

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

Petition No.63/2006

Dated 29<sup>th</sup> November 2006

**In the matter of**

Approval of provisional tariff in respect of Tehri Hydroelectric Project Stage-I (4x 250 MW) for the period 6.7.2006 to 31.3.2009.

**And in the matter of**

Tehri Hydro Development Corporation Ltd.

....**Petitioner**

Vs

1. Punjab State Electricity Board, Patiala
2. Haryana Power Generation Corporation Ltd, Panchkula
3. Uttar Pradesh Power Corporation Ltd, Lucknow
4. Delhi Transco Ltd, New Delhi
5. BSES Rajdhani Power Ltd, New Delhi
6. BSES Yamuna Power Ltd, New Delhi
7. North Delhi Power Ltd, Delhi
8. Engineering Department, Chandigarh Administration, Chandigarh
9. Uttaranchal Power Corporation Ltd, Dehradun
10. Himachal Pradesh State Electricity Board, Shimla
11. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, Jaipur
12. Jaipur Vidyut Vitaran Ltd, Jaipur
13. Ajmer Vidyut Vitaran Ltd, Ajmer
14. Jodhpur Vidyut Vitaran Ltd, Jodhpur
15. Power Development Department, Govt of J& K, Srinagar ....**Respondents**

This petition has been filed for approval of provisional tariff in respect of Tehri Hydro Power Project, Stage-I (4X 250 MW) (the generating station) for the period from 6.7.2006 to 31.3.2009, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff ) Regulations, 2004, (the 2004 regulations).

2. The construction of the generating station was commenced by the Government of Uttar Pradesh in 1978 and was later transferred to the petitioner, a joint venture company formed by the Government of India and the Government of Uttar Pradesh.

3. The petition was heard by the Commission on 26.10.2006. During the hearing the representative of the petitioner stated that one unit of 250 MW was put under commercial operation on 22.9.2006 and that the remaining three units would be commissioned by end February 2007. It was also stated that the infirm power generated prior to 22.9.2006 was billed at the primary energy rate of 81.40 paise/kWh. After 22.9.2006, the energy supplied was being billed provisionally at the rate of Rs 3.50/kWh as per the decision reached at the meetings of TCC & NRPC held on 2.6.2006 and 3.6.2006 respectively, till the provisional tariff is approved by the Commission. The representative of the petitioner further submitted that it was difficult for it to supply energy at the rate of Rs 3.50/kWh and that the rate of supply of energy would be of the order of Rs 6/kWh, if the actual expenditure incurred till commissioning of the generating unit was taken into account.

4. On the contrary, the representatives of the respondents submitted that though the petitioner claimed 22.9.2006 as the date of commercial operation of IVth unit, it had not been able to achieve the Maximum Continuous Rating of 250 MW. According to NRLDC, the maximum output actually achieved was only 205 MW. It was, therefore, pleaded that the date of commercial operation declared by the petitioner should not be accepted and the energy supplied should be billed only at infirm power rate of 81.40 paise/unit.

5. In the light of above rival contentions, the matter has been examined by the Staff of the Commission and its comments are discussed in the succeeding paragraphs.

6. In the 2004 regulations, the date of commercial operation has been defined as "the date declared by the generator after demonstrating the Maximum Continuous Rating (MCR) or Installed Capacity (IC) through a successful trial run, after notice to the beneficiaries". It is possible to interpret to say that a generating unit can be considered to be in commercial operation only when it has been able to generate its MCR or IC, which is 250 MW for each unit of the generating station. In the present case, such a demonstration is not possible, since the reservoir has not been filled up to the required level. This would mean that Unit IV has not reached the stage of commercial operation, and accordingly, at this stage the petitioner should be paid only at the primary energy rate for the infirm power supplied in accordance with the 2004 regulations.

7. However, in practical sense, commercial operation of a generating station or a unit is considered when it is operated according to the specified process of scheduling, starting with daily declaration of its capability to supply power/energy, followed by RLDC giving out its schedule (in consultation with the beneficiaries), and monitoring the output with reference to the given schedule. It appears that this process has already started for Unit IV with effect from 23.9.2006. It follows that Unit IV of the generating station would be entitled to receive capacity charge, energy charge and unscheduled interchange (UI) charge as per the 2004 regulations.

8. If the respondent beneficiaries' view that under the present situation the generating unit cannot be taken to be under commercial operation is accepted, the implications would be: (i) the petitioner would not be bound to declare daily availability to RLDC and to operate the generating station according to any given schedule; (ii) the petitioner could operate the generating station at its will, without regard for the requirements of the beneficiaries and RLDC's advice; (iii) the beneficiaries would get energy at a fairly low rate (e.g. 81.40 paise/kWh), but not necessarily when they need it most (during the peak load hours); and (iv) the petitioner would be deprived of revenue needed by it to start servicing the investment, though it may be entitled to some additional IDC in the interim period. The last factor being overwhelming, it may not be acceptable to the petitioner, and it may also be unfair to force the petitioner to sell power for a prolonged period at a price much lower than the rate at which the beneficiaries get power from other sources.

9. On the other hand, in case of acceptance of the petitioner's contention regarding commercial operation of generating units and the claim for tariff strictly as per the 2004 regulations, the beneficiaries would be forced to pay, in effect, over Rs. 6/kWh. This in itself would be grossly unfair to them, particularly in view of the stand taken by the petitioner that it has to generate power round the clock at a constant MW. The respondent beneficiaries would have a justifiable grouse, which may not be easy to overlook.

10. The situation emerging in the light of facts of the present case could not be foreseen/visualized while formulating the 2004 regulations, and, therefore, it has become necessary to adopt a *via media*, by invoking Regulations 12 and 13 which *inter alia* empower the Commission to vary the terms and conditions of tariff after recording reasons therefor. In other words, there is a need to deviate from some of the provisions of the 2004 regulations, to arrive at a reasonably just and fair dispensation. It has already been noted that a consensus had been reached at the NRPC forum to adopt an interim/provisional rate of Rs. 3.50/kWh for energy supplied by the petitioner. It has, therefore, been recommended by the Commission's staff to take this as the basis for determination of tariff. In the past, the Commission has adopted the provisional per unit rate agreed between a generator and the beneficiaries, in the cases of Ranganadi and Doyang HEP in NER. In these cases, the Commission converted the agreed single-part tariff into two-part tariff, comprising of capacity charge and energy charge, to be compatible with the Availability Based Tariff presently in vogue. In the method adopted, the Design Energy for the relevant period was taken, and multiplied with the agreed single-part rate to arrive at the total fixed cost, which was then bifurcated into capacity charge and energy charge. The method has, however, not been found to be satisfactory where there is water deficit, and experience of NER is also not very encouraging.

11. There is another aspect, which adds a new dimension in the present context. The whole idea of Availability Based Tariff is to induce the generators to maximize their supply during peak-load hours. In hydro-electric generating stations, this implies backing down/switching off the generating units during off-peak hours and storing water for maximizing generation during peak-load hours. It is for achieving this objective that the single-part tariff needs conversion into a two-part tariff. However, in the present case, the petitioner has informed that due to downstream irrigation and drinking water requirements, generation has to be maintained at a constant level, and cannot be varied according to grid requirements. The staff has proposed the Commission to consider this aspect separately, and till such time a view is taken by the Commission, the petitioner may generate power as per limitations projected (stated to be originating from U.P. Irrigation Department).

12. As a consequence of the above, it appears that no useful purpose would be served by trying to induce peaking support through adoption of two-part tariff in the present case. In other words, the generating station may continue on single-part tariff for the present. Two months have already passed since purported date of commercial operation of Unit IV, and its operation is already fait accompli. Therefore, in order to minimize retrospective adjustments, the staff has proposed to confirm the rate of Rs. 3.50 per kWh for sale of power up to 31.12.2006, on single-part basis.

13. As regards the stand of the petitioner regarding its inability to provide peaking support to the regional grid, in spite of the project having a huge reservoir, the staff has pointed out that it is for the petitioner to resolve the requirements of irrigation and drinking water being posed by U.P. Irrigation Department in a manner that the generating station may work in a peaking mode. Therefore, to induce the petitioner to move in that direction, it has been proposed that from 1.1.2007, the agreed composite rate of Rs. 3.50 per kWh may be split into two parts. From that date, the petitioner may be paid an energy charge rate of Rs. 2.50 per kWh for scheduled energy sold to the paying beneficiaries. The differential may be paid in terms of capacity charge, the rate for which may be Rs. 18000 per MW per day, payable on the saleable declared capacity for the peaking support. These rates can continue up to 31.3.2007, by which time the Commission should be able to specify the long-term tariff for the petitioner.

14. The basis for the proposed rates of Rs.2.50/kWh and Rs.18,000 per MW per day is explained herein. Having a huge reservoir, the generating station must vary its generation between off-peak and peak-load hours, even at this stage. A very moderate level of such variation could be, depending on daily water release requirement, 150 MW for 12 hours and 300 MW for 12 hours every day. Then daily energy

$$= 150 \times 12 + 300 \times 12 = 5400 \text{ MWh, and daily revenue}$$

$$= \text{Rs.}54,00,000 \times 2.5 + 300 \times 18000 = \text{Rs.}189,00,000$$

Average rate =  $189,00,000/54,00,000 = \text{Rs.}3.50$  per kWh, which is the agreed composite rate.

15. In case the petitioner would operate the station at a constant MW through out the day to generate the same energy quantum (5400 MWh), he would get  $\text{Rs.}54,00,000 \times 2.5 + 225 \times 18000 = \text{Rs.}175,50,000$  every day, and the average rate would be  $175,50,000/54,00,000 = \text{Rs.}3.25/\text{kWh}$ . On the other hand, in case the generating station is able to stop all units for 12 hours and generates 450 MW for 12 hours of morning and evening peak, it would get  $\text{Rs.}54,00,000 \times 2.5 + 450 \times 18000 = \text{Rs.}216,00,000$  every day, and the average rate would work out to Rs.4.00 per kWh.

16. I am directed to call upon the petitioner and the respondent beneficiaries to file their views on the above proposals mooted by the Staff of the Commission, latest by 15.12.2006, with copies to the opposite parties.

17. Meanwhile, for the period up to 31.12.2006, NRLDC shall have to be specially vigilant to obviate possibility of gaming by the petitioner.

18. Further, for a comprehensive assessment of the entire circumstances of the case while determining long-term tariff for the generating station, I am directed to advise the petitioner to submit the following information, with copy to the respondents, duly supported by affidavit, latest by 31.12.2006:

- (a) Detailed project report of the generating station, Gol approval of the project and the conditions as per CWC guidelines required to be met for commercial operation of the generating station.

- (b) Proof of notice to the beneficiaries for demonstration of Maximum Continuous Rating as required under Clause (ix) of Regulation 31 of the 2004 regulations.
- (c) Year-wise design energy of the generating station till reservoir is allowed to be filled up to FRL, as approved by CEA.
- (d) Dates of synchronisation and the commercial operation of each unit of the generating station.
- (e) Present reservoir level, the rate at which the level is raised/depleted and the level reached/to be reached during the current financial year.
- (f) Ex-bus energy expected up to 31.12.2006 and the total expected ex-bus energy (in MU) for the years 2006-07 and 2007-08.
- (g) Minimum water release limits, if any, for irrigation, etc, for 2006-07 and 2007-08.
- (h) Present pattern of generation.
- (i) Share/ allocation of power/energy to each of the beneficiaries.

19. The petition will be listed before the Commission for further directions on 28.12.2006.

Sd/-  
(K.S. Dhingra)  
Chief (Law)