

**BEFORE THE HIMACHAL PRADESH ELECTRICITY REGULATORY  
COMMISSION, SHIMLA.**

**Miscellaneous Complaint No. 99/2002.**

**In the matter of:**

**M/s Gujarat Ambuja Cements Limited (GACL), ----- Complainant  
Darlaghat, District Bilaspur.**

**Versus**

**Himachal Pradesh State Electricity Board (HPSEB), ----- Respondent  
Vidyut Bhawan, Shimla-171004.**

**And**

**Complaint Under Para 3.3 Of HPERC's Complaint Handling Procedure In  
Regard To Wrong Application Of Tariff Order 2001-02 And Erroneous  
Calculations For Altering The Demand Charges By Himachal Pradesh State  
Electricity Board.**

**Present for:**

**Complainant** : Sh.Kapil Dev Sood, Advocate

**Respondent** : Sh.K.D. Shreedhar, Advocate

**ORDER**

1. M/s Gujarat Ambuja Cements Limited, Darlaghat filed a complaint on March 28, 2002 under para 3.3 of HPERC's Complaint Handling Procedure regarding incorrect application of Tariff Order dated October 29, 2001 for determining the demand charge. The complainant has pointed out that it had taken up the matter with the respondent on December 10, 2001 for charging the demand charge after determining the demand in kVA based upon the actual power factor but despite repeated representations, the respondent has neither corrected the bills nor refunded the excess amount charged. As the respondent has not addressed/replied for more than three months, the complainant has been constrained to approach the Commission. The Complainant has prayed as under: -

- i) The petitioner should not be made to pay the escalation in amounts of the electricity bills arising out of erroneous calculations on the part of the

respondent. At the same time the petitioner stands the risk of their electricity supply being cut off due to non-payment of bills.

- ii) The Hon'ble Commission may direct the respondent to issue corrected bills to the consumers under LS category at the earliest and till such time when the matter is decided, to allow the payments of bills after deducting the incorrect Demand Charges calculated on connected load in place of contract demand, taking the minimum power factor of 0.90 and applying of demand charges for full 24 hours in place of 21 hours.
- iii) The Hon'ble Commission may direct the respondent to refund the amount of Rs.59, 79,374/- being the amount excess charged due to erroneous calculations alongwith interest @ 18% per annum.

2. The complaint was forwarded to the respondent on March 30, 2002 with a request to file its reply. The respondent filed the reply vide letter No.HPSEB/CE (Comm)/SERC-1/2002-1496 dated April 18, 2002 and the rejoinder to the reply, was filed by the complainant on May 20, 2002.

3. The hearing in the matter was fixed for June 17, 2002. However, in the meantime the complainant filed an application on June 6, 2002 with the Commission for grant of interim relief for stay of order of the Chief Engineer (Op) South, HPSEB, Shimla dated May 22, 2002, increasing the sanctioned contract demand of GACL from 36493 KW to 42255 KW, pending disposal of the complaint filed by them on March 28, 2002.

4. The issues raised by the complainant for the adjudication and determination by the Commission and reply on it are discussed in the following paragraphs: -

**4.1 Dispute regarding application of connected load in place of contract demand for calculating demand charges: -**

**A) Contention of complainant: -**

The respondent is incorrectly interpreting the tariff order for its own financial benefit and is treating 80% of the Connected Load of the consumer as Contract Demand. The

definitions of connected load and contract demand as appearing in the Tariff Order and the Sales Manual are reproduced below: -

a) **As per Tariff Order:** -

**Connected Load:** shall mean the sum of all the rated capacities of all the energy consuming devices/ apparatus at the consumer's installation. This shall not include the stand-by or spare energy consuming apparatus installed through the changeover switch provided the competent authority has accorded the requisite prior permission.

**Contract Demand:** shall mean the maximum demand for which the consumer has entered into an agreement with the Board.

b) **As per Sales Manual:** -

**Connected Load:** means the sum of the rated capacities of the energy consuming devices/apparatus in the consumer's premises. This shall be expressed in kW. If the ratings are in kVA the same should be converted to kW by multiplying to kVA with a power factor of 0.85. If some or any of the apparatus is rated by manufacturers in H.P., the rating shall be converted into kW by multiplying it by 0.746. The connected load also includes the rated capacity of the stand-by load at consumer's premises connected with the system.

**Contract Demand:** means the maximum demand for which the consumer has entered into an agreement with the Board. No definite link can be established between Connected Load and Contract Demand. There are consumers with Maximum Demand varying from 40 to 80% of the Connected Load depending upon the nature of industry. It is only the Maximum Demand that the consumer draws which affects the supply infrastructure of the respondent. The Connected Load is simply the sum total of rated loads of appliances existing in the premises of the consumers, irrespective of the fact whether they are being used simultaneously or separately or as standby. The Contract Demand of GACL is 36,493 kW as against its connected load of 42,255 kW whereas the maximum demand which has been recorded by HPSEB over past one year is only 28,500 kVA. The incorrect interpretation of Contract Demand on the part of the respondent has resulted in tremendous increase in electricity bills. Further, the tariff order provides a rate of Rs.2.35 per kVAh to be charged for the

consumption during Peak Load Hours for bonafide use of factory and office lighting etc. It also provides a new type of charge under the name Peak Load Demand Charge to be applied / charged on the basis of specific agreement between a consumer and HPSEB and it is to be charged on “80% of Contract Demand or Maximum Recorded Demand, whichever is higher”. GACL has a sanction of 10,000 kW for running the industry and 2,981 kW for lighting during peak load hours. The respondent has wrongly applied the tariff for peak hours. The rate of Rs.2.35 per kVAh and Demand Charge during peak time of Rs.150/- per kVA has been wrongly imposed by the respondent on total of lighting load and approved Peak Load Exemption, whereas these charges should have been levied at different specified rates on the consumption on above two counts.

**B) Reply by the Board:-**

The contention of applicant/consumer that the respondent has incorrectly interpreted the tariff order for their own financial benefits is not correct. The instructions issued by the respondent that the sanctioned connected load of the consumers, for which they have entered into an agreement with the Board, be treated as contract demand for the purpose of billing demand charges is strictly in accordance with the tariff order passed by the Hon'ble Commission on October 29, 2001.

The petitioner in his petition has elaborated the various provisions of the Sales Manual. In this regard, it is submitted that these provisions are guidelines for working out financial viability in accordance with rules in vogue for release of electric connection only. It will be seen that Board has to establish huge EHV and distribution network and expects minimum return on the capital, which it has invested to provide connection to the consumers.

The applicant consumer has also stated that the respondent has wrongly applied the tariff for peak hours. This is also not based on facts. The demand charge has been levied only for the approved peak load exemption by converting peak load sanction in kW to kVA taking 0.9 as power factor as per provisions of Abridged Conditions of supply. No peak hour demand charge has been levied on lighting load.

**4.2 Dispute Regarding application of number of hours for calculating demand charges: -**

**A) Contention of Complainant: -**

The new tariff provides for Demand Charge of Rs.125/- per kVA and Peak Load Demand Charge of Rs.150/- per kVA to be applied on “80% of the Contract Demand or Maximum Recorded Demand, whichever is higher”. These charges should be applicable for 21 hours in case of Demand charge and for 3 hours in case of Peak Load Demand Charge. However, the respondent is wrongly applying the tariff with respect to number of hours in a day.

**B) Reply by the Board: -**

The contention of complainant is incorrect. HPSEB always grants sanction for the load excluding peak hours. The peak load sanction is only granted for continuous process industries on the specific grounds/request by the consumer that too for limited load. In such cases a separate tariff for peak load has been provided. This is strictly in accordance with the tariff notified by Hon’ble Commission, which stipulates, “**all consumers who have been given exemption during peak load hours shall be billed for additional charge as specified in the relevant schedule of tariff**”.

**4.3 Dispute regarding application of power factor for converting load from kW to kVA:-**

**A) Contention of Complainant: -**

The respondent is converting the connected load of GACL from kW to kVA by dividing the connected load in kW by 0.90. Instead, the demand in kVA should be determined by dividing the kW by actual power factor being maintained by GACL, which at present is above 0.96.

**B) Reply by the Board: -**

This conversion of connected load from kW to kVA by taking power factor as 0.9 has been made in accordance with Abridged Conditions of Supply. The contention of the complainant that it should be done with actual power factor is not based on facts. The

complainant had already been given incentive in the kVAh based tariff, which charges the consumers for total energy consumed by them for maintaining better power factor.

**5.0** The complainant has also pointed out that the Board is interpreting the Tariff Order in an arbitrary and discriminatory manner as a result of which it has charged a sum of Rs. 59,79,374/- for the period November, 2001 to February, 2002. The complainant has prayed that the amount be refunded to them in future bills.

**6.0** On this the respondent Board has submitted that it had sanctioned a load of 42,255 kW (maximum demand restricted to 36,493 kW) to the complainant on April 18, 2001. The contention of complainant that demand charge should have been levied on restricted load and not on total sanctioned load was agreed to because of the restriction imposed by the Board to limit the drawl of complainant to 36,493 kW. The difference on this account would be refunded to the complainant in the subsequent energy bills. However, the calculations made by the complainant were not correct. The electricity bills issued by HPSEB had been correctly prepared except for determining the demand charge and a total refund of Rs.19, 20,750/- was only due, for the period 12/2001 to 2/2002, which would be refunded to the consumer in the subsequent energy bills.

**7.0** The respondent has also prayed that the complaint be dismissed with cost.

**8.0** The hearing in the matter was taken up on June 17, 2002. The Commission called upon Sh.Kapil Dev Sood, Ld. Counsel for GACL, to address the arguments. The Ld. Counsel read out the definitions of Connected Load, Contract Demand, and Maximum Demand etc. as appearing in the Tariff Order and submitted that the Connected Load and the Contract Demand are entirely different and the Connected Load cannot be taken as a base for determining the Demand Charge. Further, the methodology adopted by the Board to determine the Contract Demand in kVA from kW based upon a power factor of 0.9 is not correct and it should in fact be based upon the actual power factor. Although the respondent in its reply has agreed that the Demand Charge would be levied on the restricted load and not on the sanctioned load and also agreed to refund the difference on this account to GACL in the subsequent bills yet the respondent has unilaterally increased the restricted load of GACL from 36,493 kW to 42,255 kW by its order dated May 22, 2002 without any fresh mutual agreement. He prayed that the operation of the order dated May 22, 2002 issued by

Chief Engineer (Op) South, HPSEB, Shimla be stayed immediately as already appealed by GACL in its application dated June 6, 2002.

**9.0** The complainant further submitted that the bills issued by the Board were also discriminatory in nature as HPSEB has charged the GACL for 24 hours for both demand charge as well as peak hour demand charge, whereas in case of ACC, Barmana, the respondent Board has charged demand charge for 21 hours and peak hour demand charge for 3 hours only. Some documents and bills issued to ACC, Barmana were also submitted.

**10.0** Sh. K.D.Shreedhar, Ld. Counsel for HPSEB submitted that they could not comment on the bills of ACC as no copy of it was earlier supplied. The Board has already issued instructions for the refund due to the complainant for charging demand charge on Connected Load instead of restricted demand. HPSEB had earlier restricted the load of complainant to 36493 kW against its demand of 42255 kW. However, the Board now vide its order dated May 22, 2002 had withdrawn the restriction imposed on the GACL and allowed the Complainant to draw load upto 42255 kW and, therefore, the operation of the order dated May 22, 2002 should not be stayed as represented by GACL.

**11.0** After hearing both the parties, the Commission admitted the application dated June 6, 2002 filed by complainant for stay of order dated May 22, 2002 of the Chief Engineer (Op) South, HPSEB, Shimla and ordered that the operation of this order be stayed. The Commission further passed the order that since following two issues were common between the complainant and Parwanoo Industries Association (PIA), who too had filed a complaint with the Commission against the respondent, the order in this case is also reserved to be announced on a date to be notified after the conclusion of hearing in the matter of PIA Versus HPSEB:

- i. Application of Connected Load in place of contract demand for calculating demand charges.
- ii. Application of number of hours for calculating demand charges.

**12.0** The hearings in the matter of PIA Vs HPSEB having been concluded on June 22, 2002, the order in the case of GACL Vs HPSEB is also being announced today the August 3, 2002 along with the order in the case of PIA Vs HPSEB.

**13.0** The Commission's observations on the various issues raised by the Complainant in regard to the incorrect application and interpretation of the Tariff Order 2001-02 as per their written complaint and the arguments given before the Commission on June 17, 2002 are discussed in the following paragraphs: -

**13.1 Application of connected load in place of contract demand for calculating demand charge :-**

By Board's own definitions of Connected Load and the Contract Demand in Appendix-II "Abridged Conditions of Supply of Sales Manual Part-1", these are two separate and distinct terms, the later being a function of the former but definitely less than one. The ratings and capacities of the appliances are indicative in nature and a good commercial engineer should be able to use his commercial experience and acumen in assessing fairly accurately, the simultaneous maximum demand of the consumer in accordance with the load, diversity and demand factors commonly experienced with similar type of loads or class of consumers at the time of designing the electricity supply system to cater to such demand. The indicative demand and load factors for various types of loads and industries have been given in Appendix-I "Demand and Load factors" of HPSEB Sales Manual Part-I for the guidance of field officers. To design and establish the system by taking the Connected load as the maximum demand defies the very common sense and logic besides over-designing the system at a far higher cost. It is also in violation of the instruction No.5 of HPSEB's Sales Manual where the probable monthly consumption is required to be worked out as per the following formula: -

Probable Monthly consumption = Load in kW x demand factor x load factor x number of hours in a month.

The connected load multiplied by the demand factor shall then give the maximum demand for which the system has to be designed. The contention of the Board that since it has established huge EHV and distribution network and expects minimum return for the capital invested by it to provide connections to the consumers so the sanctioned connected load be treated as contract demand for purpose of billing is without any merit and, therefore, is rejected. The Board in fact has already admitted

that the demand charge is to be charged on the restricted load and not on the total sanctioned load because of the restrictions imposed by the Board to limit the drawl of the complainant to 36,493 kW. It has also agreed to refund the amount due to the complainant for charging the demand charge on the connected load instead of restricted load.

The Commission is separately ordering the Board, in the case of PIA Vs HPSEB, to give option to the consumers to enter into fresh agreement in respect of contract demand if not already agreed.

**13.2. Levy of demand charge on bonafide factory and lighting load: -**

The billing of the consumption for the bonafide factory lighting and colony supply is to be regulated as per clause 7 of schedule 'Large Supply' of the Tariff Order which is reproduced below: -

“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 centers and factory yard lighting shall be charged under this tariff schedule. The consumption for bonafide use of residential/staff quarters and street lighting of colony shall also be charged under this tariff schedule. 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.

During normal times: normal rate

During peak times : the PLEC rate

During night-time : the night- time rate

Consumers who have not opted for operation during peak times, and are only using electricity for the purposes mentioned in this section will not be charged the PLEC rate for demand charge.” It is thus evident from the above that PLEC rate for the demand charge is not to be charged for such consumers who have not opted for operation during peak times which in other words means that the consumers who have opted for operation during peak time i.e. who have been sanctioned peak load exemption shall be charged at the PLEC rate for the demand charge. The complainant has submitted that they have the sanction of 10,000kW for running their factory during peak load hours and also a sanction of 2981 kW for the lighting loads to be drawn during peak load

hours. Since the complainant has been sanctioned the peak load exemption so the demand charge at PLEC rate is leviable for total demand, including the factory and lighting load, put on the system by the complainant during peak load hours. The plea of the complainant that PLE demand charge should not be charged on the lighting load is, therefore, rejected.

### **13.3 Application of number of hours for calculating demand charge: -**

Due to shortage in peak capacity and power system constraints the Industrial, Water Pumping and Agricultural Pumping consumers are normally not permitted by HPSEB to use electricity during the peak load hours. However, these categories of consumers can request for an exemption from the restriction to use electricity during peak load hours. In such cases where exemption is granted, a charge called the Peak Load Exemption Charge (PLEC) is applied. The tariff notification provides that all consumers who have been given exemption during the peak load hours shall be billed for **additional** charge as specified in the relevant schedule of tariff. (Refer lines 4 to 6 in Para 1 at Page 141 of Tariff Order). The Peak Load Exemption Charge (PLEC) has been given in clause 4 of the Schedule LS, which is reproduced below: -

Part 1: - Demand Charge of Rs. 150/kVA/month to be levied on the maximum recorded demand during any 30 minutes interval during the peak load hours or 80% of the Contract Demand, for peak load hours, whichever is higher.

Part 2: -Energy Charge: 235Paise/kVAh

Thus the PLEC consisting of Demand & Energy Charges has to be applied in addition to the charges for consumption of electricity in normal and night hours. The contention of the complainant that the demand charge should be applicable for 21 hours in case of normal demand and for 3 hours in case of peak load exemption is neither relevant nor realistic. The maximum demand is the demand at any given time and not measurable and summated over time in hours. The two charges are independent of each other. This is also not in line with the provisions of the Tariff Order and the plea of the complainant, therefore, is rejected. PLE demand has to be charged over and above the normal demand charge.

### **13.4 Application of power factor for converting kW to kVA: -**

The demand charge in case of the Large Supply consumers has been introduced to ensure recovery of fixed cost and to correlate this charge with the level of demand of each consumer. The demand charge is to be levied on the maximum recorded demand in any 30 minutes interval or 80% of the contracted demand, whichever is higher. Normally the Board sanctions the connected load/contract demand in kW and not in kVA. The demand put in by a consumer on the system in kVA is a function of load (in kW) and power factor. The higher the power factor, the lower is demand in kVA for the same load and vice versa. Thus for a given load in kW, the demand in kVA would be lower if a consumer maintains a higher power factor. The electronic meter, installed at the premises of all LS consumers, is capable of registering the maximum demand in kVA based upon the actual power factor maintained by the consumer. Normally the demand charge is determined and billed based on this reading except in case where the recorded demand is less than 80% of the contract demand. To convert the contract demand from kW in kVA by a power factor 0.9 in such a contingency, for purpose of billing, would not only be illogical but also irrational. The methodology adopted by the Board for converting the connected load in kW to kVA based upon a power factor of 0.9 is, therefore, not correct and the plea of the complainant that the demand in kVA should be determined by dividing the kW by actual power factor maintained by it is agreed to.

**14.0** After hearing the parties, their contentions and the rival contentions and the discussion in the foregoing paragraphs, the Commission orders as follows: -

- i) The restricted load of 36493 kW shall be the contract demand of GACL for purpose of billing till such time it is modified after mutual agreement. The demand charge shall be levied on the actual maximum recorded demand in a month in any 30 minutes interval or 80% of the contract demand, whichever is higher.
- ii) Where the consumer has been allowed the Peak Load Exemption, the PLE demand charge shall be applicable on the total sanctioned PLE (Industrial, Factory lighting & colony supply load) and shall be levied on the maximum recorded demand during any 30 minutes interval

during the peak load hours or 80% of the contract demand, for peak load hours, whichever is higher.

- iii) The demand charge for normal hours and peak hours is not to be calculated based upon hours of usage. Since GACL has

**been given exemption during the peak load hours, it is to be billed for the additional PLEC consisting of Demand Charge and Energy Charge as specified in the relevant schedule of tariff.**

- iv) The demand in kVA should be worked out by dividing kW by the average power factor maintained by the consumer in a month.
- v) Board to issue revised bills to GACL with effect from November 1, 2001 and refund the amount due, if any, to the complainant for erroneous calculations/charging of demand charge through the energy bills.

**15.0** No orders on the prayer made by the Complainant to allow interest @ 18% per annum, on the amount charged in excess, and the prayer made by the respondent Board for costs.

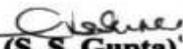
**16.0** Certified copy of this order is being supplied to both the parties free of charge as per clause 22(iv) of HPERC's Conduct of Business Regulations, 2001 immediately after the announcement of this order in the Commission's court.

**It is so ordered.**

**Shimla**

**Dated: August 3, 2002**



  
**(S. S. Gupta)**  
**Chairman**