

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram:**

- 1. Shri Bhanu Bhushan, Member**
- 2. Shri R. Krishnamoorthy, Member**

**Petition No.116/2005**

**And in the matter of**

Bringing Bhakra Beas Management Board (BBMB) power stations under the purview of Unscheduled Interchange (UI) mechanism at the regional level

**And in the matter of**

Northern Regional Load Despatch Centre, New Delhi .... **Petitioner**

**Vs**

1. Punjab State Electricity Board, Patiala
2. Haryana Vidyut Prasaran Nigam Ltd., Panchkula
3. Rajasthan Rajya Vidyut Prasaran Nigam Ltd., Jaipur
4. Himachal Pradesh State Electricity Board, Shimla
5. Bhakra Beas Management Board, Chandigarh
6. Northern Regional Electricity Board, New Delhi
7. Delhi Transco Ltd., New Delhi
8. Power Development Dept., Govt. of J&K, Jammu
9. Uttar Pradesh Power Corporation Ltd., Lucknow
10. Power Transmission Corporation of Uttaranchal Ltd., Dehradun
11. Electricity Department, UT of Chandigarh, Chandigarh... **Respondents**

**The following were present:**

1. Shri S.R. Narasimhan, NRLDC
2. Shri Rajiv Porwal, Manager, NRLDC
3. Shri Vivek Pandey, Dy. Manager, NRLDC
4. Shri Randhir Singh, Director, PSEB
5. Shri Niraj Gulati, CE, HVPNL
6. Shri Raghubir, HVPNL
7. Ms. Abha Saini, CE, BBMB
8. Er. R.S. Lamba, Director, BBMB
9. Shri S.K. Soonee, PGCIL
10. Shri B.L. Jain, CE, RVPNL
11. Shri R.K. Jain, Addl XEN, RVPNL

**ORDER  
(DATE OF HEARING : 21.8.2007)**

The petitioner, Northern Regional Load Despatch Centre has filed this petition for implementation of frequency linked Unscheduled Interchange (UI) mechanism on

hydro generating stations owned and operated by Bhakra Beas Management Board (BBMB), for overall economy and efficiency in grid operation.

2. The petitioner informed that BBMB generating stations have 2866 MW generating capacity. Its beneficiary states are Punjab, Haryana, Rajasthan and Himachal Pradesh. BBMB has maximum reservoir based generation and it can be varied to dampen the frequency spikes and dips within the limits of schedule of overall generation and water releases for the day.

3. Currently, BBMB is out of ambit of the UI mechanism, which means that while calculating the UI charges the dispatched schedules issued to BBMB generating stations are replaced by their actual generation. Thus, due to post facto revision of BBMB schedules, the incentive to flex generation in response to the real-time variation in grid frequency is absent in BBMB power stations.

4. The petitioner submitted that under the proposed mechanism, BBMB could continue to finalize the schedules of its generating stations in consultation with the beneficiary States, taking into account all hydraulic constraints and agreements with partner States on water releases etc. UI computation can be implemented as the Special Energy Meters (SEMs) have already been installed at all BBMB power stations. With introductions of UI computation for BBMB stations, partner States would enhance the accuracy of their load forecasts and this would further optimize the scheduling of BBMB generation. The ultimate objective of this petition is to achieve overall economy and efficiency in grid operation.

5. The comments of BBMB, PSEB, HVPNL and RRVPNL have been received. Reply of the petitioner has also been received. The comments received from respondents PSEB, HVPNL and RRVPNL were similar to issues raised by BBMB in its reply. BBMB informed that power stations in BBMB are part of multipurpose project with primary objective of irrigation, power & flood control. The generation schedule is prepared keeping in view the exact amount of water to be released for irrigation purpose, hydraulic constraints associated with each power house/canal system and load/drawal pattern of the States. BBMB further submitted that due to inter-dependence/inter-linking of canal network, the releases of Ranjit Sagar dam of PSEB and Pong dam of BBMB are coordinated in such a way that water is not allowed to go downstream of Ferozpur and Madhopur Headworks and get wasted. The releases from Pong Dam are not changed even during the day to avoid wastage of water. In response to BBMB, the petitioner submitted that BBMB would continue to do scheduling of its plants as being performed today but limited variations on either side of the day-ahead schedules could be made without affecting the daily/weekly/monthly/yearly targets of water releases. The petitioner further stated that scientific variation in the day-ahead schedule could contribute in stabilization of frequency without compromising on the safety of the water conductor system. The petitioner added that BBMB stations with 500 to 2500 MW capacity on bar at any instant, have the potential to provide a regulating power of the order of 50-250 MW that would contribute to frequency stabilization.

6. BBMB submitted that besides partner States, power is supplied on first charge basis to common pool consumers viz. National Fertilizer Factory-Nangal (NFF), Rajasthan Fertilizer Factory, UT Chandigarh and Old Himachal Pradesh. The deviation, if any is apportioned to the partner States. Under UI mechanism, the

common pool consumers would try to earn profit instead of surrendering their entitlement. In this connection, the petitioner submitted that treatment of common pool consumers would continue to be as it exists today. They would not be under UI and deviation in consumption of these consumers would be apportioned amongst partner States. The allocation to these consumers being very small component would not cause large aberrations in the net drawal schedule of the partner States.

7. BBMB informed that BBMB canal network is linked to partner States and to maximize generation benefits water is diverted from one canal to another. Currently, BBMB has entered into agreement with PSEB, according to which in case of shutdown of one or more machines at Ganguwal or Kotla powerhouses, water from Nangal Hydrel Channel (NHC) of BBMB is diverted to Anandpur Sahib Hydrel Channel (ASHC) of Punjab for extra generation at Anandpur Sahib Hydrel Project (ASHP) and 50% of this extra generation is accounted as deemed generation at BBMB powerhouses. Under UI mechanism, such arrangement will not work. The petitioner has replied that aberration in generation/drawal schedule of concerned parties due to diversion of water from NHC to ASHC could be corrected on post facto basis as is being done today.

8. During hearing held on 15.12.2005, the representatives of the parties have expressed a desire to mutually discuss the issue a fresh. The issue was discussed at Nangal on 28.1.2006. In the meeting, BBMB highlighted its concerns and the petitioner stressed for need for secondary control at the power plants and the need for flexing of generation for stabilizing the grid frequency and no consensus could be arrived at. In the hearing held on 28.2.2006, BBMB and its constituent members did not agree to the petitioner's suggestion to extend the UI mechanism at BBMB power

stations. We sought adoption of UI mechanism voluntarily but in view serious concerns by BBMB and its constituent members it was decided not to implement the UI mechanism at BBMB power stations. However, we have expressed concerns at the existing practice of post facto revision of schedules being followed at BBMB power stations.

9. The staff of the Commission, on its own initiative, proposed a methodology to avoid post facto revision of schedules. By letter dated 19.4.2006, the responses of the stakeholders was invited on the proposed methodology. RRVPNL and petitioner have agreed with the proposed methodology. In the hearing held on 4.7.2006, BBMB and PSEB favored continuance of the existing method of post facto revision of schedules. We observed that the main reason for reservation on the introduction of the proposed methodology might be because of lack of proper appreciation of the same and directed the petitioner to call a meeting of all the stakeholders with a view to find out an acceptable energy accounting procedure.

10. During hearing held on 21.9.2006, the petitioner informed that the proposed methodology of energy accounting for BBMB power stations was discussed in a meeting on 13.9.2006 with BBMB and its partner States and NRPC secretariat, but consensus could not be arrived at for implementation of proposed methodology. However, it was agreed that BBMB would internally calculate the UI charges for its power stations and NRPC Secretariat would attach those statements with the Regional Energy Accounts (REAs).

11. Taking cognizance of the progress made at the meeting held on 13.09.2006 in which BBMB and its beneficiaries agreed to review the implementation of proposed

scheme, the Commission allowed some more time to BBMB and its beneficiaries to appreciate the proposed REA methodology. The Commission observed that the methodology proposed by the Commission's staff could be applied for energy accounting uniformly on all inter-State power stations presently not on ABT, and directed NRLDC to start a dialogue with such generating stations/organizations for implementation. The Commission observed that ERLDC is already adopting the proposed methodology for drawal of power from Chukha and Kurichhu power stations and therefore, ERLDC/ERPC Secretariat should continue the practice.

12. The petitioner has submitted that as per direction given vide order dated 22.12.2006, BBMB had started working out its UI charges (notional) and forwarding the same to NRPC Secretariat which in turn posts this information on its website. The petitioner stated that on analysis of UI data prepared by BBMB and UI data of central sector hydro generating stations (pondage and storage hydro stations), it is found that there is further scope for improvement at BBMB power stations. The petitioner suggested that BBMB should be part of Northern Region UI pool account.

13. We clarified that BBMB power stations are owned by partner States and availability based tariff can not be implemented on BBMB power stations as these stations do not have fixed and variable charges. The issue now is implementation of proposed methodology to avoid post facto revision in schedules and to simplify regional energy accounting computations. It is also clarified that post facto revision of schedules dilutes the sanctity of schedules. There could be deviation in schedules on account of commercial reasons but this aspect is not applicable in BBMB power stations because as per proposed methodology BBMB stations would not be subjected to UI charges. We observed with concern that post facto changes in

BBMB's schedules result in corresponding post facto changes in schedules of its beneficiaries. Avoiding post facto revision would bring transparency to energy accounting and this approach is required to be taken uniformly.

14. HVPNL stated that BBMB schedules are being updated on the petitioner website as well as on the real time system and this has improved the accuracy of the net drawal schedules of partner States of BBMB in real time. HVPNL further stated that BBMB for operation of their plants has to take in to account the irrigation and power requirements of partner States and it could be possibly achieved with the existing methodology. BBMB stated that as per decision taken in the meeting held on 13.9.2006, weekly UI accounts of BBMB power stations are being prepared and posted on NRPC's website so transparency in accounting procedure has been achieved. Representatives of PSEB and RRVPNL have also requested for continuance of existing practice in regional energy accounting. The representative of NRPC Secretariat stated that energy accounting of BBMB stations has non-linearities due to booking of energy on first charge basis to common pool consumers like National Fertilizer Factory, Nangal etc. and therefore, post facto revision in schedules can not be eliminated completely even after implementation of proposed methodology and therefore submitted for continuation of existing energy accounting practice at BBMB power stations.

15. The day-ahead schedules of BBMB power stations are issued by NRLDC but these are replaced by actual generation on post-facto basis. To avoid this, we had proposed a methodology. We observed that BBMB and its partner States have perhaps not appreciated the proposed methodology. It was reiterated that revision of schedules dilutes their sanctity and avoiding post facto revision would bring

transparency to energy accounting without affecting BBMB and its partner States financially or otherwise. The post facto revision of BBMB schedules requires the schedules of its partner States as well to be revised post-facto.

16. In the hearing, the representatives of the BBMB and its partner States did not agree to the proposed methodology. They stated that BBMB schedules are being updated on petitioner website as well in real time. Further, weekly UI accounts of BBMB power stations are being prepared and posted on petitioner's website. They were of the opinion that with above actions transparency in accounting procedure which was the intent of Commission's proposal has already been achieved. The representative of the NRPC Secretariat stated that in the energy accounting of BBMB stations, booking of energy to common pool consumers like National Fertilizer Factory etc. is done on first charge basis and this aspect is not taken care in the proposed methodology.

17. The Commission must record its disappointment with the response received, in effect blocking a move to simplify and rationalize the regional energy accounting. However, since the parties directly concerned (BBMB, its partner States and NRPC Secretariat) are all against the proposal, the Commission would not like to enforce its implementation for the time being, as far as BBMB stations are concerned. The parties are directed to discuss at NRPC level and resolve issues like non-linearity in energy accounting due to booking of energy to common pool consumers amicably, to enable implementation of the proposal in due course.

18. Regarding implementation of proposed methodology for nuclear power stations, the petitioner informed that as per Commission's directive in the last order, they had written letter to NPCIL and invited them for discussion but they have not



responded so far. No representative of NPCIL was present in the hearing. In the absence of any response from NPCIL, we have decided to implement the energy accounting methodology proposed by the Commission's staff for nuclear power stations all over the country with effect from 5.11.2007. It has already been shown in the communication dated 19.4.2006 that adoption of the proposed methodology shall have absolutely no financial impact on the concerned power plants, as they would continue to bill the beneficiaries for the total actual energy sent out, as per the prevailing single-part tariff. It is, therefore, not necessary for us to hear NPCIL, which has chosen not to respond to the petitioner's letter dated 9.1.2007 issued as per our direction. The concerned RLDCs and RPC Secretariats shall take care of this change. ERLDC is already adopting the proposed methodology for drawal of power from Chukha and Kurichhu power stations and therefore ERLDC/ERPC Secretariat should continue the practice.

19. With the above, the present petition is disposed of. Copies of this order may be forwarded to all RLDCs, RPC Secretariats and NPCIL, besides the parties in this petition.

**Sd/-**  
**(R. KRISHNAMOORTHY)**  
**MEMBER**

**New Delhi dated the 25th September 2007**

**sd/**  
**(BHANU BHUSHAN)**  
**MEMBER**