

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

Present : Shri B.K. Das, Chairperson
Shri K.C. Badu, Member
Shri B. K. Misra, Member

Case No. 78/2010

OPTCL Petitioner

Vrs

WESCO & Ors. Respondents.

**In the matter of : Investment of Proposal- for construction of 132/33KV
& 220/132 S/s alongwith associated transmission lines
on availing loan assistance from REC/PFC.**

For Petitioner : Shri R.K. Mohanty, Sr. GM(TP&C), OPTCL
Shri L.R. Das, AGM, OPTCL

For Respondents : Shri Shri S.D. Bhanja, DGM (RA&Legal), NESCO
Shri B.K. Lenka, COO, CESU
Nobody is present on behalf of WESCO & DoE, GoO

Date of Hearing : 20.07.2010

Date of Order : 05.08.2010

ORDER

OPTCL has submitted an application dated 21.06.2010 for approval of investment for construction of new 2X40 MVA, 132/33 kV Sub-station at Luna (in Kendrapada District) along with associated transmission line and construction of new 2x100 MVA, 220/132 kV and 2X40 MVA, 132/33 kV sub-station at Dhamara (in Bhadrak District) along with associated transmission line.

- (a) Construction of new 2X40 MVA, 132/33 kV sub-station at Luna in Kendrapada district along with associated transmission line with an estimated cost of Rs. 19.59 crores with funding from own resources and from financial institutions.

- (b) Construction of new 2X100 MVA, 220/132 kV and 2X40 MVA, 132/33 kV sub-station at Dhamara in Bhadrak District, along with associated transmission line with an estimated cost of Rs.74.96 crores with funding from own resources and from financial institutions.

The total investment has been estimated to be Rs. 94.55 cr.

2. As per License Condition 10 read with Condition 23.1 of OPTCL, approval of the Commission is required for cost beyond Rs.10.00 Cr. The investment sought for the individual proposals as also the total proposals stated above exceed Rs.10 cr. As per the Licence Condition, the Licensee is required to satisfy to the Commission (i) about need of such investment; (ii) that it has examined the economic, technical system and environmental aspects of all alternatives.

3. The Licensee is required to furnish to the Commission (i) a DPR, (ii) project cost with cost benefit analysis, (iii) whether it is a new project or an expansion/ up-gradation, (iv) sanctions/ statutory clearance (v) phasing of investment and commissioning schedule, (vi) manner of capitalizing the investment in the revenue requirement, (vii) constraints in making investment, (viii) resource mobilization and financial plans, (ix) process of finalizing the tender through Commission's approved transparent procedure, and (x) any of the item as required by the Commission.

4. On examination of the application of OPTCL, it is found that the investments have been justified for improvement of power supply system, reducing loading on certain line section of OPTCL's network, reducing the overall/ transmission losses and improvement of voltage profile. OPTCL has made the system study with the existing arrangement and the proposed arrangement for three investment proposals. The BoD of OPTCL has accorded the approval for construction of new 2X40 MVA, 132/33 kV sub-station at Luna in Kendrapada district along with associated transmission and construction of new 2X100 MVA, 220/132 kV and 2X40 MVA, 132/33 kV sub-station at Dhamara in Bhadrak District, along with associated transmission line in its 38th Meeting held on 05.02.2010.

5. The present power supply to Luna area are met through Luna 33/11 kV S/S getting power at 33 kV from 132/33 kV S/S at Kendrapada, which is 20 KMs away. The

feeder is fully loaded and voltage is below the permissible limit, as the feeder is routed through Marshaghai 33/11 kV S/S and also feeding power supply to Garadpur area. In order to eradicate the low voltage problem, minimize interruption, relieve the burden on 132/33 kV transformer at Kendrapada grid S/S and also to accommodate the future demand growth, it is proposed to construct a new 2X40 MVA, 132/33 kV sub-station at Luna. The supply to the proposed S/S can be made by drawing of 1.5 KM LILO line on the existing Kendrapada-Paradeep 132 kV line.

Further, after implementation of the aforesaid project, existing 33 kV network of Luna, Marshaghai area can be utilised. By this, there will be improvement in quality and reliability of power supply to Luna and Marshaghai area.

6. The present power supply to Dhamara and Chandabali area are met through a 33 kV feeder from 132/33 KV grid sub-stations at Bhadrak, which is 65 KMs away. It is very difficult to maintain the quality & reliability of power supply as the line is very long. Due to rapid progress in construction of Dhamara Port, there is a requirement of additional power by its ancillary activities. Further, the electricity demand is likely to grow because of upcoming industries such as Welspon(45 MW) and Osian Shipping Corporation(70MW) around Dhamara, The existing 220/132 kV grid S/S at Bhadrak can not cater to the growing demand of upcoming industries around Dhamara, hence, it is proposed to construct a new 2X100 MVA, 220/132 kV and 2X40 MVA, 132/33 kV sub-station at Dhamara with LILO connection from circuit-I of 220 kV New Duburi-Balasore line. After commissioning of the said grid S/S, the 132/33 kV S/S of M/s Dhamara Port Co. Ltd. can be connected & burden on Bhadrak 220/132 kV transformer can be relieved to a greater extent.

Hence OPTCL has justified the need of the project.

7. OPTCL has made the techno-economic analysis which is summarized as below:

- (i) Construction of new 2X40 MVA, 132/33 kV sub-station at Luna in Kendrapada district along with associated transmission line, OPTCL has projected the reduction of average annual loss to the extent of 0.668 MW, which with consideration of Rs.2.17/ KWH, comes to Rs.49.736 lakh in monetary term. Expectation of 60% utilization of 2x40 MVA capacity at the proposed grid S/S and with 4% transmission loss shall make available additional 2543.063 MU, which shall cause OPTCL to earn additional annual revenue of Rs 597.62 lakhs at

- the wheeling cost of 23.5 paise. Thus, OPTCL expects total annual revenue from investment No. 1 to the tune of Rs. 647.356 lakhs. The average rate of annual return has thus been found to be 33.03%.
- (ii) Construction of new 2X100 MVA, 220/132 kV and 2X40 MVA, 132/33 kV sub-station at Dhamara in Bhadrak District, along with associated transmission line, OPTCL has projected the reduction of average annual loss to the extent of 11.902 MW, which with consideration of Rs.2.17/ KWH, comes to Rs.886.167 lakh in monetary term. Expectation of 60% utilization of 2x100 MVA capacity at the proposed grid S/S and with 4% transmission loss shall make available additional 3632.947 LU, which shall cause OPTCL to earn additional annual revenue of Rs.853.742 lakhs at the wheeling cost of 23.5 paise. Thus, OPTCL expects total annual revenue from investment No. 2 to the tune of Rs.1739.909 lakhs. The average rate of annual return has thus been found to be 23.21%.
8. From the project implementation schedules submitted in the Transmission Project Reports, the S/S at Luna, Kendrapada was expected to start from May, 2010 and to be completed by March, 2013., the S/S at Dhamara, Bhadrak was expected to start from May, 2010 and to be completed by March, 2013.
9. As stated by OPTCL, environment & forest clearance is not required for its project at Luna. Further, there is no involvement of forest in Dhamara project and is also not having any adverse impacts on environment. OPTCL has submitted the Environmental Impact Assessment (EIA) Study for the aforesaid two projects.
- OPTCL stated that the procurement of materials and services shall be taken up through National Competitive Bidding. The entire work for these proposed projects shall be treated as single packages separately and the award would be made on Turn-key basis for the two individual proposals.
10. During the course of hearing on 20.07.10, in regard to the plan of execution and technical justification of the project, CE(T.P.) on behalf of OPTCL replied that both the projects are beneficial to the state and shall be helpful for improvement of voltage profile & reduction of system loss. OPTCL stated that the working

- capital, should be from own resources of OPTCL and funding of balance amount is to be availed from suitable funding agency.
11. The Commission desired to know the plan of execution so that the proposed projects could be completed within the specified time. OPTCL stated that survey for the projects has already been completed. The Commission directed to develop a strategy to expedite the execution of the projects.
 12. NESCO being one of the primary beneficiary of the S/S at Dhamara stated that early completion of the project is required to meet the growing electricity demand of Dhamara, Chandbali. Basudevapur area as well as expected industrial growth around Dhamara port area. NESCO further stated to allot 8 nos of 33 KV bays instead of 5 for downward evacuation of power. Although OPTCL agreed regarding possible future addition of additional 33 kV bays depending upon the DISCOMs requirement, but the Commission stressed that OPTCL should have prior consultation with NESCO before finalization of this detailed project report. OPTCL may go ahead with its proposal keeping adequate provision for future extension, if required. Further, OPTCL is directed to have prior consultation with the concerned DISCOM before submission of any transmission project proposal to OERC for approval.
 13. The Commission observed and directed that a long term study should be conducted before planning for any electrical project. DISCOMs should initiate it depending upon their future requirement. For overall benefit and optimum use of assets of power system, there should be a bottom-up approach instead of top-down DISCOMs are aware of the Commission's 'in principle' clearance of Transmission System up-gradation in the business plan. DISCOMs on the basis of their long-term load requirement and planning criteria of down stream calculation plan , interact with OPTCL indicating the capacity of transformer(s) and number of 33KV bays requirement in the proposed grid S/S of OPTCL. This work should be taken up on priority for the balance proposed grid s/s, for which, in principle clearance has been accorded by the Commission in the current Business Plan. Further DISCOMs should be ready with the associated down stream evacuation arrangement at 33 KV and below for utilization of power expected to be available from the proposed projects by OPTCL.

14. CESU, the primary beneficiary of the proposed 132/33 KV S/S at Luna said that the total load of existing 5 nos. of 33/11 KV sub-stations at Luna, Mahakalpada, Garadpur, Marshaghai and Kudanagari is around 20 MVA and there is around 10 MVA load growth expected in next five years. Hence, OPTCL may consider for installation of 2X20 MVA transformers instead of proposed 2X40 MW transformer at Luna. In view of the CESU's submission regarding load growth, the Commission feels that, at this instant, OPTCL may install 2X20 MVA transformers instead of 2X40 MVA at Luna. As such, OPTCL is replacing the existing overloaded 20 MVA transformers available in other grid Substations with 40 MVA, hence 2 nos. of such 20 MVA transformers may be utilized now in the proposed S/S till the growth of demand, necessitates further up-gradation. The Commission desired that OPTCL should re-examine the proposal considering the above observations. No revision of cost estimate however, is required that 2nos. 40 MVA transformers shall be procured under the proposed scheme
15. The Commission therefore grants in-principle approval to the two projects mentioned in para-1 and directs that no time and cost over-run shall be allowed over and above the actual cost estimate to be submitted after finalization of the tendering which shall clearly mention the date of completion. The Commission further directs that OPTCL shall hold consultative meeting at least once every quarter with the DISCOMs, so that while planning , preparing the project reports and execution of the projects the current as well as likely future requirements of the DISCOMs are fully taken care of.
16. Accordingly, the case is disposed of.

Sd/-
(B. K. Misra)
Member

Sd/-
(K. C. Badu)
Member

Sd/-
(B.K.Das)
Chairperson