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

Present: Shri S. P. Nanda, Chairperson

Shri B. K. Misra, Member Shri S. P. Swain, Member

Case No. 113 of 2012

OPTCL Petitioner

Vrs.

WESCO & Others Respondents

In the matter of: An application under condition 10 of its License Conditions for

investment proposal to be taken up from the fiscal year 2012-13 for construction of 220/33 kV, 220/132/33 kV and 132/33 kV S/S along with association transmission lines on availing loan assistance from

suitable funding agency.

For the petitioner: Shri P.K.Dash, Sr. GM(TP&C), OPTCL,

Shri B.P.Mishra, Sr. GM(RT&C), OPTCL.

For the respondents: Shri Nilambar Jena, CCO, CESU,

Shri Niladri Khadanga, CSO, WESCO, NESCO & SOUTHCO,

Ms. Niharika Pattanayak, Asst. Law Officer, DoE, GoO.

ORDER

Date of hearing: 06.12.2013 Date of order: 10.02.2014

1. OPTCL has submitted an application on 29.12.2012 for approval of investment proposal for reinforcement of its transmission system by constructing one 220 KV S/S at Narasinghpur and several 132 KV S/S at places such as Muniguda, Pottangi, Baliguda, Podagada, Bangiriposhi, Bhograi, CDA, Ghatagaon and Champua. As per Transmission License Condition 10 read with Condition 23.1 of OPTCL, approval of the Commission is required for any investment beyond Rs.10.00 Cr. by the Licensee. Since, the investment sought for in the present petition for each individual proposal exceed Rs.10 Cr. mark there is a requirement for approval of such investment by the Commission. Accordingly, inconsonance with the License Condition, the Licensee is required to satisfy the Commission (i) about the need of such investment; (ii) that it

- has examined the economic, technical system and environmental aspects of all the alternatives.
- 2. OPTCL has justified all the proposals from the view point of improvement of power supply position, reducing loading on certain line section of the network, reducing the overall/ transmission losses and improvement of voltage profile at different locations. As submitted by the Petitioner, they have submitted this investment proposal taking into account the fundamental requirement of approval such as concomitant improvement in quality of supply and appropriate economic viability. The Techno Economic Analysis of the Projects as submitted by OPTCL are as given below:
- 3. They would construct new 2X20 MVA, 220/33 kV S/S at Narasinghpur in Cuttack District along with associated 3 Kms. 220 KV LILO line from existing 220 KV Bhanjanagar to Meramundali line with an estimated cost of Rs.27.45 crores with funding from Govt. grant/own resources and from suitable financial institutions. With this, OPTCL has projected the reduction of average annual loss to the extent of 0.97 MW, which with consideration of Rs.2.17/ Kwh, comes to the savings Rs.72.30 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 Lakh Unit, 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.390.84 lakhs. The average rate of annual return has thus been found to be 14.19%.
- 4. OPTCL has proposed to construct new 2X20 MVA, 132/33 kV S/S at Muniguda (Rayagada District) along with associated 2.1 Kms 132 KV LILO line from existing 132 KV Theruvali to Kesinga line with an estimated cost of Rs.20.69 crores with funding from Govt. grant/own resources and from suitable financial institutions. With this, OPTCL has projected the reduction of average annual loss to the extent of 0.63 MW, which with consideration of Rs.2.17/ Kwh, comes to saving Rs.47 lakh in monetary term. Considering 60% utilization of 2x20 MVA capacities at the proposed grid S/S and with 3.8% transmission loss it shall make available additional 1274.18 lakh units, 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.365.53 lakhs. The average rate of annual return has thus been found to be 17.67%.

- District) along with associated 33Kms 132 KV line from existing Sunabeda Grid S/S with an estimated cost of Rs.28.62 crores which is being proposed with funding from Govt. grant/own resources and from suitable financial institutions. With this OPTCL has projected the reduction of average annual loss to the extent of 0.28 MW, which with consideration of Rs.2.17/ Kwh, comes to the saving of Rs.20.89 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 Lakh units, which shall enable OPTCL to earn additional annual revenue of Rs 318.55 lakhs at the wheeling cost of 25 paise. Thus, OPTCL expects total annual revenue earning from this investment to the tune of Rs.339.44 lakhs. The average rate of annual return has thus been found to be 11.86%.
- 6. The Licensee would construct new 2X40 MVA, 132/33 kV S/S at Baliguda (Phulbani District) along with associated 73 Kms 132 KV LILO line from existing 132 KV Bhanjanagar-Phulbani line which is being proposed with an estimated cost of Rs.50.56 crores with funding from Govt. grant/own resources and from suitable financial institutions. With this OPTCL has projected the reduction of average annual loss to the extent of 0.51 MW, which with consideration of Rs.2.17/ Kwh, comes to Rs.38.28 lakh savings in monetary term. Considering of 60% utilization of 2x40 MVA capacity at the proposed grid S/S and with 3.8% transmission loss shall make available additional 2548.36 Lakh Units, 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 earning from this investment to the tune of Rs.675.37 lakhs. The average rate of annual return has thus been found to be 17.89%.
- 7. OPTCL has proposed construction of new 2X20 MVA, 132/33 kV S/S at Podagada (Koraput District) along with associated 7.8 Kms 132 KV LILO line from existing 132 KV Jayanagar to Rayagada line with an estimated cost of Rs.26.25 crores with funding from Govt. grant/own resources and from suitable financial institutions. With this investment OPTCL has projected the reduction of average annual loss to the extent of 0.65 MW, which with consideration of Rs.2.17/ Kwh, comes to Rs.48.45 lakh saving 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 1272.86 Lakh units which shall cause OPTCL to earn additional annual revenue of Rs 318.21 lakhs at the wheeling cost of 25 paise. Thus, OPTCL expects total annual revenue

- from this investment to the tune of Rs.366.66 lakhs. The average rate of annual return has thus been found to be 13.97%.
- 8. OPTCL would construct new 2X12.5 MVA, 132/33 kV S/S at Bangiriposhi (Mayurbhanj District) along with associated 0.7 Kms 132 KV LILO line from existing 132 KV Kuchei(PGCIL) to Rairangpur line which is proposed with an estimated cost of Rs.16.46 crores with funding from Govt. grant/own resources and from suitable financial institutions. With this OPTCL has projected the reduction of average annual loss to the extent of 0.62 MW, which with consideration of Rs.2.17/ Kwh, comes to Rs.45.96 lakh saving in monetary term. Considering 60% utilization of 2x12.5 MVA capacity at the proposed grid S/S and with 3.8% transmission loss shall make available additional 796.82 Lakh Units, which shall cause OPTCL to earn additional annual revenue of Rs 199.09 lakhs at the wheeling cost of 25 paise. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs.245.05 lakhs. The average rate of annual return has thus been found to be 14.88%.
- 9. Construction of new 2X20 MVA, 132/33 kV S/S at Bhogarai (Baleswar District) along with associated 27.5 Kms 132 KV LILO line from existing 132 KV Kuchei(PGCIL) to Jaleswara line with an estimated cost of Rs.35.26 crores with funding from Govt. grant/own resources and from suitable financial institutions is proposed. With this OPTCL has projected the reduction of average annual loss to the extent of 0.91 MW, which with consideration of Rs.2.17/ Kwh, comes to Rs.68.27 lakh saving 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 Lakh Units, 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.386.89 lakhs. The average rate of annual return has thus been found to be 10.97%.
- 10. Construction of new 2X40 MVA, 132/33 kV S/S at CDA, Cuttack along with associated 1 Kms 132 KV LILO line from existing 132 KV Choudwar-Bidanasi line is proposed with an estimated cost of Rs.19.09 crores with funding from Govt. grant/own resources and from suitable financial institutions. With this OPTCL has projected the reduction of average annual loss to the extent of 0.64 MW, which with consideration of Rs.2.17/ Kwh, comes to Rs.47.75 lakh saving 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 2649.02 Lakh Units, 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.684.84 lakhs. The average rate of annual return has thus been found to be 35.87%.
- 11. Construction of new 2X12.5 MVA, 132/33 kV S/S at Ghatagaon (Keonjhar District) along with associated 38.85 Kms 132 KV line from Anandpur Grid S/S with an estimated cost of Rs.30.70 crores is proposed with funding from Govt. grant/own resources and from suitable financial institutions. With this OPTCL has projected the reduction of average annual loss to the extent of 1.00 MW, which with consideration of Rs.2.17/ Kwh, comes to Rs.74.61 lakh savings 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 Lakh Units, 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.393.16 lakhs. The average rate of annual return has thus been found to be 12.8%.
- 12. Construction of new 2X20 MVA, 132/33 kV S/S at Champua (Keonjhar District) along with associated 0.7 Kms 132 KV LILO line from existing 132 KV Kuchei(PGCIL) to Rairangpur line is proposed with an estimated cost of Rs.24.61 crores with funding from Govt. grant/own resources and from suitable financial institutions. With this OPTCL has projected the reduction of average annual loss to the extent of 0.67 MW, which with consideration of Rs.2.17/ Kwh comes to Rs.49.99 lakh savings 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 Lakh Units, 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.368.54 lakhs. The average rate of annual return has thus been found to be 14.97%.

13. The summary of the proposals for the above ten projects are tabulated below:

| Sl. No | Name of the S/S | Voltage Rating | Capacity Proposed in MVA | Cost of the Project (Rs Cr) | Average Rate of Annual Return | Starting Date | Schedule Date of Completion |
|-----------|--------------------|-------------------|--------------------------------|-----------------------------------|--|------------------|-----------------------------------|
| 1 | Narasinghpur | 220/33 KV | 2X20 | 27.45 | 14.19% | Nov., 2012 | Mar-15 |
| 2 | Muniguda | 132/33 KV | 2X20 | 20.69 | 17.67% | Dec., 2012 | Mar-15 |
| 3 | Pottangi | 132/33 KV | 2X20 | 28.62 | 11.86% | Dec., 2013 | Mar-15 |
| 4 | Baliguda | 132/33 KV | 2X40 | 50.56 | 17.89% | Dec., 2013 | Mar-15 |
| 5 | Podagada | 132/33 KV | 2X20 | 26.25 | 13.97% | Dec., 2012 | Jun-15 |
| 6 | Bangiriposi | 132/33 KV | 2X12.5 | 16.45 | 14.88% | Dec., 2012 | Mar-15 |
| 7 | Bhogarai | 132/33 KV | 2X20 | 35.26 | 10.97% | Jan., 2013 | Mar-15 |
| 8 | CDA | 132/33 KV | 2X40 | 19.09 | 35.87% | Dec., 2013 | Mar-15 |
| 9 | Ghatagaon | 132/33 KV | 2X12.5 | 30.7 | 12.80% | Feb., 2013 | Jun-16 |
| 10 | Champua | 132/33 KV | 2X20 | 24.61 | 14.97% | April, 2013 | Mar-16 |

- 14. As stated by OPTCL, forest and environment clearance are not required for these projects. OPTCL has also submitted the Environmental Impact Assessment (EIA) Study for three projects. OPTCL has stated that the procurement of materials and services for these projects shall be taken up through National Competitive Bidding. The entire work for these proposed projects shall be treated as individual sub-station package and the award would be made on Turn-key basis for the these individual proposals.
- 15. Since, the rate of annual return is more than bank rate in all the projects, they are financially viable from investment point of view. The benefits of the projects shall also be available to the consumer of the State. Therefore, we give in-principle approval of the investment to all the above projects.
- 16. The case is accordingly disposed of.