

**ODISHA ELECTRICITY REGULATORY COMMISSION
BIDYUT NIYAMAK BHAWAN,
UNIT – VIII, BHUBANESWAR – 751 012**

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**Present : Shri S.P Nanda, Chairperson
Shri B.K. Misra, Member
Shri S.P.Swain, Member**

Case No.3 of 2013

OPTCLPetitioner

Vrs.

MD CESU, NESCO, WESCO, SOUTHCORespondent

**In the matter of: Investment proposal for Lapanga, Puri, Malkangiri, Kantabanjhi,
Udaygiri, Umerkote and Satasankha.**

For the Petitioner: Shri. S.K.Hota SrG.M(TP&C) & Shri L.R.Das AGM(TP&C), OPTCL.

For the Respondent: Shri. S.K.Chowdhury GM, GRIDCO, Smt. Niharika Pattnaik, ALO Govt.
Of Odisha, Shri S.K.Harichandan AGM(CESU), Shri S.S.Padhy
DGM(RA), Shri K.C.Nanda DGM (Fin) WESCO and Shri Niladri
Khadanga DM(RA) CSO, Bhubaneswar.

Date of hearing: 28.05.2013

Date of Order: 21.03.2014

ORDER

1. OPTCL, the petitioner has submitted an application for approval of investment for setting up of substations of various capacities along with associated transmission lines at places such as Lapanga, Puri, Malkangiri, Kantabajhi, Udaygiri, Umerkote, Satasankha. As per License Condition 10 read with Condition 23.1 of OPTCL, the petitioner is required to take approval of the Commission if the proposed investment is Rs.10.00 Cr or beyond that level. The present Investment Proposal project-wise exceeds the said limit. As per the Licence Condition, the Commission is to be satisfied about need of such investment and is also to examine the economic, technical and environmental issues associated with such investment. The Board of Directors of OPTCL has also in principle approve to such investments. The details of investment are as follows :

2. OPTCL has proposed construction of new 2X315 MVA, 400/220 kV substation at Lapanga along with associated 4 kms. 400 kV D.C. LILO Transmission line from existing 400 kV Ib- Meramundali line with an estimated cost of 98.90 crores. The funding for the same shall be arranged from Govt. grant, own resources and financial institutions giving justification of the proposal. OPTCL submitted that the Odisha share of power from generators like Sterlite, OPGC, Ind Bharat, Kalinga Energy Ltd. can be evaluated through 400 KV dedicated lines to Lapanga s/s. Further, the 400 KV line from Lapanga to Kuanimunda will release the congestion in 220 KV Budhipadar-Tarkera line. With these projects, OPTCL has projected the reduction of average annual loss to the extent of 15.87 MW, which with consideration of Rs.2.17/ KWH, comes to Rs.1184.07 lakh in monetary term. Considering 60% utilization of 2x315 MVA capacity at the proposed grid S/S and with 3.8% transmission loss shall make available additional 20068.34 LU, which shall cause OPTCL to earn additional annual revenue of Rs 5017.095 lakhs at the wheeling cost of 25 paise. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs. 6201.15 lakhs. The average rate of return has thus been found to be 62.7%.
3. OPTCL has proposed construction of new 2X100 MVA, 220/132/33 kV S/S at Puri along with associated 52.486 Kms. of 220 kV line from proposed 400/220 kV Jatani(PGCIL) grid S/S with an estimated cost of Rs. 83.47 crores with funding which can be arranged from Govt. grant/own resources and from financial institutions. Giving justification of the proposal, OPTCL submitted that the religious town Puri is fast developing with hotel industries for “NAVAKALEBAR” festival of Lord Jagannath, (which is scheduled to be during July 2015) and the demand is expected to rise further due to the proposed International Universities, for which the s/s is required. Further, this area is rich in Coconut cultivation giving rise to coir industries and its ancillary units resulting in substantial load growth. With this project, OPTCL has projected the reduction of average annual loss to the extent of 4.32MW, which with consideration of Rs.2.17/ KWH, comes to Rs.322.32 lakh in monetary term. Considering 60% utilization of 2x100 MVA capacity at the proposed grid S/S and with 3.8% transmission loss shall make available additional 6370.90 LU, which shall cause OPTCL to earn additional annual revenue of Rs 1592.73 lakhs at the wheeling cost of 25 paise. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs. 1915.04 lakhs. The average rate of annual return has thus been found to be 22.94%.

4. OPTCL has proposed construction of new 2X20 MVA, 220/33 kV S/S at Malkangiri with associated 22.412 Kms radial line from Balimela S/S with an estimated cost of Rs. 37.19 crores with funding from Govt. grant/own resources and from suitable financial institutions. OPTCL submitted that the proposed Sub-station at Malkangiri will cater load to the tune of 12MW to MV 79, Kalimela, Podia, Motu, Malkangiri and Govindpalli area. With this project, OPTCL has projected the reduction of average annual loss to the extent of 0.16MW, which with consideration of Rs.2.17/ KWH, comes to Rs.12.01 lakh in monetary term. Considering 60% utilization of 2x20 MVA capacity at the proposed grid S/S and with 3.8% transmission loss shall make available additional 1274.18 LU, which shall cause OPTCL to earn additional annual revenue of Rs 318.55 lakhs at the wheeling cost of 25 paise. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs. 330.56 lakhs. The average rate of annual return has thus been found to be 8.89%.
5. OPTCL has proposed construction of new 2X40 MVA, 132/33 kV S/S at Kantabanjhi along with associated 32.723 Kms. S.C. line on DC tower from existing 132/33 kV Khariar S/S with an estimated cost of Rs. 31.32 crores. The funding for the same shall be arranged from Govt. grant, own resources and financial institutions. Giving justification of the proposal, OPTCL submitted that the voltage profile around Kantabanjhi will be developed and burden on existing Kesinga s/s will be reduced with commissioning of the proposed s/s. With this project OPTCL has projected the reduction of average annual loss to the extent of 0.46MW, which with consideration of Rs.2.17/ KWH, comes to Rs.34.17 lakh in monetary term. Considering 60% utilization of 2x40 MVA capacity at the proposed grid S/S and with 3.8% transmission loss shall make available additional 2548.36 LU, which shall cause OPTCL to earn additional annual revenue of Rs 637.09 lakhs at the wheeling cost of 25 paise. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs. 671.26 lakhs. The average rate of annual return has thus been found to be 22.77%.
6. OPTCL has proposed construction of new 2X20 MVA, 132/33 kV S/S at R-Udayagiri along with associated 36.23 Kms line with LILO from existing Digapahandi to Mohana with an estimated cost of Rs. 33.9 crores. The funding for the same shall be arranged from Govt. grant, own resources and financial institutions. Giving justification for the proposal OPTCL submitted that the proposed s/s will reduce the burden on Mohana 132/33 KV s/s

and improve quality of power supply in and around R. Udayagiri. With this project OPTCL has projected the reduction of average annual loss to the extent of 0.48MW, which with consideration of Rs.2.17/ KWH, comes to Rs.35.81 lakh in monetary term. Considering 60% utilization of 2x20 MVA capacity at the proposed grid S/S and with 3.8% transmission loss shall make available additional 1274.18 LU, which shall cause OPTCL to earn additional annual revenue of Rs 318.55 lakhs at the wheeling cost of 25 paise. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs. 354.36 lakhs. The average rate of annual return has thus been found to be 11.31%.

7. OPTCL has proposed construction of new 2X20 MVA, 132/33 kV S/S at Umerkote along with associated 43.366 Kms radial line from Dabuagaon 132/33 S/S (which is under construction now), with an estimated cost of Rs. 29.47 crores with funding from Govt. grant/own resources and from suitable financial institutions. Giving justification for proposal, OPTCL submitted that the proposed s/s will reduce the burden on 132/33 KV S/s at Tentulikhunti grid sub-station at 33 KV level and improve the quality of supply at Umerkote, Raigad, Papdahandi, Chandahandi, Kosagumuda and Jharigaon and its adjacent rural areas. With this project OPTCL has projected the reduction of average annual loss to the extent of 0.45MW, which with consideration of Rs.2.17/ KWH, comes to Rs.33.57 lakh in monetary term. Considering 60% utilization of 2x20 MVA capacity at the proposed grid S/S and with 3.8% transmission loss shall make available additional 1274.18 LU, which shall cause OPTCL to earn additional annual revenue of Rs 318.55 lakhs at the wheeling cost of 25 paise. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs. 352.12 lakhs. The average rate of annual return has thus been found to be 10.38%.
8. OPTCL has proposed construction of new 2X20 MVA, 132/33 kV S/S at Satasankha along with associated 30.122 Kms. Of 132 kV line from proposed 220/132/33 kV Grid S/S with an estimated cost of Rs. 41.91 crores. The funding for the same shall be arranged from Govt. grant, own resources and financial institutions. OPTCL submitted that the proposed s/s shall reduce the burden on Puri s/s and improve the quality of power supply at Satasankha and its adjoining areas. With this project OPTCL has projected the reduction of average annual loss to the extent of 0.73MW, which with consideration of Rs.2.17/ KWH, comes to Rs.54.47 lakh in monetary term. Considering 60% utilization of 2x20 MVA capacity at the proposed grid S/S and with 3.8% transmission loss shall make

available additional 1274.18 LU, which shall cause OPTCL to earn additional annual revenue of Rs 318.55 lakhs at the wheeling cost of 25 paise. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs. 373.01 lakhs. The average rate of annual return has thus been found to be 8.9%.

9. Therefore, the total investment for the above projects has been estimated to be Rs. 356.16 Crore. As stated by OPTCL, clearance of forest and environmental are not required for these projects. OPTCL has submitted the Environmental Impact Assessment (EIA) Study for three 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 three individual proposals. The expected date of completion sub-station and associated lines as given by OPTCL is as follows :

| Sl. No | Name of the S/S | Voltage Rating (KV) | Capacity Proposed in MVA | Cost of the Project (Rs. Cr.) | Average Rate of Annual Return | Starting Date | Schedule Date of Completion |
|--------|-----------------|---------------------|--------------------------|-------------------------------|-------------------------------|---------------|-----------------------------|
| 1 | Lapanga | 400/220 | 2X315 | 98.90 | 62.7 | Jan-13 | Mar-15 |
| 2 | Puri | 220/132/33 | 2X100 | 83.47 | 22.94 | Jan-13 | Jan-15 |
| 3 | Malkangiri | 220/33 | 2X20 | 37.19 | 8.89 | Jan-13 | Jun-15 |
| 4 | Kantabanjhi | 132/33 | 2X40 | 31.32 | 22.77 | April-13 | Mar-16 |
| 5 | R.Udayagiri | 132/33 | 2X20 | 33.90 | 11.31 | April-13 | Mar-16 |
| 6 | Umerkote | 132/33 | 2X20 | 29.47 | 10.38 | April-13 | Mar-16 |
| 7 | SataSankha | 132/33 | 2X20 | 41.91 | 8.9 | Jan-13 | Mar-15 |

10. The respondents in this case as well as representatives of Govt. of Odisha were supported the views and design of OPTCL and prayed for speedy execution of the projects. The Commission studied the technical and commercial viability of the projects. The Commercial viability of the projects are summarized below:

| Investment Proposal of OPTCL in Case No 3/2013 | | | | | | | | | |
|---|---------------------|------------------|-------------------|------------------|-------------------|----------------|-------------------------|--------------|-----------|
| Sl No | Name of the Project | Investment Rs Cr | Period of Benefit | Avg. Return in % | Year of Breakeven | NPV Calculated | Pay Back Period | Proposed IRR | Viability |
| 1 | Lapanga | 98.9 | 25 | 62.7 | 1st Year | 34581.68 | 1st Yr | 44.73 | Viable |
| 2 | Puri | 83.47 | 25 | 22.94 | 3rd Year | 3272.37 | 11th Yr | 8.4 | Viable |
| 3 | Kantabanji | 31.32 | 25 | 22.77 | 3rd Year | 990.04 | 12th Yr | 7.82 | Viable |
| 4 | Malkangiri | 37.19 | 25 | 8.89 | 11th Year | -2,943.66 | Negative and Non Viable | | |
| 5 | R-Udaygiri | 33.90 | 25 | 11.31 | 11th Year | -1787.52 | | | |
| 6 | Umerkote | 29.47 | 25 | 10.38 | 11th Year | -2183.6 | | | |
| 7 | Satasankha | 41.91 | 25 | 8.9 | 11th Year | -2911.93 | | | |

11. The above table shows that only in case of Lapanga, Puri and Kantabanji the projects are viable where as in all other cases the projects are non viable. However keeping in the larger interest of the society and as requested by Govt. of Odisha the Commission gives in principle approval of the projects in line with the prayer made by OPTCL with following terms and conditions.
12. OPTCL should ensure that the projects are completed in time. In case the projects go beyond their schedule as given by them the Commission may not allow the cost overrun of the same in the ARR of the Petitioner. OPTCL is also directed to delegate adequate technical, administrative and financial power to those officers entrusted with timely completion of the proposed projects. OPTCL is required to submit a report on financial closure and progress of the execution of the above projects to the DISCOMs with a copy to the Commission so that adequate downstream infrastructure can be built up for evacuation of power by DISCOMs.
13. With the above direction, the case is disposed of.

Sd/-
(S.P.Swain)
Member

Sd/-
(B.K.Misra)
Member

Sd/-
(S. P. Nanda)
Chairperson