

**ORISSA ELECTRICITY REGULATORY COMMISSION  
BIDYUT NIYAMAK BHAWAN  
UNIT-VIII, BHUBANESWAR - 751 012  
\*\*\*\*\***

**Present :        Shri K.C. Badu, Member  
                      Shri B.K. Miora, Member**

**Case No. 124/2009**

M/s. OPTCL, Bhubaneswar

.... **Petitioner**

**For the Petitioner :**     Mr. A.C. Patra, DGM(Telecom), OPTCL

**For the respondents:** **Mr.M.K.Das, GM(PT),CSO, WESCO,NESCO&SOUTHCO  
                                 Mr.A.K.Bohra,CEO-cum-CSO,WESCO,NESCO&SOUTHCO  
                                 Mr. K.R.Padhi, AGM, CESU**

**In the matter of :**     **Investment proposal for implementation of OPTCL for Rs.36 Crore to be taken up from the fiscal year 2009-10 for integration of 30 existing grid sub-stations under ULDC expansion scheme in OPTCL on availing loan assistance from PFC/REC/Nationalised Commercial Banks as per the mandates of OGC Regulations, 2006.**

**Date of Hearing : 28.05.2010**

**Date of Order : 16.07.2010**

**ORDER**

1. As per the mandate of OGC Regulations 2006, the SCADA (Supervisory Control and Data Acquisition) system is required to be upgraded to accommodate data of all the grid sub-stations of OPTCL, which were not covered earlier under ULDC (Unified Load Despatch and Communication) scheme. Moreover, Control Centre up-gradation at SLDC (State Load Despatch Centre) as well as establishment of Back-up Control Centre for SLDC at Meramundali are essential for smooth and uninterrupted functioning of the SCADA system.
2. Presently, 60 grid sub-stations are already linked to the SCADA system at SLDC. This leaves 30 existing sub-stations (S/s) (List attached at **Annexure-I**) and 6 upcoming grid sub-stations of Orissa (being executed by PGCIL) to be integrated with the SCADA system.
3. The investment proposal brought up by OPTCL envisages up gradation at SLDC, Bhubaneswar for accommodating future expansions. The new hardware and software procured shall be integrated with the existing system at SLDC. The proposal also entails installation of new SCADA / EMS platform equipped with hardware and software for backup SLDC at Meramundali and necessary provision for its integration with the existing system. In the event of any emergency or disaster in which data flow to SLDC is interrupted, then the backup Control Centre at Meramundali can take over the control centre functions of SLDC. The last component of the investment proposal involves

procurement of 30+6=36 RTUs (Remote Terminal Units) and necessary hardware and software for its integration with the SCADA system at SLDC.

4. Mr. R.K. Mohapatra, GM (Telecom), OPTCL submitted that the cost of the project is estimated to be Rs.36 crore which will be spent over a period of 4 (four) years starting from FY 2009-10. The year-wise capital expenditure has been projected as under:

FY 2009-10 - Rs.8 Crore  
FY 2010-11 - Rs.10 Crore  
FY 2011-12 - Rs.10 Crore  
FY 2012-13 - Rs.8 Crore

5. After hearing the petitioner on 29.04.2010, Commission directed to file detail about the following issues on or before 07.05.2010 serving copy to the DISCOMs:
- i) The objective of the proposal.
  - ii) Benefit expected after the investment of Rs. 36 crore required for integration of additional 30 nos. of existing grid S/s under ULDC expansion Scheme.
  - iii) Benefit both in operational and commercial terms to be spelt clearly.
  - iv) Exact timeline for completion of the proposed projects (The estimate prepared by PGCIL to be cross checked).
  - v) List of existing 60 S/s already integrated in ULDC Scheme.
6. In compliance of the above, OPTCL has filed its reply on 11.05.2010 which is summarised below.

(i) **Objective of the Proposal**

The prime objectives of the investment proposal are as follows:

- (a) Extending On-line/SCADA facility to SLDC from 30nos. of grid S/s
- (b) Hardware / Software up-gradation of SCADA system at SLDC
- (c) Establishment of Back-up Control Centre for SLDC at Meramundali

(ii) **Expected Benefits**

With the availability of data from all the grid sub-stations connected with OPTCL network, the power system operation and grid management will be smooth and efficient. The proposed system, after implemented, will increase the UI gain appreciably and improve the mechanism of power trading.

(iii) **Benefits both in Operational and Commercial terms**

A. **Operational Benefits**

- (a) Energy Management System (EMS) can be operated successfully with 99.99% efficiency on availability of on-line data from all grid sub-stations at SLDC
- (b) Fault analysis during the system disturbance will be more accurate and effective.

- (c) The Discom load data in its entirety will be available in the DSCCs (Distribution System Operation Control Centres) for enabling the Discoms to monitor and manage their load efficiently.
- (d) Load forecasting can be done more accurately.

**B. Commercial Benefits**

- (a) UI gain will increase appreciably due to effective grid control.
- (b) The mechanism of power trading shall be improved.
- (c) The financial benefit on implementation of the aforesaid project can be enumerated as follows:

The estimated total additional capacity to be monitored through this new project is 1830 MW. The new implementation, which provides accurate load data, will benefit SLDC / OPTCL in the following manner:

- Monitoring of all generation will allow SLDC to take timely actions so as to avoid up to 20% deviation in negative side by
  1. load curtailment in case of low frequency, overdrawal or
  2. reconnection of higher revenue feeders under load shedding in high frequency, underdrawal conditions
- OPTCL grid is dependent on energy supply from these new resources to the tune of 2% of the capacity of these resources. Say, these new resources, on an average have variability (Committed vrs Actual) of 25%.
- The overall benefit will be = 2% of (1830 MW x 24 hrs x 365 days x 1000) Units  
 Benefit per Unit = Rs.5.83\* - Rs.3.00^ = Rs.2.83  
 Monitoring reduces the overall variability of 25% by 20%, which implies  
 1830 MW x 24 hrs x 365 days x 1000 x 2/100 x 25/100 x 20/100 x Rs.2.83 = Rs.4.537 crore  
**So, total saving per year = Rs.4.537 crore.**

**Note:**

- \* As per CERC Monthly Report on Short-Term Transactions of Electricity (October, 2009), the average UI price was Rs.5.83.
- ^ Rate at which CGPs supply to Gridco.

(iv) **Exact time line for completion of the proposed project**

The project is scheduled to be completed in 24-36 months from the date of signing of MoU or release of initial advance whichever is later. The main and back-up control centre will be established in stages and RTUs will be progressively integrated.

(v) **List of existing 60 sub-stations already integrated under ULDC scheme**

The list is enclosed at **Annexure-II**.

7. During the hearing of this case on 28.05.2010, the Commission, while accepting the investment proposal in principle, made the following observations.
- (i) The proposal, as opined by Mr. A.K. Vohra on behalf of Nesco, Southco and Wesco, should have come from SLDC, not from OPTCL, because the activities envisaged in the project would benefit the functioning of SLDC.
  - (ii) The investment made in this project may not be loaded in the tariff; rather the investment of Rs.36 crore may be recovered gradually i.e. Rs.4.5 crore per annum as suggested by the petitioner.
  - (iii) Supporting the point made by Sri A.K. Vohra, Commission observed that the balance amount from the approved ARR of SLDC for FY 2009-10 may be utilized for this project.
8. In compliance of the above, OPTCL has filed its reply on 27.06.2010, which addresses the above issues raised by the respondents.
- (i) With regard to the issue of the investment proposal filed by OPTCL (not by SLDC), the Transmission Licensee, OPTCL assets that it has filed the investment proposal in compliance of its mandatory obligations under regulations 10.7 and 10.8 [(1) & (3)] of Orissa Grid Code, which requires OPTCL to provide infrastructural facility for online data display at SLDC relating to all grid sub-stations for smooth grid operation.
  - (ii) As submitted by OPTCL, it plans to take up the above project on availing loan from PFC / REC / Nationalised Commercial Banks. As OPTCL has to serve the interest cost as well as principal repayment liability to the funding agency, this will have impact in the tariff. However, the benefits will definitely accrue after completion of the project. The cost benefit analysis of the investment proposal, as given earlier, alludes to a smart ROI (Return on Investment).
  - (iii) The Commission, in the ARR and Fees and Charges order in respect of SLDC for FY 2010-11, has approved the creation of a separate fund called "SLDC Development Fund" w.e.f. 01.04.2010. Further, it has been directed that the entire balance amount approved in SLDC ARR for FY 2009-10 which remained unspent as on 31.03.2010 shall be deposited in the aforesaid Fund. This Fund will be utilized by SLDC as margin money for raising loan from FIs for asset creation and funding R&D projects. OPTCL has submitted that the investment by the Transmission Company in the proposed project is in compliance of its mandatory obligation. It has also mentioned that the utilization of surplus fund in the SLDC Development Fund for this project may be against the aforesaid directions of the Commission.
9. While accepting the views expressed by OPTCL in Para 8 (i) and (ii) above, the Commission feels that the balance amount approved in SLDC ARR for FY 2009-10 which remained unspent as on 31.03.2010, may be utilised for this project as it would ultimately help in better functioning of SLDC.
10. Accordingly the case is disposed of.

Sd/-  
**(B.K. MISRA)**  
**MEMBER**

Sd/-  
**(K.C. BADU)**  
**MEMBER**