission takes the strict view of the matter since both the Petitioner and HPPTCL are regulated entities and such costs cannot be passed on to the consumer without the prior approval of the Commission. The Commission directs the Petitioner to seek prior approval from the Commission before entering into any agreement for procurement or transmission of power in the future.

### **11.9 Employee Expense and Terminal Benefits**

11.9.1 It is also observed by the Commission that Petitioner has not submitting necessary information with respect to deployment of employees and their allocation of pension to various HPSEBL units i.e. Generation, BVPCL, Projects and S&I. As per the HPERC (Terms and Conditions for sharing of Cost of

Terminal benefits of Personnel of the erstwhile Himachal Pradesh State Electricity Board and Successor Entities) Regulations, 2015, the Petitioner is required to provide such details. Thus, the Commission directs the Petitioner to submit separate information with respect to the pension contribution of employees in Generation, BVPCL, Projects and S&I along with subsequent tariff petitions each year.

#### **11.10 Submission of Comprehensive and Reliable Data**

11.10.1 The MYT Tariff Petition submitted by the Petitioner had discrepancies, information gaps and inconsistencies in data throughout the Petition. Even, the Petitioner could only be able to mitigate the above inconsistencies to an extent till the time of issuance of Order. Thus, given the poor quality and management of data in spite of several IT initiatives undertaken by HPSEBL under various schemes, the Commission directs the Petitioner to undertake adequate measures for utilizing its IT infrastructure for generating monthly, quarterly and annual MIS reports and utilize the information for planning and decision-making. Also, the Commission directs the Petitioner to make use of these MIS reports to provide comprehensive and reliable information with respect to compliance on directives given by the Commission in this Order in a time bound manner. Also, a summary of monthly/ quarterly compliances undertaken by the Petitioner against the directives issued in this Order is required to be furnished by the Petitioner along with the APR Petition.

#### **11.11 Inappropriate Replies to Stakeholder**

11.11.1 The Commission observes that the Petitioner while responding to the stakeholders has provided references of communication between the Petitioner and the Commission and has evaded effective replies to their queries. This is highly inappropriate. The Commission directs the Petitioner that every query raised by the stakeholders should be appropriately responded to in future.

#### **11.12 Energy Efficiency and Conservation Measures**

11.12.1 The Commission concurs to the views and suggestions made by consumer representatives that energy efficiency and conservation measures help in reducing the power procurement cost. Therefore, the Commission directs the HPSEBL to strengthen its Energy Efficiency and Conservation Cell. Also, the Commission feels that there is a need to increase general public awareness regarding various energy efficiency and conservation measures and therefore directs HPSEBL to undertake campaigns through media and direct interactions programmes in the interest of all the stakeholders. Further, a quarterly report regarding the programmes and activities undertaken by the Petitioner should be submitted to the Commission.

#### **11.13 Submission of details on Capex**

11.13.1 The Commission observes that the Petitioner has not provided necessary details with respect to scheme-wise capital expenditure and capitalization in its true-up Petition. In view of the same, the Commission directs the Petitioner to submit information with respect to capital expenditure, capitalization, funding,

etc. along with the true-up for the respective year failing which the Commission shall not undertake any true-up. The Petitioner is also directed to submit the Asset Commissioning Certificates for HT works issued by the competent authority for assets capitalized in the respective year.

- 11.13.2 The Commission also directs the Petitioner to submit necessary details (DPRs, cost estimates, purpose of investment, tentative completion dates etc.) for the schemes proposed in fourth Control Period and seek investment approval before initiating new works as proposed in the capital investment plan.

#### **11.14 RPO Compensation Fund**

- 11.14.1 The Commission directs the Petitioner to prepare the list of schemes for utilizing 80% of the compensation amount deposited in creating of sub-transmission infrastructure for RE projects in line with the Tariff Order for FY18 dated 14th February, 2017 of the Commission. The Petitioner is further directed to submit detailed cost benefit analysis and DPRs for the schemes proposed to be financed from this fund and take prior approval from the Commission before implementation of the proposed works.

#### **11.15 Submission of Number of Consumers, Connected Load and Energy Sales**

- 11.15.1 The Commission observes that the Petitioner has not implemented the billing software in few circles/ divisions and due to this slab wise data for each tariff consumer category is not being captured for all the circles. The Commission directs the Petitioner to ensure that the entire data for all sub-categories of the tariff schedule should be streamlined till the filing of next tariff petition and the roll-out is completed in the pending circles. The Petitioner is required to submit these circle-wise, month-wise, sub-category-wise details of number of consumers, connected load and energy sales for subsequent years along with the tariff petition.

#### **11.16 Submission of Circle/ Division wise Action plan for T&D loss reduction**

- 11.16.1 The Commission appreciates the performance of the Petitioner with respect to loss reduction supported by the large amount of capital expenditure for strengthening and augmentation of the distribution network during last two Control Periods.
- 11.16.2 The Commission directs the Petitioner to submit quarterly T&D loss levels for all circles and divisions to the Commission. Further, the Petitioner is directed to identify circles / divisions with high T&D loss levels and prepare a roadmap for measures to be undertaken during the fourth Control Period for aligning the loss in these circles/ divisions with the average loss targets. The Petitioner should submit the roadmap with proposed actions to the Commission within three months from issuance of this Order.

#### **11.17 Submission of category wise Collection Efficiency**

- 11.17.1 The details provided with regard to category-wise collection efficiency for past years are observed to be incorrect and no trajectory of collection efficiency has

been submitted by the Petitioner for the future years of the fourth Control Period in the tariff petition.

- 11.17.2 The Commission takes serious concern with regard to the negligence shown by the Petitioner in complying with the provisions of the Regulations and directs the Petitioner to submit accurate category-wise collection efficiency for past three years along with its tariff filing for each subsequent year.

### **11.18 Submission of Reliability Indices, Wheeling and Supply Availability**

- 11.18.1 The Petitioner has not provided any submission with respect to performance trajectory on supply standards for the fourth Control Period as mandated under the MYT Regulations, 2011. It is observed that the Petitioner has submitted partial details for wheeling and supply availability with inconsistencies in the data.
- 11.18.2 The Commission directs the Petitioner to compile the requisite data and submit quarterly reports on parameters such as SAIDI, SAIFI, wheeling and supply availability etc. for each division and circle in excel form with linkages on consolidation of these numbers to compute the parameters for the state as a whole. Based on the data furnished by the Petitioner, the Commission shall take a view on this at the time of Mid-Term Review.

### **11.19 Load and Demand Forecasting**

- 11.19.1 It is observed that the Petitioner has purchased the short-term power at a higher rate from energy exchanges in FY19 due to less severe winters instead of making alternate arrangements through short-term competitive procurement.
- 11.19.2 In view of the above, the Commission directs the Petitioner to undertake detailed forecasting of source-wise / month-wise power availability and demand for each year in advance and submit a report to the Commission seeking approval for procurement of power for estimated shortages exceeding 5% of total power procurement during any quarter. In absence of prior approval of the same, the Commission would be constrained to consider most competitive prices prevailing during the period or disallow cost of such additional power procured.
- 11.19.3 The Commission further directs the Petitioner to undertake load-forecasting activities that would support HPSEBL in power planning and optimize the cost of power purchase as well as maximize the revenue earned by the Petitioner from its surplus power.

### **11.20 Submission of quarterly reports on capital expenditure**

- 11.20.1 The Commission has been directing the Petitioner to submit quarterly progress reports of capital expenditure and capitalization to the Commission. However, despite its several directions, it is observed that no such reports have been submitted by the Petitioner that reflects the negligent behaviour and casual approach of the Petitioner.

11.20.2 The Commission takes a strict view on above and directs the Petitioner to furnish quarterly progress reports of capital expenditure and capitalization for distribution business along with details of schemes and their funding pattern regularly. While doing so, the Petitioner must prepare detailed formats, compile these details from each circle on a regular basis and submit consolidated sheets with details of each scheme to the Commission for review rather than submitting individual capital expenditure and capitalization for each scheme separately. These details must, inter alia also include progress on Centrally Sponsored schemes, details of IDC against each scheme, sanctioned cost of the project, date of approval and funding pattern.

#### **11.21 Submission of EHV Planning Report**

11.21.1 The Commission observes that the Petitioner has proposed new EHV schemes at 66kV and above for the fourth Control Period including creation of new 132 kV lines, substations etc. The Commission feels that new works of 66kV and above under EHV schemes should to be undertaken by the State Transmission Utility (STU) in the State to ensure the full fledge role of STU in the State.

11.21.2 The Commission directs the Petitioner to share the EHV Planning Report and load flow studies conducted for the proposed EHV works with HPPTCL for future investment planning.

#### **11.22 Submission of details of Miscellaneous Works**

11.22.1 It is observed that the Petitioner has not submitted any details or nature of works proposed under miscellaneous scheme for the fourth Control Period. The Commission directs the Petitioner to provide information with respect to such miscellaneous works undertaken during each year along with the APR and Mid-term Review petition.

#### **11.23 Submission of quarterly status of Smart Metering**

11.23.1 The Commission has considered the capital expenditure with respect to the approval of pilot phase for Shimla and Dharamshala as part of the fourth Control Period and subsequent roll-out for whole of the state can be considered at the time of Mid-term Review. The Commission directs the Petitioner to furnish quarterly status and progress on the implementation of the smart metering scheme to the Commission.

#### **11.24 Reports on Annual Capitalisation**

11.24.1 The Petitioner is directed to ensure that the annual capitalisation reports of each true-up year should be prepared in advance before the initiation of tariff filing process along with their asset capitalization certificates for HT works issued by competent authority. In the absence of such details, the Commission shall disallow any asset addition during the year at the time of true-up.

#### **11.25 Human Resource Plan**

11.25.1 It is observed that due to limited information relating to employee retirement and recruitment specifically for the distribution business, the Petitioner has not



been able to provide the break-up of proposed number of employees for fourth Control Period across the various functions, i.e. generation, distribution, S&I, etc.

- 11.25.2 The Commission directs the Petitioner to maintain separate records of actual number of employees against the sanctioned positions involved in distribution, generation, deputation, BVPCL, S&I and other respective departments.
- 11.25.3 The Petitioner is also directed to furnish the opening, addition, retirement and closing number of employees for each department at the time of true-up and ARR filing. The Petitioner must duly submit the findings of the Special Committee established under the Chief Engineer (Central Zone) to assess the manpower requirements in Operation, Generation and Transmission wings and any other manpower studies being undertaken by the licensee to the Commission within three months of issuance of this Order.

### **11.26 Extension of Surrendered Power**

- 11.26.1 As per the submission of the Petitioner, few of the central generating stations which were earlier surrendered for a period of five years shall be available from FY 2019-20. However, in light of demand supply scenario assessed for the fourth Control Period, the Commission feels that power from the above surrendered central generating stations may not be required by the Petitioner during the fourth Control Period.
- 11.26.2 The Commission directs the Petitioner to pursue the matter with Ministry of Power for continuation of the surrendered power from these stations for an additional period of five years.

### **11.27 Submission of Recurring IT Expense details**

- 11.27.1 The Commission directs the Petitioner to create separate account heads for AMC of hardware and ATS Charges to record expenditure incurred on maintenance of IT cell from FY 2019-20 onwards. Also, the Petitioner to require to submit the name of the contractor, award value, copy of LOA, timelines, classification of expense (i.e. ATS/AMC/FMS/any other) along with the true-up petition for each year going forward.

### **11.28 Submission under A&G Expenses**

- 11.28.1 The Petitioner is directed to separately furnish the details of amount of connectivity charges, name of the vendor, description of the expenditure incurred in the respective year along with similar details of previous three years at the time of true-up. Similarly, the Petitioner is required to create a separate head for new expenses incurred on public interaction programme during the fourth Control Period and furnish these details at the time of true-up. In the absence of these details, the Commission shall be constrained to disallow these provisional expenses in the A&G expenses.

### **11.29 Fixed Asset Register**

- 11.29.1 It is observed that the Petitioner is yet to finalize its Fixed Asset Register (FAR) with details of useful life of assets and reconcile the original cost of assets.

11.29.2 In view of the same, the Commission directs the Petitioner to complete the ongoing exercise of preparing its Fixed Asset Register for distribution business prior to November 2019 and submit it with the subsequent tariff petition.

### **11.30 Repayment under UDAY Scheme**

11.30.1 Based on the submissions of the Petitioner and supplement agreement signed between GoHP and HPSEBL, the Commission observes that the Petitioner is required to service the repayment and interest liability of the Bonds issued by GoHP under UDAY scheme. However, the Commission feels that this would defeat the objective of improving the financial health of the distribution utility.

11.30.2 The Commission directs the Petitioner to take up the matter for conversion of back-to-back arrangement with GoHP into a mix of equity and grants in future years as envisaged under the original tripartite agreement.

# ANNEXURE – I

## GENERAL CONDITIONS OF TARIFF AND SCHEDULE OF TARIFF

### PART-I: General Conditions of Tariff

- A. This Schedule of Tariff shall come into force with effect from **1<sup>st</sup> July, 2019** and will be applicable throughout the State of Himachal Pradesh.

Provided further that this Tariff Order shall not be applicable to consumers who have been permanently disconnected prior to the date of issue of this Order unless such consumers get their connections re-instated in the future

- B. The rates mentioned in this Schedule of Tariff are exclusive of electricity duty, taxes and other charges already levied or as may be levied by the Government of Himachal Pradesh from time to time.
- C. This tariff automatically supersedes the existing tariff w.e.f. **1<sup>st</sup> July, 2019** that was in force with effect from 1<sup>st</sup> April, 2018 except in such cases where 'Special Agreements' have otherwise been entered into for a fixed period, by HPSEBL with its consumers. Street Lighting Agreements shall however, not be considered as 'Special Agreements' for this purpose and revised tariff as per schedule '**SLS**' of this Schedule of Tariff shall be applicable.
- D. This Schedule of Tariff is subject to the provisions of '**Schedule of General and Service Charges**' (**Appendix – A**) and related Regulations notified by the Commission, from time to time.
- E. Force Majeure Clause: In the event of lockout, fire or any other circumstances considered by the HPSEBL to be beyond the control of the consumer, he shall be entitled to proportionate reduction in consumer service charge, demand charge or any other fixed charge, if applicable, provided he serves at least 3 days notice on the supplier for shut down of not less than 15 days duration.
- F. Standard Supply Voltage: shall be regulated in accordance with the **Part –II**.
- G. Single Point Supply: The various tariffs referred to in this Schedule are based on the supply being given at a single voltage and through a single delivery and metering point. Supply given at other voltages and through other points, if any, shall be separately metered and billed.

- H. Lower Voltage Supply Surcharge (LVSS): Consumers availing electricity supply at a voltage lower than the 'Standard Supply Voltage' as mentioned in part-II shall, in addition to other charges, be also charged a 'Lower Voltage Supply Surcharge' (LVSS) at the rates given in the following Table on only the amount of energy charges billed, for each level of step down (as given in following table) from the 'Standard Supply Voltage' to the level of Actually Aailed Supply Voltage.

| Standard Supply       | Actually Aailed Supply Voltage  | LVSS |
|-----------------------|---------------------------------|------|
| 11kV or 15kV or 22 kV | 1Ø 0.23 kV or 3Ø 0.415kV OR 2.2 | 5%   |
| 33 kV                 | 11 kV or 22 kV                  | 3%   |
| 66 kV                 | 33 kV                           | 2%   |
| ≥ 132 kV              | 66 kV                           | 2%   |

**EXPLANATION:**

- 1) *The revised provisions of standard supply voltage under the HPERC Electricity Supply Code have been notified and new connections shall be released on that basis.*
- 2) *Here the expression "for each level of step down" as an example shall mean that in a particular case if the Standard Supply Voltage is 33kV and the Actually Aailed Supply Voltage is less than 11 kV, then the number of step downs shall be two (2) and the rate of LVSS applicable shall be 8% (5%+3%). Similarly, if the Standard Supply voltage is 132 kV or 220 kV and actual aailed supply voltage is 33 kV LVSS shall be applicable @4%.*
- 3) *The LVSS shall be charged at 50% of the rates determined as per the above provisions if any one or all of the following conditions are met:-*
  - i. *if supply is given through a dedicated feeder or a joint dedicated feeder and metering for billing purpose is done at the licensee's sub-station; and/or*
  - ii. *If the LVSS becomes payable inspite of the contract demand being within the relevant permissible limit applicable for the standard supply voltage viz 50 kVA for LT supply, 2200 kVA for 11 kV or 22 kV supplies, 10000 kVA for 33 kV and 12000 kVA for 66 kV supplies.*
- 4)
- I. Lower Voltage Metering Surcharge (LVMS): In respect of consumers, for whom the metering (for maximum demand (kVA) or energy consumption (kWh or kVAh) or both) instead of being done on the higher voltage side of the transformer at which the supply had been sanctioned by the HPSEBL, is actually done on the lower voltage side of the transformer due to non-availability of higher voltage metering equipment or its unhealthy operation, such consumers shall in addition to other charges, be also charged "Lower Voltage Metering Surcharge" (LVMS) at the rate of 2% on the amount of only the energy charges billed.
- J. Late Payment Surcharge (LPS): Surcharge for late payment shall be levied at the rate of 2% per month or part thereof, on the outstanding amount excluding

electricity duty/ taxes for all the consumer categories.

- K. Supply during peak load hours: The following additional conditions shall be applicable for use of power during peak load hours (6:30 PM to 10 PM) in case of the consumers covered under small industrial power supply, medium Industrial power supply, large industrial power supply and irrigation and drinking water power supply:
- i) Such consumption shall be recorded separately through suitable meters which are capable of recording the energy (kVAh/kWh) during the peak load hours. HPSEBL shall, in case of any constraint, always be entitled to impose any restrictions on usage of power during peak load hours in all cases through general or specific order;
  - ii) In cases where HPSEBL imposes any restrictions through general or specific orders the consumer shall abide by such restrictions failing which the HPSEBL shall be entitled to disconnect the supply to such consumers after giving a notice;
  - iii) Payment of peak load charges (demand and energy) shall be made as per the respective schedules of tariff;
- L. Demand Charge (DC): Consumers under two (2) part tariff, whose energy consumption is billed/ charged in Rs/kVAh, shall in addition to the kVAh charges, be also charged at the rates as per Part-III, the 'Demand Charges' (in Rs/kVA/month), calculated on the actual Maximum Demand (in kVA) recorded on the energy meter during any consecutive 30 minute block period of the month or at 90 % of the Contract Demand (in kVA), whichever is higher but up to a ceiling of contract demand as currently applicable. The demand in excess of Contract Demand will be charged under clause "M" relating to Contract Demand Violation Charges (CDVC).

*Explanation:*

- i) *During the actual number of days of billing in any period, the above mentioned parameters i.e. actual recorded Maximum Demand and Contract Demand as the case may be and the prescribed respective rates of charges in the relevant schedule of tariff alone shall form the basis for calculation of Demand Charges and the licensee, based on the number of days of billing in excess or short of a month (of 28 or 29 or 30 or 31 days), shall not apply any other factor other than mentioned in this para, that may alter or vary either of these parameters in any way.*
  - ii) *Where the contract demand has not been applied for or sanctioned, the limit corresponding to 90% of the connected load (in kW) converted into kVA by adopting power factor of 0.9 shall be deemed as the contract demand;*
- M. Contract Demand Violation Charge (CDVC): In the event, the actual Maximum Demand (in kVA) recorded on the energy meter during any consecutive 30 minute block period, exceeds the Contract Demand (in kVA), the consumer shall be charged 'Contract Demand Violation Charges' (CDVC) (in Rs/ kVA) at a rate which shall be

three (3) times the rate of the demand charges (DC) (referred to in para 'L') to the extent the violation has occurred in excess of the Contract Demand.

*NOTE: In cases where the Contract Demand has been got reduced temporarily as per applicable provisions; such reduced Contract Demand shall be considered as the Contract Demand for the purpose of determining the Contract Demand Violation Charges (CDVC); if any.*

**N. Disturbing Load Penalty (DLP): In case where there is unauthorized use of mobile welding sets, polishing machines or similar equipment, the consumer will pay by way of penalty, Rs. 350 per kVA of the load rating of welding set per day, in addition to the energy charges.**

**However, the consumer may with prior intimation and payment of Rs. 200 per day in addition to the energy charges, as applicable, can use mobile welding, polishing machines or similar equipment. The same shall be applicable to all categories of consumers except Industrial Supply, Bulk Supply, Temporary Supply and welding sets (under Commercial Supply) provided the load for such consumer does not exceed 120% of sanctioned load.**

*NOTE: Authorization shall mean authorization (temporary or permanent) to a consumer by the designated office of the licensee in whose area the supply to the consumer exists and shall not be assumed as authorization of any form from local or other bodies.*

O. Night Time Concession (NTC): Night Time Concession (in Rs/kVAh) on consumption of energy (in kVAh) from 22:00 hours to 06:00 hours shall be available to two part tariff consumers falling under the category to which such concession has been allowed as per Part-III – Schedule of Tariff, at the rates fixed in the relevant consumer category under the Schedule of Tariff. However such consumers must be provided with suitable tri-vector meters capable of recording energy during different times of the day.

P. Seasonal industries: In this schedule, unless the context otherwise provides, seasonal industries mean the industries which by virtue of their nature of production, work only during a part of the year, continuously or intermittently up to a maximum period of 7.5 months in a year, such as atta chakkis, saw mills, tea factories, cane crushers, irrigation water pumping, rice husking/hullers, ice factories, ice candy plants and such other factories as may be approved and declared as seasonal by the HPSEBL from time to time. The provisions under this clause shall also be applicable for such hotels in the Lahaul Spiti, Kinnaur and Pangji area which remain closed for most of the winter months. Seasonal industries shall be governed under the following conditions: -

- i) The consumer shall intimate in writing to the concerned Sub-Divisional Officer of the HPSEBL, one month in advance, the months or the period of off-season during which he will close down his plant(s) and the contract demand not exceeding 20 kVA which shall be availed by him during such period for maintenance and overhauling of its plant and lighting, etc.

- ii) The minimum working period for a seasonal industry in a year shall be taken as 4 (four) months.
- iii) During the off-season, the entire energy consumption and the power utilised for maintenance and overhauling of the plant and the factory lighting will be charged at the rates under the relevant category of "commercial supply" tariff depending on the contract demand to be availed by him during such period as per item (i) above.
- iv) The consumer service charge, demand charge or any other fixed charge shall be levied as per the respective tariff applicable for seasonal period and off-seasonal period. However, no such fixed charges shall be levied if the consumer totally closes down its installation during the off-season and doesn't draw any load.

*Note: The provisions relating to temporary revision of contract demand as per item S shall not be applicable in case of consumers claiming relief under this clause*

**Q. Power Factor Surcharge (PFS):**

- i) If at any point of time, the power factor of consumers, to whom power factor surcharge is applicable as per Part-III Schedule of Tariff, is checked by any means and found to be below 0.90 lagging, a surcharge @ 10% on the amount of energy charges irrespective of voltage of supply shall be charged from the consumer from the month of checking and will continue to be levied till such time the consumer has improved his power factor to at least 0.90 lagging by suitable means under intimation to the concerned Sub Divisional Officer who shall immediately get it checked.
- ii) The monthly average power factor will be calculated on readings of Tri-Vector Meter/ Bi-Vector Meter/ Two Part Tariff Meters as per formula given as follows and shall be rounded up to two decimal places:

$$\text{Power Factor} = \text{kWh} / \text{kVAh}$$

In case of defective tri-vector meter/bi-vector meter/two part tariff meter, power factor will be assessed on the basis of average power factor recorded during last three consecutive months when the meter was in order. In case no such readings are available then the monthly average power factor of three months obtained after installation of correct tri-vector meter/ bi-vector meter/ two part tariff meter shall be taken for the purpose of power factor surcharge during the period the tri-vector meter/ bi-vector meter/ two part tariff meter remained defective.

- iii) The said power factor surcharge shall be independent of the supply voltage.
- iv) The consumer service charge or any other fixed charge shall not be taken into account for working out the amount of power factor surcharge, which shall be levied on the amount of kWh energy charges only.
- v) No new supply to L.T. installations with induction motor(s) of capacity above 3 H.P and/ or welding transformers above 2 kVA shall be given unless shunt capacitors of appropriate ratings are installed to the entire satisfaction of the HPSEBL.

R. Replacement of Defective/Missing/damaged Shunt Capacitors -

- i) It will be obligatory on the part of the consumer to maintain capacitors in healthy conditions and in the event of its becoming burnt/ damaged he shall have to inform the Sub Divisional Officer concerned immediately in writing and also to get the defect rectified within a maximum period of one month from the date the capacitor has gone defective.
- ii) In case shunt capacitor(s) is/ are found to be missing or inoperative or damaged, one month notice shall be issued to the consumer for rectification of the defect and setting right the same. In case the defective capacitor(s) is/are not replaced / rectified within one month of the issue of the notice, a surcharge @ 10% per month on bill amount shall be levied w.e.f. the date of inspection to the date of replacement of defective/damaged missing capacitors.

S. Temporary Revision of Contract demand:

The consumers to whom two part tariff is applicable shall be entitled to revise their contract demand within the total sanctioned contract demand without surrendering their lien of the total sanctioned contract demand, subject to the following conditions-

- (a) the consumer shall not reduce the contract demand to lesser than 50% of the total sanctioned contract demand subject to a further condition that the contract demand shall not be reduced below the lowest limit of contract demand as per the tariff category (or any sub-category thereof) applicable to him:

Provided that the consumer shall not be eligible for temporary revision of contract demand to a value other than the full sanctioned contract demand for a total period of more than six months in one financial year:

Provided further that in cases involving part period of a year e.g. if a consumer takes the connection, or the consumer gets his permanent sanctioned contract demand revised, during the middle of a year, the adjustments shall be made on pro-rata basis.

Illustration.- A HT-2 single supply consumer having sanctioned contract demand of 1.8 MVA shall not be entitled to reduce the contract demand to 1000 kVA or any value lesser than 1000 kVA;

- (b) the consumer shall not be entitled to revise the contract demand more than twice a year subject to the condition that the time gap between two successive revisions shall not be less than 3 months;
- (c) the consumer shall give a notice of at least one month to the HPSEBL before revising the contract demand under this mechanism. Even though the consumer shall not be required to obtain any sanction from the HPSEBL for change in contract demand under this mechanism, he, so as to avoid the disputes, shall ensure that the notice(s) for such revision are duly served by him upon the licensee through registered post or through courier service or is delivered by hand against signed receipt thereof or;



- (d) in cases where the contract demand is reduced under this mechanism, such reduced contract demand shall be applicable for billing purposes; and
- (e) in cases where the consumer gets his contract demand reduced permanently, the limit under clause (a) shall be considered with respect to such reduced contract demand, but such reduction shall not be considered to have been made under this mechanism and the time gap of 3 months as per clause (b) shall be reckoned from the date from which the demand was last revised under this mechanism.

**Illustration.**-If a consumer who is having sanctioned contract demand of 10 MVA temporarily revises the contract demand to 6 MVA w.e.f. 01.04.2018 under this mechanism but gets his sanctioned contract demand permanently reduced to 8 MVA w.e.f. 01.05.2018, he shall have to pay charges based on 6 MVA contract demand till 30.06.2018 (i.e. till the expiry of 3 months period from the date at which the contract demand was last revised i.e. from 01.04.2018). However, if the contract demand is to be reduced permanently to lesser than 6 MVA (say 4 MVA as on 01.05.2018), the demand charges would have been based on a contract demand of 4 MVA during the period upto 30.06.2018.

T. Sanction of Contract Demand:

- 1) In case of new connections, except for Domestic Supply, the Contract Demand shall invariably be incorporated in the Application and Agreement form as well in the load sanction, irrespective of the connected load.
- 2) In case of such existing connections, other than Domestic Supply, where the Contract Demand has not been applied for or has not been sanctioned, 90% of the sanctioned connected load, converted in to kVA by adopting a power factor of 0.9, shall be deemed as the Contract Demand till such time the consumer informs HPSEBL about the quantum to be considered as his Contact Demand.

U. HPSEBL shall provide suitable meters capable of recording the parameters for billing purposes as per the tariff structure under respective schedules.

V. In case any dispute regarding interpretation of this tariff order and/or applicability of this tariff arises, the decision of the Commission will be final and binding.

**W. The electric vehicle charging stations shall be charged as per tariff applicable to NDNC category. However, any individual charging its electric vehicle in its premises shall be charged tariff under respective tariff category applicable to it.**

**DEFINITIONS**

1. **Act:** means The Electricity Act, 2003 as amended from time to time;
2. **Average Power Factor:** means the ratio of kWh (kilo Watt hour) to the kVAh (kilo Volt Ampere hour) registered during a specific period;
3. **HPSEBL:** means the Himachal Pradesh State Electricity Board Limited;
4. **Commission:** shall mean the Himachal Pradesh Electricity Regulatory Commission;
5. **Connected Load:** expressed in kW, means aggregate of the manufacturer's rated capacities of all energy consuming devices or apparatus connected with the distribution licensee's service line, on the consumer's premises, which can be simultaneously used;
6. **Consumer Service Charges:** shall mean the fixed amount to be paid by the consumer as defined in the respective tariff schedule;
7. **Contract demand:** expressed in kVA units means the maximum demand contracted by the consumer in the agreement with the licensee and in absence of such contract, the contract demand shall be determined in accordance with the relevant sections of this Tariff Order;
8. **Demand Charges:** for a billing period shall mean the amount chargeable based upon the recorded maximum demand in kVA or the contract demand; whichever is higher but up to a ceiling of Contract Demand and shall be calculated at the rates prescribed in this Tariff Order and shall be in addition to the energy charges and other fixed charges wherever applicable;
9. **Energy Charges:** expressed in Rs/kWh or Rs/kVAh for a billing period shall mean the amount chargeable in rupees based on the quantity of electricity supplied measured in (kWh or kVAh) and calculated at the rates prescribed in this Tariff Order. The Demand or other fixed charges, wherever applicable, shall be in addition to the energy charges;

*Note: During the actual number of days of billing in any period, the above mentioned parameters i.e. energy (in kWh or kVAh) and the prescribed respective rates of charges in the relevant schedule of tariff, alone, shall form the basis for calculation of energy charges and the licensee, based on the number of days of billing in excess or short of a month (of 28 or 29 or 30 or 31 days), shall not apply any other factor other than mentioned in para '9' above, that may alter or vary either of these parameters in any way.*

10. **Maximum Demand:** means the highest load measured in kVA or kW at the point of supply of a consumer during consecutive period of 30 minutes or as laid down by the Commission, during the month;
11. **Rules:** means the Rules or Safety Regulations made or saved under the Act.

12. **Sanctioned Load:** means the load expressed in kW/kVA of the consumer, which the licensee has agreed to supply, from time to time, in the agreement;
13. **Schedule:** shall mean this Tariff Schedule;
14. **State:** means the State of Himachal Pradesh;
15. **Supplier:** shall mean the Himachal Pradesh State Electricity Board Limited;
16. For the purpose of this tariff order, the voltage wise categorization shall be as follows:
  - a) **EHT** means the voltage, which exceeds 33,000 volts; under normal conditions subject, however, to the percentage variation allowed under electricity rules;
  - b) **HT** means the voltage higher than 400 volts but not exceeding 33,000 volts under normal conditions, subject, however, to the percentage variation allowed under the electricity rules;
  - c) **LT** means the voltage, not exceeding 230 volts between phase and neutral and 400 volts between phases under normal conditions, subject, however, to the percentage variation allowed under electricity rules.

## Part-II : Character of Supply -Standard Supply Voltage/ Supply Voltage

Depending upon the minimum and maximum limits of contract demand (or connected load in case of domestic supply) the character of supply under the respective schedules shall be as per the relevant provisions of the Himachal Pradesh Electricity Supply Code, 2009, as amended from time to time. The relevant provisions are as below:

### 1. Standard Supply Voltage:

The standard supply voltage shall mean the standard voltage at which electricity shall be given to the consumer through a common or dedicated or joint dedicated feeder without payment of any lower voltage supply surcharge (LVSS). Depending upon the connected load(kW or MW), contract demand (kVA or MVA), nature of load and existence of a voltage (volts/kV) and phase in the relevant distribution system, the standard supply voltage for a consumer shall be as provided in clauses (a) and (b) of this para and para 3-

(a) The maximum limits of connected load (kW or MW) and contract demand (kVA or MVA) for the supply of power at a voltage, shall be as under-

| S. No. | Standard Supply Voltage   | Maximum Connected Load | Maximum Contract Demand |
|--------|---|------------------------|-------------------------|
| 1.     | Single phase 230 volts or three phase 415 volts or 2.2 kV;<br>(for supplies not involving special category loads) | 50 kW                  | 50 kVA                  |
| 2.     | Three phase 11 kV or 22 kV;<br>(for supplies not involving special category loads)                                | 3 MW                   | 2.2 MVA                 |
| 3.     | Three phase 33 kV   | 12 MW                  | 10 MVA                  |
| 4.     | Three phase 66 kV   | 14 MW                  | 12 MVA                  |
| 5.     | Three phase 132 kV or 220 kV  | No limits              |                         |

Provided that where special category loads are involved, the standard supply voltage shall be 11 kV or 22 kV, as may exist on the relevant distribution system, if-

- (i) the total connected load does not exceed 1 MW, irrespective of special category loads; or
- (ii) the total quantum of connected load in respect of special category loads does not exceed 750 kW within the overall limit of total connected load upto 3 MW and total contract demand upto 2.2 MVA:

Provided further that, if neither of the limits given in the first proviso, in relation to supplies involving special category loads, are adhered to, the standard supply voltage shall be 33 kV or the appropriate higher voltage in accordance with the limits specified in this clause:

Provided further that where a consumer having connected load of not more than 50 kW is already getting supply at LT voltage immediately before commencement of the Himachal Pradesh Electricity Supply Code (First Amendment) Regulations, 2014, he shall continue to be covered under a LT standard voltage (i.e. single phase 230 volts or three phase 415 volts) irrespective of contract demand already sanctioned in his favour, so long as he does not further extend his connected load or contract demand beyond the specified limits of 50 kW or 50 kVA respectively:

Provided further that where a consumer is getting supply at a voltage higher than the standard supply voltage as per the said specified limits, he shall continue to get supply at such higher voltage without any rebate for higher voltage supply.

- (b) Where the connected load or contract demand exceeds the relevant ceiling limit specified in clause (a), the appropriate higher voltage at which both such limits can be adhered to, shall be considered as standard supply voltage and there shall be no minimum limits for supply of power at a particular voltage.

## 2. Supply at Lower Voltage:

Where the consumer seeks supply of power at a voltage lower than the standard supply voltage as per para (1), the licensee shall supply power at such lower voltage subject to the maximum limits of connected load and contract demand as specified in this para; payment of lower voltage supply surcharge (LVSS) by the consumer at the rates given in the tariff order applicable from time to time; and other conditions, as may be relevant, specified in this para or in para (3) or elsewhere in the Supply Code :-

| S. No. | Supply Voltage  | Description   | Maximum Connected Load | Maximum Contract Demand |
|--------|---|---|------------------------|-------------------------|
| 1.     | 11 kV (for supplies not involving special category loads) | (a) If 22 kV or 33 kV voltage level exists in the relevant distribution system.         | 5 MW                   | 4 MVA                   |
|        |   | (b) If 22 kV or 33 kV voltage level does not exist in the relevant distribution system. | 6 MW                   | 5 MVA                   |
| 2.     | 22 kV (for supplies not involving special category loads) | (a) If 33 kV voltage level exists in the relevant distribution system.                  | 6 MW                   | 5MVA                    |
|        |   | (b) If 33 kV voltage level does not exist in the relevant distribution system.          | 7 MW                   | 5.5 MVA                 |
| 3.     | 33 kV   | (a) If 66 kV voltage level exists in the relevant distribution system.                  | 15 MW                  | 12 MVA                  |
|        |   | (b) If 66 kV voltage level does not exist in the relevant distribution system.          | 18MW                   | 14 MVA                  |
| 4.     | 66 kV   | (a) Through a common feeder   | 18 MW                  | 14 MVA                  |
|        |   | (b) Through a dedicated or joint dedicated feeder                                       | 30 MW                  | 24 MVA                  |

Provided that all such supplies, excepting the same at Sr. No.4(a), shall be given through dedicated or joint dedicated feeders only and that in case of Sr. No. 4(a) the supply shall be given through a common or dedicated or joint dedicated feeder:

Provided further that in case of supply involving special category loads, the same shall be given at 11 kV or 22 kV subject to further conditions that the total connected load in respect of the special category loads does not exceed 1.5 MW within the total connected load upto 3 MW and contract demand upto 2.2 MVA and that the supply is to be given through a dedicated feeder or a joint dedicated feeder emanating from EHV sub-station:

Provided further that if the conditions given in second proviso, in relation to the supplies involving special category loads, are not adhered to, the supply shall be given at 33 kV or at appropriate higher voltage depending on the total connected load and contract demand:

Provided further that the provisions of this para, shall be further subject to the following condition:-

- (i) that the voltage regulation limits shall have to be adhered to while deciding the supply arrangements;
- (ii) that in case of special category loads and other such loads which can cause disturbances in the power distribution system, the consumer shall provide suitable protection equipment as per the Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010 and other prudent practices to adequately insulate the distribution system from the disturbance caused by such loads;
- (iii) that the consumer already getting supply at higher voltage as compared to the standard supply voltage or the limits given in this para, shall not be entitled to any higher voltage supply rebate; and
- (iv) that in cases of joint dedicated feeder, the limits of maximum connected load and maximum contract demand as per this para shall be applicable for the summation of the connected loads and contract demands of both the consumers.

Explanation- For the purposes of this para,-

(a) "dedicated feeder" means the electric supply line emanating from the sub-station of the licensee through which electricity is, or is intended to be, supplied to a single consumer; and

(b) "joint dedicated feeder" means the electric supply line emanating from the sub-station of the licensee through which electricity is, or is intended to be, supplied to two consumers.

(i) Where the contract demand has not been applied for or sanctioned, the limit corresponding to 90% of the connected load (in kW) converted into kVA by adopting power factor of 0.9 shall be deemed as the contract demand.

(ii) The supply shall be made at the minimum voltage level at which all the relevant limits and conditions are adhered to. However, if the consumer opts for

supply of power at a voltage higher than the standard supply voltage, the licensee shall allow the same excepting the cases in which there may be some constraint.

(iii) Where the connected load or contract demand is to be enhanced, the standard supply voltage under para (1) and the supply voltage under para (2) shall be re-determined as per the provisions under the said paras based on enhanced connected load and enhanced contract demand.

Explanation- For the purposes of paras (1) and (2), "special category loads" means furnace loads and mass induction heating loads and shall also include any other load as the Commission may, after taking into consideration electrical characteristics and its impact on the distribution system, by order, declare it to be a special category load.

**PART-III: Schedule of Tariff****SCHEDULE - DOMESTIC SUPPLY (DS)****1 Applicability**

This schedule is applicable to the following consumers:

- a) Consumers using electrical energy for lights, fans, heaters, cooking ranges, ovens, refrigerators, air conditioners, stereos, radios, televisions, mixers, grinders, electric iron, sewing/embroidery/knitting machines, domestic pumping sets and other domestic appliances in a single private house/flat or any other residential premises;
- b) Religious places with connected load up to 5 kW;
- c) Orphanages, homes for old people and homes for destitute;
- d) Working Women Hostels, Hostels attached to the educational institutions if supply is given separately to each hostel and the electricity charges are recovered from the students based on actual consumption;
- e) Leprosy Homes run by charity and un-aided by the Government;
- f) Panchayat Ghars with connected load up to 5 kW;
- g) Patwar Khanas and Kanungoo Bhawans (Government Buildings only) with connected load up to 5 kW;
- h) Community gausadans, goshalas and cow sanctuaries managed by government and private institutions with connected load up to 20kW;
- i) Monasteries;
- j) Heritage Hotels approved under HP Government's Heritage Tourism Policy, 2017;
- k) Incredible India Bed-and-breakfast as per GoI, Ministry of Tourism guidelines;
- l) "Home Stay Units" in rural areas duly registered with the District Tourism Development Officer; and
- m) Offices of the Himachal Pradesh Senior Citizen Forum.
- n) Personal Garage for parking of personal light motor vehicle
- o) For industrial consumer which are under PDCO due to non-payment of dues or sick closed units with maximum connected load of 20 kW for lighting and security purpose only till regular connection is restored (Pre-paid meter provisionally)

**Note:**

- (i) *Where a portion of the dwelling is used regularly for the conduct of a business, the consumption in that portion shall be separately metered and billed under the appropriate Commercial or Industrial power tariff whichever is applicable. If*



*separate circuits are not provided, the entire supply will be classified under "Commercial or Industrial Supply."*

*(ii) Resale and supply to tenants, other flats, etc. is strictly prohibited.*

*(iii) No compounding will be permissible. For residential societies which wish to take a single point supply, this would be permitted, and the energy charges would be divided by the number of such units to determine the relevant slab. Thus if there are 10 dwelling units in a society and the energy consumption in a month is 3500 units, the first 1250 (125\*10) units would be charged at Rs 3.70 per kWh, the next 1750 (175\*10) at Rs 4.60 per unit and the balance 500 units at Rs. 5.10 per unit. Consumer service charge shall be Rs. (50\*10).*

**2 Character of Service:** *Applicable as per the relevant provisions under Part – II.*

**3 Single Part Tariff**

**A) Consumers Other than Pre-Paid Metered**

**a) Fixed Charge (Charges-1)**

| Description  | Fixed Charge (Rs./Month) |
|--|--------------------------|
| Lifeline consumers and Consumers in Tribal & Difficult Areas | 40.00                    |
| Other consumers  |                          |
| 0-125  | 70.00                    |
| 126-300  | 70.00                    |
| Above 300  | 70.00                    |

**b) Energy Charge**

| Description        | Slabs (kWh per month) | Energy Charge (Rs./kWh) |
|--------------------|-----------------------|-------------------------|
| Lifeline consumers | 0-60                  | 3.30                    |
| Other consumers    | 0-125                 | 3.95                    |
|                    | 126-300               | 4.85                    |
|                    | Above 300             | 5.45                    |

**Note:**

- In the case of **Lifeline consumers** the concessional tariff will be available for use of electricity by these families up to a maximum of 60 units per month. In case this limit is exceeded, the normal domestic tariff slabs of 0-125; 126-300; and above 300 kWh per month respectively will apply.*
- Heritage hotels, Incredible India bed-and-breakfast, homestay units in rural areas are to be charged under domestic category with energy charges for such consumers to be levied at 30% higher than the net energy charges payable (net off subsidy) by the consumers in the respective slab.*

**B) Energy Charge [Prepaid Meter]**

| Description             | Slabs (kWh per month) | Energy Charge (Rs./kWh) |
|-------------------------|-----------------------|-------------------------|
| Prepaid meter consumers | Entire consumption    | 4.85                    |

**Note:**

1. Subsidy given by GoHP for second slab i.e. 126-300 kWh shall apply to prepaid meter consumers also. Should the GoHP decide to maintain the tariffs at the current levels after subsidy, then the prepaid consumers shall be deemed to be placed in the slab of 126-300 kWh per month and the subsidy applicable for the slab of 126-300 kWh shall also apply to prepaid meter consumers.
2. Prepaid meter consumer shall be charged energy charges only and no other fixed charges i.e. meter rent and service charges shall be applicable to such consumers.
4. **Lower Voltage Supply Surcharge (LVSS):** Applicable as per provisions under 'Part-1 General Conditions of Tariff'.
5. **Lower Voltage Metering Surcharge (LVMS):** Applicable as per provisions under 'Part-1 General Conditions of Tariff'.
6. **Late Payment Surcharge (LPS):** Applicable as per provisions under 'Part-1 General Conditions of Tariff'.
7. **Night Time Concession (NTC):** Not Applicable.
8. **Power Factor Surcharge (PFS):** Not Applicable.
9. **Disturbing Load Penalty (DLP):** Applicable as per the provisions under 'Part-1 General Conditions of Tariff'.

**SCHEDULE - NON-DOMESTIC NON-COMMERCIAL SUPPLY (NDNCS)****1. Applicability**

This schedule is applicable to the following consumers:

- a) Government and semi Government offices;
- b) Educational Institutions viz. Schools, Universities, ITIs, Colleges, Centre for Institute of Engineers, Sports Institutions, Mountaineering Institutions and allied sports and Libraries Hostels and residential quarters attached to the educational institutions if supply is given at single point;
- c) Religious places such as Temples, Gurudwaras, Mosques, Churches etc. with connected load greater than 5 kW;
- d) Sainik and Govt. Rest Houses, Anganwari workers training centers, Mahila mandals, village community centres;
- e) Government Hospitals, primary health centers, dispensaries and veterinary hospitals;
- f) Panchayat Ghars with connected load greater than 5kW;
- g) Patwar Khanas and Kanungoo Bhawans (Government Buildings only) with connected load greater than 5kW;
- h) Sarais and Dharamsalas run by Panchayats and Municipal Committees or by voluntary organizations.
- i) Office of Lawyers and Government recognized Non-Government Organizations (NGOs)
- j) Electric Charging Stations for the Electric vehicles
- k) Lifts operating in group housing societies, apartments, etc.

**Note:** (1) *In the case of residences attached to the Institutions, as at (b), (f) and (g) above, the same shall be charged at the Domestic Supply (DS) tariff, in cases where the consumer seeks a separately metered connection for the residential portion.*

(2) *Lifts in residential premises shall be charged at the 'Domestic tariff'*

**2. Character of service:** *Applicable as per the relevant provisions under Part – II.*

**3. Consumers Other than Pre-Paid Metered****A) Single Part Tariff for contract demand  $\leq$  20 kVA****a) Fixed Charge (Charges-1)**

|                         |        |
|-------------------------|--------|
| Fixed Charge (Rs/month) | 130.00 |
|-------------------------|--------|

**b) Energy Charge (Charges-2)**

|                         |      |
|-------------------------|------|
| Energy Charge (Rs./kWh) | 5.00 |
|-------------------------|------|

**B) Energy Charge [Prepaid Meter]**

| Description             | Slabs (kWh per month) | Energy Charge (Rs./kWh) |
|-------------------------|-----------------------|-------------------------|
| Prepaid meter consumers | Entire consumption    | 4.90                    |

**4. Two Part Tariff for contract demand > 20 kVA****a) Fixed Charge (Charges-1)**

|                         |     |
|-------------------------|-----|
| Fixed Charge (Rs/month) | Nil |
|-------------------------|-----|

**b) Energy Charge (Charges-2)**

|                          |      |
|--------------------------|------|
| Energy Charge (Rs./kVAh) | 4.70 |
|--------------------------|------|

**c) Demand Charge (Charges-3)**

|                              |        |
|------------------------------|--------|
| Demand Charge (Rs/kVA/month) | 140.00 |
|------------------------------|--------|

**Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher but up to a ceiling of Contract Demand. Contract Demand Violation Charges shall be applicable beyond such ceiling.**

**Note:**

- a. *HPSEBL shall continue with the existing practice of installation of tri-vector meters capable of reading parameters applicable for two-part tariff, for all consumers in this category and having connected load of more than 20 kW, even though some of these consumers may be covered in single part tariff.*
- b. *The present practice of meter reading through MRI/ AMR shall be continued for all consumers with connected load above 20kW irrespective of applicability of single/ two part tariff.*
- 5. Lower Voltage Supply Surcharge (LVSS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 6. Lower Voltage Metering Surcharge (LVMS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 7. Late Payment Surcharge (LPS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 8. Contract Demand Violation Charge:** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 9. Night Time Concession (NTC):** *Not Applicable.*
- 10. Power Factor Surcharge (PFS):** *Not Applicable.*
- 11. Disturbing Load Penalty (DLP):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 12. Peak Load Charges (PLC):** *Not Applicable.*

**SCHEDULE – COMMERCIAL SUPPLY (CS)****1 Applicability**

This schedule is applicable to consumers for lights, fans, appliances like pumping sets, central air conditioning plants, cold storages, lifts, heaters, embroidery machines, printing press, power press and small motors in all commercial premises such as shops, business houses, cinemas, clubs, banks, private offices, private hospitals, petrol pumps, hotels/motels, welding sets, servicing stations, private nursing homes, private rest/guest houses, private research institutions, private coaching institutions, private museums, dry cleaning, garages and private auditoriums, departmental stores, restaurants, lodging and boarding houses, shopping malls and multiplexes.

This schedule shall also include all other categories which are not covered by any other tariff schedule.

**Note:** Resale of electricity to tenants, adjoining houses and to other parties is strictly prohibited.

2. In case of hotels in tribal areas of Lahaul-Spiti, Kinnaur and Pangri seasonal tariff as described in Part-I of Annexure-I shall be applicable.
3. **Character of service:** *Applicable as per provisions under Part – II.*
4. **Single Part Tariff for contract demand  $\leq$  20 kVA**

**a) Fixed Charge (Charges-1)**

|                         |        |
|-------------------------|--------|
| Fixed Charge (Rs/month) | 130.00 |
|-------------------------|--------|

**b) Energy Charge (Charges-2)**

|                         |      |
|-------------------------|------|
| Energy Charge (Rs./kWh) | 5.10 |
|-------------------------|------|

**5. Two Part Tariff for contract demand  $>$  20 kVA****a) Fixed Charge (Charges-1)**

| <b>Fixed Charge (Rs/month)</b> |     |
|--------------------------------|-----|
| 20 – 100 kVA                   | Nil |
| Above 100 kVA                  | Nil |

**B) Energy Charge (Charges-2)**

| <b>Contract Demand</b>                                       | <b>Energy Charge (Rs./kVAh)</b> |
|--|---------------------------------|
| $>20$ kVA $\leq$ 100 kVA (More than 20 kVA but upto 100 kVA) | 4.85                            |
| Above 100 kVA  | 4.75                            |

**C) Demand Charge (Charges-3)**

| <b>Demand Charge (Rs/kVA/month)</b>                   |        |
|---|--------|
| >20 kVA ≤ 100 kVA (More than 20 kVA but upto 100 kVA) | 110.00 |
| Above 100 kVA   | 170.00 |

**Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher but up to a ceiling of Contract Demand. Contract Demand Violation Charges shall be applicable beyond such ceiling.**

**Notes:**

- a) *HPSEBL shall continue with the existing practice of installation of tri-vector meters capable of reading parameters applicable for two-part tariff, for all consumers in this category and having connected load of more than 20 kW even though some of these consumers may be covered under single part tariff.*
- b) *The present practice of meter reading through MRI/ AMR shall be continued for all consumers with connected load above 20kW irrespective of applicability of single/ two part tariff.*

- 5. Lower Voltage Supply Surcharge (LVSS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 6. Lower Voltage Metering Surcharge (LVMS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 7. Late Payment Surcharge (LPS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 8. Contract Demand Violation Charge:** *Applicable as specified under 'Part-1 General Conditions of Tariff'.*
- 9. Night Time Concession (NTC):** *Not Applicable.*
- 10. Power Factor Surcharge (PFS):** *Not Applicable.*
- 11. Disturbing Load Penalty:** *Applicable as specified under 'Part-1 General Conditions of Tariff' of this Annexure I.*
- 12. Peak Load Charges (PLC):** *Not Applicable.*

**SCHEDULE - SMALL INDUSTRIAL POWER SUPPLY (SIP)****1. Applicability**

This schedule is applicable to Industrial consumers with contract demand not exceeding 50 kVA including pumps (other than irrigation pumping), tokas, cane crushers, Atta Chakkis, and also for supply to Information Technology Industry (limited only to IT Parks recognised by the State/Central Government). Industrial type of Agricultural loads with connected load falling in the abovementioned range and not covered by Schedule "IDWPS" shall also be charged under this schedule.

**2. Character of service: Applicable as per provisions under Part-II.****3. Single Part Tariff for contract demand  $\leq$  20 kVA****a. Fixed Charge (Charges-1)**

|                         |        |
|-------------------------|--------|
| Fixed Charge (Rs/month) | 140.00 |
|-------------------------|--------|

**b. Energy Charge (Charges-2)**

|                          |      |
|--------------------------|------|
| Energy Charge (Rs./kWh)* | 4.75 |
|--------------------------|------|

**4. Two Part Tariff for contract demand  $>$  20 kVA  $\leq$  50 kVA****a) Fixed Charge (Charges-1)**

|                         |     |
|-------------------------|-----|
| Fixed Charge (Rs/month) | Nil |
|-------------------------|-----|

**b) Energy Charge (Charges-2)**

|                           |      |
|---------------------------|------|
| Energy Charge (Rs./kVAh)* | 4.60 |
|---------------------------|------|

**\*Note:**

- For existing industrial consumers, a rebate of 15% on energy charges shall be applicable for additional power consumption beyond the level of FY 2018-19
- For new industries which have come into production between 1.04.2018 to 30.06.2019, the energy charges shall be 10% lower than the approved energy charges for the respective category for a period of 3 years
- For new industries coming into production after 01.07.2019 the energy charges shall be 15% lower than the approved energy charges for the respective category for a period of 3 years
- In case of sick unit or permanently disconnected units industrial consumer can avail pre-paid meter with a load upto 20 kW for the purpose of lighting, surveillance and security.

**c) Demand Charge (Charges-3)**

|                              |        |
|------------------------------|--------|
| Demand Charge (Rs/kVA/month) | 100.00 |
|------------------------------|--------|

**Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher but up to a ceiling of Contract Demand. Contract Demand Violation Charges shall be applicable beyond such ceiling.**

**Note:**

- a. *HPSEBL shall not only continue with the existing practice of installation of tri-vector meters capable of recording the relevant parameters applicable for two-part tariff for different time blocks of the day, for all consumers in this category having connected load of more than 20 kW, but shall also provide such meters for new/ existing connections under single part tariff wherever the consumer expresses his intention to use power during peak load hours.*
- b. *The present practice of meter reading through MRI/ AMR shall be continued for all consumers under this category with connected load above 20kW irrespective of applicability of single/ two part tariff.*

**5. Peak load charges (PLC)**

| Description                   | Additional Charges on Average Demand * | Energy Charge for consumption during peak load hours |
|-------------------------------|--|--|
|                               | (Rs./kVA/month)                        |  |
| Contract Demand $\leq$ 20 kVA | NIL                                    | 1.5 times of the normal per kWh charges              |
| Contract Demand $>$ 20 kVA    | NIL                                    | Rs. 6.40/kVAh  |

- 6. Lower Voltage Supply Surcharge (LVSS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 7. Lower Voltage Metering Surcharge (LVMS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 8. Late Payment Surcharge (LPS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 9. Contract Demand Violation Charge:** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 10. Night Time Concession (NTC):** *Applicable for the consumers having Contract Demand of more than 20kVA, as per provisions under 'Part-1 General Conditions of Tariff', at the following rates:*
  - (i) *80 paise/kVAh for consumption during night hours for the month of July and August 2019;*
  - (ii) *40 paise/kVAh for other months.*



- 11. Power Factor Surcharge (PFS):** (1) *Applicable as per provisions under 'Part-1 General Conditions of Tariff' for the consumers covered under single part tariff.*  
(2) Not applicable for consumers covered under two-part tariff
- 12. Disturbing Load Penalty (DLP):** *Not Applicable.*
- 13. Factory lighting and colony supply:** All consumption for bonafide factory lighting i.e. energy consumed in factory premises including factory building, its offices, stores, time keeper office, canteen, library, staff dispensary, welfare centre and factory yard lighting shall be charged under this tariff schedule. The consumption for bonafide use of residential/staff quarters and street lighting of the colony shall also be charged under this tariff schedule if supply is taken at a single point. Such consumption shall be charged for the energy consumed at the following rates:
  - a) During Normal times and night time: Normal Rate subject to the condition that the night time concession as per 10 above shall be given on consumption during night time.
  - b) During peak load hours: The rates (demand and energy) applicable for peak load hours shall be charged.

If supplies for colony and/or its residences are taken separately then the same shall be charged as per the relevant consumer categories of this schedule of tariff.

**SCHEDULE - MEDIUM INDUSTRIAL POWER SUPPLY (MIP)****1. Applicability**

This schedule is applicable to Industrial consumers with contract demand above 50 kVA but not exceeding 100 kVA including pumps (other than irrigation pumping), tokas, cane crushers, Atta Chakkis, and also for supply to Information Technology Industry (limited only to IT Parks recognised by the State/Central Government). Industrial type of Agricultural loads with connected load falling in the abovementioned range and not covered by Schedule "IDWPS" shall also be charged under this schedule.

2. **Character of service:** *Applicable as per provisions under Part – II.*

**3. Two Part Tariff****a) Fixed Charge (Charges-1)**

|                         |     |
|-------------------------|-----|
| Fixed Charge (Rs/month) | Nil |
|-------------------------|-----|

**b) Energy Charge (Charges-2)**

|                           |      |
|---------------------------|------|
| Energy Charge (Rs./kVAh)* | 4.60 |
|---------------------------|------|

**\*Note:**

- For existing industrial consumers, a rebate of 15% on energy charges shall be applicable for additional power consumption beyond the level of FY 2018-19*
- For new industries which have come into production between 1.04.2018 to 30.06.2019, the energy charges shall be 10% lower than the approved energy charges for the respective category for a period of 3 years*
- For new industries coming into production after 01.07.2019 the energy charges shall be 15% lower than the approved energy charges for the respective category for a period of 3 years*
- In case of sick unit or permanentalt disconnected units, industrial consumer can avail pre-paid meter with a load upto 20 kW for the purpose of lighting, surveillance and security.*

**c) Demand Charge (Charges-3)**

|                              |        |
|------------------------------|--------|
| Demand Charge (Rs/kVA/month) | 120.00 |
|------------------------------|--------|

**Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher but up to a ceiling of Contract Demand. Contract Demand Violation Charges shall be applicable beyond such ceiling.**

**4. Peak load charges (PLC)**

| Description | *Additional Charges on Average Demand | Energy Charge |
|-------------|---------------------------------------|---------------|
|             | (Rs./kVA/month)                       | (Rs./kVAh)    |
| > 50 kVA    | NIL                                   | Rs. 6.20      |

5. **Lower Voltage Supply Surcharge (LVSS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

6. **Lower Voltage Metering Surcharge (LVMS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

7. **Late Payment Surcharge (LPS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

8. **Contract Demand Violation Charge:** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

9. **Night Time Concession (NTC):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff', at the following rates:*

(i) *80 paise/kVAh for consumption during night hours for the month of July and August 2019;*

(ii) *40 paise/kVAh for other months.*

10. **Power Factor Surcharge (PFS):** *Not Applicable.*

11. **Disturbing Load Penalty (DLP):** *Not Applicable.*

12. **Factory lighting and colony supply:** *All consumption for bonafide factory lighting i.e. energy consumed in factory premises including factory building, its offices, stores, time keeper office, canteen, library, staff dispensary, welfare centre and factory yard lighting shall be charged under this tariff schedule. The consumption for bonafide use of residential/staff quarters and street lighting of the colony shall also be charged under this tariff schedule if supply is taken at a single point. Such consumption shall be charged for the energy consumed at the following rates:*

a) *During Normal times and night time: Normal Rate subject to the condition that the night time concession as per 9 above shall be given on consumption during night time.*

b) *During peak load hours: The rates (demand and energy) applicable for peak load hours shall be charged.*

*If supplies for colony and/or its residences are taken separately then the same shall be charged as per the relevant consumer categories of this schedule of tariff.*

**SCHEDULE - LARGE INDUSTRIAL POWER SUPPLY (LIPS)****1. Applicability**

This schedule is applicable to all other industrial power consumers with contract demand exceeding 100 kVA including the Information Technology industry (limited only to IT parks recognized by the State/Central Govt.) and not covered by schedule "IDWPS".

**2. Character of Service:** *Applicable as per provisions under Part – II.***3. Two Part Tariff****a) Fixed Charge (Charges-1)**

| Description                                     | Fixed Charge (Rs/month) |
|---|-------------------------|
| EHT   | Nil                     |
| HT-1 (Contract Demand up to and including 1MVA) | Nil                     |
| HT-2 (Contract Demand above 1 MVA)              | Nil                     |

**b) Energy charge (Charges-2)**

| Description   | Energy Charge (Rs./kVAh) |
|---|--------------------------|
| <b>EHT*</b>   |                          |
| <b>220 kV and above</b>                                 | 4.20                     |
| <b>132 kV</b>   | 4.25                     |
| <b>66 kV</b>  | 4.30                     |
| <b>HT-1*</b> (Contract Demand up to and including 1MVA) | 4.60                     |
| <b>HT-2*</b> (Contract Demand above 1 MVA)              | 4.35                     |

**\*Note:**

- For existing industrial consumers, a rebate of 15% on energy charges shall be applicable for additional power consumption beyond the level of FY 2018-19*
- For new industries which have come into production between 1.04.2018 to 30.06.2019, the energy charges shall be 10% lower than the approved energy charges for the respective category for a period of 3 years*
- For new industries coming into production after 01.07.2019 the energy charges shall be 15% lower than the approved energy charges for the respective category for a period of 3 years*
- In case of sick unit or permnently disconnected units, industrial consumer can avail pre-paid meter with a load upto 20 kW for the purpose of lighting, surveillance and security.*

**c) Demand Charge (Charges-3)**

| Description                                     | Demand Charge (Rs/kVA/month) |
|---|------------------------------|
| EHT   |                              |
| 220 kV and above                                | 425.00                       |
| 132 kV  | 425.00                       |
| 66 kV   | 425.00                       |
| HT-1 (Contract Demand up to and including 1MVA) | 250.00                       |
| HT-2 (Contract Demand above 1 MVA)              | 400.00                       |

**Note:** Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher but up to a ceiling of Contract Demand. Contract Demand Violation Charges shall be applicable beyond such ceiling.

**4. Peak load charges (PLC)**

| Description | *Additional Charges on Average Demand (Rs/kVA/month) | Energy Charge (Rs./kVAh) |
|-------------|--|--------------------------|
| EHT         | NIL  | 6.00                     |
| HT-1        | NIL  | 6.20                     |
| HT-2        | NIL  | 6.20                     |

**5. Lower Voltage Supply Surcharge (LVSS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

**6. Lower Voltage Metering Surcharge (LVMS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

**7. Late Payment Surcharge (LPS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

**8. Contract Demand Violation Charge:** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

**9. Night Time Concession (NTC):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff' of this Annexure I at following rates:-*

a) For HT-1 category: 80 paise/kVAh for the month of July and August 2019; and 40 paise/kVAh for other months.

b) For HT-2 and EHT categories: 60 paise/kVAh for the month of July and August 2019; and 40 paise/ kVAh for other months.

**10. Power Factor Surcharge (PFS):** *Not Applicable.*

**11. Disturbing Load Penalty (DLP):** *Not Applicable*

**12. Factory lighting and colony supply:** All consumption for bonafide factory lighting i.e. energy consumed in factory premises including factory building, its offices, stores, time keeper office, canteen, library, staff dispensary, welfare centre and factory yard lighting shall be charged under this tariff schedule. The consumption for bonafide use of residential/staff quarters and street lighting of

the colony shall also be charged under this tariff schedule if supply is taken at a single point. Such consumption shall be charged for the energy consumed at the following rates:

- a) During Normal times and night time: Normal Rate subject to the condition that the night time concession as per 8 above shall be given on consumption during night time.
- b) During peak load hours: The rates (demand and energy) applicable for peak load hours shall be charged.

*If supplies for colony and/or its residences are taken separately then the same shall be charged as per the relevant consumer categories of this schedule of tariff.*

**SCHEDULE - IRRIGATION AND DRINKING WATER PUMPING SUPPLY (IDWPS)****1 Applicability**

This schedule is applicable to connections for water and irrigation pumping and also covers all consumption for bonafide Pump House lighting. This schedule is also applicable to Private Irrigation loads in individual/ society's names, green houses, poly houses, mushroom growing, processing facilities for agriculture, poultry farms and sheds, pond fish culture in farmer's own agricultural land, fisheries, horticulture, floriculture and sericulture etc. where all such activities are undertaken by agricultural land holders and temporary agricultural loads such as wheat threshers and paddy threshers. This schedule shall also be applicable to sewerage treatment plants.

Since this schedule of tariff covers 'processing facilities for agriculture', all consumers having processing facilities relating to agriculture such as seed treatment, etc. shall also be covered under this schedule. However, the consumers involved in manufacturing, processing and service sector activities based on agriculture produce such as mushroom processing, etc. shall be covered under relevant industrial schedule of tariff.

**2. Character of service:** *Applicable as per provisions under Part – II of this Annexure I.*

**3 Single Part Tariff for contract demand ≤ 20 kVA****a) Fixed Charge (Charges-1)**

| Description   | Fixed Charge (Rs/month) |
|---------------|-------------------------|
| All consumers | 90.00                   |

**b) Energy Charge (Charges-2)**

|                         |      |
|-------------------------|------|
| Energy Charge (Rs./kWh) | 3.70 |
|-------------------------|------|

**4. Two Part Tariff for contract demand > 20 kVA****a) Fixed Charge (Charges-1)**

| Fixed Charge (Rs/month) |     |
|-------------------------|-----|
| LT                      | Nil |
| HT                      | Nil |
| EHT                     | Nil |

**b) Energy Charge (Charges-2)**

| Description | Energy Charge (Rs./kVAh) |
|-------------|--------------------------|
| LT          | 5.00                     |
| HT          | 4.60                     |
| EHT         | 4.20                     |

**c) Demand Charge (Charges-3)**

| <b>Maximum Demand Charge (Rs/kVA/month)</b> |        |
|---|--------|
| LT  | 100.00 |
| HT  | 300.00 |
| EHT   | 400.00 |

**Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher but up to a ceiling of Contract Demand. Contract Demand Violation Charges shall be applicable beyond such ceiling.**

**Notes:**

- a) HPSEBL shall not only continue with the existing practice of installation of tri-vector meters capable of recording the relevant parameters applicable for two-part tariff for different time blocks of the day, for all consumers in this category having connected load of more than 20 kW, but shall also provide such meters for new/ existing connections under single part tariff wherever the consumer expresses his intention to use power during peak load hours.
- b) The present practice of meter reading through MRI/ AMR shall be continued for all consumers with connected load above 20kW irrespective of applicability of single/ two part tariff.
- c) Government of HP subsidy under this category would only be applicable to agricultural consumers having contract demand of upto 20kVA only irrespective of the voltage levels at which they are connected.

**5. Peak load charges (PLC)**

| <b>Description</b> | <b>*Additional Charges on Average Demand (Rs./kVA/month)</b> | <b>Energy Charges (Rs./kVAh)</b> |
|--------------------|--|----------------------------------|
| LT                 | Nil  | 6.40                             |
| HT                 | Nil  | 6.20                             |
| EHT                | Nil  | 6.00                             |

6. **Lower Voltage Supply Surcharge (LVSS):** Applicable as specified under 'Part-1 General Conditions of Tariff'.
7. **Lower Voltage Metering Surcharge (LVMS):** Applicable as per provisions under 'Part-1 General Conditions of Tariff'.
8. **Late Payment Surcharge (LPS):** Applicable as per provisions under 'Part-1 General Conditions of Tariff'.
9. **Contract Demand Violation Charge:** Applicable as per provisions under 'Part-1 General Conditions of Tariff'.
10. **Night Time Concession (NTC):** Applicable as per provisions under 'Part-1 General Conditions of Tariff', at the following rates:
  - (i) 40 paise/kVAh for consumption during night hours for the month of July and August 2019;
  - (ii) 20 paise/kVAh for other months.
11. **Power Factor Surcharge (PFS):** (1) Applicable as per provisions under 'Part-1 General Conditions of Tariff' for the consumers covered under single part tariff.  
(2) Not applicable for consumers covered under two-part tariff



- 12. Disturbing Load Penalty (DLP):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 13. Factory lighting and colony supply:** *All consumption for bonafide factory lighting i.e. energy consumed in factory premises including factory building, its offices, stores, time keeper office, canteen, library, staff dispensary, welfare centre and factory yard lighting shall be charged under this tariff schedule. The consumption for bonafide use of residential/staff quarters and street lighting of the colony shall also be charged under this tariff schedule if supply is taken at a single point. Such consumption shall be charged for the energy consumed at the following rates:*
- a) During Normal times and night time: Normal Rate subject to the condition that the night time concession as per 10 above shall be given on consumption during night time.
  - b) During peak load hours : The rates (demand and energy) applicable for peak load hours shall be charged.

If supplies for colony and/or its residences are taken separately then the same shall be charged as per the relevant consumer categories of this schedule of tariff.

**SCHEDULE - BULK SUPPLY (BS)****1 Applicability**

This schedule is applicable to general or mixed loads to M.E.S and other Military establishments, Central PWD Institutions, Construction power for Hydro-Electric projects, tunnel construction, Hospitals, Departmental/private colonies, group housing societies, A.I.R Installations, Aerodromes, Bus Stands with single point connection and other similar establishments/institutions where further distribution to various residential and non-residential buildings is to be undertaken by the consumer, for its own bonafide use and not for resale to other consumers with or without profit. However, in case of MES, this schedule shall continue to apply till such time MES do not avail Open Access.

**2. Character of service:** *Applicable as per provisions under Part – II.*

**3. Two Part Tariff****a) Fixed Charge (Charges-1)**

| <b>Fixed Charge (Rs/month)</b> |     |
|--------------------------------|-----|
| LT                             | Nil |
| HT                             | Nil |
| EHT                            | Nil |

**b) Energy Charge (Charges-2)**

| <b>Description</b> | <b>Energy Charge (Rs./kVAh)</b> |
|--------------------|---------------------------------|
| LT                 | 4.80                            |
| HT                 | 4.30                            |
| EHT                | 4.10                            |

**c) Demand Charge (Charges-3)**

| <b>Demand Charge (Rs/kVA/month)</b> |        |
|-------------------------------------|--------|
| LT                                  | 250.00 |
| HT                                  | 350.00 |
| EHT                                 | 350.00 |

**Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher but up to a ceiling of Contract Demand. Contract Demand Violation Charges shall be applicable beyond such ceiling.**

**4. Lower Voltage Supply Surcharge (LVSS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

**5. Lower Voltage Metering Surcharge (LVMS)** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

**6. Late Payment Surcharge (LPS)** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

**7. Contract Demand Violation Charge:** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

8. **Night Time Concession (NTC):** *Not applicable.*
9. **Power Factor Surcharge (PFS):** *Not Applicable.*
10. **Disturbing Load Penalty (DLP):** *Not Applicable.*
11. **Peak Load Charges (PLC):** *Not Applicable.*

**SCHEDULE - STREET LIGHTING SUPPLY (SLS)****1 Applicability**

This schedule is applicable for Street Lighting system including traffic control signal systems on roads and Park lighting in Municipalities, Nagar Panchayats, SADA areas and Panchayats.

**2 Character of service:** *Applicable as per provisions under Part – II of this Annexure I.*

**3. Single Part Tariff****a) Fixed Charge (Charges-1)**

|                         |        |
|-------------------------|--------|
| Fixed Charge (Rs/month) | 130.00 |
|-------------------------|--------|

**b) Energy Charge (Charges-2)**

|                         |      |
|-------------------------|------|
| Energy Charge (Rs./kWh) | 4.95 |
|-------------------------|------|

**4. Line maintenance and lamp renewal charges**

Where the bulbs, tubes etc. are to be provided and replaced at the cost of the HPSEBL, Line Maintenance and lamp renewal charges shall be charged in addition to the energy charges. These charges shall be charged at the following rates:

| Description                | Charge (Rs./point/month)   |
|----------------------------|--|
| Fluorescent Tube 4' 1x40 W | 50   |
| Fluorescent Tube 4' 2x40 W | 50   |
| Fluorescent Tube 2' 1x20 W | 50   |
| Fluorescent Tube 2' 2x20 W | 50   |
| MVL up to 125 W            | 50   |
| MVL above 125 W            | 100  |
| SVL up to 150 W            | 100  |
| SVL above 150 W            | 120  |
| CFL                        | 100  |
| T-5 Tube light             | 50   |
| Metal Halide up to 150 W   | 100  |
| Metal Halide above 150 W   | 140  |
| LED                        | 150  |
| High Mast Light            | No. of lamps of any of above category x charges applicable for each point of such category |

**Note:**

- i) *For special type of fixtures like sodium and neon vapour lamps, fittings or any other fixtures not covered above, the material for maintenance of the fixtures and the lamps for replacement shall be provided by the Public Lighting consumers themselves and only replacement charges shall be levied..*

- ii) When the bulbs/Mercury vapour lamps/tubes and other accessories are provided by the Public Lighting consumers and only replacement is to be done by the HPSEBL, Line Maintenance and lamp renewal charges shall be as follows:

| Description                                 | Charge (Rs./point/month)   |
|---|--|
| Fluorescent Tube 4' 1x40 W                  | 50   |
| Fluorescent Tube 4' 2x40 W                  | 50   |
| Fluorescent Tube 2' 1x20 W                  | 50   |
| Fluorescent Tube 2' 2x20 W                  | 50   |
| MVL up to 125 W                             | 50   |
| MVL above 125 W                             | 50   |
| SVL up to 150 W                             | 50   |
| SVL above 150 W                             | 50   |
| CFL   | 50   |
| T-5 Tube light                              | 50   |
| Metal Halide up to 150 W                    | 50   |
| Metal Halide above 150 W                    | 50   |
| LED   | 50   |
| High Mast Light                             | No. of lamps of any of above category x charges applicable for each point of such category |
| Any other special fixture not covered above | 50   |

5. **Lower Voltage Supply Surcharge (LVSS):** Applicable as per provisions under 'Part-1 General Conditions of Tariff'.
6. **Lower Voltage Metering Surcharge (LVMS):** Applicable as per provisions under 'Part-1 General Conditions of Tariff'.
7. **Late Payment Surcharge (LPS):** Applicable as per provisions under 'Part-1 General Conditions of Tariff'.
8. **Night Time Concession (NTC):** Not Applicable.
9. **Power Factor Surcharge (PFS):** Not Applicable.
10. **Disturbing Load Penalty (DLP):** Not Applicable.

**SCHEDULE - TEMPORARY METERED SUPPLY (TMS)****1 Applicability**

This schedule is applicable to all loads of temporary nature including exhibitions, touring talkies, circuses, fairs, melas, marriages, festivals, temporary supply for construction purposes including civil works by Government departments and other similar purposes for temporary needs only. This schedule shall also include connections for which NOC from the relevant authorities i.e. Panchayat, Municipalities, Town and Country Development Authority (by whatever name called) has not been provided by the consumer. However, this schedule is not applicable to wheat threshers & Paddy threshers which shall be covered under Irrigation & Drinking Water Pumping Supply even for temporary connection.

**2 Character of service:** *Applicable as per provisions under Part – II of this Annexure I.*

**3 Single Part Tariff for contract demand  $\leq$  20 kVA****a) Fixed Charge (Charges-1)**

|                         |        |
|-------------------------|--------|
| Fixed Charge (Rs/month) | 200.00 |
|-------------------------|--------|

**b) Energy Charge (Charges-2)**

|                         |      |
|-------------------------|------|
| Energy Charge (Rs./kWh) | 7.00 |
|-------------------------|------|

**4 Two Part Tariff for contract demand  $>$  20 kVA****a) Fixed Charge (Charges-1)**

|                         |     |
|-------------------------|-----|
| Fixed Charge (Rs/month) | Nil |
|-------------------------|-----|

**b) Energy Charge (Charges-2)**

|                          |      |
|--------------------------|------|
| Energy Charge (Rs./kVAh) | 6.30 |
|--------------------------|------|

**c) Demand Charge (Charges-3)**

|                              |        |
|------------------------------|--------|
| Demand Charge (Rs/kVA/month) | 400.00 |
|------------------------------|--------|

**5. Lower Voltage Supply Surcharge (LVSS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

**6. Lower Voltage Metering Surcharge (LVMS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

**7. Late Payment Surcharge (LPS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*

8. **Contract Demand Violation Charge:** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
9. **Night Time Concession (NTC):** *Not Applicable.*
10. **Power Factor Surcharge (PFS):** *Not Applicable.*
11. **Disturbing Load Penalty (DLP):** *Not Applicable.*
12. **Peak Load Charges (PLC):** *Not Applicable.*

**SCHEDULE – RAILWAY TRACTION****1 Applicability**

This schedule is applicable to Railways for Traction loads.

**2 Character of service**

|   |        |
|---|--------|
| <b>Standard Supply Voltage (AC 50 Hz)</b> | ≥ 66kV |
|---|--------|

**3 Two Part Tariff for contract demand > 20 kVA****a) Fixed Charge (Charges-1)**

|                         |     |
|-------------------------|-----|
| Fixed Charge (Rs/month) | Nil |
|-------------------------|-----|

**b) Energy Charge (Charges-2)**

|                          |      |
|--------------------------|------|
| Energy Charge (Rs./kVAh) | 4.70 |
|--------------------------|------|

**c) Demand Charge (Charges-3)**

|                              |        |
|------------------------------|--------|
| Demand Charge (Rs/kVA/month) | 400.00 |
|------------------------------|--------|

- 4. Lower Voltage Supply Surcharge (LVSS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 5. Lower Voltage Metering Surcharge (LVMS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 6. Late Payment Surcharge (LPS):** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 7. Contract Demand Violation Charge:** *Applicable as per provisions under 'Part-1 General Conditions of Tariff'.*
- 8. Night Time Concession (NTC):** *Not applicable.*
- 9. Power Factor Surcharge (PFS):** *Not Applicable.*
- 10. Disturbing Load Penalty (DLP):** *Not Applicable.*
- 11. Peak Load Charges (PLC):** *Not Applicable.*



**Appendix-A: Schedule of General and Service Charges**

| S. No.  | Description   | Approved by the Commission          |
|---|---|-------------------------------------|
| <b>1. Particulars:</b>  |   |                                     |
| A. Meter Inspection and Testing Charges (Challenge of Correctness of Meter by Consumer)   |   |                                     |
| (i)   | Single Phase  | Rs. 100/- per meter                 |
| (ii)  | Poly phase (LT)   | Rs. 300/-                           |
| (iii)   | HT or special meter (MDI or Trivector meter)                                | Rs. 550/-                           |
|   |   | Rs. 1100/- with CT/PT combined unit |
| Note:- This amount shall be deposited by the consumer along with his application for the inspection of the meter and will be refunded to him in case the meter is not found to be correct within the prescribed limits. |   |                                     |
| B. Testing Charges of Transformers or other equipment of consumer or private party  |   |                                     |
| (I)   | Protective Relays:  |                                     |
|   | Testing including current and Time Setting of protective relays             | Rs. 1100/- per Relay                |
| (II)  | Power and Distribution Transformers   |                                     |
| (a)   | Insulation resistance tests of winding                                      | Rs. 770/- per Transformer           |
| (b)   | General checking of breather and other accessories                          | Rs. 400/- per Transformer           |
| (c)   | Dielectric strength test of oil   | Rs. 300/- per Transformer           |
| (d)   | Testing of buchholz relay and temperature indicators functioning            | Rs. 800/- each                      |
| (III)   | Circuit Breaker 400 volts and 11/33kV                                       |                                     |
|   | General checking of breaker and testing of the tripping mechanism           | Rs. 800/- each                      |
| (IV)  | Current transformer and Potential transformers and meters:                  |                                     |
| (a)   | Testing of single phase LT current transformer                              | Rs. 300/- each                      |
| (b)   | Current Testing of 3 phase LT current transformer                           | Rs. 440/- each                      |
| (c)   | Testing of single phase 11kV & 33kV CTs                                     | Rs. 550/- each                      |
| (d)   | Testing of three phase 11kV & 33kV CTs                                      | Rs. 1100/- each                     |
| (e)   | Testing & recalibration of single phase LT energy meter                     | Rs. 90/- per meter                  |
| (f)   | Testing & recalibration of three phase energy meter w/o CT                  | Rs. 330/- per meter                 |
| (g)   | Testing & recalibration of threephase energy meter With CT                  | Rs. 660/- per meter                 |
| (h)(i)  | Testing & recalibration of HT/EHT metering equipment                        | Rs. 2000/- per meter                |
| (h)(ii)   | With CT/PT combined unit  | Rs. 2500/- per unit                 |
| (i)   | Testing & recalibration of maximum demand indicator                         | Rs. 660/- per meter                 |
| (j)   | Testing & adjustment of voltmeter/ ammeter                                  | Rs. 300/- each                      |
| (V)   | Checking of Capacitors (other than initial checking) on consumer's request: |                                     |
| (a)   | At 400 volts  | Rs. 200/- per job                   |
| (b)   | At 11 kV and above  | Rs. 200/- per job                   |
| (VI)  | General   |                                     |

| S. No.  | Description  | Approved by the Commission     |   |
|---|--|--------------------------------|---|
| (a)   | Dielectric strength of oil of various equipment  | Rs. 300/- per sample           |   |
| (b)   | Earth test of substation   | Rs. 300/- per earth            |   |
| (c)   | Insulation resistance of cables/insulation of various equipment /installations                               | Rs. 300/- per cable/ equipment |   |
| <p>C. Testing charges at the time of routine periodical inspections or first test and inspection of new installation which includes protection and control of complete sub-station (including Transformers, Capacitor Banks, Meter and Metering equipment having connected load &gt;50 kW and/or supply voltage 11 kV or higher) and inclusive of all manpower required</p> <p>(Note 1: In accordance with Regulation 31 of Central Electricity Authority (Measures Relating to Safety and Electricity Supply) Regulations, 2010, the supplier shall either test the installation himself or accept the test results submitted by the consumer when the same has been duly signed by the licensed by the licensed Electrical Contractor.</p> <p>Note 2: In accordance with Regulation 30 of Central Electricity Authority (Measures Relating to Safety and Electricity Supply) Regulations, 2010, where an installation is already connected to the supply system of the supplier, every such installation shall be inspected and tested at intervals not exceeding five (5) years (known as routine periodical inspections and testing).</p> |  |                                |   |
| (i)   | 11/22 kV   | <b>Substations</b>             | Rs. 10,000/-  |
| (ii)  | 33 kV  |                                | Rs. 15,000/-  |
| (iii)   | 66 kV  |                                | Rs. 50,000/-  |
| (iv)  | 132 kV   |                                | Rs. 1,00,000/-  |
| (v)   | 220 kV   |                                | Rs. 3,00,000/-  |
| (vi)  | SHP Capacity (up to 2.5 MW)  | <b>Small Hydro Plants</b>      | Rs. 25,000/-  |
| (vii)   | SHP Capacity (greater than 2.5 MW)   |                                | Rs. 50,000/-  |
| D.  | Visiting charges   |                                |   |
|   | Visiting charges for Officers and staff to Consumers premises for testing of equipments (other than C above) |                                | Rs. 3500/- per day for complete team PLUS actual journey charges as per out turn of vehicle |
| Remarks: -  |  |                                |   |
| (i) The charges mentioned under 'C' above shall be charged for the actual Periodical Inspection done and shall be on per inspection basis only.   |  |                                |   |
| (ii) Visiting charges mentioned under D above include the visiting charges of M&T staff as well.  |  |                                |   |
| (iii) Charges for HPSEBL's maintenance/testing Vans or Trucks if needed for the purpose will be extra. All Charges shall be got deposited before undertaking the testing work.  |  |                                |   |
| (iv) Complete testing of 11kV, 22kV and 33 kV connections as per item C above shall be conducted before the release of HT connection.   |  |                                |   |
| (v) Test reports on suitable forms will be issued by the operation sub-divisions/M&T Lab, which will be produced by the prospective consumer along with the wiring Contractor's test report.  |  |                                |   |
| (vi) The insulation, earth and oil tests as well as general checking and inspection should be performed by the operation sub-division. Other tests requiring M&T Lab. facilities shall be arranged by the operation sub-division/division in the nearest M&T Lab., or by arranging the visit of the M&T staff to the consumer's premises.   |  |                                |   |
| (vii) The requests for testing shall be entertained by the concerned operation sub-division which will be responsible for arranging all tests including tests by the M&T Lab and also for the recoveries of all the charges, including those of M&T Lab   |  |                                |   |
| (viii) The amount recovered from consumers for testing carried out by the M&T Lab shall be adjusted through inter divisional adjustment between the operation divisions and the M&T divisions.  |  |                                |   |

| S. No.  | Description   | Approved by the Commission  |
|---|---|---|
| <b>2. Changing the position of meter at the request of consumer</b> |   |   |
| (i)   | Single phase  | Rs. 100/-   |
| (ii)  | Poly phase (LT)without CT   | Rs. 250/-   |
|   | Poly phase (LT)with CT  | Rs. 500/-   |
| (iii)   | HT or special meter   | Rs. 1100/-  |
| <b>3. Resealing charges</b>   |   |   |
| (i)   | Meter cupboard  | Rs. 25/-  |
| (ii)  | Meter Cover or Terminal Cover (single phase)  | Rs. 110/- for meter terminal cover and full cost of the meter where M&T seal is found broken. |
| (iii)   | Meter cover or terminal cover (three phase)   | Rs. 350/- for meter terminal cover and full cost of the meter where M&T seal is found broken. |
| (iv)  | Cutout(where it has been independently sealed)  | Rs. 100/-   |
| (v)   | Maximum demand indicator  | Rs. 550/-   |
| (vi)  | Potential fuse(s) time switch/CT chamber  | Rs. 550/-   |
| <b>4. Monthly meter/equipment rentals:</b>                          |   |   |
| (i)   | Single phase energy meter low tension   | Rs. 15/- per month  |
| (ii)  | Polyphase energy meter low tension (up to 50 Amps.)                                   | Rs. 30/- per month  |
| (iii)   | a) Polyphase low tension meters with CTs (up to 20 kW)                                | Rs. 35/- per month  |
|   | b) Polyphase low tension meters with CTs(above 20 kW )                                | Rs. 50/- per month  |
| (iv)  | Polyphase 11kV meter with CT/PT without any breaker of HPSEBL                         | Rs. 550/- per month   |
| (v)   | Polyphase 11kV meter with CT/PT with one 11kV breaker of HPSEBL                       | Rs. 4000/- per month  |
| (vi)  | Single phase Pre Paid energy meter low tension  | NIL   |
| (vi)  | Polyphase 33,22 kV meter with CT/PT without any 33, 22 kV breaker of HPSEBL           | Rs. 800/- per month   |
| (vii)   | Polyphase 33,22 kV meter with CT/PT with one 33, 22 kV breaker of HPSEBL              | Rs. 7000/- per month  |
| (viii)  | Polyphase meter with CT/PT with or without circuit breaker of voltage 66 kV and above |   |
| (a)   | Polyphase 66 kV with CT/PT without any 66 kV circuit breaker of HPSEBL                | Rs. 1300/- per month  |
| (b)   | Polyphase 66 kV with CT/PT with 66 kV circuit breaker of HPSEBL                       | Rs. 13500/- per month   |
| (c )  | Polyphase 132 kV with CT/PT without any 132 kV circuit breaker of HPSEBL              | Rs. 2500/- per month  |
| (d)   | Polyphase132 kV with CT/PT with 132 kV circuit breaker of HPSEBL                      | Rs. 20000/- per month   |

| S. No.                                     | Description   | Approved by the Commission                                    |
|--|---|---|
| <b>5. Reconnection of supply</b>           |   |   |
| (i)  | Small Industrial Power Supply consumers (contract demand < = 50 kVA)  | Rs. 500/-   |
| (ii)                                       | Medium Industrial Power Supply consumers (contract demand > 50 kVA and < = 100 kVA)   | Rs. 1000/-  |
| (iii)                                      | Large Industrial Power Supply consumers (contract demand > 100 kVA)   | Rs. 1500/-  |
| (iv)                                       | All other categories of consumers   | Rs. 250/-   |
| <b>6. Fuse replacement:</b>                |   |   |
|  | Replacement of fuse(s) pertaining to HPSEBL/ Consumer   | Rs. 50/-  |
| <b>7. Testing consumer's installation:</b> |   |   |
| (i)  | The first test and inspection of a new installation or of an extension to the existing installation   | Nil   |
| (ii)                                       | For every subsequent visit for the test and inspection of a new installation or of an extension to the existing installation  |   |
| (a)  | Single Phase LT   | Rs. 100/-   |
| (b)  | Three phase (LT)  | Rs. 200/-   |
| (c)  | Three phase (HT)  | Rs. 500/-   |
|  | Note:- These charges shall be deposited by the consumer in advance before every subsequent visit for inspection of installation   |   |
| <b>8. Replacement of meter card:</b>       |   |   |
| (i)  | Domestic/NDNCS/Commercial   | Rs. 10/- in each case   |
| (ii)                                       | All other categories of consumers   | Rs. 10/- in each case   |
| <b>9. Replacement of meter glass:</b>      |   |   |
| (i)  | Replacement of broken glass of meter cup board when the consumer is considered to have broken it  | Rs. 100/-   |
| (ii)                                       | Replacement of broken or cracked glass of meter when there is no evidence of consumer having broken it or tampered with the meter   | Rs. 100/-   |
| (iii)                                      | Replacement of broken glass of meter when the consumer has tampered with or broken by consumer:   |   |
| (a)  | Single phase  | Rs. 500/-* or the actual cost of meter whichever is higher    |
| (b)  | Three phase   | Rs. 1500/- *or the actual cost of meter, whichever is higher. |
|  | Note-1: This amount will be charged without prejudice to the right of HPSEBL to take any other action or impose penalty on the consumer as per the prevailing rules. Since in such cases, the meter has to be sent to M&T lab, the meter changing charges shall be levied additionally. |   |
|  | * This is without prejudice to HPSEBL's right to recover the estimated cost of theft of energy. Principles of natural justice shall invariably be followed and opportunity of being heard given to the consumer before levying such charge.   |   |

| S. No.  | Description   | Approved by the Commission                    |
|---|---|---|
| <b>10. Supply of duplicate copies of the bills/ review of bills:</b>                        |   |   |
| (i)   | Review of bills (all Categories)  | Nil   |
| (ii)  | Supply of duplicate copies of bills   |   |
| (a)   | Domestic/NDNCS/Commercial   | Rs. 5/-                                       |
| (b)   | Medium and large power supply   | Rs. 5/-                                       |
| (c)   | All other categories  | Rs. 5/-                                       |
| (iii)   | Supply of duplicate copies of Demand notice:  |   |
| (a)   | Domestic consumers  | Rs. 10/-                                      |
| (b)   | Non residential consumers   | Rs. 10/-                                      |
| (c)   | Small Industrial and Agriculture consumers  | Rs. 10/-                                      |
| (d)   | Medium Industrial consumers   | Rs. 10/-                                      |
| (e)   | Large Industrial and other categories of consumers  | Rs. 10/-                                      |
| (iv)  | Supply of detailed print out of the meter recording   | Rs. 50/-                                      |
| <b>11. Attendants for functions</b>   |   |   |
|   | Deputing attendants (line staff) for all functions.   |   |
|   | (Per Attendant per day per function limited to 8 hours/day)   | Rs. 250/-                                     |
| <b>12. Cost of Application/Agreement Form and wiring Contractor's test report forms:</b>    |   |   |
|   | For all categories  | Nil   |
| <b>13. Processing fee for change in contract demand</b>                                     |   |   |
|   | Fee for change in Contract Demand (CD)  | Rs. 25/- per kVA of the changed quantum of CD |
| <b>14. Disconnection Charges (to be paid by authority / agency ordering disconnection*)</b> |   |   |
| (I)   | Small Industrial Power Supply consumers (contract demand < = 50 kVA)  | Rs. 500/-                                     |
| (ii)  | Medium Industrial Power Supply consumers (contract demand > 50 kVA and < = 100 kVA)   | Rs. 1000/-                                    |
| (iii)   | Large Industrial Power Supply consumers (contract demand > 100 kVA)   | Rs. 1500/-                                    |
| (iv)  | All other categories of consumers   | Rs. 250/-                                     |
|   | * Except on orders passed by Hon'ble Judges<br>Note: These charges shall also be applicable for consumers requesting disconnection. |   |