

TARIFF ORDER FOR FY07

**Himachal Pradesh Electricity Regulatory
Commission**

July 2006

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A1: BACKGROUND

- 1.1 The Himachal Pradesh State Electricity Board (HPSEB or the Board) is a deemed licensee under the first proviso to Section 14 of the Electricity Act, 2003 for transmission, distribution, trading and supply of electricity in the State of Himachal Pradesh.
- 1.2 The Board has filed applications to the Himachal Pradesh Electricity Regulatory Commission (the Commission) for determination of its Annual Revenue Requirement, Distribution & Retail Supply tariff, Transmission & Bulk Supply Tariff and Generation Tariffs for its electricity generation stations for FY07 under Sections 62, 64 and 86 of the Electricity Act, 2003 (hereinafter referred to as the Act), read with the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2004 and Himachal Pradesh Electricity Regulatory Commission (Guidelines and Formats for Tariff Filing) Regulations, 2005 framed by the Commission.
- 1.3 Further, licensees are required to observe the methodologies and procedures specified by the Commission in calculating the expected revenue from charges (viz. Annual Revenue Requirement) and in designing tariffs. The calculations relate to each of the licenced business for the ensuing financial year regarding
 - (a) its expected aggregate revenue from charges under its currently approved tariff; and
 - (b) its expected revenue gap (if any) and a general explanation on how it proposes to deal with the revenue gap and the application for tariffs for the ensuing financial year
- 1.4 This Order relates to the determination of Annual Revenue Requirement (ARR) of the Board, and Distribution & Retail Supply Tariff for FY07. The Commission has reviewed the operational and financial performance of the Board for FY06. The Commission has finalised this Order based on the review and analysis of the past records, information, submissions, necessary clarifications submitted by the licensees and views expressed by the stakeholders.
- 1.5 The Himachal Pradesh Electricity Regulatory Commission was established and incorporated by the Government of Himachal Pradesh through a notification dated December 30, 2000, under section 17 of the Electricity Regulatory Commissions Act, 1998 (14 of 1998) (hereinafter referred to as the ERC Act), and now covered under the first proviso to section 82 of the Electricity Act, 2003, with its headquarters located at Shimla.
- 1.6 The Act (and other provided legislation) guides the Commission's approach to regulation. The Act mandates the Commission to take measures conducive to the development and management of the electricity industry in an efficient, economic and competitive manner.

Functions of the Commission

- 1.7 The Commission derives its powers under Section 86 of the Electricity Act, 2003 (36 of 2003) which came into force with effect from June 10, 2003. The Act repealed the Indian Electricity Act, 1910, the Electricity (Supply) Act, 1948 and the Electricity Regulatory Commissions Act, 1998.
- 1.8 As part of the tariff related provisions of the Act, the State Electricity Regulatory Commission (SERC) has to be guided by the National Electricity Policy and National Tariff Policy.
- 1.9 The functions assigned to the Commission under the Act are as follows:
- (1) “86. 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 cogeneration 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 licensee;
 - (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 Grid Code specified under clause (h) of sub-section (1) of section 79;

- (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;
 - (k) discharge such other functions as may be assigned to it under this Act.
- (2) 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) reorganisation 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 that Government.”

Regulations framed under the Electricity Act 2003

- 1.10 The Commission has specified the terms and conditions for the determination of tariff, and in doing so, has been guided by section 61 of the Electricity Act 2003. The Tariff Regulations clearly outline that the National Electricity Policy and National Tariff Policy would provide the guiding principles for setting tariffs.

Tariff Concept Paper

- 1.11 The Commission issued a Tariff Concept Paper communicating to all the concerned stakeholders i.e. the Government, the Utility, Investors, consumers’ etc, the policies and procedures that the Commission plans to adopt with regard to determination of tariff.
- 1.12 In the Tariff Concept Paper for FY07, Commission had shown its intent to adopt guidelines provided by the National Electricity Policy, the National Tariff Policy and Integrated Energy Policy for improving operational efficiency, financial performance, improving standards of customer services and quality of supply.
- 1.13 The concept note also elaborates that any future tariff determination exercise will be based on Cost to Serve and under a Multi Year Tariff framework. A proposed road map has been suggested in the concept paper. While the Commission was desirous to outline a road map to balance the interests of licensee and consumers, it was only possible if the licensee were to follow the directives of the Commission in traversing the road map.

Regulatory Experience

Tariff Orders

- 1.14 The Commission issued the first Tariff Order for FY02 on October 29, 2001. The Tariff Order issued directions to the Boards on issues concerning improvement of information levels and effective performance of the Board operations with the intention to improve the database and the overall performance of the sector.
- 1.15 The Board did not submit the ARR and Tariff Filings for FY03 and FY04 despite the Commission's request to submit the same. In subsequent years FY05 and FY06, the Board has submitted its ARR and Tariff Filings and Commission has issued the Tariff Orders for FY05 and FY06 on July 2, 2004 and June 29, 2005 respectively.
- 1.16 Some of the salient features of the last three Tariff Orders are as follows:
- (a) introduction of two part kVAh based tariff for all for all consumer categories except domestic category having connected load of 20 kW and above;
 - (b) rationalization of the Peak Load Exemption Charge (PLEC) and the Peak Load Violation Charge (PLVC);
 - (c) introduction of a night time concessional tariff for select consumer categories to flatten the load curve;
 - (d) adoption of a Cost to Serve Model to determine tariffs in the FY05 Tariff Order to rationalise the tariffs across various consumer categories.

Regulations & Guidelines

- 1.17 The Commission has issued the following Regulations/ after the issuance of Tariff Order for FY06 on 29th June 2005.
- (a) The Himachal Pradesh Electricity Regulatory Commission (Appointment of Consultants) Regulations, 2005. (July 26, 2005) - These regulations, notified under Section 181, read with sub-section (4) of section 91 of the Electricity Act, 2003, lay down the manner for the selection of consultants after the specified due process of invitation of proposals and their evaluation and provide the terms and conditions for their engagement.
 - (b) The Himachal Pradesh Electricity Regulatory Commission (Distribution Licensees' Standards of Performance) Regulations, 2005. (October 31, 2005) - These regulations, notified under sub-section (1) of section 181 and clauses (za) and (zb) of sub-section (2) of section 181 read with sub-section (1) of section 57, section 58, section 59 and clause (i) of sub-section (1) of section 86 of the Electricity Act, 2003, lay down the guidelines to maintain certain critical distribution system parameters within the permissible limits. These

standards shall serve as guidelines for distribution licensees to operate their distribution system for providing an efficient, reliable, coordinated and economical system of electricity distribution and retail supply.

- (c) The Himachal Pradesh Electricity Regulatory Commission (Guidelines and Formats for Tariff Filing) Regulations, 2005. (October 31, 2005) - These regulations, notified under section 62(2) of the Electricity Act 2003, lay down the format in which filing shall be made before the Commission for approval of the tariff. Formats are specified for filing of tariff petition by the generating company, the transmission licensee, the distribution licensee and the trading licensee.
- (d) The Himachal Pradesh Electricity Regulatory Commission (Treatment of Income of Other Businesses of Transmission Licensees and Distribution Licensees) Regulations, 2005. (December 2, 2005) - These regulations, notified under sections 41 and 51 read with clauses (o) and (y) of sub section (2) of section 181 of the Electricity Act 2003, lay down the guidelines for treatment of assets while utilizing them for other business, accounting for income from such source and the reporting modalities for the transmission and the distribution licensee.
- (e) The Himachal Pradesh Electricity Regulatory Commission (Electricity Ombudsman) (Second Amendment) Regulations, 2005. (December 20, 2005) - These regulations, notified under sub-section (7) of section-42 and section 181 of the Electricity Act, 2003 read with section 21 of the General Clauses Act, 1897, amend the Himachal Pradesh Electricity Regulatory Commission (Electricity Ombudsman) Regulations, 2004.
- (f) The Himachal Pradesh Electricity Regulatory Commission (Guidelines for Establishment of Forum for Redressal of Grievances of the Consumers) (Third Amendment) Regulations, 2005. (December 20, 2005) - These regulations, notified under section 181, read with sub-section (5) of section 42 of the Act and section 21 of the General Clauses Act, 1897, amend the Himachal Pradesh Electricity Regulatory Commission (Guidelines for Establishment of Forum for Redressal of Grievances of the Consumers) Regulations, 2003.

Advice given by the Commission to GoHP under Sec 86(2) of EA 2003

- 1.18 The Commission has given its statutory advice twice to the GoHP under section 86(2) of the EA 2003. The first advice was given on July 30, 2004, on 'Physical verification of assets', and the second on April 6, 2005 on the 'Reorganization and restructuring of the electricity industry'.

Status of HPSEB

Capacity Building

- 1.19 The capacity within Board to undertake some of the initiatives highlighted in the NEP and the NTP remains a concern for the Commission. Even after five years of formation of the Commission, the licensee has not managed to develop a Regulatory Affairs Unit. The existing regulatory affairs unit has been acting as a transit point for forwarding information from various departments to the Commission instead of sanitising, analysing and presenting the information.
- 1.20 In terms of necessary tools required for the regulatory affairs unit, there are hardly any management information system or decision making tools to assist the officers in analysing information.

Information Issues

- 1.21 In the Tariff Order of FY02, the Commission had directed the Board to take urgent steps to build a credible and accurate information system with unbundled costs and expenditure between the three businesses of generation, transmission and distribution. Even after five years, the Board has not managed to provide authentic information on the segregated costs. Apart from the segregation of costs, the Board does not have any system to capture revenues across various heads as outlined in the Tariff Orders.
- 1.22 It is also pertinent to note that the accounting principles adopted by the Board are archaic and needs a complete revamp with introduction of qualified manpower and accounting systems.
- 1.23 Information on connected load, contract demand, slab-wise consumption, revenues across various consumer slabs, etc are not made available and arbitrary assumptions have been taken in the petition. Lack of such scientific information has impeded the progress of the Commission in analysing consumer categories and rationalising of slabs within the same.
- 1.24 With regards to the employees, it has not managed to segregate the number of personnel in different departments nor has it segregated its costs. The Board does not have Computerised Human Resources Database detailing basic information like the date of joining, skill sets, costs, track record of performance, etc. In the absence of such information, capacity enhancement, terminal benefit calculations, identification of skill set availability becomes difficult, hindering the manpower planning aspect.

Technology Initiative

- 1.25 Level of technology penetration within the HPSEB is negligible. IT as a tool can be utilised to provide cost effective operations, increased responsiveness to breakdowns and enhancement of customer service levels.
- 1.26 The Commission sincerely hopes that the HPSEB would implement the computerised billing across various circles – tenders for which were floated earlier. It would also expect the HPSEB to update the progress regarding the study that involves physical verification and valuation of assets and working out their fair value, depreciated value and revenue potential with appropriate technology. The objective of this study is to have the information on the assets, revenue potential, fair value and the depreciated value of these assets.
- 1.27 The time period of eight months for implementation of the system across all circles of Himachal Pradesh looks to be very aggressive.
- 1.28 The HPSEB should take some lessons in implementing IT projects from the States which have achieved successes like Andhra Pradesh.

Government Support to HPSEB

- 1.29 The State government has been providing subsidy to the Domestic and Agriculture category consumers since 2001. This has been the reason why Domestic Tariffs have remained unchanged in the State. Further the State Govt. has also provided its free power to the Board in winter months at the cost approved by the Commission.

Vision of the Commission

- 1.30 The regulatory regime in the power sector in Himachal Pradesh commenced five years ago with the establishment of the Commission. The Commission has been making attempts to make the Board efficient, customer friendly and responsive to the regulatory changes by way of its Tariff Orders, Regulations, and Directions.
- 1.31 In spite of efforts made by the Commission, there has been little perceptible change in the regulatory response of the Board as seen in its ARR and Tariff filings. Even though it is an annual exercise and it is the fourth time that the Board has been filing the petition, it has been observed that conceptual clarity, non-adherence to regulations and insufficient data analysis issues still remain.
- 1.32 The Board has been unable to develop organisational capacity in terms of formation of effective regulatory affairs unit. It has neither streamlined its information collation processes nor established any information system for effective reporting. It has not been upgrading the skills of its finance personnel. Simple accounting mistakes remain in the petition with no plausible reasons or justification provided for any number.

- 1.33 Board should be aware of its strategic importance in the State and take proactive measures to become a revenue generator for the State. It can be achieved by promoting internal efficiencies, enhancing employee productivity and serving consumers. It has to benchmark itself with electricity utilities in States like Andhra Pradesh, Gujarat, Karnataka, and Delhi to adopt measures like setting up customer care centres, process improvement and IT system implementations, etc. Examples are also abundant in other infrastructure industries like telecom, banking and railways to understand how consumer service levels have improved.
- 1.34 It is a well understood fact that the sector can move into the path of greater efficiency and financial sustainability only when the Government as the owner and policy maker, regulator and the licensee work towards meeting the objectives as Stated in the Electricity Act.
- 1.35 In the Tariff Order for FY05, the Commission had directed the Board to submit a proposal for introducing a Multi Year Tariff (MYT) framework but the same has not been responded to by the Board. The Commission has been deliberating on introduction of MYT in its concept papers while reviewing the Tariff Filing of the Board since last two years and has been requesting the Board to conduct certain studies. No affirmative action has been seen from the Board.
- 1.36 In spite of the constraints in moving towards an MYT framework on account of the absence of credible, accurate and exhaustive information, and resistance of the Board, Commission feels that there is a need to introduce a MYT Framework in the State to incentivize the Board for cost optimization and innovation.

Need for Multi Year Tariff Regulations

- 1.37 The broad aims of the MYT regime are that since the State of the network and operations of the Licensee, especially the generation and distribution sector are in a critical shape, the Commission would like a long term plan for the resurrection and commercial and operational viability of these sectors. The Commission would also like to set some long term targets for the licensee and impart predictability for the licensees in terms of the ideal outcomes expected from the Licensees. On the costs front, the Commission recognises that there are a set of costs which the Licensee can satisfactorily control and there is another set of costs over which the Licensee does not have significant control.
- 1.38 Present tariff methodology involves an annual review of licensees' costs and revenues. This review is conducted using well-established regulations and guidelines and follows a clearly Stated tariff policy. Licensees desire would be for:
- (a) a more quantitative description of tariff policy and standards of performance to avoid different interpretations
 - (b) a Stated policy as to how risks that are beyond their reasonable control will be dealt with, and

- (c) a regulatory regime that gives them more flexibility in managing their operations and investments and hence result in utility(ies) viability.
- 1.39 Further, electricity business has certain characteristics that require these concerns to be addressed to make it viable.
- (a) Electricity distribution system is a capital-intensive infrastructure requiring large investments made in anticipation of demand. Licensees need to raise large funds to build / renovate network and contract new generation capacities, which becomes difficult if future income is risky and unpredictable.
 - (b) Electricity generation and consumption happen together. There is no storage – so licensees have to build or contract capacity to meet peak demand (used only for a short period) of consumers, maintain a reserve for system reliability, and import from other States if availability at any instance is insufficient to meet requirements.
 - (c) Licensees are subject to universal service obligation, which mandates them to supply to all consumers irrespective of market conditions. Also, licensees cannot directly control how much or when electricity will be consumed.
- 1.40 In a regulated business such as electricity distribution and retail supply, the regulatory principles are expected to address these characteristics of the electricity industry.

MYT Framework and the Prescriptions in the National Tariff Policy

- 1.41 The NTP has Stated that the MYT framework is to be adopted for any tariffs to be determined from April 1, 2006. The Commission feels that implementation of MYT Framework may be difficult for introduction from 1 April 2006 in the context of Himachal Pradesh after considering capacity of the licensee and information requirements. It is desirous of implementing a framework from 1 April 2007 and would like to come out with a Consultative Paper for introduction of the MYT Principles in the State of Himachal Pradesh.
- 1.42 The consultative paper will bring out the approach of the Commission on setting the baseline parameters and the efficiency trajectory for the licensees.
- 1.43 For example – in case of estimation of loss levels, the National Tariff Policy requires that by 2011-2012, the loss levels must be brought down to comparable international level. This will definitely mean better performance leading to lowering of average cost of supply and consequently, lower tariffs.
- 1.44 It may be pointed that the National Tariff Policy, in para 8.2.1 (2), suggests as follows:

“AT&C loss reduction should be incentivised by linking returns in a MYT framework to an achievable trajectory. Greater transparency and nurturing of consumer groups would be efficacious. For Government owned utilities improving governance to achieve AT&C loss reduction is a more difficult and complex challenge for the SERCs.

Prescription of a MYT dispensation with different levels of consumer tariffs in succeeding years linked to different AT&C loss levels aimed at covering full costs could generate the requisite political will for effective action to reduce theft as the alternative would be stiffer tariff increases. Third party verification of energy audit results for different areas/localities could be used to impose area/locality specific surcharge for greater AT&C loss levels and this in turn could generate local consensus for effective action for better governance. The SERCs may also encourage suitable local area based incentive and disincentive scheme for the staff of the utilities linked to reduction in losses”

- 1.45 The Commission recognises the requirement of a well defined and enduring set of financial principles that may be applied on a multi - year basis to provide a stable tariff regime and reduce the regulatory risk. It believes that the successful achievement of these objectives will create conditions for inflow of capital and improvement of the operating efficiency.
- 1.46 These measures are intended to help mitigate licensee’s business uncertainty and financial risk. The cost of uncertainty and risk, otherwise, falls on both licensees and consumers.
- 1.47 As a State of Himachal Pradesh has T&D losses at 18.08% for the Financial year FY06, while some of the regions may have comparatively higher losses than the average loss levels. In this regard, the Commission will also look at the performance for specific geographical regions and direct the licensees to implement scheme for providing incentives and disincentives to the staff of the utility later. Such approaches will be detailed for each element in the Consultative Paper on MYT Framework.
- 1.48 The Commission would also like to mention that the operating conditions for Himachal Pradesh are unique and the design of tariff related financial principles must address the specific problems faced by the power sector in the State.
- 1.49 The Commission would like to further highlight that introduction of the multi year tariff regime is an intensive process and has to be accompanied by discussions, hearings and submission from different stakeholders about the applicability of conditions and provisions under the proposed regime. The Commission will have to also satisfactorily deal with data inadequacies and starting levels of performance of the Licensee as well its achievements.

A2: FILING OF ARR AND TARIFF PETITION FOR FY07

Procedural Background

- 2.1 The Board filed the application for its Aggregate Revenue Requirement on November 30, 2005 and submitted further details based queries of the Commission and validation sessions on 9 January'06, 10 April'06, 10 May'06 and 2 June'06 before the Commission along with the application for determination of tariffs for its Distribution and Retail Supply Tariff. Subsequently the Board has also filed for determination of its Transmission Tariffs.
- 2.2 M/s PricewaterhouseCoopers were appointed as consultants to assist the Commission in assessment of the ARR and determination of the relevant tariffs.

Interaction with the Petitioner

- 2.3 Since the submissions of the filings by the Board there have been a series of interactions between the Board 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.
- 2.4 The Commission conducted the first technical validation session on the petition filed by the Board from March 16 to March 18, 2006 during which the discrepancies and additional information requirement in the petition were highlighted.

Admission Hearing

- 2.5 The Commission also held Admissibility Hearing for the admission of the petition, and admitted the petition on March 18, 2006 and issued an interim order to the Board specifying April 10, 2006 as the last date for supplying additional information/clarifications and justifications as sought by the Commission.
- 2.6 The Board, on April 10, 2006 sought an extension up to April 29, 2006 for supplying the requisite information. The same was granted by the Commission.
- 2.7 The Board, on April 29, 2006 sought further extension up to May 10, 2006 for submitting the information askedt by the Commission. The Commission granted the extension.
- 2.8 The information/clarifications were submitted by the Board on May 10, 2006. The Commission conducted the second technical validation session on May 24, 2006 wherein the Commission pointed out omissions and inconsistencies in the information submitted and asked the Board to submit the updated and corrected Tariff Formats and the revised ARR figures. The Board requested for time upto June 2, 2006 for filing the required data and clarifications and the Commission granted the same.

- 2.9 The information/clarifications were submitted by the Board on June 2, 2006. The Commission conducted a third Technical Validation session on June 13, 2006 and held a meeting with the Board to point out omissions and inconsistencies in the information submitted. The Commission directed the Board to submit the corrected data asked for. The Board submitted its reply on 16th June 2006.
- 2.10 Besides the technical validation sessions the Commission regularly interacted with the Board officials for information and clarifications.

Public Hearings

- 2.11 The Commission invited suggestions and objections from the public on the tariff petition filed by the Board in accordance with section 64 (3) of the Act, The public notice in respect of this was published on March 31, 2006 in the following newspapers:
- (a) The Times of India (Chandigarh edition).
 - (b) Amar Ujala (Chandigarh edition).
- 2.12 The last date for submission of the suggestions and objections was April 28, 2006. The salient features/disclosure of the petition were published by the Board in the following newspapers:
- (a) The Tribune (Chandigarh edition) March 30, 2006 and April 7, 2006
 - (b) Amar Ujala (Chandigarh edition) March 31, 2006 and April 7, 2006
- 2.13 The Commission received 14 objections by the stipulated date of April 28, 2006. It was sent to the Board for filing of its responses. The Board filed its replies to the objections set out by various objectors by May 12, 2006. A copy of the replies prepared by the Board to the suggestions and objections received was sent to the individual objectors. The objectors were also informed that they could submit their rejoinder, if any, to the Commission with a copy to the petitioner by May 22, 2005.
- 2.14 The Commission proposed to hold the public hearings on 29 May 2006 and 30 May 2006 at the Commissions Court Room in Shimla.
- 2.15 The Commission issued a public notice informing the public about the above-mentioned schedule of public hearings. All the parties who had filed their objections /suggestions were also informed about the date, time and venue for presenting their case in the public hearings.
- 2.16 The Commission had appointed Sh. P.N. Bhardwaj as consumer representative vide order dated May 18, 2006 in pursuance to the provisions of section 94(3) of the Electricity Act 2003, to represent the interest of the consumers in all proceedings before the Commission.

2.17 The hearings were held on 29th and 30th May, 06 at Shimla wherein representatives of the objectors pleaded their case. The issues and concerns voiced by various objectors have been carefully examined by the Commission. The major objections raised in the public hearings, have been summarized in section 3.

Inconsistencies in the ARR and the Tariff Petition

2.18 The petitioner has not made the filing as per the Himachal Pradesh Electricity Regulatory Commission (Guidelines and Formats for Tariff Filing) Regulations, 2005 as specified by the Commission. Some of the issues which are worth highlighting are:

- (a) Trading Formats were not filed by the petitioner even though it has been trading substantial amount of energy available after meeting its own State requirements
- (b) Segregation of costs across generation, transmission and distribution has not been conducted on scientific principles and assumptions made in past year filings were retained with no explanation or justification. The Commission has had to accept the proportion considered by Board in the absence of the Fixed Assets Register and proper segregation of various cost components.
- (c) Segregation of generation costs across its own generating stations was not done. Commission has assumed the tariffs for the HPSEB's own generation stations at similar levels of FY06 in absence of any information in FY07. However these rates are not used for calculating cost of generation for HPSEB.
- (d) Basis of assumptions for elements like consumer numbers, slab-wise consumption, connected load, losses, power factor, contract demand, night consumption, peak load, and cost were not provided.

2.19 The Commission was faced with the problem of arriving at the final figures particularly when the objections/ suggestions on the applications had been received based on the data/ information contained in the original applications. The Commission has preferred to consider the past data available with it to arrive at the final figures.

2.20 The Commission is of the view that the petition submitted by the Board does not follow the philosophy as put forward in the Tariff Concept Paper.

- (a) Board has not developed a Cost of Serve Model nor has it taken into account the Average Cost of Supply while designing its tariffs for various consumer categories.
- (b) Board has proposed a high increase in tariff for the EHT & HT industrial consumers. The later is the subsidising category where the tariff hike proposed

is of the order of 25%, while no tariff increase has been proposed for subsidised categories such as domestic and agricultural consumers. Such a tariff structure would further increase the cross subsidies and distort the tariff structure rather than rationalize it.

- 2.21 The tariff petition submitted by the Board is based on the objective of increasing cross subsidy, thereby ignoring the principles set out by the Commission and the objects and purposes of the Act as well as the National Tariff Policy.

A3: OBJECTIONS FILED AND ISSUES RAISED BY CONSUMERS DURING PUBLIC HEARINGS

3.1 The following objectors have filed written objections to the Tariff petition of the Board and the issues raised along with the replies given to the objections by the Board are discussed in contextual sections that follow.

- (a) Kullu Hotel & Guest Houses Association, Kullu
- (b) NIT, Hamirpur
- (c) Warden Working Women's Hostel
- (d) M/s HM Steel, Kala-amb
- (e) IPH Department, Shimla
- (f) Laghu Udyog Bharti, Baddi
- (g) Himachal Small Hydro Power Association
- (h) Mehatpur Industries Association
- (i) CII , PIA and BBN Industries Association
- (j) M/s ACC, Gagal
- (k) M/s Auro Spinning Mills, Baddi.
- (l) M/s Gujrat Ambuja Cement, Darlaghat.
- (m) Sh.P.N.Bhardwaj
- (n) Manali Hoteliers Association

Petition filed by the Board

3.2 The objectors pointed out the following issues related to the Tariff petition filed by the Board:

- (a) petition is incomplete and inconsistent with lot of information gaps,
- (b) power house wise details not complete,
- (c) present petition be deferred till the matter regarding the previous tariff order is decided by the Appellate Tribunal,

- (d) petition does not mention how the revenue gap for the previous years is to be covered,
- (e) transmission and bulk supply tariffs not mentioned in the tariff petition,
- (f) tariff increase has been proposed only for LS category which is discriminatory,
- (g) low own generation was leading to high power purchase costs for the Board,
- (h) free power supplied by GoHP was priced very high and in fact the costliest source of power,
- (i) Board has projected very high R&M costs,
- (j) employee costs as projected in the petition is very high and should be pegged at last years figure,
- (k) low revenue realization from domestic category for the previous year as compared to the Tariff order,
- (l) higher T&D losses has resulted in excess power purchase of Rs 41 Cr
- (m) interest and financial charges are very high,
- (n) going by last year's Tariff order an additional subsidy of Rs 23 Cr will have to realise from the Govt,
- (o) high interest cost was projected on overestimated investments,
- (p) reasonable Return claimed was very high,
- (q) A&G expenses and depreciation are on higher side,
- (r) very high generation cost projects including Larji be discouraged by seeking clearance from the Commission.

3.3 The compilation of the replies to the above issues as filed by HPSEB in its rejoinder are as follows:

- (a) The petition filed has been examined by the Commission and a list of deficiencies has been prepared by the Commission and the Board has furnished additional information to the Commission. Status of compliance on various objections has also been provided to the Commission and is also available on the Boards' web-site.

- (b) Board proposed to cover the revenue gap partly through tariff increase and partly through Regulatory Asset.
- (c) The categories like CS, LS, NDNC and WPS use the power as economic activity which they recover through cost of goods, while it is an expense to DS category. So tariffs of industrial consumers have been increased.
- (d) Low generation was due to less snow and rainfalls
- (e) Pricing of free power was as per the policy of State Govt.
- (f) Loss reduction was not possible due to geographical conditions of the State and the reduction trajectory of 1% reduction is not possible.
- (g) R&M costs are low due to cash deficit. This needs to be increased for better upkeep of the plants.
- (h) Employee cost is an inherited legacy from past and increase is mainly due to DA, merger of DA etc. Increase of only 5% sought.
- (i) Petition was made complete after attending to the comments of the Commission and updated compliance of directions carried on the web-site.
- (j) Projections of Demand are based on past trends and therefore cannot be controlled. The Commission may allow the difference between projections and actuals.
- (k) Tariffs approved not adequate to meet costs hence forced to raise loans to cover the shortfall.
- (l) Investments are planned for increasing generation capacities and improve quality of power
- (m) Copy of the Investment Plan has been submitted to the Commission.
- (n) Detailed working of the Transmission charges have been submitted to the Commission in response to its Interim Order dated 18.03.2006.
- (o) Board has decided to purchase free power only in winter season as the demand is high during this period, which would be cheaper if purchase through PTC.
- (p) Major reason for increase in Power Purchase Cost is change in the State Government policy in respect of sale of its free power share from various Hydel generation projects.

Commission's Observations

- 3.4 The Commission agrees with the objectors that the petition filed by the Board was not in conformity with the provisions of the Electricity Act 2003, the National Electricity Policy, the National Tariff Policy as well as the signals given in the previous Tariff Orders issued by the Commission. No increase was proposed for domestic and agriculture categories by the Board. Instead, an increase in the tariffs of the subsidizing categories had been proposed. The tariff petition had many information gaps on many aspects and despite the fact that several validation sessions were held, details relating to several key parameters of the ARR were not provided to the satisfaction of the Commission with the result that the Commission was left with no option but to exercise prudence check and to make suitable assumptions to fill the gaps for finalising the ARR.
- 3.5 The Board only filed the tariff petitions for generation tariffs of three of its own projects, and for the other projects, which were found to be inadequate for the purpose of determination of tariffs. The Commission proposes to issue directions to the Board to file separate and complete tariff petitions for its new and old projects, giving details of all costs, IDC, means of financing etc.
- 3.6 The Board proposes to cover the revenue gap through regulatory asset. The Commission is not in favour of allowing the creation of a Regulatory Asset at this juncture as it feels that this should be resorted to in critical situations, which have not arisen.
- 3.7 The Commission is concerned with the sharp decline in generation from its own projects and had directed the Board in the tariff order of FY06 to carry out detailed investigation into the reasons for the decline of generation since the Board needs to run these projects optimally to enhance its revenues. Unfortunately the Board has not taken any action in this regard and the issue has been discussed in the chapter on compliance of directions.
- 3.8 The Commission is pleasantly surprised at the Board's presentation in the revised ARR that the T&D losses within the State are about 18% which is a quantum jump from the last year figure. The Board has not given a plausible reason for this. Commission would expect further reduction once the APDRP schemes are completed. However, to settle the issue once for all, the Commission has assigned the T&D loss study to consultants and would take a final view once the study is completed.

- 3.9 The Commission had in its previous Tariff Orders directed the Board to restructure high interest loans and some progress has been made on this front. However, in the absence of qualitative and detailed information on the loans taken by the Board, the Commission is concerned that the Board may have diverted certain loans to bridge the cash loss, which is not desirable. The Commission would exercise utmost prudence while allowing interest on such loans, in the larger interest of the consumers. The Commission would also exercise prudence checks on the R&M costs, A&G expenses etc. in this tariff order.

Performance and functioning of the Board

- 3.10 The objectors in their submissions cited various lacunae in the functioning of the Board as well as highlighted the operational deficiencies
- (a) Quality of power needed improvement.
 - (b) Low power generation from own projects causing higher power purchase cost.
 - (c) T&D losses were on the higher side and continued to be high despite APDRP projects. A lower T&D loss would also mean lower power purchase costs.
 - (d) Employee cost was very high.
 - (e) Interest expenses are very high and the Commission may investigate entire accounts of the Board.
 - (f) The Board needs to cut employee costs, introduce technology in its functioning, and simplify procedures.
 - (g) CWIP is very high, needs justification.
 - (h) Heavy outstanding against the Govt. departments.
 - (i) Investment plan for the year FY07 has not been highlighted.
 - (j) Islanded mode of grid operation be removed in time frame.
 - (k) Interest expenses are very high. Board is heavily debt ridden and the petition does not bring out anything to control it. The Board should bring out a white paper on its debt burden.
 - (l) Status of the Govt. with respect to free power and fixation of trading margin.
 - (m) The Board needs to be given full autonomy
 - (n) Employee costs very high and there are a pool of surplus manpower.

3.11 The compilation of the replies to the above issues as filed by HPSEB in its rejoinder are as follows:

- (a) Most of the tripping is caused by natural factors like thunderstorms etc. The Board is committed to quality power
- (b) All the investment decisions are taken by the Board based on cost benefit analysis.
- (c) The Board strongly objects on the comments made on the functioning of the Board.
- (d) The suggestions given shall be examined based on feasibility of their implementation.
- (e) Would only like to review PLEC after Commissioning of Larji and Khauli HEPs.
- (f) The Board making all efforts to ensure quality and un-interrupted power supply.
- (g) The Board is complying with the directives and committed for efficiency gains
- (h) Loans restructures and major projects are likely to be completed this year
- (i) All possible efforts are made to recover the outstanding amount from Government departments/undertakings.
- (j) The HP grid is fully synchronized with the northern grid. Hence the observation is incorrect.
- (k) The Board shall be appointing the consultants for compiling the fixed assets register of the Board in compliance of the directions of the Commission, which will address the issue of high CWIP.
- (l) T&D losses have reduced from 26.61% in 2001-02 to 21.35% in FY06. The topography of the State is such that the load is scattered and prone to rainstorm and thunderstorm involving risk of human life.
- (m) The Board has restructured loans worth Rs. 727 Cr resulting in net saving of Rs.59.36 Cr. The rating of the Board is improved from 8 to 7 in the FY 2005.
- (n) State Government, being the owner of the Board manages its functions through its nominees and this is not to be seen as interference in the functioning of the Board.

- (o) The goals set in the first ARR continues to be the guiding factor for the Board
The current loss target of the Board is reduction in losses @ 0.5% for FY07.
- (p) Finalisation of the tariff for Baspa HEP is pending with the Commission

Commission's Observations

- 3.12 The Commission is seized of the matter and several directions have been issued in the previous Tariff Orders to curtail and reduce the high employee cost. However, at the same time the Commission is also aware that there is an acute shortage of engineers be it Assistant Engineers or Junior Engineers, and since these are the cutting edge posts for delivering quality services, the Commission proposes to allow recruitment for these posts in the interest of assuring reliable and quality power and efficiency improvement. The Commission also proposes to issue direction to the Board to introduce computers at all functional posts for improving efficiency and services.
- 3.13 The Commission is aware of the need for financial restructuring since all new projects are being financed through debt and there is an acute need for pumping in more equity to reduce the interest burden and also to claim higher ROE. Commission proposes to issue an advice to the State Govt. in this regard.
- 3.14 The Commission had issued several directions in the previous Tariff Orders and many of these have been stayed by the High Court. The issue has already been discussed in details in Section A11 of the Order.
- 3.15 The Commission is not satisfied with the investment plan submitted by the Board and had directed the Board during interaction with the WTM of the Board that the investment plan be revised and all necessary details be submitted before the Commission may approve it and hence the investment plan would not form part of this order and the interest approved would also be subject to true up based on the approved investment plan.
- 3.16 Regarding outstanding dues of the Govt., local bodies etc. the Commission had issued directions to this effect but these have been stayed by the High Court and therefore the Commission would not like to comment. Regarding the quality of power, the Commission has already put in place the Standard of Performance regulations and the licensee has to submit information on the indices prescribed in the regulations which would be regularly monitored by the Commission.

Regulatory Principles for the Order

- 3.17 The objectors had the following submissions with respect to the regulatory principles adopted for the petition as well as their requests to the Commissions
 - (a) The present petition be deferred till the matter regarding the previous tariff order is decided by the Appellate Tribunal for Electricity..

- (b) Truing up may be adopted by the Commission.
- (c) A multi year tariff framework should be adopted.
- (d) As per the National Tariff Policy multi year tariff framework has to be adopted from 2006 and the Board be asked to file petition on MYT principles.
- (e) Non-compliance of previous directions of the Commission was high.
- (f) The principles and norms followed in the previous tariff orders should be continued.
- (g) Tariff of LS category both for HT/EHT be reduced.
- (h) Demand charged and Energy charges needs to be rationalized.

3.18 HPSEB has replied that the Commission can take a view on the above issues.

Commission's Observations

- 3.19 The Commission is aware that the previous tariff order is under appeal in the Appellate Tribunal, but there being no stay of the Tribunal on issuing any fresh tariff order, the Commission is proceeding in the present tariff petition. However, the implications of the decision on the appeal, if any, would be taken into account through a truing up exercise.
- 3.20 The Commission had directed the Board vide direction 10.5.24 of the previous tariff order that they may come for truing up for the expenses and revenues. However the Board has not filed a request for truing up and neither it has submitted validated and authentic data for the same.
- 3.21 The Commission proposes to adopt MYT framework from the next tariff order and the broad parameters have been spelt out in Section A1 of this order.
- 3.22 The status of compliance of directions has been elaborated in A 11 of this order.
- 3.23 Regarding tariffs, the Commission is committed to follow the principles laid down in the Act, the National Electricity Policy, the National Tariff Policy and the Tariff Regulations framed by it.
- 3.24 The Commission proposes to rationalize the tariffs, especially with respect to the two-part tariff applicable to certain categories, keeping in mind the issues raised by the objectors and also the pleas made during the hearings and to re-categorize certain class of consumers. The details are in Section A9 of this order.

Tariff Related Issues

Small Industries

3.25 Single part tariff be approved to SMS category for loads upto 100 KW and all surcharges proposed in FY06 tariff order be removed. They have also proposed that standard voltage for loads between 50-100 KW to be approved as 400 / 415 V instead of 11KV. Some of the other issues raised in their objections are:

- (a) Industries be categorised on KVA basis rather than KW basis.
- (b) Standard voltage to be also defined on KVA basis.
- (c) Lighting load exemption during peak hours be replaced by certain percentage of the entire contract demand.
- (d) No demand charges should be levied for planned power cuts.
- (e) Demand charges to be levied on 80% of the contract demand or actual whichever is higher.
- (f) Consumers to be given options to revise contract demands several times in a year.
- (g) Peak load restrictions are removed in view of surplus power and PLVC to be rationalized.
- (h) Factory lighting meters removed which may be reinstalled and factory lighting be charged at normal rates

3.26 The compilation of the replies to the above issues as filed by the Board in its rejoinder are as follows:

- (a) To ensure full recovery, removal of demand charges requires increase in the energy charges which will deprive the high end users the benefit of lower effective tariff and hence the Board would like to continue with the current tariff structure.
- (b) The Commission has decided the standard voltage to help the Board to minimize the T&D losses as losses at higher voltage are minimal. The Board would like to continue these provisions in the ensuing year.
- (c) The Board sees merit in categorization of industries on load in KVA instead of KW basis.
- (d) The Board sees merit in prescribing standard voltage of supply based on contract demand instead of connected load in KW basis.

- (e) Regarding Peak Load Exemptions - Lighting load requirements of power intensive unit would be more or less the same as in the case of general industry so allowing a fixed percentage of contract demand during peak hours is not desirable.
- (f) Board makes all out efforts to ensure no power cuts and as for any reduction in the demand charges on account of non-availability of power supply, that may require alternate mode of recovery to ensure full recovery of the ARR. So it is not feasible to make adjustment in the tariff on this account.
- (g) Change in the basis for working demand charges would require an increase in the demand charges per KVA to maintain overall revenue neutrality. So there is merit in charging demand charges based on contract demand as the consumer pays in proportion of the capacity blocked by them.
- (h) The Board feels it appropriate to change the contract demand once a year. The Commission to take an independent view.
- (i) PLVC act as a deterrent to ensure grid discipline and any incidence of violation thereof cannot be ignored and penalty shall be levied even in single instance of violation.

Hotels

- 3.27 Hoteliers have requested for single part tariff for hotels having load above 20KW and for reduction of tariff from Rs 4.25 per unit to Rs 3.50 per unit. Some of the other issues affecting the hotel industry as a whole are:
- (a) removal of LV supply surcharge;
 - (b) provision for a seasonal and off seasonal tariff.
- 3.28 The compilation of the replies to the above issues as filed by HPSEB in its rejoinder:
- (a) The Board has proposed a single part tariff and increase in tariff is proposed keeping in view the increased costs and full recovery.
 - (b) On the issue of LV surcharges, the Board said that the step is taken to minimize the T&D losses as losses at higher voltage are minimal and the Board would like to continue these provisions in the ensuing year.
 - (c) Issue of Tariff for season and off season has been discussed in detail and the Commission has clearly Stated that it is not in favour of separate tariff.

- (d) To ensure full recovery, removal of demand charges requires increase in the energy charges which will deprive the high end users the benefit of lower effective tariff. Board would like to continue with the current tariff structure.

Large Industries including Steel Industries

3.29 The Objectors pointed out certain shortcomings in the petition i.e. voltage-wise cost of supply, details of capital works in progress, employee's cost, generation plants, financial management, receipt of subsidy received from the State Govt. and loss to be taken for the financial year FY07. They have opposed the tariff increase proposed only for LS category which is discriminatory. Some of the other issues raised in their objections are:

- (a) Non-compliance with the Electricity Act 2003 – Reduction of cross subsidy and adoption of average cost of supply instead of Cost to Serve Model.
- (b) Abolition of peak load restriction.
- (c) Proposed tariff is same for HT and EHT consumers, which does not factor high initial costs.
- (d) Factory lighting meters removed which may be reinstalled and factory lighting be charged at normal rates.

3.30 The compilation of the replies to the above issues as filed by the Board in its rejoinder are as follows:

- (a) Determination of Cost of Service for EHT has been done as per tariff policy which States that the tariff may be within the range of +/- 20% of the average cost of supply.
- (b) Current tariffs are fairly close to the target of providing higher cross subsidy to the extent of 50% as specified by the GOI in respect of lifeline tariffs.
- (c) Existing tariffs for EHT category are lowest in the country. Even with the proposed hike, average revenue realisation would be around Rs. 2.72 per unit which is lower than the average cost of supply of Rs.3.40 per unit.
- (d) PL restrictions provisions shall be reviewed after Commissioning of Larji and Khauli.

WPS

3.31 The IPH Department, Shimla opposed the proposed hike in HT consumers of WPS category without any significant hike being proposed for LT consumers of WPS. Some of the other issues raised in their objections are:

- (a) Lift irrigation schemes should be charged at APS rates rather than WPS rates
- (b) WPS and APS categories be exempted from PLVC and PLEC .
- (c) IPH Deptt. be exempted from late payment surcharge of 1% due to paucity of funds which causes delays.
- (d) EHT category be introduced for WPS

3.32 The compilation of the replies to the above issues as filed by the Board in its rejoinder:

- (a) Increase in tariff is proposed in view of increased costs and full recovery of tariff.
- (b) PLVC is a deterrent to ensure grid discipline and hence the Board sees no merit in exempting consumers of this category from PLVC or PLEC.
- (c) Late payment surcharge cannot be exempted as Board works as a commercial entity.
- (d) Board sees merit in having separate category for supply of power for WPS at EHT level and like the Commission to take a final view in the matter.

Rural Consumers

3.33 Two part APS tariff be reverted to single part as it is difficult for the rural people to understand the schedule. They have proposed that a new category for rural consumers be created and focused for subsidy.

3.34 The Board has replied in its rejoinder that revision of tariff schedule is the jurisdiction of the Commission. The Commission to take independent view and petition of the Board be approved in the interest of justice.

Hostels

3.35 All hostels of the NIT be charged domestic tariff instead of NDNC tariff considering the nature of use.

3.36 HPSEB in its rejoinder has Stated that revision of tariff schedule is with in the jurisdiction of the Commission.

Commission's Observations

3.37 The Commission proposes to rationalize the two-part tariff for CS and SMS categories to give relief to small industries and small hotels. The Commission also proposes to rationalize the low voltage surcharge and high voltage rebate.

- 3.38 The rationalization of categories based on KVA would be done in due course but it would not be feasible in this tariff order as the relevant data is not available, in the absence of which the revenue projections could go haywire. Regarding levying no demand charges during power cuts, the Commission had also clarified during the hearings that demand charges are for recovery of fixed costs and therefore the demand is not justified.
- 3.39 Regarding PLEC the Commission agrees with the views of the Board that the PLEC are imposed to ensure grid discipline and the Board may decide when it wants to do away with these.
- 3.40 Regarding the demand for giving APS rates to WPS category it is not feasible since the Commission is guided by the principles laid down in the Act and the National Policies and the two categories cater to two different classes of consumers.
- 3.41 Regarding the request to allow domestic tariff to hostels where the students are paying the electricity bills and working women's hostel the Commission has accepted their demand and re-categorised them in DS category, with certain conditions.

Tariff of Small Hydro Plants

- 3.42 The Small Hydro Power Association in their submissions have challenged the generation tariff of Rs.2.50 fixed for SHPs as per the GOHP policy on account of the following and have asked for review of the tariff for SHPs:
- (a) increased construction and transportation costs,
 - (b) increase in royalty as free power,
 - (c) mandatory release of 15% water of the lean period,
 - (d) compensation to Deptt. of Fisheries,
 - (e) forest cess very high,
 - (f) transmission augmentation charges sought as Rs. 40 lakhs per MW by the Board
 - (g) increased MAT and Service tax
- 3.43 The Board in its rejoinder has Stated that the rate has been based on the notification of the GOHP which the Commission has also approved and hence no comments can be made. Relevant data has been asked from concerned Department and the Board would revert back to the Commission after examining the facts.

Commission's Observations

- 3.44 With respect to the objections of the Small Hydro Power Association, the Commission had clarified at the time of hearing that their objection to this tariff petition was misplaced and had advised them to file a separate petition along with all supporting documents and calculations, after which the Commission would examine the matter.

A4: INTERACTION WITH OFFICERS AND MEMBERS OF HIMACHAL PRADESH STATE ELECTRICITY BOARD

- 4.1 The Commission held formal interaction with the officers and Members of the Board, as per schedule given below to enable the Commission to understand the strategies, systems and the working procedures of their units as well as the problems and difficulties being faced by them and the suggestions proposed by them to bring about efficiency and improvement in the working.
- 4.2 Schedule of formal interactions with the Officers & Members of HPSEB and Corporations owned by HPSEB was as follows:

Table 1: Schedule of Interaction

S. No.	Date and Time	Officer
1.	1-6-06 at 11.30 AM	Chief Engineer Operation (South), Shimla
2.	1-6-06 at 3.00 PM	Chief Engineer Operation (North), Dharamshala
3.	2-6-06 at 11.30 AM	Chief Engineer Operation (Central Zone) Mandi
4.	2.6.06 at 12.30 PM	Chief Engineer (System Planning), Shimla
5.	2-6-06 at 2.30 PM	Chief Engineer (I&P), Sundernagar
6.	3-6-06 at 11.30 AM	Chief Engineer (Materials Management), Shimla
7.	3-6-06 at 12.30 PM	Chief Engineer (Transmission), Hamirpur
8.	5-06-06 at 11.30 AM	Chief Engineer (Generation), Sundernagar
9.	5.6.06 at 12.30 PM	Chief Engineer (PSP), Shimla
10.	5-06-06 at 2.30 PM	Chief Engineer (Larji), Bhunter
11.	6-06-06 at 11.30 AM	Chief Engineer (Projects), Shimla
12.	6-6-06 at 12.30 PM	Chief Engineer (System Op.), Shimla
13.	6-6-06 at 2.30 PM	Chief Engineer (Commercial), Shimla
14.	7-6-06 at 11.30 AM	MD, Himachal Pradesh Jal Vidyut Vikas Nigam Shimla
15.	7-6-06 at 12.30 PM	MD, Pabbar Valley Power Corporation, Shimla
16.	12-06-06 at 11.30 AM	Chairman and Members of the Board

- 4.3 Separate detailed questionnaires were issued for the interactive meetings with each officer in advance while for the Whole Time Members of the Board, a list of issues arising out of interaction with officers of the Board was forwarded
- 4.4 Responses to various questionnaires were submitted by the respective officers in writing on the dates of interaction, while some information was left out by them and additional information was supplied by them subsequently. Their responses to the questionnaires as well as the additional information supplied by them following the interactions are on record of the Commission.

- 4.5 The issues that were raised by the various officers of HPSEB and the Commission during these interactions are summed up below.
- 4.6 **Need for inducting more Engineers for proper succession planning** All the senior officers of the Board were unanimous on the issue that there was an acute shortage of graduate AEs and Diploma holder JEs which was adversely affecting the capabilities and efficiency of the various units. Chairman HPSEB informed that the Board was seized of the matter and the proposal for recruitment of AEs/JEs had been sent to the Govt. for approval. Commission agreed with this concern and emphasized upon the Members of the Board to undertake this recruitment immediately to maintain quality of engineering standards in the Board. It was also felt by the Commission that most of the Chief Engineers with whom it interacted were either newly posted officers or were to retire in a few months, which highlighted the need for proper succession planning. Commission is against giving relaxation in qualifications in R&P rules for cutting edge posts and this was agreed to by the Board Members.
- 4.7 Commission also suggested inducting specialists like CAs/CFAs and MBAs in Regulatory cell, System Operations, SLDC and some key areas of Accounts Wing in the HPSEB. The engineering cadre posts in specialised fields such as Planning & Design, SLDC, System Operations, System Planning, Commercial and Material Management should be manned by graduate/post graduate engineers only. Further these posts should be excluded from the purview of the promotion quota.
- 4.8 **Decision-making processes** It was mentioned by the officers of the Board that the decision-making process and the systems were not in sync with the modern management practices. The delays in the decision making affected time bound activities resulting into time and cost overrun of the schemes. The Commission was concerned about this issue and proposed that the Board may conduct a study to identify the present practices and processes and thereafter identify the bottlenecks and the changes necessary to bring about effective strategic management. Also there is need for change in rules of business of the Board for decentralized administrative and financial powers and streamline the rules/procedures for expediting decision-making process at all levels. Also there is need for streamlining of management information system.
- 4.9 **Unbundling and the Board's preparedness.** The Board informed that though the Board has prepared a plan for the proposed unbundling as per the Act, however the GOI on the request of the State Govt. has granted extension for a further period of six months i.e. up to 9/12/06. The Commission expects that during this extended period Government/HPSEB will take some action in this regard.

- 4.10 **Need for infusing more equity by GoHP for committing funds for cleaning the balance sheets.** The Commission mentioned that in view of the revenues that the State Govt. was getting from the sale of free power, it should perhaps divert a part of the revenue for increasing the equity and also for cleaning the balance sheet of the Board, which in any case the State Govt. would have to do once the unbundling takes place. A phased injection of funds would improve the fiscal health of the Board. The WTMs of the Board were in agreement and mentioned that they would pursue the matter with the State Govt.
- 4.11 **Rationalization of staff, redeployment, training and specialization in key activities.** The officers of the Board informed that the deployment of manpower needed to be rationalized based on the requirements of the field units. There was over manning in some areas and deficiency in other areas. A detailed unit wise study of workload was required to rationalize this along with revision of norms where normative approach is a must to be followed with respect to activities relating to distribution, maintenance, billing, etc. so that the existing sanctioned strength could be reviewed. Further the manpower lacked the skills needed to meet the demands of technological changes including computerization. Commission directed the HPSEB that the workers be trained to develop minimal skills and the Board may utilize the ITIs and other institutes in the State to re-train such manpower by devising special training programmes for the purpose. Any expenditure incurred on the activity would be permitted in the ARR requirements of the Board.
- 4.12 **Multi-lateral funding for the transmission system** The transmission plan for 2013 has been prepared by the Board. The Commission suggested that the Board may submit the proposal to multi-lateral aid agencies for developing the transmission system to meet the growing system needs and also to create redundancies to facilitate open access to consumers. The Board agreed to this and would initiate action in the matter.
- 4.13 **Environment Impact assessment study of ongoing projects.** The Commission expressed concern about the environmental aspects of the projects being executed by the Board and whether the EIA reports were being implemented in the true spirit. The Board informed that they are complying with the requirements and all steps necessary would be taken in future also.
- 4.14 **Contributory pension scheme instead of regular pension for all new recruitments.** Commission suggested that the Board may adopt contributory pension scheme for all new recruitments, as has been done by the State Govt. and Govt. of India to reduce future pension liabilities. The Board agreed to this and assured to proceed accordingly.
- 4.15 **Un-invested GPF of the employees** The Board gave the status of the un-invested amount of the GPF which stood at about Rs. 166 Cr. The Commission mentioned that directions to this affect had already been given in the previous tariff orders and the Board needed to take immediate steps to invest suitable amounts to cover the gap in

the coming years and to prevent a drain in the GPF corpus in view of the low interest regimen of the last several years.

- 4.16 **Debt sustainability study.** Commission stressed the need for a debt sustainability study to assess the DSCR and other parameters. The Board agreed to this suggestion and would come up with a suitable proposal
- 4.17 **Delegation of powers:** The Chief Engineers mentioned the need for delegating powers to CEs for doing need based internal transfers of employees and in financial matters. The Commission agreed with this and the WTMs of the Board agreed to look into the matter
- 4.18 **Computerized material management systems** Commission indicated the need for reduction in inventories and putting in place a computerized material management system with connectivity with all stores. The Board informed that the process was underway under the computerization plan in this respect being implemented in the Board. The Commission suggested to the Board for reduction of stores where feasible in case of transmission wing/project wing etc. It was also suggested to the Board to fix benchmark prices /rate contracts for some of the store items which are frequently procured by field units.
- 4.19 **Accelerated programme for renovation, modernization and up gradation of all hydro projects** The Commission mentioned the need to have a focus on accelerated RMU of existing power houses considering the greater returns and shorter timelines, The Board informed that some proposals had been sent to MNES, GOI and they would take up this issue for the remaining projects also. The Board also agreed to the suggestion of the Commission that incentives be given to the generation staff and would formulate a suitable scheme. The Commission suggested to the Board to take up the case with Govt. regarding subsidizing the O&M charges of hydel projects in tribal areas from the tribal development fund.
- 4.20 **Separate Protection unit** The various field officers mentioned that the power system reliability had been affected due to improper protection of the system. The present M&T unit is not fully equipped to handle modern electronic protection systems and there was an urgent need for having a protection unit with well qualified and trained engineers to ensure periodical testing calibration and updating the system protection installed from time to time at various generating and transmission stations to reduce the outages/tripping which will go a long way in providing quality power to consumers.
- 4.21 **Commercial losses** The Commission stressed the need for strengthening the monitoring/checking mechanism relating to all the industrial consumers and deploying more flying squads to detect thefts. The squads should be provided portable meter testing kits for checking electronic meters. Commission also suggested that the tenure be fixed for posting of staff and officers in revenue sensitive areas. The Commission felt that the HPSEB had been extremely lax in making the flying squads

effective as a result of which it was unable to curb power thefts and high T & D losses in certain areas. The Board agreed with the above suggestions.

- 4.22 **Allocation of power projects to Board.** The Commission queried about the basis on which the Board decides to take up new projects and felt the need for taking up most viable and cost effective projects in the State sector. The Board mentioned that after the experience of Larji, they are now more selective about the projects they undertake and viability is the key factor for such selection.
- 4.23 **Separation of design & construction from the existing O&M of generation** It was informed that the existing Generation Wing is looking after the work of design/construction of new hydro projects as well as operation and maintenance of existing plants. With new projects being taken up, the pressure of coordinating the various activities relating to implementation of the projects resulted in O&M activities getting less attention and this has resulted in sub optimal generation from existing plants. During the year FY06, about 120 MU were lost due to forced outages in various powerhouses, which could have been reduced with proper attention. Commission feels that all measures to reduce outages and optimize generation need to be imitated including separation of O&M from the existing generation wing as this directly affects the revenue of the Board.
- 4.24 **SPV generating companies.** The Commission felt the need for giving greater autonomy to new entities and that the size of the BOD needs to be reduced to ensure faster decision making. The Commission was of the opinion that the SPVs need to be structured based on best practices in PSUs like NTPC/NHPC etc. The Board mentioned that they have already taken some steps and the SPVs would be innovatively structured for greater efficiency and productivity. They would also consider a smaller BOD and take specialists from CPSUs in the BODs of these SPVs.
- 4.25 **Pre-paid metering** The pilot project in Shimla has been successful based on the feed back received from the field officers. Board suggested that it can be successfully implemented provided the tariff is slightly lower than the conventional metered consumers. The Commission agreed to look into this.
- 4.26 **Voluntary Retirement Scheme** The Board informed that the matter has been taken up with the State Govt. for providing additional funds for the purpose. Commission offered that in the interim some provision can be made in the current ARR so that the process is initiated since such measures to reduce employee cost are immediately required.
- 4.27 **Replacement of old vehicles /privatization of vehicles:** The matter was discussed with Board management who promised to continue the process further in a phased manner as agreed earlier during the review hearings in the Commission. Restrictions on movement of vehicle for field jobs' also need review by the Board.
- 4.28 **Separate cell for Private Sector Project monitoring** Various hydro projects have been allotted to private sector and will continue to be allotted to them in future also.

The execution of these projects has to be according to the terms and conditions mentioned in implementation agreements and desired standards and practices are required to be followed during execution as well as O & M stage. These have bearing on the environmental, ecology, cost of power etc. It is, therefore, very essential that for this purpose a separate cell under CE (PSP) with appropriate technical manpower is created to monitor and watch the interest of State as a whole.

- 4.29 **Computerisation and modern techniques:** During the interaction with various offices, it was felt that the computerization at all levels including administrative, personal management, finance and accounts, commercial activities, design and planning, drawings preparation, MIS etc. is required to be introduced in a big way. Simultaneously is the need to train and deploy the requisite suitably qualified/skilled manpower to cope with the latest art of technology introduction in all fields. This only can help in quick decision-making and efficiency & improvement in overall working of all units.
- 4.30 **GoHP Notification:** it was informed by the Board that State Govt. has notified Executive Magistrates to act as compounding officers in matters relating to theft etc, as per section 135 of the Act, which would not be practical, and officers of the Board need to be given this power. Further, special courts as per section 153 have not been set up by GoHP. Commission agrees the Board's view point and asked the Board to take up this matter with the Government of H.P.

A5: SUMMARY OF THE ARR PETITION

- 5.1 This Section summarizes highlights of the petition filed by the Himachal Pradesh State Electricity Board (“HPSEB“ or ” the Board”) for determination of the Annual Revenue Requirement (ARR) as well as Generation, Transmission & Bulk Supply Tariff and the Distribution & Retail Supply Tariff. The figures given in this Section are the submissions of HPSEB during the presentation made by them before the Commission on June 2, 2006.
- 5.2 It would be appropriate to point out here that the submissions made by the Board have been inconsistent during the entire tariff process with different sets of data being submitted in different submissions. Further, the calculations done by the Board had errors of summation and multiplication, which led to confusion during the analysis process.
- 5.3 In view of the above, the Commission has taken a view regarding the ARR of the Board based on the analysis of the data available to it in totality and has had to ignore various inconsistencies in HPSEB’s submissions. Further, in subsequent sections, some of the figures may not match with any of the submissions of the Board because of the following reasons:-
- (a) the Commission has apportioned certain costs to different businesses of the Board wherever required due to lack of such information from the Board.
 - (b) at many places, the figures indicated by the Board are not correct arithmetically. The Commission has undertaken all such corrections and has taken the correct figures into consideration. The Commission has viewed the different sets of information filed by the Board in totality to apply the prudence check and has not been guided by various misleading calculations and assumptions made by the Board.
- 5.4 HPSEB has projected the total energy availability for FY07 from its own generating stations and power purchase from other sources at 6146 MU (Own Generation of 1721 MU plus Energy available from outside purchase 4425 MU).

Sales projections

- 5.5 HPSEB has projected energy sales of 3905.85 MU for FY07 within the State. The projections have been made on the basis of past trends by applying two years’ Compounded Annual Growth Rate (FY 02-03 to FY05) on the estimated sales for FY06, except for Bulk supply, which is considered at FY06 levels.
- 5.6 The energy required to meet the demand of consumer within the States is 4792 MU after taking out transmission and distribution losses of 18.5% as per the estimates of HPSEB.

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Table 2: Consumer Category-wise Energy Sales

Energy Sales(MU)	Actuals - FY05	R.E - FY06	Proj. - FY07
Domestic	809.61	866.25	928.61
Antodya	0.18	0.34	0.37
Non Domestic - Non comm.	20.36	46.96	62.67
Commercial	224.00	218.65	239.38
Public Lighting	10.87	11.74	12.58
Small & Medium Supply	144.36	143.92	156.56
Large Supply	1347.49	1831.61	2020.14
Irrigation & Agriculture	25.26	24.74	28.12
Sub Total	2582.13	3144.20	3448.44
Govt .Irrg & Water Pumping	270.52	305.30	335.32
Temporary	3.04	10.24	14.38
Bulk Supply	98.47	107.70	107.70
Total Energy Sales	2954.16	3567.44	3905.85

Outside State Sales

5.7 HPSEB has been left with 1353 MU of extra power for sale outside the State .

Table 3: Outside State Sales Projection

Energy Sales to Outside State (MUs)	FY05 (Actual)	FY06 (Rev Est)	FY07 (Proj)
Energy available for sale to consumers outside State	1,659	1,722	1,353
Loss on sale outside State @ 3%	50	52	40
Sale outside the State	1,609	1,670	1,313

Transmission and Distribution (T&D) loss

5.8 The Commission had approved target T&D loss level of 19.5% in respect of sale within the State for FY06. This represents a reduction of one-percentage point every year from the level approved in FY 2001-02 i.e. 23.5%.

5.9 HPSEB has submitted that the T&D losses in FY06 were actually 18.08% instead of 19.5% as approved by the Commission in its last Tariff Order

- 5.10 HPSEB has projected the intra-State T&D loss for FY07 at 18.50% in line with the loss trajectory approved by Commission. No reasoning has been provided why the losses would increase from FY06 to FY07. The Board has contended that it would be difficult to reduce the losses below that level since energy handled is increasing!

Energy Availability

Own Hydel Generation

- 5.11 HPSEB has projected energy availability from its own generation as detailed in section below.

Table 4: HPSEB Projection - Own Hydel Generation

Power Station	Actual (FY05)	Rev Est (FY06)	Proj (FY07)
Bhaba	582	557	572
Bassi	271	259	286
Giri	153	206	163
Andhra	53	59	64
Ghanvi	74	72	76
Baner	43	46	39
Gaj	51	50	46
Binwa	32	33	29
Thirot	6	3	6
Gumma	6	13	9
Holi	1	8	19
Larji	0	15	360
Khauli	0	7	40
Micros (Below 3 MW)	25	27	20
Total Gross Generation	1,295	1,354	1,729
Auxiliary Consumption	4	4	8
Net Generation	1,291	1,350	1,721

- 5.12 The energy availability for FY07 is higher than FY06, mainly due to Commissioning of Larji and Khauli HEPs during the year.

Power Purchase Quantum from Other Sources

- 5.13 The quantum of power availability for HPSEB from various sources has been detailed in the table below. HPSEB has not segregated the energy to be purchased from these stations for its own consumption and the purchase to be made for outside State sales.

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Table 5: HPSEB Projection - Power Purchase Quantum

Source	FY06 (RE)	FY07 (Proj)
Bhakra Beas Management Board		
Old HP	43.80	43.80
New HP	129.26	142.00
Dehar	78.84	78.84
NHPC		
Chamera - I	65.57	63.00
Chamera - II	57.53	55.00
Chm II Unallocated 15% Winter		33.00
Salal	33.65	30.00
Uri	72.23	57.00
Tanakpur	15.48	17.00
Dhauri Ganga(7.7 MW)	13.20	40.00
Tehri HEP		90.00
PSEB - Shanan Share	45.00	45.00
PSEB - Shanan Share, At Cost(1 MW)	5.26	5.26
Banking	191.22	106.00
Bilateral Purchase	-0.03	0.20
DTL Banking	88.74	153.00
NTPC		
Rihand-I	276.07	240.00
Rihand-II (1st unit)	124.45	98.00
Rihand-II (2nd unit)	0.00	98.00
Unchahar -I	59.85	48.00
Unchahar -II	113.67	82.00
Anta -I (GF & LF)	102.31	95.00
Auria-I	133.69	136.00
Dadri(Gas)	143.10	149.00
Singrauli	111.11	0.00
Narora	69.01	79.00
Baspa-II (Purchase)	1028.25	1051.00
Nathpa Jhakri (1500 MW) - Purchase 22%	237.96	280.00
Nathpa Jhakri (1500 MW) - State of Region 2.47%	112.37	171.00
Khara (UPJVN)	65.96	55.00
Uttaranchal (UJVNL)	422.33	395.00
Private Micros	86.12	85.00
Free Power(GoHP's entitlement)		
NHPC (Bairasuil, Chamera-I & II	551.54	100.00

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Source	FY06 (RE)	FY07 (Proj)
PSEB (Shanan & Thein)	93.08	17.00
Naptha Jhakri	132.07	155.00
Baspa-II (IPP)	140.25	23.00
Malana (IPP)	50.45	7.00
Unscheduled Interchange (UI)	25.57	0.00
Unallocated Share		260.00
Total Purchase	4918.95	4583.10
External Losses	3.45%	3.45%
Net Energy Available to HPSEB	4749	4425

5.14 Some of the highlights of power availability

- (a) HPSEB's share in Tehri & Dhauli Ganga will be available to HPSEB during the ensuing year. Power purchase from private sector for FY06 and FY07 has been increased mainly due to Commissioning of Aleo and Masali HEP in FY06.
- (b) Due to increase in energy availability from own hydel stations, the Board has projected lesser gross power purchase for the FY07 than FY06.
- (c) External Transmission loss on Power Purchase in FY06 is taken at 3.45% by HPSEB, based on the actual loss levels for the first six months (as per NREB Report).

Energy Balance

5.15 Based on the data on estimated & projected sales, generation & purchases, the Energy Balance that has been prepared by the Board in FY06 and FY07 which is as follows:

Table 6: HPSEB Projection - Energy Balance

Energy Balance (MU)	FY05 (Actuals)	FY06 (Rev Est)	FY07 (Proj)
Availability - Own Generation	1,291	1,327	1,721
Availability - Power Purchase	4,157	4,749	4,425
Total Availability	5,448	6,077	6,146
Sales within the State (MUs)	2,954	3,567	3,906
T&D Loss % within the State	22.04%	18.08%	18.50%
Power Requirement within the State (MUs)	3,789	4,355	4,792
Power available for inter-State sale (MUs)	1,659	1,722	1,353
Transmission loss (outside the State)	3.00%	3.00%	3.00%
Net inter-State sale(MUs)	1,609	1,670	1,313
Total Sale (MU) – Within & Outside State	4,563	5,238	5,219
Overall Losses (MUs)	885	839	927
Overall T&D Losses %	16.24%	13.80%	15.09%

Annual Revenue Requirement

Cost of Power Purchase

5.16 The cost of power available from various stations has been projected based on actual bills received from various generating plants and CERC orders, if any. The cost of free power sourced from GoHP has been projected by the Board at Rs.3.04/unit – similar to FY06 rates.

5.17 HPSEB has provided station wise power purchase costs which has been summarised in the table below.

Table 7: HPSEB Projection - Power Purchase Cost

Source	FY06 (RE)			FY07 (Proj)		
	Energy Units (MU)	Rs Cr.	Paise/ Unit	Energy Units (MU)	Rs Cr.	Paise/ Unit
Bhakra Beas Management Board						
Old HP	43.80	1.75	40	43.80	1.88	43
New HP	129.26	2.55	20	142	3.12	22
Dehar	78.84	2.68	34	78.84	2.44	31
NHPC						
Chamera - I	65.57	9.18	140	63	8.19	130
Chamera - II	57.53	13.54	235	55	13.20	240
Chm II Unallocated 15% Winter				33	7.92	240
Salal	33.65	2.46	73	30	2.10	70
Uri	72.23	17.96	249	57	12.94	227
Tanakpur	15.48	1.82	117	17	2.02	119
Dhaulti Ganga(7.7 MW)	13.20	5.00	379	40	7.40	185
Tehri HEP				90	25.20	280
PSEB - Shanan Share	45.00	1.80	40	45	1.80	40
PSEB - Shanan Share, At Cost(1 MW)	5.26	0.21	40	5.26	0.21	40
Banking	191.22	45.63	239	106	26.39	249
Bilateral Purchase	-0.03	-0.01	242	0.20	0.05	250
DTL Banking	88.74	21.18	239	153	38.10	249
NTPC						
Rihand-I	276.07	49.70	180	240	39.60	165
Rihand-II (1st unit)	124.45	17.86		98	16.66	170
Rihand-II (2nd unit)	0.00	0.00		98	16.66	170
Unchahar -I	59.85	11.81	197	48	9.36	195
Unchahar -II	113.67	21.43	188	82	15.42	188

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Source	FY06 (RE)			FY07 (Proj)		
	Energy Units (MU)	Rs Cr.	Paise/Unit	Energy Units (MU)	Rs Cr.	Paise/Unit
Anta -I (GF & LF)	102.31	20.51		95	17.20	181
Auria-I	133.69	30.56		136	27.47	202
Dadri(Gas)	143.10	30.72		149	33.23	223
Singrauli	111.11	13.47	121	0	0.00	0
Narora	69.01	14.66	212	79	20.00	233
Baspa-II (Purchase)	1028.25	264.02	257	1051	283.77	270
Nathpa Jhakri (1500 MW)						
Purchase 22%	237.96	67.58	284	280	126.00	450
State of Region 2.47%	112.37	26.77	238	171	76.95	450
Khara (UPJVN)	65.96	2.44	37	55	1.65	30
Uttaranchal (UJVNL)	422.33	15.63	37	395	14.62	37
Private Micros	86.12	21.53	250	85	21.25	250
Free Power(GoHP's entitlement)						
NHPC (Bairasuil, Chamera-I & II)	551.54	139.77	253	100	30.40	304
PSEB (Shanan & Thein)	93.08	21.60	232	17	5.17	304
Naptha Jhakri	132.07	40.15	304	155	47.12	304
Baspa-II (IPP)	140.25	33.54	239	23	6.99	304
Malana (IPP)	50.45	12.14	241	7	2.13	304
Unscheduled Interchange (UI)	25.57	6.97	273	0	0.00	
Unallocated Share				260	50.70	195
Transmission charges – PGCIL, etc		61.68			75.00	
Total Power Purchase	4919	1050		4583	1090	

5.18 Some of the issues in projecting the cost of central sector stations are:

- The tariffs for FY06 for various NTPC Stations are yet to be determined by CERC under the new tariff guidelines effective from 1st April 2004.
- The tariffs for FY06 for various NHPC Stations are yet to be determined by CERC under the new tariff guidelines effective from 1st April 2004.

5.19 In view of unavailability of actual tariffs for these CGS stations, HPSEB has projected the costs of CGS and other stations:

- The Power Purchase cost for the year FY06 and FY07 for NTPC Stations is based on the bills received for the actual power availed from NTPC during FY06 except for Rihand II. In case of Rihand II, the billing rate for the recent

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most bills was considered for FY07, as there has been change in coal allocations.

- (b) The Power Purchase cost for NHPC stations for FY06 is based on the actual bills received during the year. The Power Purchase cost for FY07 has been projected based on the trends during the past few years and the availability for full fixed cost recovery of the plants as specified under the Central Electricity Regulatory Commission (CERC) regulations.
- (c) With regards to the purchase of free power from GoHP, the Board has been given the first right to draw this power through PTC in winter season at a price of Rs.3.04 per unit.
- (d) In case of private sector & inter-State projects, the power procurement is based on the provisions of the bilateral agreements or power purchase agreements. The availability & per unit cost for full FY 06 & FY 07 are based on the trend during the first half of FY 06 and in line with the agreements.

5.20 Board has also projected a cost of Rs 131.46 Cr towards arrears in prior period power purchase costs in case of Nathpa Jakhri Power, tariffs of which have to be determined by CERC.

Repair & Maintenance Cost

5.21 The Board has projected Rs. 26.64 Cr for FY07 as against Rs. 24.02 Cr for FY06 (Provisional). This amount is based on budget estimates received from Operating circles. The effective increase over FY06 works out to ~ 10%. This increase, as per the Board's assertion, is after considering 6% inflation and the other initiatives planned by the Board.

Table 8: HPSEB Projection - Repair & Maintenance Cost

Particulars	FY05 (Actuals)	FY06 (Rev Est)	FY07 (Proj)
Plant and Machinery	6.47	8.00	9.87
Building	1.85	2.50	2.82
Civil Works	1.70	2.20	2.60
Hydraulic Works	0.50	0.65	0.75
Lines, Cables Net Works etc.	20.85	28.00	31.07
Vehicles	-9.76	-12.00	-14.45
Furniture and Fixtures	0.06	0.05	0.08
Office Equipments	-0.01	0.30	0.33
Sub station maintenance by private agencies			
Any other items (Capitalisation)	-4.22	-5.50	-6.43
Total	17.44	24.20	26.64

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Employee Cost

- 5.22 Salaries & Allowances are estimated to increase based on 3 year CAGR between FY05 and FY07. This increase in salaries & allowances is mainly due to merger of Dearness Allowance to the extent of 50% of basic pay, as per adoption of Fifth Pay Commission by the State. Due to increase in basic salary, other allowances like HRA, which are linked to basic salary have also been increased in similar proportions.
- 5.23 As depicted in the table, Other allowances, Medical expense reimbursement, earned leave and staff welfare expenses for FY07 have been projected by the Board to increase by 5% to cover the cost of inflation.
- 5.24 Leave travel assistance, payment under workmen's compensation, Leave Salary Contribution for FY07 have been maintained at FY05 levels. The employee expenses projected for FY07 is Rs. 463.55 Cr

Table 9: HPSEB Projection - Employee Cost

Particulars	FY05 (Actuals)	FY06 (Rev Est)	FY07 (Proj)
Salaries	205.37	211.36	217.52
Merger of DA with Basic		105.68	108.76
Dearness Allowance	119.25	63.41	75.04
Other Allowances & Relief	32.78	33.00	34.19
Over Time	1.03	1.10	1.21
Medical Expenses Reimbursement	6.81	7.00	7.37
Leave Travel Assistance	0.08	0.08	0.08
Fee & Honorarium	0.01	0.01	0.01
Earned Leave Encashment	9.24	10.50	11.06
Leave Salary Contribution	0.23	0.90	0.90
Payment Under Workman Compensation And Gratuity	0.96	1.00	1.00
Staff Welfare Expenses	1.29	1.30	1.37
Payment/Contribution To PF Staff Pension And Gratuity			
c) Pension Payments	45.67	48.00	50.25
d) Gratuity Payment	15.64	20.38	17.7
Any Other Items	1.83	1.97	2.05
Bonus/Exgratia To Employees	0	0.36	0.36
Grand Total	440.19	506.04	528.87
Chargeable To Construction Works	67.28	58.49	65.32
Employee Costs	372.91	447.55	463.55

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Administrative & General Expenses

- 5.25 The Board has projected Rs. 47.54 cr for FY07 as against Rs. 26.04 cr for FY06 (Provisional). This amount is based on budget estimates received from Operating circles.
- 5.26 Over and above the estimates received from operating circles, the Board has provided for special initiatives like valuation of Assets – Rs. 15 cr., Consumer Interaction Programme – Rs. 2.5 cr. and Consumer Redressal Forum – Re. 0.20 cr and under Miscellaneous Expense - Rs. 2 cr. Excluding the special initiatives, the A & G expenses works out to Rs. 27.84 Cr and the effective increase over FY06 is ~ 7%.

Table 10: HPSEB Projection - Administrative & General Expenses

Particulars	FY05 (Actuals)	FY06 (Rev Est)	FY07 (Proj)
Rent rates and taxes (Other than all taxes on income and profit)	1.02	1.10	1.20
Insurance of employees, assets, legal liability	0.01	0.01	0.01
Telephone, Postage, Telegram, Internet Charges	2.25	2.50	2.67
Consultancy Charges	0.08	0.08	0.09
Conveyance And Travel (vehicle hiring, running)	11.59	12.95	13.72
Regulatory Expenses & HPERC License Fee	2.56	2.12	2.45
Ombudsman Expenses		0.54	0.57
Consumer Forum/ Redressal Forum		0.00	0.20
Sub-Total of Administrative Expenses	17.51	19.30	20.91
Fee And Subscriptions Books And Periodicals	0.09	0.16	0.11
Printing and Stationery	1.29	1.40	1.53
Advertisement Expenses (Other Than Purchase Related) Exhibition	0.27	0.30	0.32
Electricity Charges to offices	1.69	2.14	2.20
Water Charges	0.05	0.10	0.10
Miscellaneous Expenses	1.57	1.75	3.85
Public Interaction Program		0.00	2.50
Any Other expenses (Valuation of Assets)		0.00	15.00
Sub-Total of other charges	4.96	5.85	25.61
Legal Charges	0.28	0.30	0.36
Auditor'S Fee	1.35	1.50	1.60
Frieght - Material Related Expenses	2.91	2.98	3.40
Total Charges	27.01	29.93	51.88
Total Charges Chargeable To Capital Works	4.47	3.89	4.34
Total Charges Chargeable to Revenue Expenses	22.54	26.04	47.54

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Depreciation

5.27 The effective rate of depreciation for generation, transmission and distribution has been worked out as 2.48%, 2.59% and 2.35% respectively by the Board for financial year FY05 as per Audited accounts. The same rate has been applied to the opening GFA of FY06 and FY07 to arrive at the depreciation for the respective years.

Table 11: HPSEB Projection - Depreciation

Particulars	FY05 (Actuals)	FY06 (Rev Est)	FY07 (Proj)
GFA - Opening Balance			
Generation	714.38	738.1	821.36
Transmission	406.83	627.63	698.43
Distribution	672.68	826.85	919.75
Others	0	0	0
Total	1793.89	2192.58	2439.54
Net Additions during the Year			
Generation	23.72	83.26	500
Transmission	220.8	70.8	100
Distribution	154.17	92.9	150
Others	0	0	0
Total	398.69	246.96	750.00
GFA - Closing Balance			
Generation	738.1	821.36	1321.36
Transmission	627.63	698.43	798.43
Distribution	826.85	919.75	1069.75
Others	0	0	0
Total	2192.58	2439.54	3189.54
Depreciation for the Year			
Generation	17.71	18.30	20.36
Transmission	10.53	16.24	18.08
Distribution	15.81	19.43	21.62
Others	0	0.00	0.00
Total	44.05	53.98	60.06
Depreciation Rate %			
Generation	2.48%	2.48%	2.48%
Transmission	2.59%	2.59%	2.59%
Distribution	2.35%	2.35%	2.35%
Others			
Total	2.46%	2.46%	2.46%

TARIFF ORDER FINANCIAL YEAR FY07

Interest & Finance Charges

- 5.28 The interest expense for FY06 has been worked out by the Board to Rs. 249.76 Cr. The interest expenses for FY07 are proposed on the basis of interest liability for FY07 on the loans outstanding as on 1st April 2006 at agreed rates and prorata interest on fresh loans proposed to be raised in FY07 at prevailing market rates. A detailed computation in this regard is enclosed herewith.
- 5.29 A portion of the interest expense is charged to capital works as the funds are used for incurring capital expenditure. The actual amount for interest capitalization for FY06 works out to Rs. 120 Cr as per provisional account i.e. 6.81 % of the average capital work in progress for FY06. The capitalisation of interest for FY07 has been estimated on same basis as 6.81% of the average Capital work in progress during FY07 and the amount works out to Rs. 109 Cr.

Table 12: HPSEB - Interest Expenses for FY06

Particulars (Rs Cr)	Opening Bal as on 1.4.05	Receipts During FY06	Repaymen t during FY06	Closing Balance as on 31.3.06	Rate of Interest	Interest Paid during FY06
LIC	279.16	0	4.39	274.77	8% to 9%	22.37
REC	229.66	28.28	131.78	126.16	7.25% to 13%	16.41
PFC	862.56	118.29	63.28	917.57	5.5% to 10.75%	76.12
Market Bonds (SLR)	35.49	0.00	0.00	35.49	11.5% to 13%	4.19
Bank Loans	220.95	302.11	4.50	518.56	7.5% to 9%	24.86
Govt Loan /APDRP	18.71	1.97	0.55	20.13	11.5%	1.88
Non SLR Bonds (HPSEB)	482.96		67.87	415.09	8% to 14.48%	54.93
Non SLR Bonds (HP Govt)	423.08		75.79	347.29		
Over draft						20.00
GPF						18.00
Finance & Other charges						11.00
Total	2552.57	450.65	348.16	2655.06		249.76

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Table 13: HPSEB Projection - Interest Expenses for FY07

Particulars	Open Bal as on 1.4.06	Receipts During FY07	Repayment during FY07	Closing Balance as on 31.3.07	Rate of Interest	Interest to be Paid during FY07
LIC	274.77	0	4.26	270.51	8% to 9%	24.73
REC	126.16	103.74	36.00	193.90	7.25% to 13%	17.12
PFC	917.57	47.40	70.00	894.97	5.5% to 10.75%	82.67
Market bonds (SLR)	35.49			35.49	11.5% to 13%	4.19
Bank Loans	518.56		161.68	356.88	7.5% to 9%	30.69
Govt Loan /APDRP	20.13			20.13	11.5%	0.00
Non SLR Bonds (HPSEB)	415.09		32.83	382.26	8% to 14.48%	43.25
Non SLR Bonds (HPGovt)	347.29		174.16	173.13		
Over draft						20.00
GPF						16.00
Finance & Other charges						10.00
Other Negotiated Loan		320.21		320.21	9%	20.00
Total	2655.06	471.35	478.93	2647.48		268.65

Expenses Capitalised

5.30 The Board has proposed expense capitalization of Rs 178.66 Cr for Employee Expenses, R&M Expenses, A&G Expenses and Interest and Finance charges.

Table 14: HPSEB Proposed Capitalization for FY07

S.No.	Particulars	FY05 (Actuals)	FY06 (R.E.)	FY07 (proposed)
1	Interest & Finance charges Capitalised	109.79	120	109
2	Employee expenses	67.28	58.49	65.32
3	A&G Expenses	4.47	3.89	4.34
4	Grand Total	181.54	182.38	178.66

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- 5.31 The Board has not shown capitalization for R&M Expenses in the summary of capitalization (shown in ARR) while it has shown capitalization of Rs. 6.43 Cr under R&M expenses.

Reasonable Return

- 5.32 HPSEB has requested for allowing a Reasonable return of 3% on the opening balance of Net Fixed Assets less consumer contribution.

Table 15: HPSEB Projection - Reasonable Return

Particulars	FY05 (Actuals)	FY06 (Rev Est)	FY07 (Proj)
Opening Balances			
Gross Fixed Assets	1,794	2,193	2,440
Less: Accumulated depreciation	311	355	409
Net Fixed Assets	1,482	1,837	2,030
Less: Consumer contribution	131	164	175
Less: Part of accumulated subventions from State govt	177	221.1	270
Net Fixed assets excl Cons. Contbn	1,175	1,452	1,585
Return: 3% on Opening NFA	35.25	43.56	47.55

Non-Tariff Income & Other Income

- 5.33 Non-tariff income includes meter rent/service line rentals, recovery for theft of power/malpractices, wheeling charges recovery, miscellaneous charges from consumers, Interest on Staff loans & advances, Income from Investments, Interest on loans & advances to licensees, Delayed payment charges from consumers, Interest on advances to suppliers/contractors, Interest on banks (other than on fixed deposits), Income from trading, Income from staff welfare activities and Miscellaneous receipts.
- 5.34 Non-Tariff and Other Income is estimated by HPSEB to increase at around 4.5% p.a. from last year.

Table 16: HPSEB Projection - Non-Tariff Income & Other Income

Particulars	FY05 (Actuals)	FY06 (Rev Est)	FY07 (Proj)
Non-Tariff Income			
a) Meter Rent/service line rentals	24.62	28.04	30.00
b) Recovery for theft of power/malpractices	0.02	0.02	0.02
c) Wheeling Charges recovery	1.77	2.02	2.05
d) Miscellaneous charges from consumers	5.63	6.41	7.00

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Particulars	FY05 (Actuals)	FY06 (Rev Est)	FY07 (Proj)
Non-Tariff Income - Total	32.04	36.49	39.07
Other Income			
a) Interest on Staff loans & advances	1.11	1.26	1.30
b) Delayed payment charges from consumers	7.17	8.16	8.50
c) Interest on advances to suppliers/contractors	0.57	0.65	0.70
d) Income from trading	1.11	1.25	1.30
e) Income from staff welfare activities	0.05	0.05	0.05
f) Miscellaneous receipts	23.85	27.14	27.50
Total Non Tariff Income & Other Income	65.90	75.00	78.42

Aggregate Revenue Requirement

5.35 Board has estimated its Aggregate revenue requirement for FY07 to be Rs. 1948 Cr.

Table 17: HPSEB Projection - Aggregate Revenue Requirement

Particulars	FY05 (Actuals)	FY06 (Rev Est)	FY07 (Proj)
Power Purchase	760.33	1,050.29	1,090.31
Prior Period Power Purchase	0.00	0.00	131.46
Employee	372.91	447.55	463.55
Repairs & Maintenance	17.44	24.20	26.64
Admin & General	22.54	26.04	47.54
Interest	125.50	129.76	159.65
Depreciation	44.05	53.98	60.06
Total Costs	1,342.77	1,731.82	1,979.20
Add: Reasonable Return	35.25	43.56	47.55
Less: Non-Tariff Income	65.90	75.00	78.42
Annual Revenue Requirement	1,312.13	1,700.38	1,948.33

Revenue from Sale of power at Existing Tariffs

5.36 HPSEB has estimated revenues of Rs. 1017 Cr and Rs. 1124 Cr in FY06 and FY07 respectively for sale of power from its own consumers at existing tariff:

Table 18: HPSEB Projection - Estimated Revenue at Existing Tariff

Revenue @ Existing Tariff	FY06	FY07
(Rs Cr)	Rev Est.	Projections
Domestic	162.97	218.38
Commercial	96.79	107.45
Small Power	21.94	25.64
Medium Power	32.42	34.13
Large Power	494.95	547.98
Agriculture	5.68	4.61
Public Lighting	3.91	3.74
Bulk Supply	33.75	34.50
NDNCs	24.94	25.28
Public water works	133.48	114.05
Temporary Supply	6.72	8.71
Revenue from Retail consumers	1,017.53	1,124.49
Sale to outside State	526.11	401.71
Total Sale of Power Revenues	1,543.64	1,526.19

Revenue Gap

5.37 The Board has estimated a revenue gap of Rs 388.62 Cr for FY07 after accounting for revenue from sale to its own consumers and sale outside the State of surplus power from which it estimates revenue of Rs 401.7 Cr (1313 MU of surplus power sold @ Rs 3.06 per unit) and revenue from GoHP towards differential in cost of free power.

Table 19: HPSEB Projection - Revenue Gap

Particulars	FY05 (Actuals)	FY06 (Rev Est)	FY07 (Proj)
Annual Revenue Requirement	1,312	1,700	1,948.33
Revenue from sale to own consumer and tradable power	1,216.55	1,543.64	1,526.19
GoHP Subsidy on account of free Power *	0	98.00	33.52
Total Revenue generated	1,216.55	1,641.64	1,559.71
Revenue Gap/(Surplus)	95.58	58.74	388.62

* The subsidy for FY07 is calculated at the rate of Rs. 1.11 /unit (Rs 3.04 – Rs 1.93). HPSEB has estimated to procure 302 MU from free power share in FY07. Therefore total subsidy for the FY07 works out to be Rs. 33.52 Cr

Tariff Revision Proposal for FY07

5.38 The Revenue Gap of Rs. 389 Cr in FY07 is proposed by the Board to be covered through Additional Revenue from proposed tariff revision of Rs. 107.72 Cr and creation of Regulatory Asset of Rs. 280.90 Cr for the FY07.

Table 20: HPSEB Proposal for meeting revenue gap

Particulars	FY07 (Proj)
Revenue Gap	388.62
Addl Revenue @ Proposed Tariff	107.72
Regulatory Asset	280.90

5.39 The Board has proposed to change the tariff of certain consumer categories as detailed in the table below:

Table 21: HPSEB Projection - Existing & Proposed Tariff Structure

Consumer Categories	Energy Charges (Rs / Kwh)		Consumer Service Charges (Rs. / Consumer/ month)		Demand Charges (Rs. / KVA / month)	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
Domestic supply						
(a) Antodaya	1.55	1.55			Nil	Nil
(b) Others						
0 – 45	1.75	1.75				
46 – 150	2.10	2.10				
151 & above	2.75	2.75	20	20		
Non-Domestic Non Commercial						
0-20 KW	3.65	3.85	50	70	0	0
Above 20 KW	2.65	3.85	100	70	125	0
Commercial Supply						
0- 20 KW	4.00	4.25	50	70	0	0
20- 100 KW	2.80	4.25	100	70	125	0
Small & Medium Industrial Supply						
0- 20 KW	3.55	3.55	50	50	0	0
Above 20 KW	2.55	2.55	100	100	150	150
Large Supply (Rs/KVAh)						
EHT (Normal Timings)	2.10	2.60	300	300	165	210
HT (Normal	2.20	2.70	200	200	240	210

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Consumer Categories	Energy Charges (Rs / Kwh)		Consumer Service Charges (Rs. / Consumer/ month)		Demand Charges (Rs. / KVA / month)	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
Timings)						
Water Pumping Supply						
LT	2.60	2.60	100	100	175	175
HT	1.95	2.40	100	100	125	175
Agriculture Pumping Supply	1.55	1.55	20	20	Nil	Nil
Bulk Supply						
LT	2.70	2.80	100	100	175	175
HT	2.15	2.25	100	100	140	140
Street Lighting	2.95	2.95	50	50	Nil	Nil
Temporary Supply	6.00	6.00	50	50	Nil	Nil

- 5.40 In addition to above, HPSEB has proposed to changes in consumer categorisation like including Green Houses, Poly Houses, Polynech, Processing facilities for agriculture, Fisheries, Horticulture, Floriculture and Sericulture etc in Agricultural Pumping Supply Schedule (APS).
- 5.41 The Board has also submitted that apart from the specific changes proposed by the Board in the tariff as mentioned in the table above, all other charges such as PLEC, PLVA, night time concession, etc. may continue to be applicable at current rates.

Unbundling of ARR for FY06 & FY07

Methodology

- 5.42 The Board has unbundled the costs into generation, transmission and distribution elements of its business and has adopted the following approach towards unbundling, identifying and isolating the different items like assets, costs and revenues.

Allocation Basis

- 5.43 The allocation basis has been as per the actual costs and revenues for FY05 and has been extrapolated for FY06 and FY07.
- 5.44 A&G, Employee and R&M cost: HPSEB has different circles handling different functions like generation, transmission and distribution with very limited overlapping. The functionwise cost has been derived by aggregation of employee cost and R&M cost of circles performing a specific function and HQ costs have been allocated in proportion of Generation, Transmission and Distribution cost arrived at as per above workings.

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- 5.45 Interest & Finance charges for FY05 have been allocated based on outstanding principle amount against loans raised for specific schemes.
- 5.46 Gross Fixed Assets & accumulated depreciation have been allocated to various functions on the basis of the audited accounts for FY05. Consumer contribution has been fully allocated to distribution business. Capital subsidies have been allocated based on the nature of the subsidy. Return on Net Fixed Assets has been computed @ 3% on the Net fixed assets for the various functions so arrived.
- 5.47 Interest on Security deposits has been fully allocated to Distribution business. Expenses capitalised under various expense items have been allocated based on capital work in progress.
- 5.48 All income items other than delayed payment surcharge from consumers that form part of other income and non-tariff income have been allocated based on the nature of income. Delayed payment surcharge from consumers has been allocated to the distribution entirely.

Table 22: HPSEB Projection - Function-wise segregated ARR for FY06

Particulars (Rs. Cr)	FY06 (RE)			
	Gen	Trans	Dist	Total
Repair & Maintenance	5.61	2.66	15.93	24.20
Employee Cost	73.16	27.69	405.20	506.05
Admin. & General Expenses	6.98	2.94	20.01	29.93
Depreciation	18.30	16.24	19.43	53.98
Interest & Finance Charges	125.87	30.40	93.49	249.76
Less: Expenses to be Capitalised	78.38	32.02	71.98	182.38
Sub-Total	151.54	47.91	482.08	681.54
Power Purchase Expenses			1050.29	1050.29
Reasonable Return	17.80	15.94	9.82	43.56
Less: Non-Tariff Income	3.50	10.00	61.50	75.00
Total ARR	165.84	53.85	1480.69	1700.38

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Table 23: HPSEB Projection - Function-wise Segregated ARR for FY07

Particulars (Rs. Cr)	FY07 (Proj)			
	Gen	Trans	Dist	Total
Repair & Maintenance	8.91	2.51	15.22	26.64
Employee Cost	76.99	28.88	423.00	528.87
Admin. & General Expenses	15.06	6.57	30.25	51.88
Depreciation	20.36	18.08	21.62	60.06
Interest & Finance Charges	144.72	26.37	97.56	268.65
Less: Expenses to be Capitalised	75.55	30.23	72.88	178.66
Sub-Total	190.49	52.18	514.77	757.43
Power Purchase Expenses			1090.31	1090.31
Prior Period Purchase			131.46	131.46
Reasonable Return	19.74	17.34	10.47	47.55
Less: Non-Tariff Income	3.24	10.05	65.13	78.42
Total ARR	206.99	59.47	1681.88	1948.33

5.49 This has been filed by the Board with the following caveat:

- (a) the segregated ARR as shown in the above tables will be subject to certain changes based on the re-organization and the Transfer Scheme, which the Government of Himachal Pradesh may formulate for the re-organization of HPSEB. As and when the re-organization terms are finalized and the financials may be notified by the Government of Himachal Pradesh under a statutory scheme as per the provisions of Section 131, 133 etc of the Electricity Act, 2003;
- (b) in the circumstances the financials disclosed in the segregated ARR may be treated as provisional with liberty to HPSEB to file with the Hon'ble Commission the changes that may be brought about by the re-organisation of HPSEB as and when the Government of Himachal Pradesh notifies the same.

Prayer

5.50 HPSEB had requested the Commission for the following:

- (a) approve the Aggregate Revenue Requirement of FY06 and FY07 as well as the Tariff Revision Proposal for FY07;
- (b) make the proposed Retail Supply Tariffs applicable from April 1, 2006; and
- (c) allow truing-up of Rs 95.58 Cr and Rs. 58.74 Cr in FY05 and FY06 respectively.

A6: REVIEW OF SALES PROJECTION – FY07

- 6.1 In the Petition filed by the Board, the Board submitted the estimated sales to the different consumer categories for FY06. For FY07, the Board has used the Compounded Annual Growth Rate (CAGR) methodology to arrive at the projection of sale of power to the different consumer categories on the basis of data for the last three years.
- 6.2 In technical validation sessions with the Board officials, the Commission discussed the trends in growth in sales over the years, reason for large increase in actual sales figure for FY06 with respect to the sales approved by Commission, and the basis for sales projection for FY07. The Commission also directed the Board to submit the category-wise actual sales for FY06, which was complied with by the Board.
- 6.3 Later in the revised petition, filed on 2nd June 2006, the Board submitted actual figures of sales for the different consumer categories for year FY06.
- 6.4 Following a careful scrutiny of the sales projected by the Board, the Commission asked the Board to clarify whether it had taken into account the proposed growth and pending applications of new connections for different consumer categories. The Commission also asked the Board to provide the details of application pending for new connections to enable the Commission to examine and assess the growth in sales to this consumer category, which was complied with by the Board.
- 6.5 The Commission has undertaken a detailed analysis of the sales projected by the Board. The Commission has examined the year-on-year variations in sales as well as the short term and long term trends in sales and has computed the CAGR over the short term, i.e., 3 years and long term, i.e., 10 years. The Commission has also taken into account the submissions made by the Board in respect of the sales projected for the different categories.
- 6.6 The Commission has approved the sales to each category of consumers as detailed below:
- 6.7 **Domestic Supply:**
- (a) Trend analysis of sales to this category shows that the year-on-year variation in sales ranges from 4.4% to 13.5%, while 10 years' CAGR for sales is 8.36%. The growth rate for FY06 is 6.99%, while no. of domestic consumers increased by 35,455. The Board has projected an increase of 53,146 consumers in domestic category for FY07. Number of Pending applications for domestic category as per the Board's submission is 11,611 as on 31st March 2006.
- (b) Considering all this, for FY07, the Commission has projected an increase in sales to this category at 8.36%, which is higher than last year's annual growth and in line with the 10 years' CAGR for sales to this category.

- (c) This above demand projection included the demand projection for BPL category also. The Board has projected 820 consumers under BPL category. Assuming that on an average all consumers in this category will consume 45 MUs per month, the Commission estimates that consumption under this category will be 0.44 MUs.

6.8 **NDNCS and Commercial:**

- (a) NDNCS category was created in the Tariff Order for FY02. In the absence of segregated data for sales in this category prior to FY02, the Commission has assessed the trend in sales for the NDNCS and Commercial category together.
- (b) An analysis of the trend in sales to the NDNCS and Commercial category together shows that the year on year variation in sales ranges between 3.7% to 13.32%. The long term (10 years) CAGR for sales is 9.02% while the short term (3 years) CAGR is 10.23%. The growth rate for FY06 is 8.70%.
- (c) Considering all this, for FY07, the Commission has projected an increase in sales to this category at 9.02% which is in line with the 10 years' CAGR for sales to the NDNCS and Commercial Supply categories considered together.

6.9 **Small & Medium Industrial Power Supply:**

- (a) An assessment of the growth in sales to this category indicates large variations in growth on a year-to-year basis with variation in sales ranging from -36.5% to 13%.
- (b) The trend in the data is more consistent from FY02 onwards from where it shows continuous increase in consumption except for FY06. Further the 10 year CAGR is -1.99% and the 3 year CAGR is 5.67%. The growth rate for FY 06 is -0.31%
- (c) After detailed analysis of the trend in sales, pending applications for new connections and the economic outlook of the State, the Commission has projected an increase in sales to this category at 7.44% which is 4 year CAGR for this category.

6.10 **Large Industrial Power Supply**

- (a) An assessment of the growth in sales to this category indicates large variations in growth on a year-to-year basis with variation in sales ranging from 0.9% to 35.93%.
- (b) The long term (10 years) CAGR for sales is 11.05% while the short term (3 years) CAGR is 18.25%. The growth rate in sales for FY06 is 35.93%.

- (c) After detailed analysis of the trend in sales and the economic outlook of the State for the forthcoming year, the Commission has projected an increase in sales to this category at 18.25% which is the 3 year CAGR for this category

6.11 Power Intensive Units (PIU)

- (a) A new category called PIU has been created in this order, which relates to Power Intensive Large Industries. The Commission had earlier directed the Board to submit details of the PIUs in the State i.e., No. of Consumers, EHT/HT classification, their connected load, contract demand and actual consumption for year FY06, which was complied with by the Board.
- (b) The Commission has assessed the trend in sales for the PIU and Large Industrial Power Supply category together and has projected the sales to PIU on the same basis as applied for Large Industrial Power Supply.

6.12 Agriculture and Allied Activities Supply (Earlier Agriculture Pumping Supply):

- (a) An assessment of the growth in sales to this category indicates large variations in growth on a year-to-year basis with variation in sales ranging from -2.08% to 20%. The trend in the data is more consistent from FY02 onwards.
- (b) The long term (10 years) CAGR for sales is 7.5% while the short term (3 years) CAGR is 8.17%. The growth rate for FY06 is -2.08%
- (c) After detailed analysis of the trend in sales the Commission has projected an increase in sales to this category at 8.27% which is the 4 year CAGR for this category.

6.13 Water (& Irrigation) Pumping Supply

- (a) An analysis of the trend in sales to this category shows that the year on year variation in sales ranges from -2.88% to 13.04%.
- (b) The long term (10 years) CAGR for sales is 7.44% while the short term (3 years) CAGR is 10.83%.
- (c) The Commission has projected increase in sales to this category at 7.44% which is in line with the 10 year CAGR for this category.

6.14 Street Lighting Supply

- (a) An analysis of the trend in sales to this category shows that the year on year variation in sales ranges from 0% to 20%.

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- (b) The long term (10 years) CAGR for sales is 8.91% while the short term (3 years) CAGR is 7.48%. The growth rate for FY06 is 8%.
- (c) The Commission has projected increase in sales to this category at 8.91% which is in line with the 10 year CAGR for this category.

6.15 Bulk Supply

- (a) An analysis of the trend in sales to this category shows that the year on year variation in sales ranges from -15.44% to 35.92%. The long term (10 years) CAGR for sales is -0.48% while the short term (3 years) CAGR is -6.45%.
- (b) The growth rate for FY06 is 9.38%. The Commission has projected increase in sales to this category at 0.90% which is in line with the 5 year CAGR for sales to this category.

6.16 Temporary Supply

- (a) The Commission has approved the sales equal to actual sales for FY06 under this category.

Table 24: Approved Consumer Category wise Sales for FY07

Energy Sales	FY05 (Actuals)	FY06 (Rev Est)	FY07 (Proj)	FY07 (Approved)
Domestic	809.61	866.25	928.61	938.22
BPL	0.18	0.34	0.37	0.44
Non Domestic - Non comm.	20.36	46.96	62.67	51.20
Commercial	224.00	218.65	239.38	238.37
Public Lighting	10.87	11.74	12.58	12.79
Small & Medium Supply	144.36	143.92	156.56	154.63
Large Supply	1347.49	1514.25	2020.14	1790.60
PIU		317.36		375.28
Agriculture and Allied Activities	25.26	24.74	28.12	26.78
Govt .Irrg & Water Pumping	270.52	305.30	335.32	328.01
Temporary	3.04	10.24	14.38	10.24
Bulk Supply	98.47	107.70	107.70	108.67
Total Energy Sales	2954.16	3567.44	3905.85	4035.22

- 6.17 After detailed scrutiny of the consumer category wise sales, Commission approves sale of 4035.2 MU for FY07 to the retail consumers in the State of Himachal Pradesh.

- 6.18 The annual sales across various categories of consumers for FY07 have been broken down into monthly sales based on the seasonality of actual monthly sales in FY06. The monthly sales projections have been used to dispatch generation for meeting this demand as discussed in the following section.

Table 25: Monthly Demand Projection

Month	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Demand	298	312	325	340	319	342	343	352	325	368	349	361	4035

A7: REVIEW OF POWER PURCHASE AND ENERGY BALANCE – FY07

Approach of the Commission

- 7.1 Commission has undertaken an exhaustive exercise to evaluate the month wise generation availability in each of the generating stations to address the issues emanating from effect of seasonality, banking, costing and sale outside the State. The quantum and cost of power has been segregated for consumers of the State and for sale outside the State to evaluate the actual cost of power for sale outside the State and ensuring that the risk of trading are not passed onto the consumers of the State.
- 7.2 Commission has also been considerate to pass on the benefit of sale outside the State to the consumers of the State and would also direct HPSEB to undertake a review of its existing trading strategy so as to ensure that the consumers of Himachal Pradesh do not subsidize for cost of trading power.

Power Availability

HPSEB Generating stations

- 7.3 The present installed capacity of the Board's own generating stations is 329.2 MW comprising of hydel and Mini-hydel generating stations and this is expected to increase to 467.2 MW with the Commissioning of Largi and Khauli this year.
- 7.4 For estimating the energy generated from various stations, the Commission has taken the average of generation in the past years after the plant had achieved stability in generation. Thus, for Bhaba, Gumma Bassi and Ghanvi, average of the energy generated in the last 4 years was considered while for Gaj, Giri, Binwa and Thiroth 6 year average has been considered. Similarly for Andhra 5 year average generation and for Baner 3 year average generation have been taken.
- 7.5 For Micro Hydel plants generation has been estimated as the average of the generation in last 6 years.
- 7.6 For Largi and Khauli, the revised estimates submitted by the Board on 22nd June, 2006 have been accepted after a prudence check based on expected date of Commissioning and seasonality in hydro generation. Based on this the Commission has estimated the net energy availability from the Board's own generating plant as 1620 MUs. The remaining power requirement of the Board shall be met by power purchase.

Table 26: Projected Power Availability from Board's own Stations

Stations	FY-05	FY-06 (RE)	FY-07 (P)
Bhaba	582	574	572
Bassi	270	259	279
Giri	152	194	179
Andhra	53	63	63
Ghanvi	74	70	75
Baner	43	43	42
Gaj	51	51	46
Binwa	33	34	28
Thirot	7	3	7
Gumma	10	12	11
Holi	1	4	10
Larji		0	275
Khaulti		0	24
Micros	14	24	18
Gross Generation	1289	1331	1628
Auxiliary consumption	6	7	8
Net Generation	1283	1324	1620

Power Availability from Bhakra Beas Management Board (BBMB)

7.7 For estimating the availability from the BBMB stations, the Commission has considered the design energy (DE) of the stations and compared it with the annual generation of the plants since FY03-04. Where the annual generation figures matched with the design energy values the actual generation for FY07 was projected to be equal to the station design energy, otherwise the average generation since FY04 was taken as the projected generation for the ensuing year. The seasonality in the energy availability was assumed to be similar to last year.

7.8 After taking into account the share allocations to HP from each station, the Commission has estimated that 240.1 MU would be available at the generator bus-bar of the BBMB stations as the HPSEB's share. The month-wise estimates are as shown below:

Table 27: Projected Power Availability from BBMB Stations

Stations	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
BBMB Old	2.3	3.0	3.8	5.7	6.6	4.5	3.6	3.3	3.7	3.3	3.3	2.7	45.8
BBMB New	7.4	9.5	12.0	18.2	20.9	14.3	11.5	10.6	11.9	10.5	10.4	8.6	145.8
Dehar	4.9	6.1	6.5	6.0	6.4	6.5	3.5	2.1	1.6	1.5	1.5	1.8	48.4

TARIFF ORDER FINANCIAL YEAR FY07

Power Availability from NTPC stations

- 7.9 To estimate the power availability from the NTPC stations, Plant Load Factor (PLF) for each plant for each month of FY07 was undertaken by taking the average of the PLFs for each plant month-wise for the last 3 years.
- 7.10 For Anta, Auriya and Dadri gas and liquid fuel plants, the division of PLF between the two types of fuel was done based on the PSEB petition to the CERC on the issue. The data for the analysis was taken from the NREB. The auxiliary consumption was based on the historical performance of each station.
- 7.11 The energy to be generated by each plant was estimated for each month based on the plant capacity, projected PLF and auxiliary consumption and the number of hours of operation in each month. Energy available for HP is computed based on the share allocated to the State.
- 7.12 The summary of the projections for each month of FY07 is shown in the table below:

Table 28: Power Availability from NTPC Stations

Stations	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total (MU)
Anta(L)	1.2	1.3	1.3	1.3	1.4	1.4	1.3	1.4	1.3	1.4	1.2	1.4	15.9
Anta(G)	5.7	6.2	6.3	6.6	6.9	6.8	6.5	6.7	6.7	6.9	6.0	6.8	78.1
Auraiya(L)	2.4	2.5	2.6	2.9	2.8	2.7	2.7	2.5	2.7	2.6	2.3	2.6	31.3
Auraiya(G)	8.3	8.7	9.0	9.9	9.6	9.2	9.3	8.8	9.3	9.1	8.0	8.9	108.1
Dadri(L)	2.4	2.7	2.7	2.8	2.9	2.8	2.8	2.9	3.1	3.3	2.5	2.9	33.8
Dadri(G)	8.2	9.3	9.1	9.7	9.8	9.6	9.4	9.7	10.5	11.1	8.5	10.0	114.9
Unchahar-I	4.1	4.5	4.3	4.7	4.6	4.1	4.1	4.2	4.5	4.6	4.0	4.6	52.3
Unchahar-II	5.9	6.0	6.7	6.9	6.4	7.1	7.5	7.4	7.7	7.8	7.1	7.8	84.3
Rihand-1 STPS	22.1	24.7	23.9	24.3	23.8	20.5	21.2	22.5	23.8	24.0	20.7	24.2	275.7
Rihand-2 STPS	21.0	23.3	22.6	22.9	22.5	19.3	20.0	21.2	22.4	22.7	19.5	22.8	260.2

Power Availability from NHPC stations

- 7.13 The energy generation from the NHPC stations has been projected based on their design energy and the month-wise availability is estimated based on the seasonality seen in FY06 in actual generation from each station.
- 7.14 Energy available for HP is computed based on the share allocated to the State.

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- 7.15 The Board had filed that in the winter season the HPSEB is allocated some energy from the GoI's share of unallocated energy. Based on the past data, the Board had projected that 155 MUs of such energy will be made available to them in FY07. The Commission has approved the same after finding it in concurrence with the past data and has allocated this energy to different stations based on their generating capacity.
- 7.16 The table below shows the Commission's estimates of energy availability to the HPSEB plant-wise and month-wise:

Table 29: Power Availability from NHPC Stations

Stations	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Salal	3.2	4.1	3.8	4.0	4.2	3.6	1.8	10.45	8.07	11.08	10.46	15.53	80.29
Tanakpur	1.0	1.4	1.8	2.1	2.4	2.3	2.4	11.16	7.32	4.24	3.05	3.10	42.27
Chamera-1	7.5	8.5	9.9	11.5	10.1	7.1	3.0	8.35	8.28	8.87	8.88	2.14	94.12
Chamera-2	5.1	7.4	7.7	7.2	7.8	7.0	3.4	13.82	10.20	9.96	9.33	15.27	104.18
Uri	8.0	9.2	8.9	8.5	7.4	4.3	3.1	1.99	1.81	3.28	6.18	8.30	70.96
Dhauliganga	5.2	7.6	7.6	5.8	3.4	1.9	1.8	1.99	1.42	1.15	0.95	1.03	39.84

Power Availability from other sources

- 7.17 For Tehri –I, the energy availability is estimated based on its design energy, expected date of Commissioning and seasonality based on the average seasonality of all the NHPC generating plants.
- 7.18 The energy availability from the Narora Atomic Power Plant (NAPP) in FY07 has been taken equal to the average availability of FY06 as the working of the plant is not expected to change and there is no seasonality in generation of atomic power plants.
- 7.19 Generation from Nathpa Jhakri is estimated equal to its design energy with the same seasonality as FY06. The Board had filed for allowing 180 MUs of power availability during winter months from the unallocated share with the GoI. The same has been approved looking at past trends and it has been distributed month-wise based on the seasonality in generation of FY06.
- 7.20 The energy availability from the Shanan, Shanan extension, Khara and Yamuna stations have been taken at the same level as last year in the absence of filing of historical data by the Board.
- 7.21 During the winter months from November to March, the free power available with GoHP and the equity power from the NJPC have been allocated to the HPSEB.

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7.22 Power availability from the IPP - Baspa has been estimated based on their design energies and the HPSEB's share in their generation available during the various months of the year with the same seasonality as FY06. In the months of February and March in 2006, Baspa was closed for maintenance work. For these months the availability has been taken to be the same as that for January.

Table 30: Power Availability from other Stations

Stations	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Tehri-I	-	-	-	-	-	-	5.15	3.33	2.66	3.04	3.83	4.62	22.63
NAPP	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	69
Nathpa Jhakri	16.76	33.26	32.59	9.79	16.66	4.07	2.24	85.13	81.74	73.27	77.63	85.56	518.7
Shanan	0.43	0.45	0.43	0.45	0.45	0.43	0.45	0.43	0.45	0.45	0.40	0.45	5.27
Shanan Extn	6.00	5.50	5.00	5.00	6.00	5.00	5.00	2.00	0.50	0.50	0.50	4.00	45
Yamuna	33.70	36.28	43.57	45.26	59.75	57.34	42.93	22.56	16.82	17.13	14.32	17.89	407.55
Khara	6.10	6.37	6.13	5.68	8.03	6.04	6.94	4.76	3.67	3.59	2.84	3.46	63.61
Free Power (All Stations)	-	-	-	-	-	-	-	54	43	49	62	74	282
Equity Power MU	-	-	-	-	-	-	-	81	69	60	63	42	315
Baspa –II	33	101	176	177	191	175	77	46	35	17	17	17	1062

Banking

7.23 The HPSEB has entered into energy banking agreements with Punjab and Delhi Transco (DTL). Punjab and DTL give energy to the HPSEB in winter and the same is returned to them by the Board in the summers. The banking agreements are constrained by the ability of the different parties to honour the agreement.

7.24 This year, the HPSEB has proposed the following banking schedule and the same has been approved by the Commission. In the period from November – April, the HPSEB has to receive power while during May-Oct, it has to bank its energy.

Table 31: Projected Power Availability due to Banking

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Banking Power	-29	25	60	93	90	60		-6	-93	-93	-68	

Cost of Power

Power Cost of Bhakra Beas Management Board (BBMB)

7.25 Cost of Power from BBMB stations has been taken at the average monthly cost of power paid by HPSEB in FY06 and uniform for all months in FY07.

Table 32: Variable Cost of BBMB

Station	Variable Cost of Power (Rs/Unit)
BBMB Old	0.43
BBMB New	0.20
Dehar	0.28

Cost of power from NTPC stations

7.26 The variable cost of power from NTPC station has been estimated keeping in mind the rising fuel prices. Hence, the month-on-month increase in variable cost of energy from NTPC station for the last 24 months was found and the cost of power in the future was projected based on this.

7.27 The projected variable cost from NTPC stations in Rs/unit is as shown in the table below.

Table 33: Variable cost of NTPC Stations

Stations	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Anta(L)	6.58	6.66	6.75	6.84	6.93	7.03	7.12	7.21	7.31	7.41	7.50	7.60
Anta(G)	1.03	1.03	1.03	1.04	1.04	1.05	1.05	1.06	1.06	1.07	1.07	1.07
Auraiya(L)	6.15	6.23	6.31	6.39	6.48	6.56	6.65	6.74	6.83	6.92	7.01	7.10
Auraiya(G)	1.09	1.10	1.11	1.11	1.12	1.13	1.13	1.14	1.15	1.15	1.16	1.17
Dadri(L)	6.72	6.81	6.90	6.99	7.09	7.18	7.27	7.37	7.47	7.57	7.67	7.77
Dadri(G)	1.06	1.07	1.07	1.08	1.09	1.09	1.10	1.10	1.11	1.12	1.12	1.13
Unchahar-I	1.23	1.24	1.25	1.26	1.27	1.28	1.29	1.30	1.31	1.32	1.33	1.34
Unchahar-II	1.22	1.23	1.24	1.25	1.26	1.27	1.29	1.30	1.31	1.32	1.33	1.34
Rihand-1 STPS	0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1.00	1.01	1.02
Rihand-2 STPS	0.87	0.88	0.89	0.89	0.90	0.91	0.92	0.93	0.94	0.95	0.96	0.97
Singrauli STPS	0.84	0.84	0.85	0.85	0.86	0.86	0.87	0.87	0.88	0.88	0.89	0.89

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7.28 The annual fixed costs of the NTPC stations has been estimated based on projections made about fixed charges and taxes and other charges. The figures mentioned below are amounts in Rs Cr.

Table 34: Annual Fixed cost of NTPC Stations

Stations	Annual Fixed Cost (Rs/Cr)
Anta(L)	0.07
Anta(G)	4.28
Auraiya(L)	0.14
Auraiya(G)	7.35
Dadri(L)	0.13
Dadri(G)	8.88
Unchahar-I	4.24
Unchahar-II	7.09
Rihand-1 STPS	23.17
Rihand-2 STPS	7.57
Singrauli STPS	1.48

Cost of power from NHPC stations

7.29 The variable charge for the NHPC stations has been estimated as per the CERC notifications. The charges are uniform across all months in FY07.

Table 35: Variable cost of NHPC Stations

Stations	Variable Cost of Power (Rs/Unit)
Salal	0.74
Tanakpur	0.74
Chamera-1	0.74
Chamera-2	2.28
Uri	0.74
Dhauliganga	0.74

7.30 Annual Fixed Charge (AFC) from each NHPC station was considered and compared with the recovery from primary energy charge. The remaining amount, depending on the State's share in the plant's generation, was allocated to HP along with the estimate of other charges.

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- 7.31 Salal and Chamera – 2 have no element of fixed cost since all the costs are being recovered through primary charges while the monthly fixed cost for other NHPC stations have been details below.

Table 36: Monthly Fixed cost of NHPC Stations (in Rs. Cr)

Stations	Monthly Fixed Charges (Rs Cr)
Tanakpur	0.05
Chamera-1	0.31
Uri	0.90
Dhauliganga	0.03

Cost of power from other sources

- 7.32 The cost of power from Tehri-I has been taken at Rs.6.50 as per the rate proposed by THDC for the year FY07. It is a must run plant even though cost per unit is prohibitively expensive. Commission has approved this plant to be dispatched but would like to review the cost of the station to be passed to consumers of Himachal Pradesh once the station comes on stream.
- 7.33 Cost of free power which is acquired from the government for use in winter months has been taken as Rs.2.35/unit equal to marginal cost of the power from central sector station and similarly cost of equity power is taken as Rs.2.84/unit equal to last year's price. Last year the Commission had approved the cost of free power equal to the average cost of power procurement from central sector stations and this had worked out to Rs.1.93/unit. The difference between this amount and the actual cost was provided by the State Government as subsidy.
- 7.34 The rate of power from Baspa station has been taken at Rs. 2.95/unit based on the Commission's estimates. When the Commission comes out with the order fixing the rate of power purchase from these stations, then that rate shall be taken as final. The rates at which power is taken from other sources are as per CERC orders or bilateral agreements and are shown in the table below:

Table 37: Power Purchase cost of Other Stations

Station	Variable Cost of Power (Rs/unit)
NAPP	2.15
Nathpa Jhakri	2.35
Shanan	0.4
Shanan Extn	0.4
Yamuna	0.35
Khara	0.37

Power Requirement and Cost

7.35 The Board’s filing on the quantum of power to be purchased for its own use and sale outside the State has not been separately filed and has been provided together. As no rationale was given for arriving at the availability or power purchase numbers, the Commission has conducted its own analysis, based on merit order dispatch principle, to find out the actual power requirement for its own State and its cost.

Merit Order for the State’s Use

7.36 The cheapest available power with HPSEB should be made available for use within the State. From the remaining power, the cheapest should be banked as the same will be made use for State’s consumption in the months of energy deficit. The remaining power may be traded if it is profitable to do so.

7.37 To achieve this objective and keeping in mind that cost of power from the same generating station may be different in different months, the Commission made a “monthly plant-wise dispatch schedule” based on the variable cost of power from various stations at the interface boundary between the transmission and the distribution system. The dispatch schedule was matched with the available power with demand for use within the State and for banking.

7.38 Merit Order was followed to dispatch the cheapest power first and so on till the demand of the State was met. If in any month the State’s demand remained unfulfilled even after dispatching all the available power then the extra power was procured from the market or taken from the Government’s share of free power. This power has been assumed to be acquired at the rate equal to marginal cost central sector station – at a unit cost of Rs. 2.35/unit.

7.39 The following table shows the energy at the State boundary allocated for the State’s own use and for banking.

Table 38: Power Requirement & Cost for State’s Own Use

	Generating Stations	MU	Total Cost (Cr)	Fixed Cost (Cr)	Variable Cost (Cr)	Total Cost Rs./Unit
NTPC	Anta(L)	3.71	2.81	0.07	2.74	7.56
	Anta(G)	75.62	12.50	4.28	8.22	1.65
	Auraiya(L)	7.39	5.23	0.14	5.09	7.08
	Auraiya(G)	104.18	19.55	7.35	12.20	1.88
	Dadri(L)	6.70	5.18	0.13	5.06	7.74
	Dadri(G)	110.93	21.47	8.88	12.59	1.94
	Unchahar-I	50.53	10.96	4.24	6.72	2.17
	Unchahar-II	81.36	17.91	7.09	10.82	2.20
	Rihand-1	266.19	49.85	23.17	26.69	1.87

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	Generating Stations	MU	Total Cost (Cr)	Fixed Cost (Cr)	Variable Cost (Cr)	Total Cost Rs./Unit
	STPS					
	Rihand-2 STPS	251.09	31.45	7.57	23.88	1.25
	Singrauli STPS	-	1.48	1.48	-	-
NHPC	Salal	80.24	5.92	-	5.92	0.74
	Tanakpur	42.40	3.73	0.60	3.13	0.88
	Chamera-1	49.47	7.35	3.70	3.65	1.49
	Chamera-2	116.13	26.48	-	26.48	2.28
	Uri	68.63	16.03	10.78	5.25	2.34
	Dhauliganga	38.50	3.34	0.40	2.94	0.87
THDC	Tehri – I	22.45	15.11	-	15.11	6.73
NPC	NAPP	66.63	14.85	-	14.85	2.23
BBMB	BBMB Old	44.29	1.97	-	1.97	0.45
	BBMB New	140.76	2.91	-	2.91	0.21
	Dehar	46.76	1.34	-	1.34	0.29
SJVNL	Nathpa Jhakri	325.22	76.43	-	76.43	2.35
Shared Stations	Shanan	5.07	0.21	-	0.21	0.41
	Shanan Extn	43.45	1.80	-	1.80	0.41
	Yanmuna	393.49	14.26	-	14.26	0.36
	Khara	61.41	2.35	-	2.35	0.38
IPP	Baspa –II	401.85	118.54	-	118.54	2.95
Free Power	Baira Suil	17.42	4.09	-	4.09	2.35
	Chamera-I	38.64	9.08	-	9.08	2.35
	Chamera –II	34.83	8.19	-	8.19	2.35
	Shanan Share	0.41	0.10	-	0.10	2.43
	Malana	10.69	2.51	-	2.51	2.35
	Baspa – II	28.05	6.59	-	6.59	2.35
	Nathpa Jhakri	138.73	32.60	-	32.60	2.35
Equity Power	Nathpa Jhakri	175.45	49.83	-	49.83	2.84
HPSEB	Own Stations	1620.00	-	-	-	-
Others	Govt/Market	18.51	4.68		4.68	2.35
Total		4988.78	609.2			1.81

7.40 The total energy for State's own use is 4988.78 MU at a total cost of Rs.609.2 Cr. The average cost of this power, without taking into account generation from HPSEB's own stations, works out to Rs.1.81/unit.

Merit Order for Sale outside the State

- 7.41 The available power, after meeting the requirement of the State's use, may be used for sale outside State. It must be noted that only that power which is costs lower at the State boundary than the price it fetches should be sold to make profits.
- 7.42 Sale of power outside the State must not be done based on the average cost of surplus power. For the purpose of sale outside State the Commission has taken the rate of selling the power as Rs. 4.66/unit which is the same as the rate at which HP Government is selling its share of power to PTC. The balance power available for sales outside the State is as shown along with the per unit cost at the State boundary:

Table 39: Surplus Power - Availability and Cost

Stations	Generating Stations having surplus energy after (HP Boundary)	MU	TC (Cr)	FC (Cr)	VC (Cr)	Rs./Unit
NTPC	Anta(L)	11.54	8.46	-	8.46	7.33
	Auraiya(L)	22.78	15.57	-	15.57	6.84
	Dadri(L)	25.99	19.47	-	19.47	7.49
SJVNL	Nathpa Jhakri	13.46	3.16	-	3.16	2.35
IPP	Baspa –II	661.13	195.03	-	195.03	2.95
Free Power	Shanan Share	0.08	0.02	-	0.02	2.43
	Nathpa Jhakri	16.86	3.96	-	3.96	2.35
Equity Power	Nathpa Jhakri	139.26	39.55	-	39.55	2.84

- 7.43 Surplus power availability is to the tune of 891.1 MU as estimated but since sale outside the State should be only conducted on power available at cheaper than Rs 4.66 per unit, only 829.67 MU has been considered for sale outside the State.
- 7.44 The average cost of power available for sale outside the State works out to be Rs. 3.20/unit.

Transmission Charges

- 7.45 The Board has proposed Rs. 75 Cr towards transmission and PGCIL charges. No supporting document or reasoning was provided by the Board on its authenticity.
- 7.46 Commission has approved the charges at the same level as actually incurred in FY06 without deducting the incentive charges. This has been done keeping in mind that a small capacity will be added this year with the Commissioning of the Tehri-I generating station. The PGCIL charges approved for FY07 Rs. 69.92 Cr.

Transmission and Distribution Losses

7.47 The Board had initially filed the transmission and distribution losses within the State at 18.02%. However, in discussions Board informed the Commission that the revised calculations showed losses to be at 19.03% and that it would supply the Commission with the relevant documents.

7.48 As the same have not yet been provided, the Commission has taken losses to be 18.5% as per the trajectory set in the earlier orders and subject to the revision based on the findings of the detailed T&D loss study being conducted by the Commission.

Energy Balance**Table 40 : Energy Balance for FY 2006-2007**

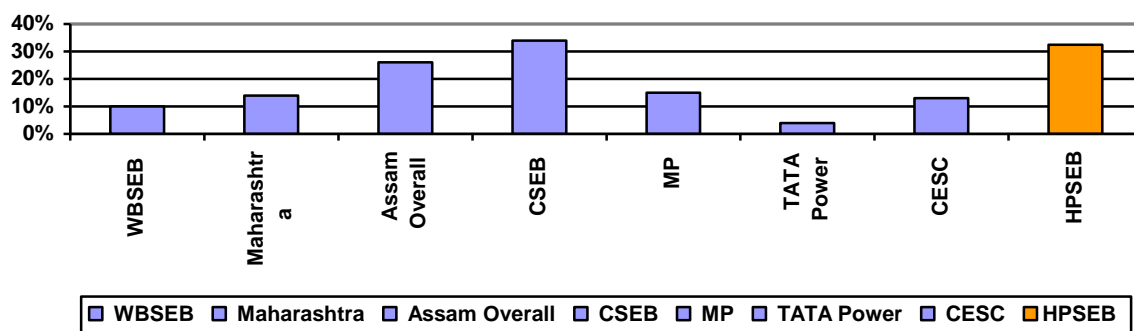
Particulars (MU)	Actuals FY05	Actuals FY06	Proj FY07	Approved FY07
Power from Own Stations	1291.11	1327.35	1720.84	1620.11
Power from Other Sources	4157.21	4749.25	4424.98	4267.27
Power Availability	5448.32	6076.60	6145.82	5887.38
Energy Sales to retail consumers within State	2954.16	3567.45	3905.85	4035.22
T&D Losses in the State	22.0%	18.1%	18.5%	18.5%
Energy Requirement for sale in State	3789.33	4354.60	4792.45	4949.78 ⁱ
Energy available for inter State sale	1658.99	1722.00	1353.37	829.67
Inter State Transmission Loss	3%	3%	3%	3%
Tradable Power/ Surplus power for sale	1609.22	1670.34	1312.77	801.04

ⁱ This does not include 39 MUs of extra power which HPSEB took last year and is to be returned under the return banking arrangement. HPSEB's banking cycle runs from winter to summer months i.e. this summer HPSEB will return the banked power it received in the winter last year.

A8: REVIEW OF FY07 - COSTS

Employee Costs

- 8.1 In its Petition, the Board has projected employee expenses as Rs. 528.87 Cr for FY07. Further, the Board has proposed capitalization of Rs. 65.32 Cr, thereby resulting in a net employee cost of Rs 463.55 Cr.
- 8.2 The Commission has analysed the employee cost of the Board and is of the view that the Board’s employee cost is very high as compared to that of other Utilities in the Country. The Commission will like to reiterate its stand that the Board needs to cut down employee expenses and improve productivity of employees.
- 8.3 The Commission has been directing the Board to reduce its employee cost, essential to achieve long term sustainability. But at the same time, the Commission also recognizes the fact that due to the special nature of the population distribution in the State and almost 100% electrification in the State, it will be wrong to directly compare HPSEB employee cost with other utilities.
- 8.4 The Commission however recommends a detailed manpower and organisation study for HPSEB which would be useful to take proactive action towards optimising manpower deployment in its various functions, wings and offices. As a reference, the following graph is provided which depicts the proportion of employee costs over total expenses for various private and government utilities in different States.



- 8.5 The Commission has analysed the different heads of employee expenses proposed by the Board. The actual basic salary submitted by HPSEB for FY06 includes arrears paid to employees for merger of Basic Salary with DA from 1.04.2004. The Board has used this to project basic salary of FY07.
- 8.6 The Commission had asked the Board to submit details of arrears payment which the Board failed to comply with. The Commission has used last year’s approved basic salary to project basic salary for year FY07 and projected an increase of 5% on account of promotions and annual increments in basic salary. The Commission

has also considered the reduction in the number of employees due to natural attrition through retirement (2.7%) as submitted by the Board under its retirement pattern. The Commission has calculated the average monthly salary per employee and has computed the salary cost for FY07 after taking into account the natural attrition.

- 8.7 Amongst the measures suggested for reduction in employee cost, the Commission has also proposed to the Board to design and propose a Voluntary Retirement Scheme (VRS) for its employees. Although the Board has expressed interest in offering a VRS to its employee, it has failed to submit details of any such plan, cost, and cost sharing agreement between Government of HP and the Board to the Commission. Nonetheless, the Commission has made a provision of Rs. 3 Cr towards offering VRS to HPSEB employees in this ARR.
- 8.8 The Commission has calculated DA as per the declared rates by government. However the Commission makes its mind known that future increases in DA will not be approved to be part of Board's Annual Revenue Requirement till the Board improves its efficiency.
- 8.9 The Commission would like to cite the Appellate Tribunal for Electricity judgement dated 26th May 2006 against appeals 4, 13, 14, 23, 25, 26, 35, 36, 54 & 55 of 2005 against PSERC which has upheld the PSERC's judgement along similar lines. The judgement unambiguously upholds the disallowance of part of the employee costs by PSERC and is quoted for reference; "143.....At the same time we make it clear that in case the employees of the Board do not improve their efficiency, the aforesaid employees cost allowed by the Commission will remain capped till the performance of the Board employees improve.145. In the circumstances, we decline to interfere with the decision of the Commission disallowing increase in the employees cost....."
- 8.10 The Commission has approved terminal benefits as per the Board's projection i.e. Rs. 70 Cr. The Commission has projected other expenses (under employee costs) in the same ratio as that of the increase in Basic Salary with respect to last year's approved salary. The Commission disallows Rs. 3.75 Cr in total employee expenses due to deviation of salary of HPSEB from PSEB pattern as per CAG report for 2001-02.
- 8.11 The Commission has taken average capitalization of last three years i.e. FY04, FY05 and FY06 and arrived at the capitalization percentage for FY07. The approved Employee expenses for FY07 is summarized in the table below:

TARIFF ORDER FINANCIAL YEAR FY07

Table 41: Approved Employee Expenses for FY07 (In Rs. Cr)

S.No	Particulars	2004 - 05 (Actual)	2005 - 06 (Approved)	2005 - 06 (Actual)	2006 - 07 (Projected)	2006 - 07 (Approved)
1	Basic Salaries	205.37	309.95	317.04	326.28	313.51
2	Overtime	1.03	-	-	1.21	-
3	DA	119.25	28.74	63.41	75.04	65.84
4	Other Allowances	32.78	32.43	33.00	34.19	32.63
5	Bonus	-	-	0.36	0.36	-
6	Fee & Honorarium	0.01	0.06	0.01	0.01	0.01
7	Medical expense Reimbursement	6.81	6.33	7.00	7.37	6.92
8	LTA	0.08	-	0.08	0.08	0.08
9	Earned Leave	9.24	7.20	10.50	11.06	7.28
10	Payment under workmen's compensation	0.96	0.73	1.00	1.00	0.73
11	Leave Salary Contribution	0.23	0.64	0.90	0.90	0.64
12	Staff Welfare expenses	1.29	1.42	1.30	1.37	1.29
13	Terminal Benefits	63.14	68.70	70.35	70.00	70.00
14	Provision for Employee VRS					3.00
15	Total Employee costs	440.19	456.20	504.94	528.87	501.94
16	Amount to be transferred to R&M		(19.35)	-	-	-
17	Disallowance due to deviation from PSEB Pattern		(3.75)	-	-	(3.75)
18	Capitalization	(67.28)	(71.01)	(58.49)	(65.32)	(73.36)
19	Tfd to CWIP - Larji & Khauli		(11.45)	-	-	-
20	Net Employee Cost	372.91	350.64	446.45	463.55	424.83

8.12 The per unit cost for the Board considering sales within the State works to Rs. 1.05 and Rs. 0.88 on including the sales outside the State which is high in comparison to other State utilities. The comparison of per unit employee cost of some utilities is shown in the graph below

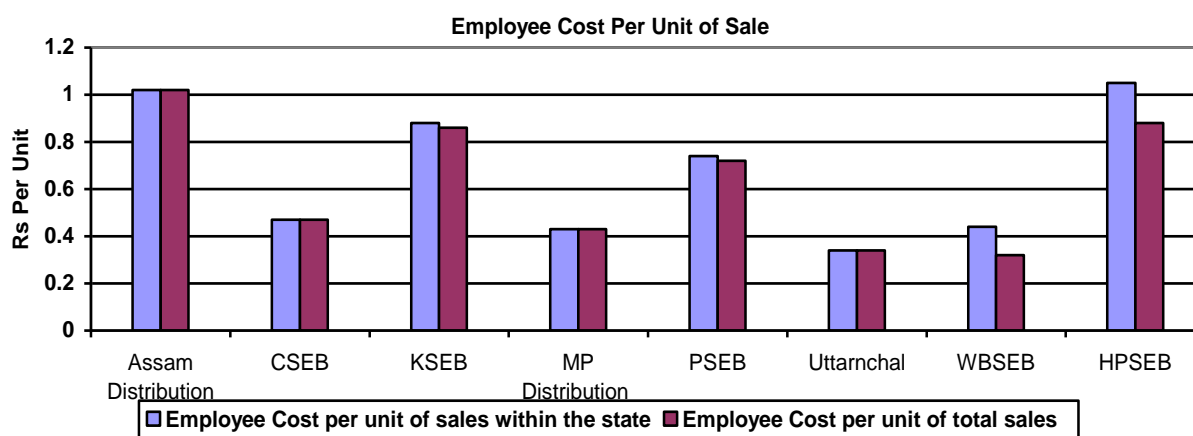


Figure 1: Comparison of per Unit Employee Cost from the latest Tariff orders

Administrative & General Costs

- 8.13 In its Petition, the Board has projected A&G expenses of Rs. 51.68 Cr in FY07. Further, the Board has proposed a capitalization of Rs. 4.34 Cr, thus the resulting net A&G expenses are Rs. 47.34 Cr.
- 8.14 During the technical validation session and subsequent interactions, the Commission directed the Board to submit the actual A&G expenditure incurred during FY06. The Board submitted the actual A&G expenses incurred during FY06 at Rs 26.34 Cr. The Commission in its tariff order for FY06 approved A&G expenses of Rs. 26.34 Cr, which included Rs 11 Cr towards Asset Valuation, Rs 2.12 Cr towards public interaction program, Rs 1 Cr towards pilot project for pre-paid meter. Actual expenses of Board towards these programs are NIL except for public interaction program where expense was Rs 30 lakhs only!
- 8.15 In spite of all these, Board's A&G expenses are higher than the approved amount for A&G expenses by the Commission.
- 8.16 The Commission is surprised to note that the Board has projected an expense of Rs. 15 Cr for the Asset Valuation despite the Commission having approved Rs. 11 Cr for the same in last year's tariff order. The Commission disapproves this expense as it has been already approved in the last year's tariff order. Commission would also direct the Board to furnish the steps it has taken towards conducting Asset Valuation and expenses spent towards it
- 8.17 Board has projected expense of Rs. 2.5 Cr for the Public Interaction program. The Commission had approved Rs. 2.12 Cr towards public interaction program in FY06 tariff order, of which the Board has used only Rs. 30 lakhs. The Commission directs the Board to utilize remaining Rs. 1.82 Cr from last year's approved amount towards this year's public interaction program and approves additional Rs. 68 lakhs

TARIFF ORDER FINANCIAL YEAR FY07

in this tariff order towards expenses for public interaction program which makes total available amount for public interaction program for year FY07 as Rs. 2.5 Cr.

- 8.18 The Board has projected Conveyance and travelling expenses as Rs. 13.72 Cr despite the Commission putting a cap on the expenditure on this head at FY06 at Rs. 9.03 Cr. Considering the recent hike in fuel prices, the Commission has approved a 15% increase in Conveyance and travelling expenses for year FY07 and put a cap on these expenses at Rs. 10.38 Cr.
- 8.19 The Commission has approved an increase of 5% on account of inflation on other expenses under A&G expenses. For Ombudsman Expenses, the Commission has approved Rs. 12 lakhs.
- 8.20 The Board in its petition has not shown any expenses for pilot project for prepaid meter. During the technical validation session and interaction with the Board officials, the Board submitted that it will need Rs 15 Lakhs towards pilot project on prepaid meters, which includes Rs 10 Lakhs as cost of prepaid meters, and Rs 5 Lakhs towards taxes and other expenses. The Commission has approved Rs 12 Lakhs towards pilot project on prepaid meters, which includes Rs 10 Lakhs as cost and Rs 2 Lakhs as taxes.
- 8.21 The Commission has come across certain deviations in the operations of the Board despite the repeated directions issued by it. The Board has been running hospitals & schools, which as per the Commission's direction were to be transferred to GoHP last year. Hence, the A&G expenses for these schools and hospitals have not been approved by the Commission.
- 8.22 The capitalization of A&G expenses has been computed based on the average capitalization rate for last 4 years, i.e., FY03, FY04, FY05 and FY06.

Table 42: Approved A&G Expenses for FY07 (In Rs. Cr)

S. No	Particulars	FY05 (Actual)	FY06 (Approved)	FY06 (Actual)	FY07 (Proj)	FY07 (Approved)
1	Insurance of Employees, Assets etc.	0.01	0.01	0.01	0.01	0.01
2	Telephone, postage, telegram, internet charges	2.25	2.17	2.50	2.67	2.67
3	Consultancy charges	0.08	0.03	0.08	0.09	0.09
4	Conveyance and Traveling expense (vehicle running, hiring)	11.59	9.03	12.95	13.72	10.38
5	Printing and stationary	1.29	0.79	1.40	1.53	1.53
6	Advertising	0.27	0.10	0.30	0.32	0.32
7	Electricity and water	1.74	1.13	2.24	2.30	2.24

TARIFF ORDER FINANCIAL YEAR FY07

S. No	Particulars	FY05 (Actual)	FY06 (Approved)	FY06 (Actual)	FY07 (Proj)	FY07 (Approved)
	charges					
8	Freight	2.91	0.08	2.98	3.40	3.13
9	Legal charges	0.28	0.23	0.30	0.36	0.32
10	Auditor's fees	1.35	-	1.50	1.60	1.58
11	Rents, rates & taxes, other than all taxes on income and profit.	1.02	0.68	1.10	1.20	1.16
12	Miscellaneous	1.66	2.30	1.91	3.96	2.01
13	Study for valuation of assets	-	11.00	-	15.00	-
14	Public interaction programme	-	2.12	0.30	2.50	0.68
15	Expenses for Consultants		1.00	-	-	-
16	Regulatory Expenses	2.56	1.68	2.12	2.45	2.23
17	For pilot project of pre- paid meters & billing machines	-	1.00	-	-	0.12
18	Ombudsman Expenses	-	0.17	0.54	0.57	0.12
	Less:					
19	Expenses for Hospitals		(0.05)	-		(0.05)
20	Expenses for Schools		(0.03)	-		(0.03)
21	Expense on REC Dalhousie		(0.28)	-		-*
22	A&G Expenses – Total	27.01	33.17	30.23	51.68	28.49
23	Less capitalized	(4.47)	(6.90)	(3.89)	(4.34)	(4.8)
24	A&G Expenses after capitalization	22.54	26.27	26.34	47.34	23.69

*As REC Dalhousie has already moved to Shimla, no amount has been deducted for the same this year

Repairs and Maintenance Cost

8.23 The Board has proposed expenses on repair and maintenance of plant & machinery, transformers, building, other civil works, vehicles and furniture & fixtures etc. at Rs 26.64 Cr. As per the submission of the Board, the R&M expenses have been increased by 10% over the FY06 estimates on account of inflation, increase in asset base and to increase the operational efficiency of the existing assets.

8.24 During the technical validation sessions and subsequent interactions with the Board officials, the Commission has directed the Board to submit detailed explanation of huge difference between projected/approved expenses and actual expenses for Lines and cables, plant and machinery work. The Board failed to submit a suitable explanation for the same.

TARIFF ORDER FINANCIAL YEAR FY07

- 8.25 The Commission has approved an increase of 5% on account of inflation on different expenses items under R&M expenses over actual amount for year FY06.
- 8.26 The capitalization of R&M expenses has been taken as average capitalization rate for last 3 years, i.e., FY04, FY05 and FY06.
- 8.27 The Commission has directed the Board to submit details of R&M expenses on schools and hospitals run by the Board. The Board complied with by same and submitted R&M expenditure of Rs 1.26 Cr on schools and hospitals run by the Board. As mentioned above in A&G expenses, the Commission has disapproved these expenses and deducted from R&M expenses.
- 8.28 The approved R&M expenses for FY07 is summarized in the table below:

Table 43: Approved R&M Expenses for FY07 (In Rs. Cr)

S. No	Particulars	FY05 (Actual)	FY06 (Approved)	FY06 (Actual)	FY07 (Projected)	FY07 (Approved)
1	Plant & Machinery	6.47	5.13	8.00	9.87	8.40
2	Building	1.85	2.30	2.50	2.82	2.63
3	Other civil works	1.70	1.86	2.20	2.60	2.31
4	Hydraulic Works	0.50	1.42	0.65	0.75	0.68
5	Lines, Cable Network etc.	20.85	16.78	28.00	31.07	29.40
6	Vehicles	(9.76)	(0.66)	(12.00)	(14.45)	(12.60)
7	Furnitures & Fixtures	0.06	0.12	0.05	0.08	0.05
8	Office Equipment	(0.01)	0.11	0.30	0.33	0.32
9	Transfer of amount from employee expenses		19.35	-	-	-
10	Total	21.66	46.41	29.70	33.07	31.19
	Less					
11	Capitalization	(4.22)	(2.39)	(5.50)	(6.43)	(5.91)
12	Transfer to CWIP on a/c of Larji & Khauli	-	(4.14)	-	-	-
13	Deduction for R&M of Schools & Hospitals	-	(0.01)	-	-	(1.26)
14	Total R&M Expenditure	17.44	39.87	24.20	26.64	24.02

Interest & Financing

8.29 The Board in its petition for FY07 has proposed total interest and financing charges of Rs. 268.65 Cr. The proposed amount includes the interest on working capital. The details of the loans and the proposed rates of interest are tabulated below:

Table 44: Proposed Interest and Finance Charges for FY07 (In Rs Cr)

Particulars	Opening Balance	Receipts	Repayment	Closing Balance	Rate of Interest	Interest Paid
LIC	274.77	0	4.26	270.51	8% to 9%	24.73
REC	126.16	103.74	36.00	193.90	7.25% to 13%	17.12
PFC	917.57	47.40	70.00	894.97	5.5% to 10.75%	82.67
Market Bonds (SLR)	35.49			35.49	11.5% to 13%	4.19
Bank Loans	518.56		161.68	356.88	7.5% to 9%	30.69
Govt Loan /APDRP	20.13			20.13	11.5%	0.00
Non SLR Bonds (HPSEB)	415.09		32.83	382.26	8% to 14.48%	43.25
Non SLR Bonds (HPGovt)	347.29		174.16	173.13		
Over draft						20.00
GPF						16.00
Finance & Other charges						10.00
Other Negotiated Loan		320.21		320.21	9%	20.00
Total	2655.06	471.35	478.93	2647.48		268.65

8.30 During the interaction with the Commission in the Tariff process, the Board was asked to submit the capital investment plan and the debt plan, which was complied in part by the Board - details of the investment planned, are not yet complied with.

8.31 The interest and finance charges approved by the Commission in this tariff order will be applicable only after approval of investment and debt plan. If the Board does not take approval of investment and debt plan for year FY07 within two months of issuance of this order, approved interest and finance charges will be treated as zero.

8.32 On analysis of the interest and finance charges proposed by the Board, the Commission found that most of the projections for interest payment made by the Board were done by using higher interest rate. For example for REC loans, average interest rate was 9.22% last year while this year the Board has made projection

using average interest rate as 9.88%. As the Commission has directed the Board to restructure the loans to reduce the average interest cost.

- 8.33 In technical validation session and subsequent interaction with the Board officials, the Commission had directed the Board to submit details of all the loans, to which the Board failed to comply with. As the Board has failed to submit details of all the loans to the Commission, the Commission is not able to decide which of the loans mentioned by the Board are raised towards capital work and which are used for funding revenue items.
- 8.34 Due to lack of information the Commission has decided to not to allow interest on LIC loans, Market Bonds, Bank Loans, HPSEB Non SLR Bonds assuming that these loans were raised to meet revenue items/gap. The Commission also directs the Board to submit details of all loans to the Commission with in one month of issuing this tariff order. If the Commission is satisfied with the details of loans, it will allow interest on all loans raised for capital work after due diligence, to be adjusted in the HPSEB Development Fund as proposed.
- 8.35 The Commission is very concerned by the gross inefficiency of the Board with respect to dealings related to the Loans and Investments which form a significant component of the ARR. Further the Board has not provided a breakup of loans which relate to capital investments and loans that were raised to meet revenue deficits. In this context the Commission would again like to quote the the Appellate Tribunal for Electricity judgement dated 26th May 2006 against appeals 4, 13, 14, 23, 25, 26, 35, 36, 54 & 55 of 2005 against PSERC particularly point 121 to 131 in the context of disallowance of interest costs
- 8.36 Regarding Working Capital, the Commission has worked out the requirement as per the norms of one month O&M expenses and two months receivables to arrive at the requirement and has approved the same at market rate of interest of 10% per annum. The financing charges have been taken as 0.5% of the loan raising amount. The Commission has approved Interest on Working Capital and finance charges as Rs. 25.86 Cr.
- 8.37 The Commission, during interactions with the Board officials had asked for submitting break up of financing cost, which was complied with by the Board. In the break up, the Board has shown Interest on Security Deposit of Rs. 5.6 Cr under financing charges.
- 8.38 The Commission, during interactions with the Board officials asked for submitting break up of other negotiated loan (amount Rs 320.21 Cr), for which the Board failed to provide a satisfactory reply. The Board in its submission has shown interest on this as part of Working Capital Interest, so the Commission has made assumption that the other negotiated loan is for working capital.
- 8.39 The Commission has asked the Board to submit details for Interest on GPF as Rs 16 Cr. In its reply, the Board has submitted that it has to give interest @ 8% on GPF

TARIFF ORDER FINANCIAL YEAR FY07

(Average Balance Rs. 609.22 Cr for year FY07) while it is getting interest @6.75% on deposited amount of Rs. 420 Cr. The Board was unable to explain difference between average balance of GPF account and invested amount. Also, when central government EPF is able to get return in range of 8%, the Commission is unable to understand why HPSEB is not able to do so. The Commission disapproves this expense item. The Commission feels that it is inefficiency from the Board's side and consumer should not pay for that. Moreover, the Commission believes that this expense item is wrongly placed and it should have been filed as employee expenses. HPSEB is advised to make the provident fund corpus sustainable on a long term basis to prevent erosion of the net worth of the PF corpus fund. The PF rates should be linked to the return on the investment that is interest rate of the banks, on the lines of the 3 universities of the State where PF rates have been linked to bank interest rate in order to make their PF scheme viable and sustainable. In the immediate term, this directive can be implemented for new entrants/employees of HPSEB.

- 8.40 In this ARR the Commission will only allow Rs 61.94 Cr as interest cost. However the Commission shall consider claims for hitherto disallowed interest in this tariff petition subject to satisfactory submission of details and nature of the loans taken so far.
- 8.41 The interest and financing charges approved by the Commission in this ARR are tabulated below:

Table 45: Approved Interest and Finance Charges for FY07 (In Rs Cr)

Name of the institution	Opening Balance	Amount Received	Repayment	Closing Balance	RoI	Interest approved in ARR
LIC	274.77	0.00	4.26	270.51	8% to 9%	-
REC	126.16	103.74	36.00	193.90	7.25% to 13%	13.39
PFC	917.57	47.40	70.00	894.97	5.5% to 10.75%	77.03
Market Bonds	35.49	0.00	0.00	35.49	11.5% to 13%	-
Bank Loans	518.56	0.00	161.68	356.88	7.5% to 9%	-
HPSEB Non SLR Bonds	415.09	0.00	32.83	382.26	10.22% to 14.48%	-
HP Govt Non SLR Bonds	347.29	0.00	174.16	173.13	10.22% to 14.48%	-
Total Interest on Loan from FIs/Banks	2,634.9	151.1	478.93	2,307.14		90.43
Interest on Security Deposit						5.60
Interest on Working Capital and financing charges						26.15

TARIFF ORDER FINANCIAL YEAR FY07

Name of the institution	Opening Balance	Amount Received	Repayment	Closing Balance	RoI	Interest approved in ARR
Interest and finance charges – Total						122.17
Less - Interest Capitalized						60.23
Interest and finance charges after capitalization						61.94

Depreciation

- 8.42 The Board has proposed depreciation of Rs 60.06 Cr on adhoc basis stating that the data relating to function-wise fixed assets is not available. The Commission in its Tariff Order for FY05 had also stressed on the need of creation of fixed asset register in order to get function-wise classification of fixed assets.
- 8.43 The Commission has approved the depreciation after reducing Rs 15.56 Cr from the asset block for schools and hospital.

Table 46: Approved Depreciation for FY07 (In Rs Cr)

S. No	Particular	Depreciation Rate	Opening GFA Balance	Depreciation
1	Generation	2.48%	821.36	20.36
2	Transmission	2.59%	698.43	18.08
3	Distribution	2.35%	919.75	21.62
4	Total		2439.54	60.06
5	Less - Unproductive Assets	2.46%	15.56	0.38
6	Total		2423.98	59.67

Expenses Capitalised

- 8.44 The Commission has calculated the Capitalization based on average capitalization rate in the past years. The details of the approved expense capitalization are tabulated below:

Table 47: Approved Capitalization for FY07 (In Rs Cr)

S.No	Particulars	FY05 (Actual)	FY06 (Actual)	FY07 (Proj)	FY07 (Approved)
1	Employee Cost	67.28	58.49	65.32	73.36

TARIFF ORDER FINANCIAL YEAR FY07

S.No	Particulars	FY05 (Actual)	FY06 (Actual)	FY07 (Proj)	FY07 (Approved)
2	R&M Expenses	4.22	5.50	6.43	5.91
3	A&G Expenses	4.47	3.89	4.34	4.80
4	Interest & Finance Expenses	109.79	120.00	109.00	60.23
5	Total	185.76	187.88	185.09	144.31

Return on Equity

- 8.45 The Board has proposed a return of Rs. 47.55 Cr @3% over Net fixed assets of Rs. 1585 Cr. The Commission has, however, followed the Return on Equity (RoE) approach as described in the following paragraphs.
- 8.46 As per the Annual Report of FY 2003-04, the equity capital of the Board is Rs. 280 Cr. Further, as per the information to the Commission, additional equity of Rs. 2.11 Cr was infused in FY05. Considering no equity infusion in FY06 and FY07, the Commission has apportioned the equity capital of the Board at Rs. 282.11 Cr into generation, transmission and distribution in the same ratio as the GFA at the start of FY07. The Commission has approved RoE to the generation, transmission and distribution businesses at the rate of 14%, 14% and 16%, respectively, in accordance with its Regulations on 'Terms and Conditions of Determination of Tariff', as detailed in the table below:

Table 48: Approved Return on Equity (RoE) for FY07 (In Rs Cr)

S. No	Particular	% Share in total GFA	Equity (Rs Cr)	Return on Equity (%)	Return on Equity (Rs Cr)
1	Generation	33.67%	94.98	14%	13.30
2	Transmission	28.63%	80.77	14%	11.31
3	Distribution	37.70%	106.36	16%	17.02
4	Total	100.00%	282.11		41.62

- 8.47 Though the Commission has approved return to the Board despite the deficiencies in its functioning and the hope that restructuring of the Board shall be carried out in consonance with the hope and objectives of the Electricity Act 2003 it also directs the Board to deposit Return on Equity to HPSEB Development Fund (details of which is provided in Section 10) and not remit it to the State Govt.

Annual Revenue Requirement

- 8.48 The Board, in its Annual Revenue Requirement (ARR) has submitted expenses of Rs. 131.46 Cr towards payment for prior period power purchase. The Commission believes that as it is a prior period item, the Board should include this in its Truing Up petition. It will be difficult for the Commission to view change in only power purchase cost of one station in isolation without looking other parameters of previous tariff orders.
- 8.49 The Board has included cost of power purchased for sale outside State in cost of total power purchased. During the technical validation session and interaction with the Board, the Commission asked it to file for power sale outside State business separately using trading format, which the Board failed to comply by with. In the Annual Revenue Requirement (ARR), the Commission has approved only cost of power purchase for own use in cost of power purchase. The Commission has analysed revenue from sale of power outside the State separately.
- 8.50 The Commission herewith approves the Annual Revenue Requirement (ARR) after incorporating the above changes, including the return on equity, at Rs. 1314.90 Cr as against Rs. 2026.76 Cr proposed by the Board for FY07. The detailed break up of various components of the ARR is shown below:

Table 49: Approved Annual Revenue Requirement (ARR) for FY07 (In Rs Cr)

S.No	Expense	FY07	
		Proposed	Approved
1	Power Purchase for Own Use (With Banking)	1,090.31	679.14 ¹
	Power Purchase for Sale outside the State		-
2	Prior Period Power Purchase	131.46	-
3	Employee Expenses	528.87	498.19
4	A&G Expenses	51.88	28.49
5	R&M Expenses	26.64	29.93
6	Depreciation	60.06	59.67
7	Interest & Financing	268.65	122.17
8	Total Gross Exp.	2,157.86	1,417.59
9	Less - Expenses Capitalized	178.66	144.31
10	Net Total Expenses	1,979.20	1,273.28
11	Return on Equity	47.55	41.62 ²
12	Annual Revenue Requirement	2,026.76	1,314.90

¹ In the ARR of HPSEB, the Commission has taken into consideration the Cost of power purchase for sale within the State.

² Return on Equity to be credited to HPSEB Development Fund (Details discussed in Section 10)

Unbundled Revenue Requirement

8.51 The unbundled revenue requirement for each business, viz. generation, transmission and distribution, vis-à-vis the proposed revenue requirement is shown in the table below. However, it should be noted that for the purposes of segregation between different businesses, the Commission has had to accept the proportion considered by HPSEB in the absence of Fixed Asset Register and proper segregation of various cost components. The Commission has continued with the proportion used in year 2003-04.

Table 50: Approved Unbundled Revenue Requirement for FY07 (In Rs Cr)

S. No	Particular	FY06 (R.E.)				FY07 (Approved)			
		Gen	Trans	Dis	Total	Gen	Trans	Dis	Total
1	Employee Expenses	74.27	26.70	403.97	504.94	73.28	26.35	398.56	498.19
2	R & M Expenses	10.11	2.90	16.70	29.70	10.18	2.92	16.82	29.93
3	A & G Expenses	6.84	2.88	20.51	30.23	6.45	2.71	19.33	28.49
4	Interest and Finance Charges	113.38	38.68	97.71	249.76	52.92	18.05	45.60	116.57
5	Depreciation	23.16	13.27	23.25	59.67	20.23	17.96	21.48	59.67
6	Interest on Security Deposit				-	-	-	5.60	5.60
9	Return on Equity					13.30	11.31	17.02	41.62
10	Total	227.76	84.42	562.13	874.31	176.36	79.30	524.42	780.07
11	Less: Expenses to be Capitalized	65.83	22.58	99.47	187.88	41.23	14.24	88.83	144.31
12	Total Costs (A+B)	161.93	61.84	462.66	686.43	135.13	65.06	435.58	635.77

A9: TARIFF PHILOSOPHY & DESIGN

Cost to Serve

- 9.1 The Commission has deliberated upon the aspect of cost of supply at different voltages and the approach to be adopted by the Commission in determining tariffs for FY07 in “Concept paper on tariff determination” circulated by the Commission in May 2006.
- 9.2 In this Section, the Commission has elaborated on the detailed methodology and assumptions used for determination of the cost of supply giving reasons for the changes in assumptions, wherever applicable.
- 9.3 In the earlier Tariff Orders, the Commission had made an effort to reduce the cross-subsidies, by reducing the differential between the average revenue realisation and the cost of supply at the respective voltage. Commission had also tried to ensure that no consumer category is subject to a tariff shock and reduction in cross-subsidy had to be in a gradual manner.
- 9.4 The tariffs proposed by HPSEB in its petition have no scientific reason as they are neither based on average cost nor on voltage wise cost of supply.
- 9.5 Accordingly, Commission has developed a Cost to Serve Model based on information provided by HPSEB. In subsequent sections, detailed assumptions and the method of computation of the cost of supply for FY07 has been explained.

Assumptions

- 9.6 The Commission has considered the following assumptions
 - (a) Energy Input – Only the energy input into the State transmission system required for intra State consumption and has not considered energy sale outside the State.
 - (b) Energy flows through each voltage level to reach Low-Tension (LT) consumer. So the losses and costs at higher voltages are shared at lower voltages. It was an assumption due to lack of load flow study information and accurate power flow diagram outlining the flow of energy from one voltage to another.
 - (c) Category-wise sales have been allocated to different voltages in the same proportion based on past information, except for the categories where sales data at different voltages is available like Large Industries, Water Pumping, and Bulk Supply
 - (d) As HPSEB has failed to submit authentic information on losses at different voltage level, the losses at EHT level have been estimated at 3.71% - similar

to past year. The overall losses in HPSEB system for sales within the State has been benchmarked at 18.5% for FY07 (As per MOU signed between GOHP and GOI, T&D losses are supposed to reduce 1% every year from 23.5% level at FY 2001-02) - losses at 11 KV and above (HT) have been considered as 7.50% and resultant losses at voltage levels below 11 KV (LT) have been estimated at 21.50%.

- (e) Cost segregation across voltage levels and consumer category wise is not available with the Commission. Segregation has been attempted based on past year information provided by HPSEB.

Methodology

- 9.7 Power Cost - The unit cost of generation and power purchase has been determined by dividing the total generation and power purchase cost with the total energy input into the system for the State's own consumption.
- 9.8 Cost of Supply to consumers at 66 kV and above has been determined by allocating the losses and cost according to the sales in this network (66 kV and above) and power wheeled through this network. Similarly, losses have been apportioned according to the sale at this system and the power wheeled through this system.
- 9.9 Cost of Supply to consumers at High Tension (11 kV and above) has been estimated by allocating costs and losses according to the sales to HT consumers and power wheeled to reach the LT network. It also proportionally includes the cost and losses incurred during the wheeling of power at 66 kV and above network.
- 9.10 Cost of Supply for the consumers at Low Tension (below 11 kV) level has been estimated by ascertaining the distribution cost (below 11 kV), losses (below 11 kV) and sales to LT consumers. It also includes the proportional costs (and losses) incurred for wheeling the power at higher voltage levels (from 220 kV till 11 kV).

Sales at various voltage levels

- 9.11 The sales at various voltage levels have been estimated based upon assumptions mentioned above, and are reproduced in the table below:

Table 51: Sales at Different Voltage Levels

S. No.	Category	Total Sales(MU)	EHT (>=66kV)	HT (>=11kV)	LT (<11kV)
1	Domestic	939	-	-	939
2	NDNCS	51	-	15	36
3	Commercial (CS)	238	-	36	203
4	Small & Medium Industrial Power (SMS)	155	-	-	155
5	Large Power Supply (LS)	1,791	994	796	-

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S. No.	Category	Total Sales(MU)	EHT (>=66kV)	HT (>=11kV)	LT (<11kV)
6	Power Intensive Units(PIUs)	375	208	167	
7	Water (& Irrigation) Pumping	328	-	49	279
8	Street Lighting	13	-	-	13
9	Agricultural and Allied Activities	27	-	-	27
10	Bulk supply	109	-	76	33
11	Temporary Supply	10	-	-	10
	Total (inside State)	4,035	1,203	1,139	1,693

Losses at various voltage levels

- 9.12 As discussed earlier, the losses at each voltage level have been assessed on the basis of certain assumptions. The losses at each voltage level have been presented in the Table below:

Table 52: T&D Losses at Different Voltage Levels

S. No	Particular	T & D Loss
1	66 kV and above (EHT)	3.7%
2	11 kV and above (HT)	7.5%
3	Below 11 kV (LT)	21.5%
4	Total	18.5%

Note: As HPSEB has failed to submit authentic information on losses at different voltage level, the losses at EHT level have been estimated at 3.71% - similar to past year. The overall losses in HPSEB system for sales within the State has been benchmarked at 18.5% for FY07 - losses at 11 KV and above (HT) have been considered as 7.50% and resultant losses at voltage levels below 11 KV (LT) has been estimated at 21.50%.

Cost Segregation

- 9.13 All the costs are divided into Generation, Transmission, and Distribution, in the following manner.
- 9.14 Generation and Power purchase cost: The Commission has considered the approved generation and power purchase cost at Rs. 814.26 Cr – Own generation cost at Rs. 135.13 Cr plus cost of power purchase at Rs. 679.14 Cr
- 9.15 Transmission Cost: The Commission has approved transmission cost of Rs. 70.06 Cr, including Rs. 5 Cr, towards metering, billing and collection which is reflected in the distribution cost, as discussed earlier. This cost has been apportioned to the sale to industrial consumers, the power wheeled through this system and loss incurred in this network.

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9.16 Distribution Cost: For arriving at the CoS, the Commission has considered the distribution cost of Rs. 430.58 Cr after deducting 5 Cr towards the metering, billing and collection cost incurred for the consumers in the transmission system. The distribution cost has further been divided into HT and LT network costs, according to the proportion of sales in these networks.

Table 53: Cost Allocation

Cost Head	Energy Wheeled (Excluding Losses) (In MUs) - A	Cost Allocation (Rs Cr) – B	Unit Cost (Rs/Unit) (B/A*10)	Applicable Categories
Generation cost	4950	814.26	1.65	EHT, HT and LT
Transmission cost	4035	70.06	0.17	EHT, HT and LT
Distribution Cost => 11 kV	2832	173.24	0.61	HT and LT
Distribution Cost < 11 kV	1693	257.34	1.52	LT
Total		1314.90		

Table 54: Loss Allocation

Loss	Energy Wheeled (MU) - A	Loss (MU) - B	Loss (%) $C = (B/A)*100$	Gen Cost * C (Rs/Unit)	Applicable Categories
Transmission Loss	4035	184	4.55%	0.07	EHT, HT and LT
Distribution Loss(=>11 kV)	2832	267	9.44%	0.16	HT and LT
Distribution Loss(<11 kV)	1693	462	27.42%	0.45	LT

9.17 The approved CoS at different voltage level for determination of tariff is shown in the table below.

Table 55: Cost to Serve

S. No.	Particulars	Generation bus bar	EHT (>=66 kV)	HT (>=11kV)	LT (<11kV)	Total
1	Energy Input (MU)	4,950	4,950	3,563	2,157	-
2	Loss (MU)	-	184	267	464	913
3	Sales at respective level (MU)	-	1,203	1,139	1,693	4,035
4	Cost at respective level (Rs. Cr)	814.26	70.06	173.24	257.34	1,314.90

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S. No.	Particulars	Generation bus bar	EHT (>=66 kV)	HT (>=11kV)	LT (<11kV)	Total
5	Cost Allocation					-
	Generation Cost		1.65	1.65	1.65	-
	Transmission Cost		0.17	0.17	0.17	-
	Distribution Cost (>= 11 kV)			0.61	0.61	-
	Distribution Cost (< 11 kV)			-	1.52	-
6	Loss Allocation					-
	Transmission Loss Allocation	4.55%	0.07	0.07	0.07	-
	Distribution Loss Allocation (>11 kV)	9.43%	-	0.16	0.16	-
	Distribution Loss Allocation (<11 kV)	27.31%	-	-	0.45	-
7	Cost of Supply		1.89	2.66	4.63	3.26*

*Rs 3.26 per unit is average cost of supply

Existing Level of Cross Subsidies

- 9.18 In the previous Tariff Orders for FY05 and FY06, the Commission had taken steps towards reduction of cross-subsidy and had attempted to align the tariffs with the cost of supply at various voltage levels. In attempting to align tariffs with the cost of supply, the Commission acknowledged the fact that though there is an urgent need for ensuring recovery of the cost of supply from the consumers to ensure fiscal sustainability of the Board, the exercise should not send tariff shocks to any class of consumers. Moreover, a certain minimum level of support would be required to be given make electricity affordable for households in BPL category.
- 9.19 The Commission recognises that the estimation of cost of supply at different voltage levels would require extensive, reliable and credible data and information at different voltage levels and is a separate detailed exercise on its own. Nevertheless, the Commission has endeavoured to arrive at some estimates by making certain assumptions. In this Order, the Commission has extended the same principles as in previous years to compute the voltage-wise CoS for FY07 above.

Tariff Principles

- 9.20 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, 2004 and the National Electricity Policy issued by Ministry of Power, GoI on February 12, 2005. The guiding principles as laid down in Section 61 of the Act are reproduced below:
- (a) the principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;

- (b) the generation, transmission, distribution and supply of electricity are conducted on commercial principles;
- (c) the factors which would encourage competition, efficiency economical use of the resources, good performance and optimum investments;
- (d) safeguarding of consumers' interest and at the same time, recovery of the cost of electricity in a reasonable manner;
- (e) the principles rewarding efficiency in performance;
- (f) multi-year tariff principles;
- (g) that the tariff progressively, reflects the cost of supply of electricity, and also reduces and eliminates cross-subsidies within the period to be specified by the Appropriate Commission;
- (h) the promotion of co-generation and generation of electricity from renewable sources of energy;
- (i) the National Electricity Policy and tariff policy.

9.21 The Commission has also laid down similar guiding factors for determination of tariff in its HPERC (Terms and Conditions for Determination of Tariff) Regulations, 2004 and Himachal Pradesh Electricity Regulatory Commission (Guidelines and Formats for Tariff Filing) Regulations, 2005.

9.22 Apart from these principles, the National Electricity Policy has also laid down emphasis on Multi-Year Tariff framework, segregation of technical and commercial losses, incentives for the use of pre-paid meters, putting in place the governance structure in distribution needed for ensuring recovery of cost of service from consumers, minimum level of support for consumers of poor categories, need to correct the imbalance on account of cross subsidy progressively and gradually without giving tariff shock to the consumers and above all to promote the competition which is the very essence of the Electricity Act. The National Electricity Policy also emphasises that advance subsidy be given by the State Government as per Section 65 of the Act to the power utility and mentions that necessary budgetary provision be made in advance so that the utilities do not suffer financial problems. The Electricity Policy further mentions of the need to make efforts to ensure that subsidies reach the targeted beneficiaries in the most transparent and efficient way.

Transmission Tariff

9.23 For Calculation of transmission tariff, the Commission has taken transmission cost after splitting total cost in to generation, transmission and distribution. As HPSEB has failed to submit authentic information on losses at different voltage level, the

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transmission losses have been estimated at 3.71% which is equivalent to losses assumed last year. Total transmission cost (Including cost due to transmission losses) comes to Rs. 95.27 Cr. The transmission tariff fixed by the Commission is Rs 0.236 per unit.

Table 56: Transmission Tariff

Transmission Tariff Calculation	
Transmission Cost (In Cr)	65.06
Transmission Loss (In MUs)	183.64
Per Unit Power Purchase Cost (Rs)	1.65
Transmission Loss (In Cr)	30.21
Total Transmission Cost (In Cr)	95.27
Units Wheeled through System (MUs)	4035
Transmission Tariff (Rs per unit)	0.236

Wheeling Charge

9.24 For Calculation of wheeling charges, the Commission has taken distribution cost after splitting total cost in to generation, transmission and distribution. As HPSEB has failed to submit authentic information on losses at different voltage level, the losses at 11 KV and above (HT) have been considered as 7.50% and losses at voltage levels below 11 KV (LT) have been estimated at 21.50% (Overall T & D loss – 18.5%).

9.25 Total distribution cost (Including cost due to distribution losses) comes to Rs. 555.90 Cr. The wheeling charge fixed by the Commission is Rs. 1.38 per unit.

Table 57: Wheeling Charge

Wheeling Charge Calculation	
Distribution Cost (In Cr)	435.58
Distribution Loss (In MUs)	731.37
Per Unit Power Purchase Cost (Rs)	1.65
Distribution Loss (In Cr)	120.31
Total Distribution Cost (Cr)	555.90
Energy Sales (In MUs)	4035
Wheeling Charges (Rs per unit)	1.38

Delay in Admission of Petition

- 9.26 The Commission admitted the Board's petition on March 18, 2006, though the Board had submitted its initial petition on December 28, 2005. The delayed acceptance of the petition was on account of inadequate data submitted by the Board which was essential for processing the petition. The Commission is issuing the Order within 120 days of acceptance of the petition, though HPSEB has been giving data even as late as fifteen days before the issue of the Order.
- 9.27 The Board is also well aware that the tariff revision will have prospective effect only and will be applicable from July 8, 2006 till March 2007, and will cease to be applicable after March 31, 2007, if the Board does not submit its tariff petition for FY 2007-08 by November 30, 2006.
- 9.28 Accordingly, the Commission has computed the revenue for FY07 with the revised tariffs, assuming that the revised tariff is applicable for the entire year. Any revenue loss to the Board on account of this delay in implementation of the revised tariffs is to the Board's account, and will not be recoverable from the consumers.

Approved Tariff Design

DS: Domestic Supply

- 9.29 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 or any other residential premises, religious places with connected load upto 5 kW, and Panchayat Ghars and Patwarkhanas upto 2 kW.
- 9.30 The Commission has received demand/suggestion from general public, the Board, to include several other consumer categories under Domestic Supply Category. As per that the Commission has decided to include Orphanages, homes for old people and 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 also in this category from this year.
- 9.31 The Board has proposed no increase in the domestic category in its ARR.
- 9.32 As per the National Electricity Policy, the tariff for BPL consumer has to be designed at 50% of average cost of supply. As the average cost of supply is Rs 3.28 per unit, the tariff for BPL consumers has increased and fixed at Rs 1.65 per unit. At the same time the Commission has modified the slab structure of the BPL consumers from ≤ 45 units per month to ≤ 50 . This to give relief to BPL consumers whose consumption is on the marginal levels of the slab.

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- 9.33 The Commission has changed the slab structure and has merged the first two slabs in the existing tariff schedule and has reduced the rates applicable to the slabs.
- 9.34 The comparison of existing tariff, tariff proposed by the Board and that approved by the Commission for domestic category is given below:-

Table 58: Existing, Proposed and Approved Tariff for Domestic Category

Description	Existing		Proposed		Approved	
	Energy Charges	Consumer Service Charges	Energy Charges	Consumer Service Charges	Energy Charges	Consumer Service Charges
Units/Month	Rs/kWh	Rs/consumer /month	Rs/kWh	Rs/consumer /month	Rs/kWh	Rs/consumer/month
BPL Consumer (Up to 45 units per month)	1.55	Nil	1.55	Nil	Slab for the BPL consumers has been changed from 0-45 to 0-50 units per month.	
BPL Consumer (Up to 50 units per month)					1.65	Nil
0-45	1.75	20	1.75	20	Both the slabs are merged to a single slab 0-150	
46-150	2.1	20	2.1	20		
0-150					1.75	20
Above 150	2.75	20	2.75	20	2.65	

- 9.35 The Govt. of Himachal Pradesh had provided subsidy to the Domestic Consumers last year (2005-06). The Details of the given subsidy is shown below:

Table 59: Effective Domestic Tariff after GoHP subsidy for last year

S. No	Consumer Slab	Tariff for Last Year	Govt. of HP Subsidy (In Rs./Unit)	Effective Tariff for Consumer
1	<=45	1.75	1.05	0.70
2	>45 - <=150	2.10	1.05	1.05
3.	>150 - <=300	2.75	1.25	1.50
4.	>300	2.75	0.50	2.25

- 9.36 The Commission assumes that for the current year (2006-07) the Govt. of Himachal Pradesh will provide the same level of per unit subsidy and hence domestic consumer will be getting the benefit of the reduction in tariff allowed by the Commission. If the Govt. of HP provides the same level of per unit subsidy, the effective tariff for the domestic consumer will be as follows:

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Table 60: Effective Domestic Tariff if GoHP per unit subsidy remains at last year level

S. No	Consumer Slab	Tariff for Current Year	Govt. of HP Subsidy (In Rs./Unit)	Effective Tariff for Consumer
1	<=45	1.75	1.05	0.70
2	>45 - <=150	1.75	1.05	0.70
3.	>150 - <=300	2.65	1.25	1.40
4.	>300	2.65	0.50	2.15

9.37 As a result of tariff reduction in the category, the consumer burden will be reduced by Rs 12.74 Cr.

Table 61: Impact of proposed Tariff on Domestic Category

Total Projected Revenue at Existing Tariff (Rs Cr)	Total Projected Revenue at Proposed Tariff (Rs Cr)	Net Impact of Proposed Tariff (Rs Cr)
237.46	224.72	- 12.72

9.38 The rebates and surcharges have been detailed in ‘Part-1 General of Annexure II’, and have been listed below:

- (a) **Higher Voltage Supply Rebate (HVSR):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (b) **Lower Voltage Supply Surcharge (LVSS):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (c) **Lower Voltage Metering Surcharge (LVMS):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (d) **Late Payment Surcharge (LPS):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (e) **Night Time Concession (NTC):** Applicable @ 20 paise/kWh as specified under ‘Part-1 General of this Annexure II’.
- (f) **Power Factor Surcharge (PFS):** Not Applicable.
- (g) **Harmonic Injection Penalty (HIP):** Not Applicable.
- (h) **Two Part Tariff and Related Charges:** Not Applicable.
- (i) **Peak Load Exemption Charges (PLEC)** Not Applicable.

- (j) **Peak Load Violation Charges (PLVC):** Not Applicable.

Non Domestic Non Commercial Supply

9.39 This schedule is applicable to Govt and semi Government offices, Government Hospitals, Educational Institutions viz. Schools, Universities; I.T.Is, Colleges, Government Sports Institutions, Government Mountaineering Institutions and allied sports, Government Libraries, 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 workers training centres; Hospitals run on charity basis; Sarais and Dharamsalas run by Panchayats and Municipal Committees or on donations and those attached with religious places; and Panchayat Ghars and Patwar Khana greater than 2 kW.

NOTE: 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 Board and the Board provides meters for individual consumers.

- 9.40 The Board has proposed single part tariff for NDNCS category as it believed that it is losing revenue due to two part tariff. It has also proposed to increase the energy charges and consumer service charges for this category.
- 9.41 The Commission has received several suggestions from consumers for rationalization of demand charges as due to this consumers were paying higher electricity bill even when there electricity consumption was low.
- 9.42 The Commission has kept single part tariff of NDNCS consumer lying in slab up to 20 kW as same and rationalized kVAh based tariff for consumers lying in slab greater than 20kW by reducing demand charges and increasing energy charges.
- 9.43 The comparison of existing tariff, tariff proposed by the Board and that approved by the Commission is given below:-

Table 62: Existing, Proposed and Approved Tariff for NDNCS Category (Up to 20kW)

Existing		Proposed		Approved by the Commission	
Energy Charge	Consumer service charge	Energy Charge	Consumer Service Charge	Energy Charge	Consumer Service Charge
Rs./kWh	Rs/consumer/month	Rs./kWh	Rs/consumer/month	Rs./kWh	Rs/consumer/Month
3.65	50	3.85	70	3.65	50

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Table 63: Existing, Proposed and Approved Tariff for NDNCS Category (Above 20kW)

Existing			Proposed		Approved by the Commission		
Energy Charge	Service charge	Demand Charge	Energy Charge	Service charge	Energy Charge	Service charge	Demand Charge
Rs./kVA	Rs./con./ Month	Rs./kVA/ month	Rs./kWh	Rs./con./ month	Rs./kVA	Rs./con./ month	Rs./kVA/ month
2.65	100	125	3.85	70	2.95	100	75

9.44 As a result of tariff rationalization in above 20kW slab, the consumer burden will be reduced by Rs 0.63 Cr.

Table 64: Impact of proposed Tariff on NDNCS Category

Total Projected Revenue at Existing Tariff (Rs Cr)	Total Projected Revenue at Proposed Tariff (Rs Cr)	Net Impact of Proposed Tariff (Rs Cr)
21.46	20.84	- 0.63

9.45 The rebates and surcharges have been detailed in 'Part-1 General of Annexure II', and have been listed below:

- (a) **Higher Voltage Supply Rebate (HVSR):** Applicable as specified under 'Part-1 General of Annexure II'.
- (b) **Lower Voltage Supply Surcharge (LVSS):** Applicable as specified under 'Part-1 General of Annexure II'.
- (c) **Lower Voltage Metering Surcharge (LVMS):** Applicable as specified under 'Part-1 General of Annexure II'.
- (d) **Late Payment Surcharge (LPS):** Applicable as specified under 'Part-1 General of Annexure II'.
- (e) **Contract Demand Violation Charge:** Applicable as specified under 'Part-2 Schedule of Tariff of Annexure II'
- (f) **Night Time Concession (NTC):** Applicable @ 20 paise/kVAh as applicable as specified under 'Part-1 General of Annexure II'.
- (g) **Power Factor Surcharge (PFS):** Not Applicable.
- (h) **Disturbing Load Penalty (DLP):** Applicable as specified under 'Part-1 General of Annexure II'.

- (i) **Harmonic Injection Penalty (HIP):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (j) **Peak Load Exemption Charges (PLEC):** Not Applicable.
- (k) **Peak Load Violation Charges (PLVC):** Not Applicable.

Commercial Supply (CS)

- 9.46 This schedule is applicable to consumers for lights, fans, appliances like pumping sets, central air conditioning plants, 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, construction power to hydroelectric projects, 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. This schedule will also include all other categories, which are not covered by any other tariff schedule.
- 9.47 The Board has proposed single part tariff for CS category as it believed that it is losing revenue due to two part tariff. It has also proposed to increase the energy charges and consumer service charges for this category. As already ordered by the Commission, the commercial consumers above 20 kW are being charged on two-part tariff.
- 9.48 The Commission has received several suggestions from consumers for rationalization of demand charges as due to this consumers were paying higher electricity bill even when there electricity consumption was low.
- 9.49 The Commission has kept single part tariff of CS consumer lying in slab up to 20 kW as same and rationalized kVAh based tariff for consumers lying in slab greater than 20kW by reducing demand charges and increasing energy charges.
- 9.50 The existing tariff, tariff proposed by the Board and tariff approved by the Commission are given in the table below.

Table 65: Existing, Proposed and Approved Tariff for CS Category (Up to 20kW)

Existing		Proposed		Approved by the Commission	
Energy Charge	Consumer service charge	Energy Charge	Consumer Service Charge	Energy Charge	Consumer Service Charge
Rs./kWh	Rs/cons/month	Rs./kWh	Rs/cons/month	Rs./kWh	Rs/cons/month
4.00	50	4.25	70	4.00	50

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Table 66: Existing, Proposed and Approved Tariff for CS Category (Above 20kW)

	Existing			Proposed		Approved by the Commission		
	Energy Charge	Service charge	Demand Charge	Energy Charge	Service charge	Energy Charge	Service charge	Demand Charge
Particular	Rs./kVA	Rs./con./month	Rs./kVA/month	Rs./kWh	Rs./con./month	Rs./kVA	Rs./con./month	Rs./kVA/month
20-100 kW	2.8	100	125	4.25	70	3.20	100	75
Above 100kW	2.50	200	175	4.25	70	3.00	200	100

9.51 In case of unauthorised mobile welding sets, the consumer will pay Rs. 20 per kW per day, in addition to the energy charges.

9.52 As a result of tariff rationalization in the category, the consumer burden will be reduced by Rs 0.10 Cr.

Table 67: Impact of proposed Tariff on CS Category

Total Projected Revenue at Existing Tariff (Rs Cr)	Total Projected Revenue at Proposed Tariff (Rs Cr)	Net Impact of Proposed Tariff (Rs Cr)
109.12	109.02	- 0.10

9.53 The applicable rebates and surcharges have been detailed in ‘Part-1 General of Annexure II’, and have been listed below:

- (a) **Higher Voltage Supply Rebate (HVSR):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (b) **Lower Voltage Supply Surcharge (LVSS):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (c) **Lower Voltage Metering Surcharge (LVMS):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (d) **Late Payment Surcharge (LPS):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (e) **Contract Demand Violation Charge:** Applicable as specified under ‘Part-2 Schedule of Tariff of Annexure II’
- (f) **Night Time Concession (NTC):** Applicable @ 20 paise/kVAh as applicable as specified under ‘Part-1 General of Annexure II’.

- (g) **Power Factor Surcharge (PFS):** Not Applicable.
- (h) **Disturbing Load Penalty:** Applicable as specified under ‘Part-1 General of Annexure II’.
- (i) **Harmonic Injection Penalty (HIP):** Not Applicable.
- (j) **Peak Load Exemption Charges (PLEC):** Not Applicable.
- (k) **Peak Load Violation Charges (PLVC):** Not Applicable.

Small and Medium Industrial Power Supply (SMS)

- 9.54 This schedule is applicable to Industrial consumers with connected load not exceeding 100 kW including pumps (other than irrigation pumping), wheat threshers, tokas, poultry farms and sheds, cane crushers, atta chakkies, 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 "AAA" shall also be charged under this schedule.
- 9.55 The Board has proposed no change in the tariff structure for SMS category in its ARR.
- 9.56 The Commission has received several suggestions from consumers for rationalization of Demand Charges as due to this consumers were paying higher electricity bill even when there electricity consumption was low.
- 9.57 The Commission has reduced energy charges for consumers falling in “upto 20 kW” slab. The Commission has also reduced/rationalized demand charges and energy charges for consumers falling in “above 20 kW” which will result in reducing burden of consumers in this category.
- 9.58 The existing tariff, tariff proposed by the Board and tariff approved by the Commission are given in the table below.

Table 68: Existing, Proposed and Approved Tariff for SMS Category (Up to 20kW)

Existing		Proposed		Approved by the Commission	
Energy Charge	Consumer service charge	Energy Charge	Consumer Service Charge	Energy Charge	Consumer Service Charge
Rs./kWh	Rs/consumer/month	Rs./kWh	Rs/consumer/month	Rs./kWh	Rs/consumer/month
3.55	50	3.55	50	3.40	50

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Table 69: Existing, Proposed and Approved Tariff for SMS Category (Above 20kW)

Existing			Proposed			Approved by the Commission		
Energy Charge	Consumer Service charge	Demand Charge	Energy Charge	Consumer Service charge	Demand Charges	Energy Charge	Consumer Service charge	Demand Charge
Rs./kVA	Rs./con./month	Rs./kVA/month	Rs./kWh	Rs./con./month	Rs./kVA/month	Rs./kVA	Rs./con./month	Rs./kVA/month
2.55	100	150	2.55	100	150	2.75	100	75

9.59 As a result of tariff reduction and rationalization in the category, the consumer burden will be reduced by Rs 4.35 Cr.

Table 70: Impact of proposed Tariff on SMS Category

Total Projected Revenue at Existing Tariff (Rs Cr)	Total Projected Revenue at Proposed Tariff (Rs Cr)	Net Impact of Proposed Tariff (Rs Cr)
64.84	60.49	- 4.35

9.60 The rebates and surcharges have been detailed in 'Part-1 General of Annexure II', and have been listed below:

- (a) **Higher Voltage Supply Rebate (HVSR):** Applicable as specified under 'Part-1 General of Annexure II'.
- (b) **Lower Voltage Supply Surcharge (LVSS):** Applicable as specified under 'Part-1 General of Annexure II'.
- (c) **Lower Voltage Metering Surcharge (LVMS):** Applicable as specified under 'Part-1 General of Annexure II'.
- (d) **Contract Demand Violation Charge:** Applicable as specified under 'Part-2 Schedule of Tariff of Annexure II'.
- (e) **Late Payment Surcharge (LPS):** Applicable as specified under 'Part-1 General of Annexure II'.
- (f) **Contract Demand Violation Charge:** Applicable as specified under 'Part-2 Schedule of Tariff of Annexure II'.
- (g) **Night Time Concession (NTC):** Applicable @ 20 paise/kVAh as applicable as specified under 'Part-1 General of Annexure II'.

- (h) **Power Factor Surcharge (PFS):** Applicable as specified under 'Part-1 General of Annexure II'.
- (i) **Disturbing Load Penalty (DLP):** Not Applicable.
- (j) **Harmonic Injection Penalty (HIP):** Applicable as specified under 'Part-1 General' of Annexure II.

9.61 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 the supply is not taken separately but taken at the same single supply point of the industry. Such consumption shall be charged for the energy consumed at the following rates, irrespective of whether the consumer has opted for peak time consumption or not:

- (a) During normal times : normal rate
- (b) During peak times: the PLEC rate
- (c) During night time : the night time rate

9.62 If supply for colony lighting / residences is taken separately than the same shall be charged as per the relevant category under this schedule of tariff.

Large Industrial Power Supply

9.63 This schedule is applicable to all industrial power consumers with connected load exceeding 100 kW and including the Information Technology industry, limited only to IT parks recognized by the State/Central Government and all industrial consumers not covered by schedule "WPS" or schedule "AAA".

9.64 The Board has retained the two part tariff structure in its petition and proposed increase in energy charges by 50 paise per kVAh. It has also proposed increase in demand charges for EHT from Rs 165/kVAh/month to Rs 210/kVAh/month and reduction of demand charges for HT from 240/kVAh/month to 210/kVAh/month. The existing tariff, tariff proposed by the Board and tariff approved by the Commission are given in the table below:-

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Table 71: Existing, Proposed and Approved Tariff for LS Category

	Existing			Proposed			Approved by the Commission		
	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges
	Rs/kVA	Rs/con/month	Rs/kVA/Month	Rs/kVA	Rs/con/month	Rs/kVA/Month	Rs/kVA	Rs/con/month	Rs/kVA/Month
EHT	2.10	300	165	2.60	300	210	2.00	300	170
HT	2.20	200	240	2.70	200	210	2.10	200	200

- 9.65 The Commission has reduced the Energy Charges EHT and HT consumers in LS category to reduce cross subsidy as per its tariff philosophy.
- 9.66 The Commission has increased demand charges for EHT consumers and decreased demand charges for HT consumers to reduce the gap between demand charges in two categories.
- 9.67 As a result of tariff reduction in the category, the consumer burden will be reduced by Rs 25.95 Cr.

Table 72: Impact of proposed Tariff on LS Category

Total Projected Revenue at Existing Tariff (Rs Cr)	Total Projected Revenue at Proposed Tariff (Rs Cr)	Net Impact of Proposed Tariff (Rs Cr)
498.08	472.13	- 25.95

- 9.68 The rebates and surcharges have been detailed in ‘Part-1 General of Annexure II’, and have been listed below:
- Higher Voltage Supply Rebate (HVSR): Not Applicable.
 - Lower Voltage Supply Surcharge (LVSS): Not Applicable.
 - Lower Voltage Metering Surcharge (LVMS): Applicable as specified under ‘Part-1 General of Annexure II’.
 - Late Payment Surcharge (LPS): Applicable as specified under ‘Part-1 General of Annexure II’.
 - Contract Demand Violation Charge: Applicable as specified under ‘Part-2 Schedule of Tariff of Annexure II’.

- (f) Night Time Concession (NTC): Applicable @ 20 paise/kVAh as specified under 'Part-1 General of Annexure II'.
- (g) Contract Demand Violation Charge: Applicable as specified under 'Part-2 Schedule of Tariff of Annexure II'
- (h) Power Factor Surcharge (PFS): Not Applicable.
- (i) Disturbing Load Penalty (DLP): Not Applicable.
- (j) Harmonic Injection Penalty (HIP): Applicable as specified under 'Part-1 General of Annexure II'.

9.69 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, irrespective of whether the consumer has opted for peak time consumption or not:

- (a) During normal times: normal rate
- (b) During peak times: the PLEC rate
- (c) During night time : the night time rate

9.70 If supply for colony and/or its residences is taken separately then the same shall be charged as per the relevant consumer category of this schedule of tariff.

Power Intensive Units

9.71 The Commission has introduced Power Intensive Units (PIUs) category in this tariff order to separate them from Large Industrial Power Supply category. This schedule is applicable to Power intensive industries like mini steel plants, rolling mills, re-rolling mills, mini steel plants with rolling mills, sponge iron plants, ferro alloys/ferro silicon units and arc/induction furnaces

9.72 The Commission has introduced PIU category in this tariff order by identifying the different nature of energy consumption of the industries in this category from other industries. Energy charges and consumer service charges for this category will be same as Large Industrial Power Supply category while their Demand Charges will be higher. The Commission is proposing higher demand charges as these industries have significant impact on overall system stability. The tariff approved by the Commission is given in the table below:-

Table 73: Existing, proposed and Approved Tariff for PIU Category

	Existing			Proposed			Approved by the Commission		
	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges
	Rs/kVA	Rs/con/month	Rs/kVA/Month	Rs/kVA	Rs/con/month	Rs/kVA/Month	Rs/kVA	Rs/con/month	Rs/kVA/Month
EHT	2.10	300	165	2.60	300	210	2.00	300	250
HT	2.20	200	240	2.70	200	210	2.10	200	330

9.73 The rebates and surcharges have been detailed in ‘Part-1 General of Annexure II’, and have been listed below:

- (a) Higher Voltage Supply Rebate (HVSR): Not Applicable.
- (b) Lower Voltage Supply Surcharge (LVSS): Not Applicable.
- (c) Lower Voltage Metering Surcharge (LVMS): Applicable as specified under ‘Part-1 General of Annexure II’.
- (d) Late Payment Surcharge (LPS): Applicable as specified under ‘Part-1 General of Annexure II’.
- (e) Contract Demand Violation Charge: Applicable as specified under ‘Part-2 Schedule of Tariff of Annexure II’
- (f) Night Time Concession (NTC): Applicable @ 20 paise/kVAh as specified under ‘Part-1 General of Annexure II’.
- (g) Contract Demand Violation Charge: Applicable as specified under ‘Part-2 Schedule of Tariff of Annexure II’
- (h) Power Factor Surcharge (PFS): Not Applicable.
- (i) Disturbing Load Penalty (DLP): Not Applicable.
- (j) Harmonic Injection Penalty (HIP): Applicable as specified under ‘Part-1 General of Annexure II’.

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9.74 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, irrespective of whether the consumer has opted for peak time consumption or not:

- (a) During normal times: normal rate
- (b) During peak times: the PLEC rate
- (c) During night time: the night time rate

9.75 If supply for colony and/or its residences is taken separately then the same shall be charged as per the relevant consumer category of this schedule of tariff.

Water Pumping Supply (WPS)

9.76 The existing schedule is applicable to Government connections for water and irrigation pumping. The schedule also covers all consumption for bonafide Pump House lighting.

9.77 The Board has proposed increase in energy charges and demand charges for HT consumers.

9.78 The Commission has increased the energy charges for LT and HT consumers in this category and introduced EHT consumers as a separate group under WPS on the request of the Consumers. The existing tariff, tariff proposed by the Board and tariff approved by the Commission is given in the table below:-

Table 74: Existing, Proposed and Approved Tariff for WPS Category

	Existing			Proposed			Approved by the Commission		
	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges
	Rs/kVA	Rs/con/month	Rs/kVA/Month	Rs/kVA	Rs/con/month	Rs/kVA/Month	Rs/kVA	Rs/con/month	Rs/kVA/Month
LT	2.60	100	175	2.60	100	175	2.80	100	175
HT	1.95	100	125	2.40	100	175	2.20	100	125
EHT	-	-	-	-	-	-	2.00	100	100

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9.79 The Commission has increased the tariff for WPS (LT) to reduce the subsidy this category was getting as per its tariff philosophy of the Commission to reduce the cross subsidy.

9.80 Due to the increased tariff, consumers in this category will get an additional burden of Rs. 6.81 Cr.

Table 75: Impact of proposed Tariff on WPS Category

Total Projected Revenue at Existing Tariff (Rs Cr)	Total Projected Revenue at Proposed Tariff (Rs Cr)	Net Impact of Proposed Tariff (Rs Cr)
112.22	119.02	6.81

9.81 The applicable rebates and surcharges have been detailed in ‘Part-1 General of Annexure II’, and have been listed below:

- (a) Higher Voltage Supply Rebate (HVSR): Not Applicable.
- (b) Lower Voltage Supply Surcharge (LVSS): Not Applicable.
- (c) Lower Voltage Metering Surcharge (LVMS): Applicable as specified under ‘Part-1 General of Annexure II’.
- (d) Late Payment Surcharge (LPS): Applicable as specified under ‘Part-1 General of Annexure II’.
- (e) Contract Demand Violation Charge: Applicable as specified under ‘Part-2 Schedule of Tariff of Annexure II’.
- (f) Night Time Concession (NTC): Applicable 20 paise/kVAh as applicable as specified under ‘Part-1 General of Annexure II’.
- (g) Power Factor Surcharge (PFS): Applicable as specified under ‘Part-1 General of Annexure II’.
- (h) Disturbing Load Penalty (DLP): Applicable as specified under ‘Part-1 General’ of Annexure II.
- (i) Harmonic Injection Penalty (HIP): Not Applicable.

Agriculture and Allied Activities Supply (AAA)

- 9.82 The Commission has renamed the existing Agriculture Pumping Supply (APS) to Agriculture and Allied Activities Supply as the Commission wanted to include other agriculture related activities in this category. This schedule shall be applicable to Irrigation Pumping loads with connected load not exceeding 20 kW. Private Irrigation loads in individual /Society's names above 20 kW are also covered under this tariff.
- 9.83 The Commission proposes to include green houses, poly houses, processing facilities for agriculture, pisciculture, horticulture, floriculture and sericulture etc. where all such activities are undertaken by agricultural land holder only under this category. This schedule will also be applicable to temporary agricultural loads such as wheat threshers, paddy threshers.
- 9.84 The Board has proposed single part tariff for AAA category and not proposed any tariff increase. The existing tariff, tariff proposed by the Board and tariff approved by the Commission for AAA is given in the table below:

Table 76: Existing, Proposed and Approved Tariff for AAA Category (Up to 20kW)

Existing		Proposed		Approved by the Commission	
Energy Charge	Consumer service charge	Energy Charge	Consumer Service Charge	Energy Charge	Consumer Service Charge
Rs./kWh	Rs/consumer/month	Rs./kWh	Rs/consumer/month	Rs./kWh	Rs/consumer/Month
1.55	20	1.55	20	1.65	20

Table 77: Existing, Proposed and Approved Tariff for AAA Category (Above 20kW)

Existing			Proposed		Approved by the Commission		
Energy Charge	Consumer Service charge	Demand Charge	Energy Charge	Consumer Service charge	Energy Charge	Consumer Service charge	Demand Charge
Rs./kVA	Rs./con./month	Rs./kVA/month	Rs./kWh	Rs./con./month	Rs./kVA	Rs./con./Month	Rs./kVA/month
1.00	20	50	1.55	20	1.00	20	50

- 9.85 As per the National Electricity Policy, the tariff for any category has to be kept at least at 50% of average cost of supply. As the average cost of supply is Rs 3.28 per unit, the tariff for Agriculture consumers has increased and fixed at Rs 1.65 per unit.

9.86 The rebates and surcharges have been detailed in 'Part-1 General of Annexure II', and have been listed below:

- (a) **Higher Voltage Supply Rebate (HVSr):** Applicable as specified under 'Part-1 General of Annexure II'.
- (b) **Lower Voltage Supply Surcharge (LVSS):** Applicable as specified under 'Part-1 General of Annexure II'.
- (c) **Lower Voltage Metering Surcharge (LVMS):** Applicable as specified under 'Part-1 General of Annexure II'.
- (d) **Late Payment Surcharge (LPS):** Applicable as specified under 'Part-1 General of Annexure II'.
- (e) **Contract Demand Violation Charge:** Applicable as specified under 'Part-2 Schedule of Tariff of Annexure II'.
- (f) **Night Time Concession (NTC):** Applicable @ 20 p/kVAh as specified under 'Part-1 General of Annexure II'.
- (g) **Power Factor Surcharge (PFS):** Applicable as specified under 'Part-1 General of Annexure II'.
- (h) **Disturbing Load Penalty (DLP):** Applicable as specified under 'Part-1 General' of Annexure II.
- (i) **Harmonic Injection Penalty (HIP):** Not Applicable.

Bulk Supply

9.87 This schedule is applicable to general or mixed loads to M.E.S and other Military establishments, Railways, Central PWD Institutions, Hospitals, Departmental colonies, A.I.R Installations, Aerodromes 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.

9.88 The Board has proposed a hike of 10 paisa per kVAH in Energy charges for both LT and HT consumers in this category.

9.89 The existing tariff, tariff proposed by the Board and tariff approved by the Commission is given in the table below: -

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Table 78: Existing, Proposed and Approved Tariff for Bulk Supply Category

	Existing			Proposed			Approved by the Commission		
	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges
	Rs/kVA	Rs/con/month	Rs/kVA/Month	Rs/kVA	Rs/con/month	Rs/kVA/Month	Rs/kVA	Rs/con/month	Rs/kVA/Month
LT	2.70	100	175	2.80	100	175	2.70	100	175
HT	2.15	100	140	2.25	100	140	2.00	100	125

9.90 The Commission has reduced tariff for HT consumers in Bulk Supply category to reduce the cross subsidy this category was providing as per tariff principle of the Commission to reduce the cross subsidy across the categories.

9.91 As a result of tariff reduction in the category, the consumer burden will reduced by Rs 1.86 Cr.

Table 79: Impact of proposed Tariff on Bulk Supply Category

Total Projected Revenue at Existing Tariff (Rs Cr)	Total Projected Revenue at Proposed Tariff (Rs Cr)	Net Impact of Proposed Tariff (Rs Cr)
38.13	36.27	- 1.86

9.92 The rebates and surcharges have been detailed in ‘Part-1 General of Annexure II’, and have been listed below:

- (a) Higher Voltage Supply Rebate (HVSR): Not Applicable.
- (b) Lower Voltage Supply Surcharge (LVSS): Not Applicable.
- (c) Lower Voltage Metering Surcharge (LVMS): Applicable as specified under ‘Part-1 General of Annexure II’.
- (d) Late Payment Surcharge (LPS): Applicable as specified under ‘Part-1 General of Annexure II’.
- (e) Night Time Concession (NTC): Applicable @ 20 p/kVAh as specified under ‘Part-1 General of Annexure II’.
- (f) Contract Demand Violation Charge: Applicable as specified under ‘Part-2 Schedule of Tariff of Annexure II’
- (g) Power Factor Surcharge (PFS): Not Applicable.

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- (h) Disturbing Load Penalty (DLP): Not Applicable.
- (i) Harmonic Injection Penalty (HIP): Not Applicable.
- (j) Peak Load Exemption Charges (PLEC): Not Applicable.
- (k) Peak Load Violation Charges (PLVC): Not Applicable.

Street Lighting Supply

9.93 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.

9.94 The Board has proposed no change in tariff for this category. The Commission has increased the energy charges for consumer of this category. The existing, proposed and the tariff approved by the Commission is given as under :-

Table 80: Existing, Proposed and Approved Tariff for Street Lighting Supply Category

Existing		Proposed		Approved by the Commission	
Energy Charge	Consumer service charge	Energy Charge	Consumer Service Charge	Energy Charge	Consumer Service Charge
Rs./kWh	Rs/consumer/month	Rs./kWh	Rs/consumer/month	Rs./kWh	Rs/consumer/month
2.95	50	2.95	50	3.10	50

9.95 The Commission has increased tariff for Street Light Supply consumers in to reduce the cross subsidy this category was getting as per tariff principle of the Commission to reduce the cross subsidy across the categories.

9.96 As a result of tariff increase in the category, the consumer burden will increase by Rs 0.19 Cr.

Table 81: Impact of proposed Tariff on Street Light Supply Category

Total Projected Revenue at Existing Tariff (Rs Cr)	Total Projected Revenue at Proposed Tariff (Rs Cr)	Net Impact of Proposed Tariff (Rs Cr)
3.81	4.00	0.19

9.97 The rebates and surcharges have been detailed in 'Part-1 General of Annexure II', and have been listed below:

- (a) **Higher Voltage Supply Rebate (HVSR):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (b) **Lower Voltage Supply Surcharge (LVSS):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (c) **Lower Voltage Metering Surcharge (LVMS):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (d) **Late Payment Surcharge (LPS):** Applicable as specified under ‘Part-1 General of Annexure II’.
- (e) **Night Time Concession (NTC):** Not Applicable.
- (f) **Power Factor Surcharge (PFS):** Not Applicable.
- (g) **Disturbing Load Penalty (DLP):** Not Applicable.
- (h) **Harmonic Injection Penalty (HIP):** Not Applicable.
- (i) **Peak Load Exemption Charges (PLEC):** Not Applicable.
- (j) **Peak Load Violation Charges (PLVC):** Not Applicable.

Temporary Metered Supply

9.98 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.

9.99 The Board has proposed single part tariff for Temporary Meter Supply. It has proposed to reduce Consumer Service Charge from Rs. 100/month to Rs. 50/month. The existing tariff, tariff proposed by the Board and tariff approved by the Commission is given in the table below:-

Table 82: Existing, Proposed and Approved Tariff for Temporary Meter Category (Up to 20 KW)

Existing		Proposed		Approved by the Commission	
Energy Charge	Consumer service charge	Energy Charge	Consumer Service Charge	Energy Charge	Consumer Service Charge
Rs./kWh	Rs/consumer/month	Rs./kWh	Rs/consumer/month	Rs./kWh	Rs/consumer/month
6.00	100	6.00	50	6.00	100

Table 83: Existing, Proposed and Approved Tariff for Temporary Meter Category (above 20 KW)

Existing			Proposed		Approved by the Commission		
Energy Charge	Service charge	Demand Charge	Energy Charge	Service charge	Energy Charge	Service charge	Demand Charge
Rs./kVA	Rs./con./month	Rs./kVA/month	Rs./kWh	Rs./con./month	Rs./kVA	Rs./con./month	Rs./kVA/month
4.45	100	300	6.00	50	4.45	100	300

9.100 The rebates and surcharges have been detailed in ‘Part-1 General of Annexure II’, and have been listed below:

- (a) **Higher Voltage Supply Rebate (HVSr):** Applicable as specified under ‘Part-1 General of this Annexure II’.
- (b) **Lower Voltage Supply Surcharge (LVSS):** Applicable as specified under ‘Part-1 General of this Annexure II’.
- (c) **Lower Voltage Metering Surcharge (LVMS):** Applicable as specified under ‘Part-1 General of this Annexure II’.
- (d) **Late Payment Surcharge (LPS):** Applicable as specified under ‘Part-1 General of this Annexure II’.
- (e) **Night Time Concession (NTC):** Applicable @ 20 p/kVAh as specified under ‘Part-1 General of this Annexure II’.
- (f) **Power Factor Surcharge (PFS):** Not Applicable..
- (g) **Disturbing Load Penalty (DLP):** Not Applicable.
- (h) **Harmonic Injection Penalty (HIP):** Not Applicable.
- (i) **Peak Load Exemption Charges (PLEC):** Not Applicable.
- (j) **Peak Load Violation Charges (PLVC):** Not Applicable

A10: REVENUE PROJECTIONS

Revenue from Sales of Power within State

- 10.1 For calculation of projected revenues for each category of consumers – along with its slabs and sub categories – actual past data has been taken into account for certain categories like domestic and industrial consumers. For other categories, estimation has been done to split sales across slabs and sub categories – as proposed by the Board.
- 10.2 The Commission has calculated the revenue from Sale of Power across each consumer category at existing and approved tariff. The effective tariff decrease for FY07 has been calculated at 2.49%.

Table 84: Revenue Projection from Sale of Power within State for Year FY07 (In Rs. Cr)

Revenue (In Rs. Cr)	Board		Commission		FY07
	Existing Tariff	Proposed Tariff	Existing Tariff	Approved Tariff	Revenue Mobilisation
Domestic	218.38	218.38	237.46	224.72	(12.74)
BPL					
Non Domestic - Non comm.	25.28	25.30	21.46	20.84	(0.63)
Commercial	107.45	118.63	109.12	109.02	(0.1)
Small & Medium Supply	59.78	59.78	64.84	60.49	(4.35)
Large Supply	547.98	640.29	498.08	472.13	(25.95)
PIUs			116.47	124.65	8.18
WPS	114.05	117.19	112.22	119.02	6.81
Agriculture and Allied Activities	4.61	4.61	4.40	4.67	0.27
Public Lighting	3.74	3.74	3.80	4.00	0.20
Bulk Supply	34.50	35.58	38.13	36.27	(1.86)
Temporary	8.71	8.71	6.30	6.30	0.00
Total Revenue	1124.49	1232.21	1212.30	1182.12	(30.18)

Non Tariff Income

- 10.3 The Board has proposed Non-Tariff and other income of Rs. 78.42 Cr for FY07. The Commission has analysed the proposal and approved the different non tariff income items assuming that growth rate in them will be same as year FY06. The Commission also believes that new measures adopted by the Board to curb theft like incentive scheme for public and the Board employee, etc. would also result in an increase against recovery on account of theft and malpractices to at least Rs. 1 Cr for FY07.

TARIFF ORDER FINANCIAL YEAR FY07

10.4 During technical validation session and the interaction, the Board informed the Commission that income from PLVC is currently recorded against Miscellaneous Receipt head. The Commission directs the Board to create one separate recording head for PLVC for current year.

10.5 The details of proposed/approved Non tariff income is shown in table below:

Table 85: Approved Non Tariff Income for Year FY07 (In Rs. Cr)

S. No	Particulars	FY05 (Actual)	FY06 (Actual)	FY07 (Proj)	FY07 (Approved)
1	Non-tariff Income:				
	a) Meter Rent/service line rentals	24.62	28.04	30.00	30.00
	b) Recovery for theft of power/malpractices	0.02	0.02	0.02	1.00
	c) Wheeling Charges recovery	1.77	2.02	2.05	2.31
	d) Miscellaneous charges from consumers	5.63	6.41	7.00	7.30
2	Other Income				
	a) Interest on Staff loans & advances	1.11	1.26	1.30	1.30
	b) Delayed payment charges from consumers	7.17	8.16	8.50	9.29
	c) Interest on advances to suppliers/contractors	0.57	0.65	0.70	0.70
	d) Income from trading	1.11	1.25	1.30	1.30
	e) Income from staff welfare activities	0.05	0.05	0.05	0.05
	f) Miscellaneous receipts	23.85	27.14	27.50	30.89
3	Total non-tariff & other income	65.90	75.00	78.42	84.13

Revenue from Sales of Power outside State

10.6 The Board in its petition has proposed revenue from Sale of Power outside the State as Rs. 401.71 Cr. It has not submitted the cost of power purchased for sales of power outside the State. During technical validation session and the interaction, the Commission asked the Board to treat sale of power outside the State and sale of power with in State separately and submit details of sale of power outside the State in Trading Formats approved by the Commission, which the Board failed to, comply by with.

10.7 The Commission, thereafter, prepared Dispatch Merit Order. It has allocated the cheapest power for own consumption and treated remaining power available for sale outside the State.

TARIFF ORDER FINANCIAL YEAR FY07

- 10.8 The Commission has assumed that the Board will be able to Sell power @ Rs. 4.66 per unit based on input it got from PTC. In deriving income from sale of power outside the State, Commission has taken into account only that power which is available at less than Rs. 4.66 per unit, i.e. where the Board will make profit.
- 10.9 The cost of power purchase for sale of power outside the State, revenue and profit from it are tabulated below:-

Table 86: Revenue Projection for Sale of Power outside the State (In Rs. Cr)

Power purchase for sales outside the State	241.43
Revenue from sale of power outside the State	386.63
Profit from sales of power outside State	145.20

Overall Revenue – Expenditure Position of HPSEB

- 10.10 The overall revenue–expenditure position of HPSEB after the revision in tariff is given in the table below:

Table 87: Overall Revenue-Expenditure position of HPSEB for Year FY07

Parameters	Rs Cr
Annual Revenue Requirement	1,314.90
Revenue From Sale of Power within the State	1,182.12
Non Tariff Income	84.13
Revenue from within State	1,266.25
Revenue Gap	48.65
Power purchase cost for sales outside the State	241.73
Revenue from sale of power outside the State	387.15
Profit from sales of power outside the State	145.20
Surplus from sale outside the State after addressing the revenue gap - Reserve for HPSEB Development Fund	96.55

- 10.11 The Commission has created Reserve of Rs. 138.17 Cr (Rs 96.55 Cr from the sale outside the State of surplus power and Rs 41.62 Cr from RoE) for “HPSEB Development Fund”. Details of operationalisation of this fund is given below:

HPSEB Development Fund

Purpose of the Fund

- 10.12 The Commission recognises that the Licencee has been penalised for not following regulatory guidelines, inappropriate planning, non adherence to commercial practices, inadequate disclosures relating to Capital Investments and details of Loans and Assets.
- 10.13 The Commission also agrees in principle that there might be prior period power purchase costs that the Board might have to pay during the course of the year. Commission would be agreeable for conducting a true-up process for past years should the Board come with True Up petitions for past years.
- 10.14 To meet such exigencies, Commission would like to propose the creation of a fund, called “HPSEB Development Fund” which could serve the purposes of paying interest on approved capital projects, short duration capital investment programmes including urgent renovation and modernisation of generation plants, funding studies and works as approved, or True up issues. The fund amount approved in the ARR for FY07 is Rs 138.17 Cr and the Commission directs the following mechanism for the creation of the fund.

Creation of the Fund

- 10.15 A separate Fund would be financed by withdrawal of at least 15.35 Cr per month from the revenue account and crediting the same into a separate central account to be created by the Member (Finance) HPSEB, within two weeks, which might be called “HPSEB Development Fund Account”.
- 10.16 HPSEB would maintain completely distinct bank accounts into which the proceeds of this would be deposited. The position of this Fund, along with the utilization of balances would be suitably reflected in the books of accounts and balance sheets of HPSEB.

Building up the corpus for the Fund

- 10.17 The deposits shall be done by the 15th of each month and proof of the same may be sent to the Commission by the 20th of that month. No further amounts shall be credited after the fund amount reaches Rs 138.17 Cr. If excess amounts are credited to this account in any month due too surpluses, the Board shall seek specific permission for depositing more monies to this account after achieving Rs 138.17 Cr of deposits.
- 10.18 The existence and continuation of the fund will be reviewed during ensuing year review of ARR and Tariff petition.

Use of the Fund Resources

10.19 The fund resources would be utilised for the following purposes

- (a) Capital Investment - HPSEB/successor entities are required to design appropriate schemes and seek approval of the Commission. The licensee is also required to submit monthly / quarterly returns of the progress of the schemes and withdraw fund resources on the approval of the fund.
- (b) True Up – Admission or approval of any revenue gap for the past year by the Commission will be adjusted from the resources of the fund
- (c) Studies – Any proposal or studies mandated by the Commission or proposed by the utility during the year can also avail of the fund.

Review of the Fund Mechanism

10.20 The mechanism of the operation of this fund will be reviewed in detail during the next year ARR filing. However modifications to the Fund mechanism might be proposed by the Commission in subsequent orders.

A11: REVIEW OF THE PERFORMANCE OF HPSEB WITH RESPECT TO COMPLIANCE OF DIRECTIONS OF THE COMMISSION

- 11.1 While issuing the tariff orders for FY02, FY05 and FY06, the Commission had given a number of directions-cum-orders to the Board. The Commission had issued 21 directions in the Tariff Order of FY 2001-02, 26 directions in the Tariff Order of FY05 and 24 directions in Tariff Order for 2005 - 06.
- 11.2 The directions of the previous tariff orders, which were partially complied or not complied, were listed together in the Tariff Order of FY06. The Board filed a writ in the Hon'ble High Court of HP against some of the directions issued over the last three tariff orders. The High Court ordered a stay on these directions.
- 11.3 Recently the High Court has issued similar orders in several such cases whereby the writ petitions have been dismissed in the High Court and HPSEB has been given the liberty to approach the Appellate Tribunal in view of the provisions of the Electricity Act. The directions, which have been stayed, are as follows:

Directions of Tariff Order of FY02

11.4 The directions in the Tariff Order and the referral section are provided below:

- (a) Unbundled Costs (direction 7.1 to 7.3)
- (b) Financial Restructuring (Direction No.7.8)
- (c) Simulating Competitive Condition (Direction No. 7.9, 7.10)
- (d) Public Inter-action (Direction 7.11 & 7.12)
- (e) Unproductive Assets (Direction 7.13)
- (f) Power Sector Reforms (Direction 7.14)
- (g) Marginal Cost Pricing (Direction Nos.7.22 to 7.24)
- (h) Wholesale Supply of Power and Malana Project (Direction No.7.25&7.26)
- (i) Voltage-wise Data (DirectionNo.7.29)

Directions of Tariff Order of FY05

11.5 The directions in the Tariff Order and the referral section are provided below:

- (a) Debt Restructuring (Direction No. 7.13, 9.4.1.1 to 9.4.1.4)

- (b) Prioritisation of Deliverables from ASCI (Direction No. 9.4.15)
- (c) Valuation of Assets (Direction No. 7.15 to 7.17 & 9.4.1.8)
- (d) T&D Losses (Direction No. 7.4 & 9.4.2.)
- (e) Capital Works In Progress (CWIP) (Direction No. 7.15 to 7.17 & 9.4.3)
- (f) Capital Projects (Direction No. 9.4.4)
- (g) Multi year Tariff (Direction No. 9.4.6)
- (h) Category-wise details of sales etc. (Direction No. 9.4.8)
- (i) Cost and time overruns (Direction No. 9.4.11)
- (j) Outstanding Dues from Government Departments (Direction No. 9.4.13)
- (k) Employee Cost (Direction No. 7.5, 7.6, & 9.4.14)
- (l) Material Management (Direction No.7.28 & 9.4.15)
- (m) Metering billing and Collection efficiency (Direction No. 7.18, 7.19 & 9.4.17)
- (n) Mobility of field staff (Direction No. 9.4.18)
- (o) 400 KV Line from Nalagarh to Kunihar and 400 KV Sub Station at Kunihar (Direction No. 9.4.19)
- (p) Justification of REC funded schemes (direction No. 9.4.20)
- (q) Himachal Pradesh Jal Vidyut Vitran Nigam Ltd (HPJVVNL) and PVCL (Direction No. 9.4.21)
- (r) Generation Cost of Board's Own Projects (Direction No. 9.4.24)
- (s) Harmonic Distortions (Direction No. 9.4.25)
- (t) Miscellaneous
- (u) e-Governance
- (v) GPF, CPF etc. of Employees
- (w) Scheduling of Baspa-II
- (x) 3rd Party Meter Testing

Directions of Tariff Order of FY06

11.6 The directions in the Tariff Order and the referral section are provided below:

- (a) Legal liability insurance: (Direction No. 10.5.14)
- (b) Audit: (Direction No. 10.5.15)
- (c) Outstanding dues from local bodies: (Direction No. 10.5.16)
- (d) Pay & Allowances: (Direction No. 10.5.17)
- (e) Litigation: (Direction No. 10.5.18)
- (f) O&M of generation projects in tribal areas: (Direction No. 10.5.19)
- (g) Other Businesses. (Direction No. 10.5.21)
- (h) Toll tax on Larji Tunnel. (Direction No. 10.5.22)
- (i) Submission of Quarterly Accounts. (Direction No. 10.5.23)
- (j) REVIEW, MONITORING AND REMOVAL OF DIFFICULTIES (Direction No. 10.6)

11.7 Since the above directions are presently stayed by the Hon'ble High Court, the Commission would not comment on these directions.

11.8 The status of the compliance on the remaining directions is as follows:

Compliance of Directions

Declining generation of Board's own stations (Direction No. 10.5.2)

Board's Response:

11.9 The Board has constituted a Committee on 19.7.2005 consisting of following officers to investigate reasons for declining generation in respect of power stations under the control of Chief Engineer(Gen.):-

- | | |
|-------------------------------------|-------------|
| • Er. P.S. Khurana, (MD,HPJVVNL) | Chairman |
| • Er. A.K. Awasthi (CE(ID),S/Nagar) | Member |
| • CE(Generation) | Member-Secy |

Commission's View:

- 11.10 The Committee was constituted on 19.7.2005. The Board was to submit the necessary report in the matter within three months of issue of tariff order i.e. upto 29.9.2005, which has not been submitted so far. The Board may submit the report to the State Electricity Regulatory Commission by 30.9.2006 failing which commensurate penalties will be imposed.

Procurement of long-term Power (Direction No. 10.5.3)

Board's Response:

- 11.11 The procurement of power on long term basis is being presently resorted to by the Board against its entitlement in various Central Sector Projects, Joint Sector Projects, shared Generation Projects & Private Sector Projects (by way of PPA). Such procurement primarily is being made at rates and terms & conditions decided by the regulators (Central/State) and also as per existing bilateral Agreements/arrangements.
- 11.12 Any procurement of power on long term basis in future, from sources other than those referred to above in para 10.5.3 of tariff order FY06, shall be made by the Board strictly in accordance with guidelines notified by the Govt. of India for determination of tariff by bidding process.

Commission's View:

- 11.13 HPSEB is procuring power for use within the State only during winter months i.e. from November to March. After analysis of load forecast and power availability from own projects and share from various projects, HPSEB needs to work out the time frame upto which this situation of winter shortfall is going to continue, for which the Board has to procure power on short term basis at non-competitive prices. As per the scope of guidelines for determination of tariff by bidding process for procurement of power by distribution licensee, issued by Government of India on 19th January, 2005 an exercise (medium term procurement for a period exceeding 1 year and upto 7 years) to meet shortfall of power during winter should be made by the Board under these guidelines to arrive at the cost of effective rate of this purchase instead of following the present system.
- 11.14 Clause 5.1 of Tariff Policy circulated on 6th January, 2006, by Government of India specifies as follows –

“All future requirement of Power should be procured competitively by distribution licensee, except in case of expansion of existing projects or where there is a State controlled/owned company as an identified developer and where regulators will need to resort to tariff determination based on norms provided that expansion of generating capacity by private developers for this purpose would be restricted to one time addition of not more than 50% of the existing capacity.”

- 11.15 It has been clarified by Government of India on 28th March, 2006 that where PPA has been signed with approval of the Appropriate Commission prior to 6.1.2006 or PPA is pending before the Appropriate Commission on 6.1.2006, such procurement would be treated as falling outside the scope of clause 5.1 of the tariff policy as contractual obligation for procurement of power has been established in such cases.
- 11.16 Similarly, where the appraisal of any power project has started before 6.1.2006 by relevant financial institutions for lending funds to the project on the basis of appropriate evidence of process of procurement of power by any utility, such procurement would be treated as falling outside the scope of clause 5.1 of the tariff policy provided that in all such cases final PPA is filed before the Appropriate Commission by 30th September, 2006.
- 11.17 In case of Hydro projects where DPR has been submitted to CEA/CWC before 6.1.2006 for concurrence (except for projects where concurrence of DPR is not mandatory) and appropriate evidence of process of procurement of power by any utility exists before 6.1.2006, such procurement would be treated as failing outside the scope of clause 5.1 of tariff policy, provided that in all such cases the final PPA is filed before the appropriate Commission by 30th September, 2006. Therefore the Board needs to have long-term power procurement arrangement in view of winter shortages.

High Voltage Distribution System (Direction No. 10.5.5)

Board's Response:

- 11.18 As a first step, all new connections having connected load of 50 kW and above are being released on high voltage now by HPSEB.

Commission's View:

- 11.19 The Board was required to undertake a study for implementing the HVDS and submit report within 3 months. The Board has not submitted any report and the Commission takes a very serious view on non-compliance in this regard.

Installation of single phase transformers (Direction No. 10.5.6)

Board's Response:

- 11.20 The Board submits that the purchase orders for 78 Nos. single phase transformers have been placed.

Commission's View:

- 11.21 The Commission is of the view that future augmentation of existing distribution transformers should be resorted to only in very rare cases and wherever the increase in load necessitates increase in step down capacity, new distribution transformer

should be added preferring to more and more additions of single phase transformers which is part of the implementation of high voltage distribution system. Installation of single-phase transformers should be preferred in the areas of high load density in towns, as well as in remote/difficult areas where carriage of 3 Ø heavy transformers is difficult and costly affair.

Ratio of single and two-phase lines to three phase LT lines (Direction No. 10.5.7)

Board's Response:

11.22 In order to improve the voltage profile and to reduce T&D losses, the Board has already taken action in this regard by installing additional transformers by reconnecting HT/LT lines and conversion of single phase, two phase lines into three phase lines under APDRP schemes. This aspect is also taken into consideration while framing REC schemes for electrification of 100% houses in Rajiv Gandhi Grameen Vidyutikaran Yojna.

Commission's View:

11.23 Board had submitted that the Commission's directions shall be kept in mind regarding improving the ratio of single and two-phase LT lines to three phase LT lines while framing the new schemes under Rajiv Gandhi Gramin Vidyutikaran Yojna. Now since the schemes of all 12 districts have been prepared by the Board which provide for 4900 km HT lines, 8400 km LT lines and 5200 distribution transformers, the Commission expects that with the implementation of these schemes the ratio between single phase and two phase LT lines to 3 Ø LT lines will improve.

Integrated grid in the State. (Direction No. 10.5.8)

Board's Response:

11.24 Presently, HPSEB system is running in integrated mode with Power Grid, BBMB, PSEB and Haryana system at various interState points except UP/Uttanchal system at Giri. Now the study of integration of UP/Uttanchal grid with HP system is in process with NRLDC, New Delhi and is likely to be completed shortly. After completion of study & recommendation of NRLDC, New Delhi, H.P. system will be integrated with UP grid at Giri shortly.

11.25 HPSEB system was integrated with BBMB system on 26.11.2005

Commission's View:

11.26 Commission is satisfied to note that Board has taken up steps in this direction. As a result after the system studies were carried out with the help of NRLDC, BBMB system with HPSEB system has been integrated on 26.11.2005. System Studies regarding operation of BBMB grid system, HPSEB system and HPSEB/Uttanchal

grid system in integrated mode have been completed and as promised by the Board, the integration of this system is expected to be completed by August, 2006.

Interface metering (Direction No. 10.5.9)

Board's Response:

11.27 Board has already achieved 94% (Approx.) interface metering at the feeders level as on 31st March, 2006.

Commission's View:

11.28 Board has achieved 94% interface metering as on 31st March, 2006. It is not certain whether these 94% interface meters are in working order or not. Since T & D loss study work has been assigned by the Commission to M/s KLG, who will be visiting the field to work out losses on different feeders, it is necessary that the Board achieves 100% interface metering and makes all such meters functional/calibrated so that the identification of losses could be as accurate as possible. This should be achieved by the Board before 30th September, 2006.

Replacement of defective/dead stop meters (Direction No. 10.5.10)

Board's Response:

11.29 It is submitted that detailed information regarding replacement of defective/dead stop meters is as under:-

(a)	2001-02	74,145
(b)	2002-03	1,01,509
(c)	2003-04	86,549
(d)	2004-05	95,418
(e)	2005-06	92,464

Commission's View:

11.30 There were 72873 defective/dead stop meters as on 31.3.2005. This number as on 31.3.2006 was 39780. Thus, it is evident that there are always a large number of dead stop/defective meters in the system, which if not replaced quickly as and when they get defective results into loss of revenue to the Board even if the Board bills such consumers on an average basis, as the consumers are bound to use the electricity liberally under such situations.

11.31 The Commission feels that apart from centralized procurement of meters, provisions should be made in purchase orders, and in delegations to field officers at circle level, to order some quantities of such meters to meet the immediate needs, in addition to those being provided through central procurement agency. Moreover, such consumers whose meters get defective/dead/stop frequently, should be kept in monitoring list for checking of load/pilferage.

Prepaid metering (Direction No. 10.5.11)

Board's Response:

11.32 It is submitted that M/s Secure Meters Ltd. have accepted the proposal to provide 250 Nos. prepaid meters in Shimla town as a non-commercial pilot project for six months. MOU was executed between M/s Secure Meters Ltd and HPSEB for the same on 26.7.05. The pilot project has been completed after successful run for six months period i.e. October, 2005 to March, 2006. As intimated by the Chief Engineer (Op) South, the performance of these pre-paid energy meters vis-à-vis already installed Electronic Meters is concerned, is satisfactory with regard to accuracy and other parameters.

11.33 The tender for procurement of the prepaid meters is under finalization.

Commission's View:

11.34 Commission is satisfied with the progress of pilot project of 250 pre-paid meters taken up in Shimla during October, 2005 to March, 2006 and its successful operation and response. Commission feels that the pre paid meters must be introduced in the major towns of other zones also, in a phased manner. The Board has agreed to order more meters during FY07. The Commission would consider incentivising this scheme through reduced tariff to encourage the consumers to adopt in a big way so that the Board is benefited in terms of funds buoyancy and reduction in costs of collection of dues from consumers.

Consumer services for senior citizens (Direction No. 10.5.12)

Board's Response:

11.35 The directions have been implemented and the necessary orders have been issued

Commission's View:

11.36 The Board has intimated that the scheme is being implemented. The Commission would like to have feedback from different sources. The Commission in the meantime would like the Board to give wide publicity to this scheme under the public interaction programme.

Unmanning of Sub-Stations (Direction No. 10.5.13)

Board's Response:

11.37 In regard to 33kV un-manned sub-stations, it is to inform as under: -

- (a) (a) Already Commissioned:
 - (i) 33 kV S/Stn. Khundian Commissioned on 13.1.06.
 - (ii) 33kV S/Station Rangus Commissioned on 9.5.06.
- (b) (b) Under Construction:
 - (i) 33 KV S/stn. Nagwain
 - (ii) 33 kV S/stn. Panthaghati
- (c) (c) Tenders under Process:
 - (i) 33 kV S/Stn. Lunj (Kangra)
 - (ii) 33kV S/stn Sadwan (Nurpur)

11.38 For conversion of manned to un-manned sub-stations PGCIL has been entrusted the work for study and preparation of feasibility report for two circles of HPSEB for implementation of SCADA system and data management system vide Chief Engineer (SP) letter dated 20.9.2005 and PGCIL has been requested for conveying their acceptance at the earliest. PGCIL has agreed to undertake the above work vide their letter dated 19.12.2005. The draft agreement to be signed between PGCIL and HPSEB for the consultancy service is under process.

Commission's View:

11.39 Commission is satisfied that some headway has been made in this direction. Commission would like the Board to give feedback in terms of cost reduction and the difficulties being faced in the six substations proposed/Commissioned as unmanned substations. The Commission directs the Board to continue the process further in line with the plan proposed in the direction given in the tariff order of FY06.

Grid Stability and systematic load shedding (Direction No. 10.5.20)

Board's Response:

- 11.40 NREB has conducted the studies for installation of UFRs (Under Frequency relays) on various feeders in the Northern grid and as per the recommendations of NREB 115 MW load is required to be shed by HPSEB under low frequency conditions for the Northern Grid's stability. This has been implemented through 3 Numbers UFRs installed on the feeders carrying major loads.

Commission's View:

- 11.41 The Commission is satisfied that HPSEB has installed three under frequency relays for automatic load shedding for grid stability.

Fiscal Discipline & truing up (Direction No. 10.5.24)

Board's Response:

- 11.42 The Board reiterates that it is taking effective steps to maintain stringent control on its expenses

Commission's View:

- 11.43 The Board has not come up with a truing up petition for the last two years and in the absence of it, the Commission cannot allow any prior period expenses, as has been requested in the current ARR petitions submitted by the Board. The Commission again advises the Board that they come up with a truing up petition so as to enable it to allow all major prior period expenses, in excess of the provisions in the respective ARR, based on the truing up exercise.

Order regarding inquiry into the high cost of Larji Project:

- 11.44 The Commission had directed the Board in the tariff order of FY05 to carry out an investigation into the very high per MW costs in respect of the Larji Project and submit the report by 30.9.04. The report submitted by the Board was not found satisfactory. The Board thereafter submitted the tariff petition for FY06, which mentioned that power would be available from Larji project during FY06. However, the details submitted for Larji were inconsistent and varying.

- 11.45 Therefore, keeping in view the inconsistent and contradictory information provided by the Board in its tariff petition and the fact the Commission was required to assess the prudent cost of the project, in larger public interest, ordered the constitution of a Committee, to investigate and enquire into the high cost escalation and excessive completion period of Larji Project as well as the reasonable cost of the project, to enable the Commission to formulate its opinion. The Commission had felt that the escalation of the project cost and time over run was likely to adversely affect the larger consumer interest in the tariff determination under the Act as also the overall health of the power sector in the State.
- 11.46 The Board filed a writ petition in the High Court seeking a stay on the inquiry. After the inquiry had been completed and the report submitted by the committee, the High Court stayed further action on the report. The Commission filed a SLP in the Supreme Court seeking transfer of the case to the Appellate Tribunal for Electricity, New Delhi. The Supreme Court accepted the plea of the Commission and ordered the transfer of the case to the Appellate Tribunal. The matter is now pending before the Tribunal. Till such time the appeal is decided, the Commission is not in a position to proceed with the recommendations contained in the report as well as adopt the reasonable cost assessed by the Committee on Larji project, for finalizing the tariff for the project.

A12: DIRECTIONS AND ADVISORIES

Legal Status of Previous Directives

- 12.1 The Commission to date had issued 21 directions in the Tariff Order of FY 2001-02, 26 directions in the Tariff Order of FY05 and 24 directions in Tariff Order for 2005 - 06. These directions which were partially complied or not complied at all, were listed together in the tariff order of FY06.
- 12.2 The Board filed a writ petition (No. 853/2005) in the Hon'ble High Court of HP against some of the directions issued over the last three tariff orders to which the High Court ordered a stay on these directions. The High Court has now passed an order dismissing the petition filed by HPSEB; while giving it liberty to appeal in the Appellate Tribunal for Electricity. There are some other directions of the Commission which are presently sub-judice in the High Court/Appellate Tribunal for Electricity. The Commission thereafter would review the compliance of its previous directions, once the competent courts decide in the matter.
- 12.3 Therefore the Commission orders that, subject to the orders of the competent court/Tribunal, all the directions issued in the previous tariff orders, which have not been complied with by the Board, and which were listed in Section 10 of the tariff order of FY06, shall be carried forward in the present tariff order and the Board is required to diligently comply with these directives subject to court and Tribunal orders..

Directions In This Tariff Order

- 12.4 The Commission issues the following directions to the Board for improving the efficiency and productivity of the Board and quality of supply to the consumers
- (a) **Decision making processes:** The Commission is of the opinion that the decision making lacks the focus needed to address the multiple problems facing the utility. There is an urgent need to modify structures and systems to accelerate the process of decision-making which may require change of rules of business of Board, decentralization of administrative and financial powers, streamlining the procedures and adoption of advanced Management Information Systems. The present system highly diffused and not geared towards modern management and hence that accountability is the first victim. There is also a need to identify Key Result Areas, assign targets and then monitor the same rigorously using Key performance indicators for achieving the planned objectives within given timelines and budgets. The Board will submit a plan of action in this regard within 3 months including putting in place consultants to undertake Time – Work studies of systems currently in place in the Board head quarters and field offices.
- (b) **Accelerated programme for renovation, modernization and up-gradation**
The Commission directs the Board to undertake an accelerated programme for

renovation, modernization and up-gradation of existing hydro projects considering the greater returns and shorter timelines required for the work. This would also give a boost to the Board's own generation and reduce power purchase costs. The Board may also explore the possibility of getting CDM credits for the proposed RMU of these projects. The Board may also put in place a scheme for giving productivity linked incentives to the staff deployed on the generating stations as well as other subsystems of the Board. A detailed plan for the above may be submitted to the Commission in the next 6 months.

- (c) **Debt sustainability study.** The Commission directs the Board to conduct debt sustainability study through a reputed financial consultant. The Board shall submit the Report on the same to the Commission within six months from the date of issue of this Order. This study will also ensure a road map for restructuring the financials of the Board.
- (d) **Manpower Planning:** The Commission is acutely aware that though the Board's employee costs is increasing day by day, there is almost a crisis like situation due to acute shortage of engineers and other technical staff. There is also a dearth of professionals like CAs/CFAs and MBAs in the Board and a need for inducting such specialists. The Board is directed to prepare a detailed Manpower Plan and conduct a detailed study for the future manpower requirements with the help of a reputed consultancy and shall keep in mind the restructuring of the Board. This manpower planning study shall also include short-term and medium term succession planning within the engineering and non-engineering cadres. The Board might also seek multilateral / donor assistance for capacity building. This manpower plan is to be submitted to the Commission within 6 months.

In the interregnum period the Board is directed to induct at least 60 graduate AEs and 60 diploma JEs within the next four months through fresh recruitment. The Commission would allow as a pass through, all such costs in the interest of improving overall efficiency of the Board and better services to the consumers

- (e) **Rationalization of staff, redeployment, training and specialization in key activities.** The Commission feels that there is an immediate necessity of a detailed unit wise study of sanctioned strength based on norms and a need for revising the norms with the objective of efficiency and productivity. The Board needs to improve the skill set of its employees through regular training at all levels of officers and staff for which the Board may prepare an action plan utilizing the services of technical institutions or reputed consultants. The Board to carry out a study and submit report in next six months. This report on training needs and plans could also be made part of the manpower study referred earlier.
- (f) **Change in R&P rules** There is an immediate need to make the Board specialist oriented to keep it abreast with technological changes. Therefore the

Board needs to modify its R&P rules to focus on getting highly qualified professionals to meet the challenges of the rapidly changing technological scenario. The Board needs to rethink and do away with the current practice of giving relaxation in qualification for filling up cutting edge posts like Sr. Executive Engineers/Asst. Engineers/JEs and AOs.. Even with the existing R&P rules the Commission feels that the Engineering staff manning specialist jobs in units like designs, Planning, Commercial, SLDC. System Operations, System Planning etc. be excluded from application of quota of graduate engineers in order to ensure that the efficiency levels are not impaired even while giving promotional opportunities to diploma holders and other categories of the Board.

- (g) **Reduction of Commercial losses:** Theft of energy contributes substantially to the increase of T&D losses as well as loss of revenue. However, the Board has realized a meagre sum of Rs. 2.50 lacs during FY 05-06 on account of surprise checks of consumer's installation by its flying squad units. There seems to be a extremely depleted role being played by the field units and Board's Head Office flying squad in detecting unauthorized/dishonest use of electricity, The Commission, therefore, directs the Board to strengthen its existing flying squad units to play a larger role in area of surprise inspection of consumer's installations. There is also additional need to monitor effectively at circle and Head quarter level, the monthly energy consumption of all consumers with connected load 50 KW and above and to identify and investigate cases of all such consumers with high-connected load and low consumption and also where significant variation in consumption is observed vis-à-vis previous consumption figures or that of other similar type of consumers. The Board shall submit quarterly report of the progress made in this direction. In this context the Board could draw from similar successful anti theft measures introduced in West Bengal and Andhra Pradesh

Board is also directed to fix tenure of posting of staff and officers in revenue sensitive areas and atleast 50% of the officers and staff deployed in such areas, who have completed three years, as on 30/6/2006, be transferred out.

- (h) **Energy Audit** The Board to carry out energy audit of all industrial feeders and submit the report within four months. The report to mention all exceptions. Such energy audits should become a regular feature and these should be totally computerized.
- (i) **Implementation of MYT** As has been mentioned in this order as well as the concept paper, the next tariff filing by the Board shall be on MYT framework. The Board to take immediate steps to put in place the required systems and database to enable the smooth switch over to multi year tariffs. ATR on the above issue be submitted by the Board to the Commission on a monthly basis.
- (j) **Investment plan** The Board shall submit the investment plan for FY07-08 by Oct. 2006 and get the same approved by Dec. 06, failing which the

Commission shall not allow any interest in the ARR on the new investments proposed.

- (k) **Study to determine Cost of Supply** The Board has failed to undertake the required studies for calculating the Cost of Supply. The Commission shall now undertake this study at its own at the cost of the Board. The Board shall provide all assistance to the consultants engaged by the Commission for carrying out the Study.
- (l) **Determination of generation tariff of Board's own projects:** The information submitted by the Board for determination of generation tariffs of the Board's own generating plants was found to be grossly inadequate. Therefore the Commission directs that the Board to file separate petitions for determination of tariff for all the generating stations within three months from the date of issue of this tariff order. The capital cost, IDC and O&M cost of each of the plants shall be provided separately. The petitions shall filed as per HPERC tariff regulations and HPERC (Guidelines and format for tariff filing) Regulations 2005
- (m) **Miscellaneous:** The Commission directs the Board to address the following issues with regular reporting to the Commission:
 - (i) Provide toll free numbers and call centers for complaint redressal
 - (ii) Board to implement contributory pension scheme instead of regular pension for all new recruitments on GoHP pattern in order to reduce future pension liabilities
 - (iii) Creation of separate Protection unit and separate O&M wing for the existing generating stations.
 - (iv) Reduction in inventories and computerized material management with connectivity with all stores
 - (v) To delegate powers to CEs for transfer of employees within their area of operation
 - (vi) Invest its corpus of GPF of the employees over the next three years in higher paying instruments so that the employees interests are safeguarded.

Advice to HPSEB

12.5 The Commission issues the following advisories to the Board.

- (a) **Trading strategies and systems:** The Commission is of the considered opinion that over the next few years, the northern part of the country would be

acutely deficient in power in summers. The Board has a unique advantage of being power surplus during this period and therefore can benefit immensely from the trading opportunities by developing and putting in place suitable trading strategies and systems to extract the maximum advantage from the opportunity. The Board may seek professional advice and assistance from specialists in this field to optimise returns.

- (b) **Best practices for restructuring the project implementation units of the Board and its Special Purpose Vehicle Companies (SPVs).** The Board needs to study and imbibe the best practices adopted by CPSUs like NTPC, NHPC etc. so that the systems for the project implementation units and SPVs are modelled on the new lines. Board to submit proposal after undertaking a comparative study and submit report within three months.
- (c) **Giving more autonomy to SPVs** The SPVs set up by the Board neither have the required functional autonomy nor the systems in place to ensure timely and speedy construction of projects. Corporate governance in these Boards of these SPVs is a cause for concern and hence Board may examine this issue. The Commission is of the opinion that the BOD structure needs to be changed to include independent directors, which could have representatives from CPSUs. The number of directors and the Board structures may have to be optimised. An report on this aspect may be prepared at the earliest.
- (d) **Selection of most viable projects for implementation:** The experience of Larji Project highlights the need for a more prudent and selective approach in choosing projects for implementation. The Board needs to adhere top the guidelines specified in the regulations and take up only most viable and cost effective projects in the State sector. Once such projects are chosen then special emphasis needs to be laid on obtaining speedy clearances to avoid cost/time over-runs.
- (e) **Transmission network in the State:** The Commission understands that the transmission network in the State needs to be strengthened to meet the growing power needs as well as to facilitate open access. Therefore the Board may explore Multi-lateral funding for strengthening the transmission system matching with the transmission network proposed as per the Transmission planning report.

Advice to State Government

- (f) There is a need to specify an agency in the State Govt. to look into the safety aspects of projects being constructed by IPPs/SEB so that the interests of the State are safeguarded.
- (g) Govt. may re-examine the present system of adopting MOU route for hydro projects and may consider models followed in other States

- (h) The Govt. may infuse more equity into the Board and also make provisions for funds for cleaning the balance sheets which is a must for any un-bundling exercise.
- (i) GoHP may set up special courts as per section 153 of the Act for dealing with matters relating to theft of power and other issues
- (j) GOHP has notified Executive Magistrates to act in matters relating to theft etc, as per section 135 of the Act. This needs to be modified and the delegation needs to be given to officers of the Board as has been done in Punjab.
- (k) GoHP may frame the rules as stipulated under section 180 of the Electricity Act. 2003 as already advised.

A13: STRATEGIC MANAGEMENT ISSUES:

- 13.1 Finally the Commission would like to discuss a few important and strategic issues that are very pertinent to the development of an efficient electricity system in the State of Himachal Pradesh.

Regulatory Process

- 13.2 Across the globe today, regulatory policy increasingly shapes the structure and conduct of the power sector and hence sets in motion shifts in economic value. The smallest price revision can have major impacts on the bottom line of the utilities and consumers alike.
- 13.3 The State Electricity Board, unfortunately, has responded to the needs for regulatory challenge in a ham-handed fashion and struggled with its responses to the changing regulatory scenario in the country. The Commission agrees that the issues are often extremely complex and inter-dependent, there is uncertainty about the future regulatory changes and there is need for the regulatory stance to consider the complicated tradeoffs between profit maximization and the demands of the broader social and economic factors.
- 13.4 There is, therefore, a need for a new organizational approach which puts Regulation on the agenda of the Licencee's top management. The Board, therefore, needs to diagnose each issue in the current and long term perspective, understand the competing agendas of stakeholders and make regulatory management a constant process that is integrally linked to strategic functions. There is no denying the fact that when utilities are reformed the potential productivity gains are enormous. Within the electricity sector we have seen this happened in the unbundled utilities especially in the South and West of India.
- 13.5 Similarly, the Telecommunication sector is one wherein less flexible frameworks have happily anticipated and responded to change as markets have evolved. The road map for the regulator needs to be also made dynamic in terms of continuous re-assessments of rules, lowering of prices that help consumers and utilizing professionals for consultation on intricate issues including energy audit and avoidance of massive social repercussion in the transitional stages.

The Unbundling Conundrum

- 13.6 Strategically no greater tool towards de-accelerating the march of the SEB towards capital erosion and liquidation is available than the 'unbundling formulation'. The politics of unbundling seems to have riveted the over-all tactical focus of the utilities towards avoiding the imaginary 'evil' of 'corporatisation' and the consequent removal of opaqueness and organizational stenosis.

- 13.7 Unfortunately the utility does not understand the economic implication of the unbundling exercise. The uneconomic streams which emanate from ennuui within organizational layers and are in State of latency today are likely to become absolutely transparent and impact extremely favourably on vested interest, acquisition of investment capital becomes easier, movement towards market determined prices ensues improved managerial processes are unveiled and the costs to the consumers remarkably reduced through efficiency gains.
- 13.8 Stakeholders analysis shows the reasons why unbundling has become such an arduous exercise in the eyes of both the utility and Government. The present system incentivises opacity and status quo. Unions visualize a break down in their power structure as the utility cracks. Accountability and fixation of responsibility become a sine qua non for the unbundled entities. Managerial process is emancipated and economic sustainability and productivity improve. Organizational churning ensures that over time innovation becomes a key parameter in the process. Value addition becomes the prime function if the utilities have to compete on a more market oriented plane. A roadmap towards complete autonomy and becomes clearer and can be laid down with a greater degree of coherence.
- 13.9 Since the utility has leveraged the process of becoming the major hurdle towards unbundling as a process for its own emancipation it has been suggested that a disincentive strategy needs to be evolved for bringing the decision maker and stakeholders in the sector towards the above goals. While the Commission has not been able to persuade the utility to facilitate restructuring, the cost of such a strategy needs to be paid by the utility and by the Government. For the Government the implication is greater and greater subsidy which at the end of day becomes an indirect tax on the people of the State. For the utility consequence ensue in a step by step approach towards reducing pecuniary advantage(like dearness allowance and interest component on the revenue account) so as to send a major signal that non-adherence to a Reform Regime will not be acceptable in the long run and the price to be paid for not reforming will increase rapidly.

The HRD function:

- 13.10 The non-usage by the Board of capacity building investment is a matter of serious concern. Countries across the global have been utilizing multilateral funding for improving HRD and organisational development functions effectively in conjunction with the more substantive investment programmes in the areas of transmission and distribution. There is, therefore, an absolute need today for the utility to build training programs in collaboration with the multilateral agencies and donor groups for up-grading the skill sets of its personnel as also bringing in investment on infrastructural development in the above two sectors. The Board needs to be directed to do this efficaciously as adequate resources for this activity are available with the World Bank, the ADB and USAID. However, these entities will not intervene with funds without at least a modicum of a restructuring programme in place. The utility needs these interventions if it has to survive in the long term.

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LIST OF ABBREVIATIONS

The abbreviations and acronyms used in this tariff order shall have the following respective meanings unless the context requires otherwise

No.	Abbreviation/Acronym	Meaning
1	Act	The Electricity Act, 2003
2	A&G	Administrative & General
3	ACD	Advance Consumption Deposit
4	APDRP	Accelerated Power Development and Reform Program
5	ARR	Aggregate Revenue Requirement
6	BBMB	Bhakra Beas Management Board
7	Board	HP State Electricity Board
8	CAGR	Compounded Annual Growth Rate
9	CERC	Central Electricity Regulatory Commission
10	CGS	Central generating stations
11	CPSUs	Central Public Sector Undertakings
12	CoS	Cost of Supply
13	DA	Dearness Allowance
14	EHT	Extra High Tension ($\geq 66KV$)
15	FY	Financial Year
16	GFA	Gross Fixed Assets
17	GoHP	Government of Himachal Pradesh
18	GOI	Government of India
19	GPF	General Provident Fund

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20	HT	High Tension (\geq 11KV but less than 66KV)
21	HPSEB	HP State Electricity Board
22	kVA	Kilo Volt Ampere
23	kV	Kilo Volt
24	kVAh	Kilo Volt Ampere Hour
25	kW	Kilo Watt
26	kWh	Kilo Watt Hour
27	LT	Low Tension (less than 11KV)
28	MU	Million Units
29	MW	Mega Watt
30	MYT	Multi year tariff
31	NFA	Net fixed assets
32	NHPC	National Hydro-electric Power Corporation
33	NTPC	National Thermal Power Corporation
34	PGCIL	Power Grid Corp. of India Ltd.
35	PPA	Power Purchase Agreement
36	PSEB	Punjab State Electricity Board
37	ROR	Rate of return
38	SHP	Small Hydro Projects
39	State Govt.	Government of Himachal Pradesh
40	T&D	Transmission & Distribution
41	Tariff Regulations	HPERC (Terms and conditions for determination of Tariff) Regulations, 2004
42	ToD	Time of Day

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43	UJVNL	Uttaranchal Jal Vidyut Nigam Limited
44	UPSEB	Uttar Pradesh State Electricity Board