ORISSA ELECTRICITY REGULATORY COMMISSION
BIDYUT NIYAMAK BHAWAN
UNIT-VIII, BHUBANESWAR – 751 012
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Present : Shri D.C.Sahoo, Chairperson
Shri B.C. Jena, Member
Shri S. K. Jena, Member

Dated the 22nd day of July , 2006

Case No.36 of 2005

Director (Engg.) …. Petitioner

- Vrs –

1. M/s. OPTCL, Janpath, Bhubaneswar
2. M/s. GRIDCO, Janpath, Bhubaneswar
3. M/s. NESCO, Balasore
4. M/s. CESCO, Bhubaneswar
5. M/s. SOUTHCO, Berhampur
6. M/s. WESCO, Burla
7. M/s. OHPC, Bhubaneswar
8. M/s. OPGC, Ib Thermal, Banaharpalli
9. M/s. IPICOL, Bhubaneswar
10. M/s. HAL, Sunabeda
11. M/s. PGCIL, New Delhi
12. Deptt. of Energy, Govt. of Orissa …. Respondents

For the petitioner : Shri B.K. Sahoo, Director (Engg.), OERC

For the respondent : Shri G.C. Acharya, CGM (Const.), OPTCL
Shri S.D. Bhanja, AGM, NESCO
Shri T.P. Sahu, GM (Comm), SOUTHCO
Shri G.C. Mohanty, SE, WESCO
Shri L. Pangari, Advocate for IPICOL
Shri S.N. Mishra, SE (Elec), DOE, GoO

ORDER

The distribution companies during the course of performance review of their utility brought to the notice of the Commission about delay in execution and non-completion of critical transmission lines by OPTCL, difficulties being faced by EHT consumers for getting power supply and meeting of area loads for bottlenecks in transmission. The Commission took cognizance of the objections/suggestions of the distribution companies started a suo motu proceeding involving all the stake-holders of the Orissa Power Sector to address the problems faced due to transmission constraints. The issues raised are as follows:

2. That GRIDCO/OPTCL are not considering applications by entrepreneurs through a transparent and fair manner for approval of LILO facilities from the nearby transmission lines/substations for extending power supply to the EHT consumers.

3. NESCO had complained that due to non-completion of 400 KV transmission line and burning of transformer power supply could not be committed to the EHT consumers in Duburi area like Ferro Alloys Plant, Bamnipal, Tata Steel, Bamnipal and Jindal Stainless Steel.

4. WESCO brought to the notice of the Commission that due to overloading of 220 /33 KV Barkote grid s/s full load could not be released to M/s. Altitude Alloys Pvt. Ltd.

5. There was complaint from SOUTHCO that M/s. HAL, Sunabeda is not being given the facility of maintaining its own dedicated line from the 132/33 KV grid s/s, Sunabeda.

6. OHPC alleged that GRIDCO/OPTCL/WESCO/NESCO/SOUTHCO are not taking proper action of segregating the existing 33 KV and 11 KV distribution lines from the power houses at Burla, Rengali and Balimela.

7. OERC has been intimated vide letter 3190 dt.09.06.05 of GRIDCO that the comprehensive system study of Orissa Transmission System prepared with the help of PGCIL reveals that the immediate transmission requirement of 2004 is yet to be achieved. Target dates for completion of these projects have been revised form time to time. Both GRIDCO and OPTCL have failed to abide by their statutory obligations.

8. These issues are very vital for the growth of transmission network within the state. It affects all the utilities engaged in generation and transmission and distribution of power. In view of this, the Commission in the suo motu proceeding directed participation of all the stakeholders including the Govt. of Orissa, IPICOL the nodal agency for industrial development within the state & the CTU namely the PGCIL.

9. The case was heard on 13.09.2005, 27.09.2005, 21.10.2005 and 17.01.2006 & 05.06.2006. The dates were being fixed at the request of OPTCL who were not in a position to supply the desired information sought for by the Commission for a full and final settlement of the issues raised by the petitioner.

10. The following issues were framed to be addressed by OPTCL In the hearing dt.21.10.2005:

A (i) Recovery of Transmission cost for long-term access customers and financial policy of investment for lines and s/s.

(ii) Status of the Transmission system for permitting LILO to the new industries.

B. (i) Investment policy for implementation of transmission Network expansion for strengthening the system to meet the existing as well as prospective loads.

(ii) Financing policy for such investment.

(iii) Sharing of cost for extension of power supply network to the premises of EHT consumers.

(iv) Firm commitment for completion of World Bank funded projects.

(v) OPTCL and IPICOL to discuss mutually towards facilitating LILO to specific upcoming industries and furnish a copy of their mutual settlement to the Commission.

11. OPTCL was further directed to produce the rationale and logic as to how the upcoming industries are depositing Rs.10 lakhs per MW with OPTCL and the interest being paid thereon by the licensee without any kind of regulatory approval.

12. The Commission also desired that the issue of LILO arrangement for power supply to Vedanta Industry is to be resolved between WESCO and OPTCL. Besides, OPTCL have been shifting date for completion of some important transmission lines. The cost overrun due to delayed completion has to be adequately explained by the licensee. To the issues raised by the Commission, OPTCL asked for a number of extension of time and finally filed its reply on 14.06.06.

13. The replies of OPTCL to the issues raised by the Commission are as follows :

(i) Investment requirement for development augmentation of infrastructure:

OPTCL submitted that there had been sudden spurt in industrial activities requiring huge infrastructure development to meet industrial growth particularly in areas like Duburi, Paradeep, Budhipadar and Joda. There is constraint in power supply to industries due to insufficient transformer capacity in existing grid s/s, overloading of transmission lines and absence of transmission link between source and load centres. This requires expansion of existing grid s/s and construction of new grid s/s by constructing feeder-bays in existing s/s and by LILO arrangement of existing transmission lines. There is acute shortage of resources both finance and non-finance such as, shortage of officers and staff. The system planning for development and augmentation of infrastructure could not be foreseen and hence projected unexpected growth was not included.

OPTCL required around Rs.219 crore for different ongoing and new projects during FY 2006-07. In the absence of growth of generation capacity the quantum of energy handled may not reach a very large growth. The current transmission charge is not enough to meet the full cost of investment.

(ii) Financing Policy for such investment :

In accordance with the National Electricity Policy of Govt., of India, the STU is responsible for planning and development of intra-state transmission system. Network expansion should be planned and implemented keeping in view the anticipated transmission needs that would be incidental to the system in the open access regime. Prior agreement with the beneficiaries could not be a precondition for network expansion. CTU/STU should undertake network expansion after identifying the requirement in consultation with stakeholders and take up execution after due regulatory approval.

In line with the National Electricity Policy OPTCL plans investment of Rs.116.54 crore for ongoing projects and Rs.302 .07 crore totaling to Rs.418.61 crore between 2006-07 to 2009-10.

Since it is obligatory on the part of the STU for augmentation of the transmission system, OPTCL have to meet the cost of system improvement from the revenue to be earned from wheeling charges. As stated earlier, there may not be huge growth in the energy handling. OPTCL may require an additional sum of Rs.132 crore for new projects besides 87.09 crore for ongoing projects for 06-07 which need to be provided in the ARR of OPTCL for taking up the system augmentation work.

(**iii)** **Cost sharing for making available power to the premises of EHT consumers:-**

The EHT consumers have to make investment in construction of transmission lines, feeder-bays or switching stations from the nearest OPTCL s/s. They will undertake the construction activities under the supervision of OPTCL officials after payment of the supervision charges as per the norms of OPTCL. This practice is now being adopted OPTCL for extending power supply to the EHT consumers

OPTCL have not specifically answered to the issue of collection of Rs.10,00,000 per KW from the prospective EHT consumer(s) and payment of interest thereof at the rate 6% per annum.

14. The Commission after having heard the state transmission utility and other interested parties has come to the conclusion that the OPTCL is committed to follow the National Electricity Policy of Govt. of India for growth of intra-state transmission.

15. In accordance with sec.39 of the Electricity Act, 2003, the function of the STU is to ensure development of an efficient, coordinated and economical system of intra-state transmission lines for smooth flow of electricity from a generating station to the load centre. As envisaged in the National Electricity Plan prior agreement with the beneficiary could not be pre-condition for network expansion. The STU should conduct network expansion after identifying the requirements in consultation with the stakeholder and taking up of the execution of transmission line works after due regulatory approval.

16. The consultation with the stakeholders as envisaged include the following:

i) Central Transmission Utility;

ii) State Government;

iii) Generating Companies;

iv) Regional Power Committees;

v) Authority;

vi) Licensees;

vii) Any other person notified by the State Government in this behalf.

The involvement of all the stake-holders is intended to build up a sound intra-state transmission system for optimization of resources for building up an efficient transmission network.

17. (i) In view of the stipulations as mandated in the Act, the STU has the obligation for evacuation of power from the generating stations for intra-state use.

(ii) The STU has also to develop the transmission capacity for utilization of power available from the Central Generating Stations and other outside sources for utilization within the state.

(iii) It is also the obligation of the state transmission utility to plan for the growth of intra-state transmission system for meeting the area load of all classes of consumers.

(iv) The STU is required to maintain and develop the intra-state grid network for reliability, quality and security of supply to its customers.

(v) The intra-state grid to be developed shall be compatible with the inter-state and inter-regional networks for free flow power to cater to the needs of all classes of customers within the state.

18. Thus, the STU has to develop the entire intra-state network upto the load centre and shall make investment following the due processes of regulatory approval. The planning and execution shall be such that there shall be no time and cost overrun. The licensee is also required to follow appropriate technological procedure for optimization of output at the most economical price. Once these conditions are met such investment shall entitle the utility for recovery of prudently incurred expenditure as a pass through in tariff. That being so it is the responsibility of STU to arrange fund for investment for development of such a network upto the load centre for which regulatory approval has been accorded.

19. However, this is subject to the condition that customer seeking open access for use of intra-state transmission system shall be guided by the terms and conditions as provided in OERC (Terms and Conditions for Open Access) Regulations, 2005.

20. The next question relates to extension of power supply from the nearest OPTCL sub-station upto the consumer premises of a directly connected EHT consumer.

21. It is incumbent upon the distribution license to supply electricity on request within a specified time limit u/s 43 of the Electricity Act, 2003. The same distribution licensee is entitled to recovery of charges as per the approved tariff by the Electricity Regulatory Commission.

22. In this connection, power to recover charges and expenditure for extending power supply is very relevant. In this connection, extracts of the relevant sections are given below:

> *"45(3) The charges for electricity supplied by a distribution licensee may include-*
>
> *(a) a fixed charge in addition to the charge for the actual electricity supplied;*
>
> *(b) a rent or other charges in respect of any electric meter or electrical plant provided by the distribution licensee.*
>
> *46. Power to recover expenditure:*
>
> *The State Commission may, by regulations, authorize a distribution licensee to charge from a person requiring a supply of electricity in pursuance of section 43 any expenses reasonably incurred in providing any electric line or electrical plant used for the purpose of giving that supply."*

23. A person requiring supply of electricity by a distribution licensee has to bear the expenses reasonably incurred in providing any electric line or

electric plant. The law makes it mandatory for development of transmission network by the STU including upto the load centre and also makes it obligatory on the part of distribution licensee to recover charges for supply of electricity to any consumer.

24. The next question is to be addressed who should bear the cost of EHT line from the load centre upto the consumer premises and how the cost has to be recovered and shared as this stretch of transmission line is only intended for giving power supply to a single EHT consumer and in rare cases to more than one consumer.

25. For sharing the cost among OPTCL the distribution company and the EHT consumer, the provisions laid down in the National Electricity Policy/The Tariff Policy issued by the Govt. of India for growth of transmission network are very relevant. This will constitute the basis for deciding the sharing of cost among OPTCL, the EHT consumer and the distribution licensee for the transmission line from the load centre upto the consumer premises. An extract of the Tariff Policy is quoted below:

> *"7.0 TRANSMISSION*
>
> *The transmission system in the country consists of the regional networks, the inter-regional connections that carry electricity across the five regions, and the State networks. The national transmission network in India is presently under development. Development of the State networks has not been uniform and capacity in such networks needs to be augmented. These networks will play an important role in intra-State power flows and also in the regional and national flows. The tariff policy, insofar as transmission is concerned, seeks to achieve the following objectives:*
>
> > *1. Ensuring optimal development of the transmission network to promote efficient utilization of generation and transmission assets in the country;*
> >
> > *2. Attracting the required investments in the transmission sector and providing adequate returns.*

26. OPTCL is the licensee for transmission and possess expertise in the field of transmission. The feeders emanating from the grid substations upto the

consumer premises for the EHT consumer can be treated as an exclusive feeder. The recovery of cost constructed by the OPTCL can be done by following the remunerative norms from the revenue generation through levy of transmission charge. Yardstick shall have to be applied for investment in transmission so that where the scheme is non-remunerative, a portion of investment has to be borne by the customer.

27. The Commission had already prescribed a procedure through Regulation for determination of remunerative norms for distribution network. The same concept can mutatis mutandis be applied for creation of transmission network. Accordingly, the Commission directs that the following procedure shall be applied for determination of remunerative norms for additional transmission lines s/s and allied works.

1. **General**

New construction/extension/upgradation of lines, sub-stations, etc. meant for a single beneficiary or a group of beneficiaries require capital investment and additional expenditure for servicing the new consumers. The licensee shall undertake Cost-benefit analysis of the scheme of power supply in order to ascertain whether the remunerative supply scheme is technically feasible.

2. **Remunerative Scheme**

An investment on any scheme of transmission line extension to any consumer premises shall be treated as remunerative if the revenue from transmission charges is equal to or exceeds the cost of capital, depreciation, interest and O&M expenses for the said transmission line. The transmission charges shall be determined by the Commission from time to time in its tariff order in accordance with the relevant provisions of the Act, 2003.

The licensee shall undertake such schemes at its cost when the scheme is found to be commercially viable if it is remunerative as per the norms approved by the Commission hereunder.

Any work that does not satisfy the above norms will be taken up by the licensee provided the consumer bears the differential amounts of capital cost which satisfies the viability norm.

3. **Cost-Benefit Analysis**

The licensee makes a Cost-Benefit Analysis of each scheme/project intended to be undertaken for transmission line extension to consumer premises. For the purpose of this calculation the licensee has to take useful life of the assets to be created for this purpose.

The licensee should take a period of 12 months (one year) for calculating annual net revenue at the end of first year to calculate the commercial viability norm.

4. **Calculation of capital cost**

Cost data compiled by OPTCL shall be submitted to the Commission for approval from time to time. Pending submission of Cost Data to the Commission for approval, Capital cost shall be estimated as per the cost data approved by the Commission from year to year (financial year wise).

When a consumer is asked to undertake the capital work, the estimated cost shall be calculated on the aforesaid basis. The licensee is entitled to get 6% of the total estimated capital expenditure towards inspection fees for checking and ensuring that the capital works has been done as per the standards pertaining to safety and security. The licensee should ensure inspection of works by the Electrical Inspector.

The material cost shall be inflated by the percentage as mentioned below for the incidental expenses incurred from procurement of materials to erection and installation of the capital works.

(a)	Cost of materials as per the cost data	A	
(b)	Stock storage insurance	B	3% of A
(c)	Contingency	C	3% of (A+B)
(d)	Tools & Plants	D	2% of (A+B)
(e)	Transportation	E	7.5% of (A+B)
(f)	Erection charges	F	10% of (A+B)
(g)	Sub-total	G	Sum of A...F
(h)	Other overheads	H	6% of G
(i)	Total estimated capital cost	I	G+H

5. **Calculation of annual expenditure and revenue**

The cost benefit shall be carried out for a period of 12 months. The following costs shall be taken into account on the basis mentioned against each.

i) **Cost**

Repair and Maintenance Expenses	K	As per the prevailing tariff order approved by the Commission
Depreciation	L	- do -
Total annual expenditure	M	- do -
Cost of capital	N	- do -
Total annual expenditure + cost of capital	X	(M+N)

(a)	Revenue from demand charges	P	
(b)	Revenue from energy charges	Q	
(c)	Other revenue	R	
(d)	Total revenue	Y	(P+Q+R)

6. The scheme shall be considered remunerative if Y-X = 0 or positive

This condition gets satisfied when the gross operative surplus (Y-M) is equal to or more than the return on investment calculated at the approved rate of return then the licensee has to make the investment of the total capital cost.

7. **Consumer contribution required making the scheme remunerative**

In case the gross operating surplus is less than the return on investment then the capital to be invested in the scheme is to be shared by the licensee and the consumer. The licensee shall make investment in the ratio of operating surplus to the estimated RoI. Balance capital cost i.e. capital investment as reduced by investment made by licensee shall be the consumer's contribution.

8. When the gross operating surplus turns out to be negative then the scheme shall be treated as non-remunerative.

9. **Assessment of consumption**

The average annual load factor for a category of consumer as agreed between the consumer/OPTCL/DISTCOs shall be considered for assessing the consumption for any new consumer(s).

10. **Losses of the distribution transmission system**

Overall loss percentage as approved by the Commission for the transmission licensee as per the prevailing tariff order shall be the basis for determining the quantum of energy to be purchased by the distribution licensee for meeting the requirement of the consumer.

11. **Revenue**

The licensee shall adopt current transmission tariff for the purpose of calculation of revenue including misc. revenue, if any, from supply of power to the distribution licensee.

28. These EHT feeders constitute as part and parcel of the EHT transmission line which has to be built, owned and operated by the OPTCL to ensure optimal utilization of the generation and transmission asset. To avoid delay in construction by the transmission licensee, the prospective

consumer can construct a line on behalf of OPTCL and handover the same to OPTCL perpetually and in such an instance, the OPTCL shall be entitled only to the supervision charge of 6% of the gross estimate. The point of interface between OPTCL and the distribution licensee shall be the point of interconnection at the EHT consumer premises. Following the remunerative norms any expenditure incurred by the prospective consumer on behalf of OPTCL can be reimbursed by OPTCL through energy bill to be served by the concerned DISTCOs through mutual agreement.

29. The Commission finds no justification for collection of Rs.10 lakh per MW from the prospective consumer for construction of lines and s/s upto the load centre to be developed by OPTCL after due regulatory approval which has to be financed by OPTCL following prudent financial practices. However, the Commission shall have no objection if prospective consumers come forward voluntarily for giving loan to the transmission company at the prevailing bank rate.

30. The Commission directs OPTCL to publicize a list of lines from where LILO facilities can be provided to the prospective consumers so that the chances of any kind of discriminatory approach as alleged could be completely eliminated.

31. Finally to conclude:

i) We have addressed the issue of recovery of transmission cost for long-term access customers and the responsibility for investment for lines and s/s upto the load centre in para 18 quoted above.

ii) We have also observed in para 30 of this order that OPTCL and IPICOL mutually should discuss for facilitating LILO to specific upcoming industries and furnish a copy of their mutual agreement to the Commission. As stated in the said para it shall scrupulously be followed by the OPTCL.

iii) The sharing of cost for extension of power supply network to the premises of EHT consumer has already been clarified in para 27 of this order.

iv) Now it is the responsibility of the OPTCL to stick to the commitment for completion of world bank funded projects and other investments for which regulatory approval will be accorded from time to time failing which the Commission will have no option but to take action as deemed proper under the provisions of the Act, 2003.

Sd/-	Sd/-	Sd/-
(S. K. JENA)	**(B. C. JENA)**	**(D. C. SAHOO)**
MEMBER	**MEMBER**	**CHAIRPERSON**