

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 187/MP/2014

**Coram:
Shri Gireesh B. Pradhan, Chairperson
Shri A.K. Singhal, Member
Shri A.S.Bakshi, Member**

Date of Hearing: 08.9.2014

Date of Order: 11.9.2014

In the matter of

Petition under Section 66 read with Section 79 (1) (k) and other appropriate provisions of the Electricity Act, 2003 seeking the indulgence of the CERC for passing appropriate orders/directions to enable the petitioner to import power from the hydro generation project being developed by Dagachhu Hydro Power Corporation in Bhutan.

And

In the matter of

Tata Power Trading Company Limited
C-43, Sector 62, 3rd Floor,
Noida, Uttar Pradesh-201 307

.....Petitioner

Vs

1. National Load Despatch Centre
B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi-110 016
2. Eastern Region Load Despatch Centre
14, Golf Club Road, Tollygunj,
Kolkata-700 033
3. Eastern Region Power Committee,
14, Golf Club Road, Tollygunj,
Kolkata-700 033
4. Power System Operation Corporation Limited
B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi-110 016
5. Central Transmission Utility
Saudamini, Plot No. 2, Sector 29, Near IFFCO Chowk,
Gurgaon (Haryana)-122 001



6. Secretary, Ministry of Power
Shram Shakti Bhawan
New Delhi-110 001
7. Central Electricity Authority
Sewa Bhawan,
R.K.Puram, New Delhi-110 016

....Respondents

Following were present:

For the petitioner:

Shri Hemant Sahai, Advocate
Shri Ankit Prasoon, Advocate
Shri Saurabh Srivastava
Shri R.S.Mirgi

For the respondents:

Shri G.Chakraborty, ERLDC
Shri J. Bandyopadhyay, ERPC
Shri S.K Soonee, POSOCO
Shri V.K.Agarwal, POSOCO
Shri S.S.Barpanda, POSOCO
Ms. Jyoti Prasad, POSOCO

ORDER

The petitioner, Tata Power Trading Company Limited (TPTCL), has filed the present petition under Section 66 read with Section 79 (1) (k) of the Electricity Act, 2003 seeking appropriate directions to enable it to import power from the hydro generation project being developed by Dagachhu Hydro Power Corporation in Bhutan. The petitioner has made the following prayers:

- (a) Pass appropriate Orders and/or Directions to enable the Petitioner to import power from the hydro generation project being developed by Dagachhu Hydro Power Corporation, in Bhutan and to schedule such power for resale to buyers in India;
- (b) Pending the issue of final orders and directions in the present petition, direct the Respondent Nos. 1 to 3 schedule the power that may be imported by the petitioner at a delivery point in India for re-sale to buyers in India;
- (c) Pass such other and further orders, as this Hon`ble Commission deems fit and proper in the facts and circumstances of the case.”

2. The petitioner, a wholly owned subsidiary of the Tata Power Company Limited, has been granted a license for inter-State trading in electricity by the Commission. Druk Green Power Corporation Limited (a Royal Government of Bhutan Undertaking) and Tata Power Company Limited entered into a joint venture namely, Dagachhu Hydro Power Corporation (DHPC) for development of 126 MW hydro Power project in Bhutan. The project is at an advanced stage of commissioning and is likely to be declared under commercial operation shortly.

3. The petitioner has submitted that in order to import power from DHPC, the petitioner approached the concerned authorities including PGCIL, ERLDC and ERPC on many occasions for connectivity and open access. The petitioner also approached Ministry of Power for No Objection for import of Power from Bhutan in response to which Ministry of Power has informed the petitioner that the import of power has been shifted from restricted category to free category by Ministry of Commerce and therefore, there is no need to obtain license from DGFT for import of electricity from Bhutan.

4. The petitioner has submitted that PGCIL informed about the preliminary findings of the load Flow study undertaken for wheeling power from Bhutan to India for DHPC project on 26.12.2013 wherein PGCIL has concluded that (a) the existing transmission network in the region is adequate for import of DHPC power; (b) the Bhutan transmission network and India's CTU network are already connected; and (c) as DHPC is already connected to the Bhutan Network, therefore, DHPC is also connected to the PGCIL's network.

5. The petitioner has submitted that DHPC vide its letter dated 27.6.2014 has appointed the petitioner as the exclusive agency for finding buyers in India for the power to be generated by the DHPC project. The petitioner has further submitted that DHPC vide its letter dated 22.7.2014 has agreed 'New Siliguri' as the delivery point for sale of power. The petitioner has submitted that after getting the requisite authority from DHPC, the petitioner applied for grant of connectivity and open access to POSOCO who have advised the petitioner to approach the Commission to determine an adequate mechanism for import of power from DHPC. The petitioner has accordingly filed the present petition seeking indulgence of the Commission for issuing appropriate directions to enable the petitioner to import power from the project of DHPC in Bhutan and to sell the same to diverse buyers in India in accordance with the regulatory and legal framework applicable to electricity trading in India.

6. The petition was admitted on 7.8.2014 and parties were directed to file their replies. At the instance of the Commission, the Central Electricity Authority and Ministry of Power have been impleaded as parties to the petition. Though the Commission had sought the views of Ministry of Power in the matter, no response has been received. Reply to the petition has been filed by POSOCO only.

7. POSOCO in its reply dated 25.8.2014 has submitted that the Commission had the occasion to deal with the issue of import of power by Adani Power Ltd from Basochhu power station in Bhutan in its order dated 9.1.2009 in Petition No. 95/2008

wherein the Commission had suggested that Adani Enterprise Ltd. may explore the possibility of metering by ERLDC inside Bhutan or for introducing the concept of UI charges for deviations for cross-border schedule to be settled by the appropriate authorities in Bhutan. POSOCO has submitted that in line with the directions of the Commission in the said order, the charges for deviations from the cross-border schedule may be settled by the appropriate authority in Bhutan. POSOCO has further submitted that in the present case there are multiple sellers in Bhutan who are to supply power to multiple buyers in India. Transaction of electricity between multiple sellers and buyers through a common transmission system is likely to pose segregation issues and settlement process becomes more complex. Complexity of the issue further increases with the participation in electricity market where the buyers and sellers keep changing. Since the petitioner intends to sell power procured from Bhutan in the short term market in India, POSOCO has suggested that it is essential to settle the account based on schedule and deviations are settled separately. POSOCO has submitted that curtailment of power may be necessary in case of tripping of cross border links or congestion over international inter-connection or any other constraint in the transmission corridor. Therefore, Regulation 6.5.28 and 6.5.30 of the Grid Code regarding curtailment need to be followed for transactions with the generating companies in Bhutan. POSOCO has submitted that since international transactions involve two or more sovereign countries which have their own set of laws, procedures and regulations, it is essential to have mutually agreed provisions regarding cross border exchange of electricity. POSOCO has submitted a Concept Paper on 'Coordinated Scheduling and Settlement procedures for Long

Term and Short Term cross-border electricity exchange or trade' for consideration of the Commission. POSOCO has further submitted that it is essential to establish reliable and efficient speech and data communication systems, with adequate redundancy of communication links to facilitate necessary communication and data exchange and supervision/control of cross border interconnection by respective System operators in each country under normal and abnormal conditions. POSOCO has also suggested for having mutually agreed enforcement and redressal mechanism for dispute resolution involving international transactions.

8. The petitioner in its additional affidavit dated 29.8.2014 has submitted a 'Concept Note on Accounting for Dagachhu Energy' which is stated to have been prepared in consultation with Dagachhu Hydro Power Corporation Limited. The Concept Note has proposed to put in place an interim arrangement for ensuring supply of power from the Dagachhu project into India without disturbing the existing setup being used for other generating stations in Bhutan. The interim arrangement in the Concept Note envisages the following:

“(a) As the total power from Dagachhu Project is meant to be exported to the Indian grid, it is proposed that the actual energy generated from Dagachhu Project, after adjusting for normative transmission losses till the identified sub-station in India alongwith Indo-Bhutan Border, be given the first charge on total energy exported to India from Bhutan;

(b) The energy generated at Dagachhu Project will be measured through special energy meters in compliance with the specifications as specified in the Indian Electricity Grid Code; and

(c) Accordingly, any deviation in actual energy generated from the schedule given can be deducted. Thus, segregating the energy of Dagachhu from rest of the projects exporting power to India can be achieved, without disturbing the existing contracts energy accounting procedure being followed in case of other three projects namely Tala, Chukha and Kurichhu.”

The petitioner has submitted that necessary infrastructure is in place to implement the suggested interim arrangement and has accordingly requested to allow import of power from Dagachhu project based on the proposed interim arrangement.

9. During the hearing of the petition on 4.9.2014, the representative of POSOCO submitted that as per existing arrangement, power from Tala, Chukha and Kurichhu generating stations in Bhutan is settled based on actual. However, Dagachhu power is proposed to be sold through STOA by the petitioner using the same interconnection between India and Bhutan. In STOA transactions, accounts are settled on the basis of schedule and this will lead to a situation where separate philosophies will intermingle. As many new generating projects are coming up in Bhutan in near future, power from which is envisaged to be exported to India, it is necessary that accounting and settlement for cross border electricity transactions be streamlined. POSOCO submitted Single Line Diagram of Bhutan Transmission Grid which is given below:

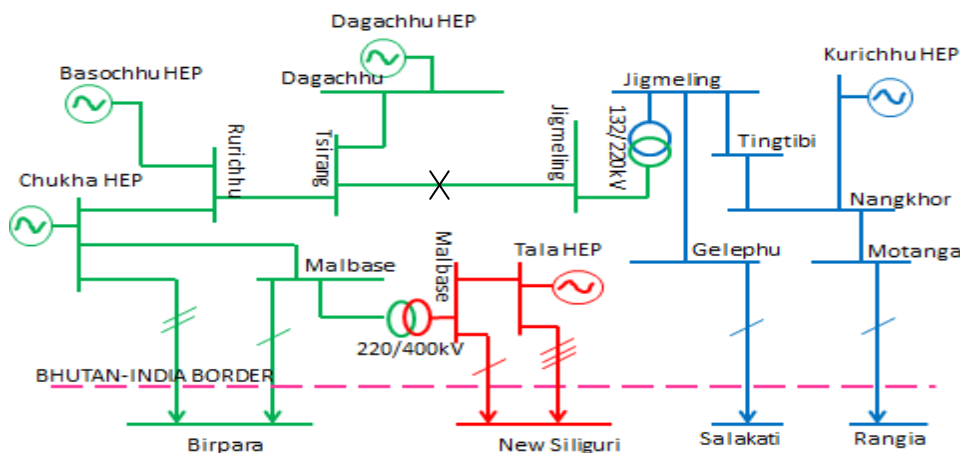


Fig-1: Single Line Diagram of Bhutan Transmission Grid

Referring to the Single Line diagram, the representative of POSOCO submitted that power flow takes place through all available connected paths and hence, power can be injected at Birpara, Salakati, Rangia apart from New Siliguri. Hence for settlement of such transactions in a scientific and rational manner, particularly when more and more such transactions shall come into existence, a transparent and verifiable accounting and settlement system needs to be put in place. The representative of ERPC submitted that currently link between Jigmeling and Tsirang is not connected.

10. The representative of POSOCO referred to the letters dated 9.7.2014 and 22.7.2014 written by Managing Director, Druk Green Power Corporation Limited, Bhutan addressed to PTC India Limited and submitted that in the letter dated 9.7.2014, it has been emphasized that 'considering the interconnected transmission network between Bhutan and India, it is becoming increasingly more complex for arrangement of metering systems to segregate power flowing from each point to the delivery point in the India-Bhutan border'. The representative of POSOCO also took us through the relevant portion of the letter dated 9.7.2014 in which the Managing director of Druk Green has expressed concern regarding the complexity of the issue of energy accounting and the need for early solution. Relevant paras are extracted as under:

"With Dagachhu power, such accounting through a mathematical formulation for the energy accounting will be complex and probably not implementable considering that Dagachhu project also has a different set of export commitments that need to be accounted for in the energy accounting. With the anticipated commissioning of other projects such as the 1200 MW Punatshangchhu-I, 1000 MW Punatshangchhu-II, 720 MW Mangdechhu and other projects in the pipeline, energy accounting will only become more complex. Keeping in view the complexities, a deemed energy transaction mechanism appears to be a more suitable system for accounting of the transacted

energy. Under such a deemed energy accounting mechanism, future projects could also be easily incorporated.

Druk green has been authorized by the Royal Government of Bhutan to represent the interests of Bhutan on such operational matters relating to power transactions between Bhutan and India with the Indian counterpart power trading companies. As our only transaction partner at the present moment, Druk Green would like to request PTC to kindly consider the changing of the present project-wise segregated energy accounting system to a deemed transacted energy accounting system at the earliest. If required, we would like to request PTC to kindly convene a meeting of all the stakeholders to discuss the modalities of such a deemed energy accounting system.

As PTC will kindly understand, with Dagachhu commissioning expected within August 2014, we need to resolve the issue as soon as possible. Druk Green looks forward to continued support and cooperation of PTC in such matters.”

11. The representative of POSOCO submitted that the energy accounting mechanism needs to be put in place after consultation with all the parties including the concerned Bhutanese authorities before the petitioner is permitted to import power from Dagachhu project.

12. During the hearing on 4.9.2014, the representative of Eastern Regional Power Committee (ERPC) explained the complexity of the issues involved and submitted that the interconnection between Bhutan and India would *inter-alia* be optimally utilised with import of additional power. He further submitted that Scheduling and Settlement process must be rational, transparent and verifiable. Learned counsel for the petitioner pressed for consideration of the interim arrangement suggested in the additional affidavit dated 29.8.2014.

13. After the hearing the learned counsel for the petitioner and the representatives of POSOCO and ERPC, we are of the view that while long term solution is essential

to be found, there is an imminent need to establish an interim solution to facilitate injection of power from Dagachhu project into Indian periphery to avoid spillage of water. We were informed that the Dagachhu project is expected to be commissioned around 10.9.2014. Considering the importance in regard to inter country transactions and urgency involved due to approaching commissioning date for the project, we directed the petitioner, POSOCO and ERPC during the hearing on 4.9.2014 to confer, deliberate and discuss the issues involved in the presence of the Staff of the Commission to work out a solution .

14. During the hearing of the petition on 8.9.2014, we were informed that discussions were held on 4.9.2014 among the representatives of ERPC, NLDC, ERLDC and TPTCL in the presence of the staff of the Commission. During the discussions on 4.9.2014, it was decided to invite Power Trading Corporation (PTC), the nodal agency for transaction of power from Chukha, Tala and Kurichhu Hydro power stations to India, to participate in the discussions. PTC participated in the discussions held on 5.9.2014.

15. During the hearing on 8.9.2014, the representative of ERPC summed up the contours of interim arrangement agreed in the discussions held on 4th and 5th September 2014 as under:

- (i) Settlement of accounts of all power imported from Bhutan shall be at the Indian periphery (Indo-Bhutan interface).
- (ii) TPTCL mentioned during discussions that as per their agreement with DHPC, presently 100% power of Dagachhu Hydro Power Station (DHPS)

including royalty is to be supplied to TPTCL at Indian periphery. TPTCL shall become ER pool member for supply of power from DHPS.

- (iii) The present mechanism of settlement of energy accounts w.r.t. power imported from Tala, Chukha and Kurichhu on actual basis shall remain unchanged.
- (iv) TPTCL shall ensure that Schedule of injection of Dagachhu Power (15 minutes time block-wise) at Indian periphery is made available by NLDC Bhutan/the designated Nodal Agency to NLDC India /ERLDC on day ahead basis.
- (v) TPTCL shall ensure that actual injection of Dagachhu power (15 minutes time block wise) at Indian periphery is made available by NLDC Bhutan / the designated Nodal Agency to NLDC India /ERLDC on weekly basis.
- (vi) TPTCL has undertaken to provide actual ex-bus generation of DHPS to NLDC India /ERLDC on weekly basis.
- (vii) TPTCL shall ensure that actual energy injection of Dagachhu power at Indo-Bhutan periphery for each month is made available by NLDC Bhutan / the designated Nodal Agency to ERPC Secretariat by the 2nd day of the following month for preparation of Regional Energy Accounts and the same be binding on TPTCL.
- (viii) From the total power injected at Binaguri (New Siliguri) and Birpara, the actual injection of Dagachhu power as furnished by NLDC Bhutan / the designated Nodal Agency shall be subtracted to arrive at the total power of Tala and Chukha injected at Indian periphery.

- (ix) The total power of Tala and Chukha so arrived shall be apportioned amongst Tala and Chukha in the ratio of the Tala and Chukha receipt at Indian periphery in the corresponding month of the previous year as per the published figure in the Regional Energy Accounts.
- (x) After deriving the components of injection of Tala and Chukha at Indian periphery, the existing methodology of settlement with reference to Tala and Chukha injection shall be followed by ERPC.
- (xi) Power imported by TPTCL from DHPS shall attract all the relevant provisions of regulations of the Commission. POC charges shall be payable for interchange of power by Dagachhu project at Indian periphery as per CERC Regulations which shall be payable by TPTCL.
- (xii) TPTCL shall ensure that telemetered data of Dagachhu shall be made available at ERLDC control room.
- (xiii) TPTCL shall ensure that proper protection coordination is implemented by DHPS in coordination with NLDC Bhutan.

16. During the hearing on 8.9.2014, all parties expressed their agreement with the above arrangement. Learned counsel for TPTCL sought a clarification whether the POC charges should be charged only at single injection point or two points where injection will be made. It was clarified that PoC charges would be charged at single injection point irrespective of the number of points of actual injection and there would not be any double charging.

17. Keeping in view the unanimity among the parties with regard to the interim arrangement as stated above, we approve the interim arrangement for scheduling and energy accounting of power injected from Dagachhu project as agreed at para 15 above till further orders. All parties shall remain bound by their commitment and obligations as per the interim arrangement. The arrangement is approved subject to following:

- a. TPTCL ensuring furnishing of schedule of injection of Dagachhu Power (15 minutes time block-wise) at Indian periphery by NLDC Bhutan / the designated Nodal Agency to NLDC India/ERLDC on day ahead basis.
- b. TPTCL ensuring furnishing of actual injection of Dagachhu power (15 minutes time block wise) at Indian periphery by NLDC Bhutan / the designated Nodal Agency to NLDC India/ERLDC on weekly basis.
- c. TPTCL providing actual ex-bus generation of DHPS to NLDC/ERLDC on weekly basis.

18. We direct the petitioner and the respondents to apprise the Commission about the working of the interim arrangement after preparation of Regional Energy Accounts for two accounting cycles. The Commission shall be apprised of the working of the interim arrangement within 15 days after issuance of Regional Energy Account for second cycle. Thereafter, the Commission will take a view as required.

19. It is clarified that the above interim arrangement would presently apply only to the Dagachhu project.

20. Keeping in view the fact that a number of generation projects in Bhutan are in the pipeline, we direct CEA to hold discussion/meeting with appropriate authorities/agencies of Bhutan and India and stakeholders from both countries to arrive at a solution to facilitate seamless integration of various upcoming power projects with the Indian power market. We request the concerned Bhutanese authorities to participate in the aforementioned discussion/meeting to arrive at a mechanism duly keeping in mind the emerging requirements of multi-seller and multi-buyer power transactions between India and Bhutan. The exercise shall be completed within three months from date of issue of this order.

21. The Commission appreciates the assistance rendered by the staff of the Commission and the representatives of POSOCO, ERPC, PTC and TPTCL in formulating the interim arrangement as approved in this order.

Sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson