

**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.2 of 2013

OPTCLPetitioner
Vrs.
MD CESU, NESCO, WESCO, SOUTHCORespondent

**In the matter of: Investment proposal for Aska, Godachhack, Jayapatna, Kasipur,
Chikiti, Betanati and Boriguma**

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

For the Respondents: Shri. S. K. Chowdhury, GM, GRIDCO, Shri S. K. Harichandan
AGM(CESU), Shri S. S. Padhy DGM(RA), SOUTHCO, Geetanjali
Mishra, AEE (RA&Com.), SOUTHCO, Shri K. C. Nanda DGM (Fin)
WESCO and Shri Niladri Khadanga DM(RA) CSO, Bhubaneswar and
Mrs. Niharika Pattnaik, ALO Govt. Of Odisha.

Date of hearing: 28.05.2013

Date of Order:12.03.2014

ORDER

1. OPTCL, the Petitioner has submitted an application for approval of investment for setting up of Sub Stations of various capacities along with the associated transmission lines at places such as Aska, Godachhack, Jayapatna, Kasipur, Chikiti, Betonati and Boriguma. As per License Conditions 10.1 and 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 the 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 have also given their in-principle approval to such investments. The details of investment are as follows:
2. OPTCL has proposed Construction of a new 2 x100 MVA, 220/132/33 kV substation at Aska along with associated 45 kms. 220 kV D.C. line from existing 220/132/33 kV Bhanjanagar Grid with an estimated cost of Rs.90.79 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 132kV DC line from 220/132/33kV Grid S/s at Bhanjanagar connected to Aska Grid is already overloaded and not in a position to cater further load. Further, the 132kV SC line connected between Aska and Berahampur is also overloaded and cannot be converted to DC line due to the Right of Way problem. With this project OPTCL has projected the reduction of average annual loss to the extent of 1.99 MW, which with consideration of Rs.2.17/ unit, comes to Rs.148.47 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 6370.90.34 LU, which shall cause OPTCL to earn additional annual revenue of Rs 1592.73 lakhs at the wheeling cost of 25 paise per unit. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs.1741.20 lakhs. The average rate of return has thus been found to be 19.18%.

3. OPTCL has proposed construction of new 2 x 160 MVA, 220/132/33 kV S/S at Godachhack along with associated 5 Kms. of 220 kV LILO line from the existing 220 kV Meramundali-Duburi Ckt-1 with an estimated cost of Rs. 58.23 crores with funding which can be arranged from Govt. grant/own resources and from financial institutions. With this project OPTCL has projected the reduction of average annual loss to the extent of 1.11MW, which with consideration of Rs.2.17/ unit, comes to Rs.82.82 lakh in monetary term. Considering 60% utilization of 2x160 MVA capacity at the proposed grid S/S and with 3.8% transmission loss shall make available additional 10193.44 LU, which shall cause OPTCL to earn additional annual revenue of Rs 2548.36 lakhs at the wheeling cost of 25 paise per unit. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs.2631.18 lakhs. The average rate of annual return has thus been found out to be 45.18%.
4. OPTCL has proposed construction of new 2x20 MVA, 220/33 kV S/S at Jayapatna with associated 14 Kms LILO line from Indravati-Theruvali line with an estimated cost of Rs.32.01 crores funding for which shall be arranged from Govt. grant/own resources and from financial institutions. OPTCL submitted that Jayapatna and its adjoining area will have a load requirement of 14 MW and needs independent supply from OPTCL source. With this project OPTCL has projected the reduction of average annual loss to the extent of 0.38MW, which with consideration of Rs.2.17/ per unit, comes to Rs.28.35 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 per unit. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs.346.90 lakhs. Therefore, the average rate of annual return has thus been found to be 9.33%.

5. A new 2x20 MVA, 220/33 kV S/S at Kasipur along with associated 15 Kms. LILO DC line from 220 kV Indravati-Theruvai line with an estimated cost of Rs.43.66 crores with funding from Govt. grant, own resources and from suitable financial institutions has been proposed. With this project OPTCL has projected the reduction of average annual loss to the extent of 0.56MW, which with consideration of Rs.2.17/ unit, comes to Rs.41.78 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 per unit. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs.360.33 lakhs. Accordingly, the average rate of annual return has thus been found out to be 8.25%.
6. Construction of a new 2x20 MVA, 132/33 kV S/S at Chikiti along with associated 35 Kms line from Digapahandi Grid S/S with an estimated cost of Rs.45.10 crores with funding from Govt. grant/own resources and from suitable financial institutions has been proposed. With this project OPTCL has projected the reduction of average annual loss to the extent of 0.83MW, which with consideration of Rs.2.17/ unit, comes to Rs.61.93 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 per unit. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs.380.47 lakhs. Therefore, the average rate of annual return is found to be 8.43%.
7. OPTCL has proposed construction of a new 2x20 MVA, 132/33 kV S/S at Betonati along with associated 6 Kms 132 kV LILO from Udala line with an estimated cost of Rs.22.62 crores with funding from Govt. grant/own resources and from suitable financial institutions. For this project OPTCL has projected the reduction of average annual loss to the extent of 0.6MW, which with consideration of Rs.2.17/ unit, comes to Rs.44.77 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 per unit. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs.363.31 lakhs. The average rate of annual return has thus been found to be 16.06%.

8. OPTCL has proposed construction of a new 2X12.5 MVA, 132/33 kV S/S at Boriguma along with associated 16.22 Kms line through 132 kV LILO arrangement from 132 kV Jayanagar-Tentulikhunti line with an estimated cost of Rs.29.10 crores with funding from Govt. grant/own resources and from suitable financial institutions. OPTCL has projected the reduction of average annual loss to the extent of 0.4MW, which with consideration of Rs.2.17/ unit, comes to Rs.29.84 lakh 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 796.36 LU, which shall cause OPTCL to earn additional annual revenue of Rs.199.09 lakhs at the wheeling cost of 25 paise per unit. Thus, OPTCL expects total annual revenue from this investment to the tune of Rs.228.93 lakhs. Thus the average rate of annual return has thus been found out to be 7.86%.
9. Therefore, the total investment from the above investment has been estimated to be Rs.321.51 cr. As stated by OPTCL, clearance of environment and forest clearance are not required for these projects. OPTCL has also 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 individual proposals. The expected date of completion of the sub-stations and associated system as given by OPTCL is as follows:

Name of the Sub-stations	Date of starting of construction	Expected date of completion
Aska Sub-station	March, 2013	December, 2015
Godachhack Sub-station	January, 2013	June, 2015
Jaypatna Sub-station	January, 2013	March, 2015
Kasipur Sub-station	January, 2013	July, 2015
Chikiti Sub-station	January, 2013	June, 2015
Betonati Sub-station	December, 2012	March, 2015
Boriguma Sub-station	March, 2013	June, 2015

10. The respondents in this case all the four DISCOMs of the state as well as representatives of Govt. of Odisha 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 as submitted by OPTCL. These are summarized below:

Investment Proposal of OPTCL									
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	Aska	90.79	25	19.18	6th yr	195.85	23 Years	5.893	Viable
2	Ghoda Chaka	58.23	25	45.18	1st Yr	11967.22	2 nd Year	25.33	Viable
3	Jaypatna	23.01	25	9.33	11th Yr	-1,697.56	Negative and Non Viable		
4	Kasipur	43.66	25	8.25	11th Yr	-3614.96			
5	Chikiti	45.10	25	8.43	11th Yr	-3657.85			
6	Betonati	22.62	25	16.06	9th Yr	-325.22			
7	Bariguma	29.10	25	7.86	11th Yr	-2478.29			

11. The above table shows that only in case of Aska and Ghoda Chack the projects are viable. Since OPTCL shall depend mostly on Govt. grant for non-viable project in the larger interest of the society and as requested by Govt. of Odisha the Commission give 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 directions, the case is disposed of.

Sd/-
(S. P. Swain)
Member

Sd/-
(B. K. Misra)
Member

Sd/-
(S. P. Nanda)
Chairperson

