

Before

UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

Petition No. 11 of 2016

In the Matter of:

Investment Approval for Implementation of Intra-State ABT Metering Scheme for On-Lining of ABT Meters to be installed at Interface Points for Energy Accounting & Transmission Level Energy Auditing at Power Transmission Corporation of Uttarakhand Ltd (PTCUL).

In the Matter of:

Power Transmission Corporation of Uttarakhand Limited (PTCUL) ...**Petitioner**

Coram

Shri Subhash Kumar Chairman

Date of Order: May 06, 2016

ORDER

This Order relates to the Petition filed by Power Transmission Corporation of Uttarakhand Ltd. (hereinafter referred to as "PTCUL" or "the Petitioner") seeking approval of the Commission for the investment approval for Implementation of Intra-State ABT Metering Scheme for On-Lining of ABT Meters to be installed at Interface Points for Energy Accounting & Transmission Level Energy Auditing at Power Transmission Corporation of Uttarakhand Ltd. (PTCUL).

Petitioner's Submission

2. The Petitioner submitted its Petition for approval of Capital investment under Electricity Act, 2003, Regulation 40 of UERC (Conduct of Business) Regulations, 2014

for approval of Capital Investments under Para 11 of the Transmission and Bulk Supply Licence [Licence No. 1 of 2003] vide letter No. 224/MD/PTCUL/UERC dated 11.02.2016.

3. The investment proposal of the Petitioner comprises of on-lining of ABT meters to be installed at Interface Points for Energy Accounting & Transmission Level Energy Auditing in PTCUL. In the said proposal the Petitioner has planned to provide ABT compliant electronic energy meter at the interface point of PTCUL Transmission Grid system at interstate and intra-state level as well as to measure the Energy Sent Out (ESO) of the intra-State generators, CPPs, IPPs etc. as per the Regulations/Order/Codes/Policies/Requirement of PTCUL. The Petitioner also intends to cover Energy Audit scheme for each of its sub-stations and transmission lines. Further, under the project the Petitioner intends to install necessary infrastructure for acquisition of remote data from the ABT compliant electronic meters spread across the State and also intends to develop a Centralized Energy Centre (CEC) at PTCUL Headquarter at Dehradun.
4. The Petitioner in its Petition has submitted that installation of Unscheduled Interchange (UI) compliant online metering shall be critical for introduction of intra-State ABT in the State and with the implementation of Intra-State ABT, it shall facilitate SLDC to prepare State Energy Account as per UERC (State Grid code) Regulations, 2007.
5. Further, the Petitioner in its Petition has submitted that ABT compliant Special Energy Meters (SEMs) shall be installed on all inter-connections between the State Constituents and other identified points under the project for recording of actual net MWh and MVARh interchange and drawals. The type of meters, meter capability, testing, calibration requirements, collection & dissemination of metered data shall be in consonance with relevant sections of Electricity Act, 2003 and CEA Guidelines for "Installation and Operations of Meters Regulation, 2006 and amendment thereof in 2010".
6. The Petitioner has proposed to implement the project in two phases namely, Phase-I and Phase-II. In Phase-I of project, a pilot site (mix of EHV S/s, Distribution S/s and Generating Station) shall be informed to the selected bidder and bidder shall install ABT meters, collect meter data and prepare Energy Account and do Energy

Auditing, for 3 months period. In this period, collection of data shall be done at systems of bidders and verified by the Petitioner on monthly basis. In Phase-II selected bidder shall implement the complete project as stipulated in the bid document.

7. The scope of work as submitted by the Petitioner in its Petition is mentioned hereunder:

Site survey, planning, design, engineering, manufacturing/integration, testing, supply, transportation & insurance, delivery at site, storage, installation, commissioning, demonstration for acceptance, training and documentation of AMR and Intra-State ABT metering system. The complete project shall also include the following:

- (1) Design Document for the complete system.
- (2) Server System, Intra-State ABT Communication Network and AMR system at PTCUL headquarters.
- (3) Supply of DLMS / COSEM based ABT Energy Meters with 0.2s class accuracy.
- (4) Providing suitable communication network for remote meter data acquisition and necessary hardware.
- (5) Setting up of Centralised Energy Centre (CEC) with suitable furniture, AC for operational staff.
- (6) GPRS/FO/MPLS enabled Intelligent Modems with DLMS Push Feature.
- (7) All cabling, wiring, terminations and interconnections of the equipment's.
- (8) Enterprise level Relational database for storage of Meter Data.
- (9) Database development, Meter Data Displays and Reports.
- (10) Auto Scheduler for Intrastate Energy Scheduling in co-ordination with NRLDC schedule.
- (11) Energy Audit and Loss accounting for the PTCUL transmission Grid network.
- (12) Training of PTCUL personnel.
- (13) Post commissioning operational support and warranty for two year after commissioning of the system.
- (14) AMC Support and Maintenance for 05 years.

8. The estimated cost of the works proposed by the Petitioner is as follows:

S.No.	Details	Amount (in Rs.)
1.	For Phase-1	
a.	For Supply	11,757,468
b.	For Erection	1,537,989
c.	Sub-Total	13,295,457
2.	For Phase-2	
a.	For Supply	210,963,651
b.	For Erection	125,087,842
c.	Sub-Total	336,051,493
3.	Sub-Total (1.c + 2.c)	349,346,950
4.	Cost of Establishment & Audit @ 15% of S. No. 3	52,402,043
5.	Sub-Total (3 + 4)	401,748,993
6.	Contingency @ 3% of S. No. 5	12,052,470
7.	Total (5 + 6)	413,801,463
8.	IDC Component	26,600,000
9.	Total Cost (Including IDC)	440,401,463 Say Rs 44.04 Crores

9. The Petitioner intends to install a total no. of 679 ABT Energy Meters with 0.2s class accuracy at each and every Intra-State ABT boundary point.

10. The Petitioner has submitted a copy of extract of the Minutes of 51st Meeting of the Board of Directors held on 29.09.2015 in which the Board had accorded for financing the DPRs for implementation of Intra-State ABT metering scheme for On-lining of ABT meters to be installed at interface points for Energy Accounting & Transmission Level Energy Auditing at a total cost of Rs. 41.38 Crore and to financial institutions for financing in the Debt : Equity ratio of 70 : 30 with a loan portion be funded from financial institutions and equity portion be funded by GoU. However, no documentary evidence substantiating that the GoU has assured to fund the equity component i.e. 30% of the project cost has been furnished by the Petitioner.

11. The Petitioner vide its letter No. 519 dated 22.03.2016 has also submitted the document for debt funding of sanction of term loan of 30.82 Crore @70% of the total cost of the project (including IDC) as 44.04 Crore from Rural Electrification Corporation Limited.

Commission's Views & Directions

12. The Commission under Chapter 5 "Scheduling and Dispatch Code" of UERC (State Grid Code) Regulations, 2007 has discussed about Intra-State ABT mechanism. Regulation 5.4 of the aforesaid regulation states that:

"5.4 Demarcation of responsibilities

(3) ...*Deviations from net drawal schedule are, however, to be appropriately priced through the Unscheduled Interchange (UI) mechanism, the pricing for which shall be applicable from the date the Commission introduces Intra-State ABT.*

...

(10) *All Constituents should abide by the concept of frequency-linked load dispatch and pricing of deviations (pricing to be applicable from the date of introduction of intra-State ABT) from schedule, i.e., unscheduled interchanges. All generating units of the constituents should normally be operated according to the standing frequency-linked load dispatch guidelines issued by the SLDC, to the extent possible, unless otherwise advised by the SLDC/ALDC."*

13. Further, Annexure-1 of UERC (State Grid Code) Regulations, 2007 provides the Complementary Commercial Mechanisms which shall be applicable with effect from such date as may be decided by the Commission for introduction of Intra-State ABT in the State. In this regard, in order to implement Intra State ABT mechanism in the State, the Commission had earlier held several discussions/meetings with the Petitioner and had directed it to furnish a comprehensive action plan for implementation of Intra State ABT mechanism in the State.

14. The Commission has set the responsibility of SLDC for preparing State Energy Accounts as per Regulation 5.4 of UERC (State Grid Code) Regulations, 2007 which states that :-

"Chapter 5: SCHEDULING AND DISPATCH CODE

...

5.4 Demarcation of responsibilities

...

(13) *The SLDC shall be responsible for computation of actual net MWh injection of each IaSGS and actual net drawal of each beneficiary, 15 minute-wise, based on the above meter readings and for preparation of the State Energy Accounts. All computations carried out by SLDC shall be open to all constituents for checking/verifications for a period of 15 days.*

In case any mistake/omission is detected, the SLDC shall forthwith make a complete check and rectify the same.”

15. Further, the Commission has also set the responsibility of SLDC for preparing the statements of Unscheduled Interchange (UI) charges as per Annexure-1 of UERC (State Grid Code) Regulations, 2007 which provides that :-

“

(5) On the basis of actual draws/injections by State Constituents and the REA, State Energy Accounts and the statement of UI charges shall be prepared by the SLDC on a weekly basis and these shall be issued to all Constituents by Monday for the seven-day period ending on the Sunday mid-night immediately preceding the previous Sunday. Payment of UI charges shall have a high priority and the concerned Constituents shall pay the indicated amounts within 7 (seven) days of the statement issue into a State UI pool account operated by the SLDC.”

16. Since the notification of UERC (State Grid Code) Regulations, 2007, the Commission had a clear view that implementation of Intra State ABT in the State can be deferred due to non availability/want of desired infrastructure/system, however, the Commission had never ruled out implementation of Intra State ABT in future when the prerequisite requirements are met by the Petitioner & SLDC. It is pertinent to mention that with the unbundling of the utilities in accordance with the Electricity Act, 2003 responsibility including sharing of liability has to be equitable amongst the various unbundled entities of the power sector and non-implementation of Intra-State ABT mechanism in the State puts undue financial burden on the distribution licensee with respect to deviation/unscheduled interchange of power under Inter-State ABT regime already in operation for many years now.

17. The Commission opines that with the implementation of Intra-State ABT all the constituents i.e. Distribution Licensee, Generating companies, State Transmission Licensee & Open Access Users utilizing the Intra State Transmission Network shall operate in planned & co-ordinated manner by adhering to their respective declared load and generation schedules which shall consequently help the State Grid to operate within the desired frequency & voltage band as mentioned in Indian Electricity Grid Code/State Grid Code. Moreover, with the implementation of Intra-State ABT in the State the burden of penalty w.r.t Unscheduled

Interchange/Deviation Settlement charges on Inter-State ABT regime which are presently borne by the Distribution Licensee will be reduced.

18. The Commission is of the view that implementation of Intra-State ABT, shall not only facilitate SLDC to enable web based day ahead Scheduling, to prepare State Energy Account, Reactive Energy Account & make a robust system for correct energy accounting but also shall help the Petitioner in streamlining its Grid operations. Therefore, the Commission is of the view that for implementing the concept of frequency-linked load dispatch and pricing of deviations in the State, installation of Unscheduled Interchange compliant online metering is critical and mandatory.
19. Thus, agreeing that the investment approval sought by the Petitioner is a stepping stone for Implementation of Intra-State ABT mechanism in the State, the Commission hereby grants approval for the investment of Rs. 44.04 Crore (including IDC) proposed by the Petitioner as per the table given below:

Cost approved by the Commission

S. No.	Details	Project Cost (As per DPR)		Project Cost considered by REC for funding the debt (Rs. Crore)	Project Cost considered by the Commission (Rs. Crore)
		Excluding IDC (Rs. Crore)	Including IDC (Rs. Crore)		
1.	Investment Approval for Implementation of Intra-State ABT Metering Scheme for On-Lining of ABT Meters to be installed at Interface Points for Energy Accounting & Transmission Level Energy Auditing at PTCUL.	41.38	44.04	44.04	44.04 (including IDC)

20. Further, the Commission is of the view that SLDC has to make its sincere efforts in order to make a robust/flawless mechanism for enabling web based day ahead Scheduling, preparation of State Energy Account, Reactive Energy Account & Unscheduled Interchange/Deviation Settlement charge account so that the commercial mechanisms involved in Implementation of Intra-State ABT in State can be holistically implemented. Moreover, sufficient flexibility should inherently be kept in the accounting/metering/data acquisition system which the Petitioner and

SLDC proposes to implement in the matter so that the forthcoming amendments in Regulations (if any) / future requirements can be incorporated.

21. Based on the above, the Petitioner is directed to go ahead with the aforesaid works subject to the fulfilment of the conditions mentioned below:

- (1) All the loan conditions as may be laid down by the funding agency in their detailed sanction letter are strictly complied with. However, the Petitioner is directed to explore the possibility of swapping this loan with cheaper debt option available in the market.
- (2) The Petitioner shall, within one month of the Order, submit letter from the State Government or any such documentary evidence in support of its claim for equity funding agreed by the State Government or any other source in respect of the proposed schemes.
- (3) After completion of the aforesaid schemes, the Petitioner shall submit the completed cost and financing of the schemes.
- (4) The cost of servicing the project cost shall be allowed in the Annual Revenue Requirement of the Petitioner after the assets get capitalized and subject to prudence check of cost incurred.
- (5) The installation of meters including CTs & PTs should be strictly in accordance with CEA (Installation and Operation of Meters) Regulations, 2006 and amendments from time to time.
- (6) The Petitioner should ensure procurement & installation of the all necessary software & hardware, complete in all respect and necessary for successful implementation of Intra State ABT mechanism in the State as per the project implementation schedule.

Ordered accordingly.

(Subhash Kumar)
Chairman