

**ODISHA ELECTRICITY REGULATORY COMMISSION**  
**BIDYUT NIYAMAK BHAWAN**  
**UNIT – VIII, BHUBANESWAR – 751012**  
\*\*\*\*\*

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

**Case Nos. 22 of 2009, 126 of 2010 & 09 of 2012**

**In the matter of:** An application for determination of Reactive Energy Charges for FY 2009-10, 2010-11 & 2011-12 under Regulation 4 (5) (i) of OERC (Determination of Open Access Charges) Regulations, 2006.

M/s OPTCL	.....	Petitioner
Vrs.		
WESCO, NESCO, SOUTHCO, CESU & others	-----	Respondents

For the Petitioner: Shri S.K.Puri, AGM (O&M), OPTCL.

For the Respondents: Shri Manas Kumar Das, GM (PT), CSO, WESCO, NESCO & SOUTHCO, Shri R.P.Mohapatra, Shri Lingaraj Padhi, DGM, CESU, Ms. Niharika Pattnaik, Asst. Law Officer, DoE, GoO, Shri P K Das, Manager (Law) & Ms. Upali Dhal, Sr. Officer (Law) on behalf of IMFA. No body is present on behalf of M/s NALCO, SLDC & M/s Nava Bharat Ventures Ltd.

**ORDER**

**Date of Hearing 30.04.2012**

**Date of Order 16.05.2012**

1. Shri S.K. Puri, AGM (O&M), OPTCL, the Petitioner in all the above noted cases, Shri R.P. Mohapatra, the respondent No-1 in Case No-22/2009, Shri Lingaraj Padhi, DGM, CESU, the respondent No-4 in Case No-126/2010, Shri Manas Kumar Das, GM (PT), CSO,- WESCO, NESCO & SOUTHCO for Respondent Nos-1,2, &3 in Case No-126/2010, Respondent No-2 in Case No- 22/2009 and Respondent No- 2,3 & 4 in Case No- 91/2012, Ms. Niharika Pattnaik, Asst. Law Officer, DoE, GoO,. the Respondent No-

5 in both Case Nos- 26/2010 & 9/2012, Shri P.K. Das, Manager (Law) & Ms. Upali Dhal. Sr. Officer (Law), M/s IMFA are present. The Additional submission filed by M/s IMFA in Case No- 126/10 & 9/2012, Submission filed by M/s NALCO in Case No- 126/2010, Submission filed by CESU in Case No- 9/2012, Submission filed by SLDC and compliance made by OPTCL are taken into record. No body is present on behalf of M/s NALCO, SLDC and Nava Bharat Ventures Limited.

2. As all the above noted cases are similar in nature, the Commission heard the cases analogously and passes a common order.
3. OPTCL had filed applications for approval of Reactive Energy Charges for 2009-10 and 2010-11 which were registered as case No- 22/2009 and 126/2010 respectively. In the Case No. 22/2009, the Commission had heard the matter on 21.03.2009 and interim order was passed on 06.04.2009. In the said order the Commission directed OPTCL to come up with a capital expenditure plan for installation of shunt capacitors in 23 nos. of substations by 15<sup>th</sup> May,2009 and also directed SLDC to file its status of preparation for billing of Reactive Energy Charges by 15<sup>th</sup> June,2009 duly serving a copy to all respondent. Similarly, the Commission had heard the matter in Case No. 126/2010 on 21.09.2010 and interim order was passed on same date. In the said order, OPTCL was directed to submit its plan in details indicating the status of preparedness of OPTCL and other stake holders for implementation of the billing and payment on account of Reactive Energy drawal/injection by the users of the State Transmission System. The submission may also include the petitioner's proposal for the procedure of institutionalizing & implementation strategy and the utilization of fund created from reactive energy charges. Further, OPTCL has filed another application for approval of Reactive Energy Charges for 2011-12 which is registered as case No- 9/2012 and it was heard on 30.04.2012.
4. The representative of OPTCL stated that the Commission has approved the ARR and Transmission Tariff of OPTCL for FY 2011-12 vide its order dated 18.03.2011 in Case No.145/2010 and in Para- 353 of the said order, OPTCL was directed to file the calculation of Reactive Energy Charges afresh with full justification for such calculation.
5. In the interim order dtd. 21.09.2010 passed in Case No. 126/2010, the Commission had directed OPTCL to furnish the objectives and operationalization procedure of collection of the Reactive Energy Charges. In compliance with the said directive, OPTCL has filed

one supplementary submission on 27.09.2010 indicating therein the objectives of applicability and realization of Reactive Energy Charges, point of metering of Reactive Energy transaction and billing modalities etc.

6. The earlier submission of OPTCL for determination of Reactive Energy Charges for FY 2010-11 was based on the estimated expenditure of OPTCL amounting to 18.60 Crore for provision of Capacitor Banks (total 275 MVAR) at 23 nos. of EHT grid sub-stations. Based on the said estimated expenditure, the operating cost was worked out to 5.79 paise per KVA and OPTCL had prayed the Commission for approved of Reactive Energy Charges @ 6.00 paise KVARh for FY 2010-11. Subsequently, considering the priorities and system need, the scheme/plan of OPTCL was reassessed to go for Capacitor Banks (275 MVAR) at 20 nos. of EHT grid sub-stations, with certain modifications.
7. The representative of OPTCL further submitted that through tendering process, OPTCL has placed order on 24.08.2011 for installation and commissioning of above Capacitor Banks for a contract value of Rs. 8.914 Crore (towards Supply & Erection). The scheduled completion period is 12 months from placement of order and presently the works are in progress. From the date of commissioning, the equipments shall cover 1 (one) year warranty and subsequent 10 years on AMC. In view of the above, OPTCL progress the following for consideration of the Commission.
  - (a) OPTCL to bill and collect the Reactive Energy charges so that the revenue realized would be utilized exclusively for voltage improvement purpose.
  - (b) With regard to realization of Reactive Energy Charges from DISCOMs, the same need to be linked with existing Escrow Accounts of DISCOMs with GRIDCO Ltd. so that the charges receivable by OPTCL from DISCOMs would be realized as first charges along with the monthly transmission charges.
  - (c) The point of metering of Reactive Energy transaction will be at 33 KV i.e transformer secondary side in the EHT Grid S/S of OPTCL and at interface points with EHT consumers including NALCO and IMFA where energy accounting of GRIDCO and wheeling charge of OPTCL are being done. OPTCL is having ABT compliant energy meters at all the said interface points.

- (d) The billing and settlement may be made at present on the monthly basis instead of weekly basis. As system gears up, the billing and settlement can be made on weekly basis as is being done in the regional level.
  - (e) The LTOA Customers i.e. the DISCOMs including NALCO and IMFA will only pay towards Reactive Energy Charges but will not be entitled to receive any payment as the revenue accrued in the process would be utilized by OPTCL exclusively for voltage improvement purpose.
8. The submission of Reliance managed DISCOMs is as follows;
- The beneficiaries are expected to provide local VAR compensation / generation so that they do not draw VAR from the EHV grid, particularly in low voltage conditions, which is as per IEGC. Capacitor Bank installation at 33 KV Bay as proposed by OPTCL may help in reduction in transmission losses but it will not help in reduction in distribution losses.
  - OPTCL may be directed to furnish the 33 KV feeder wise recently recorded average power factor where capacitor banks proposed to be installed by OPTCL with a projection of how much Power Factor will improve after installation of Capacitor Bank and anticipated yearly savings in losses of OPTCL in transmission network.
  - The reactive energy charges for FY 2011-12 proposed by OPTCL @ 3.00 Paired/KVArh is not maintainable when the year 2011-12 is already over.
  - As per the Commission's order dated 18.03.2011 in case no 150 of 2010, SLDC should calculate Reactive Energy Charges at all inter connection points with DISCOMs, so that DISCOMs can take necessary corrective measures for improvement of power factor at load end if the feeders indicated for reactive energy charges, so that losses in both transmission and distribution system can be reduced. But till date SLDC has not prepared any weekly Reactive Energy Accounting.
  - Imposition of Reactive Energy Charges to the beneficiaries as per clause 5.3.6 of OGC is a punishment and reward mechanism to help in improvement of voltage and reduction of losses in both transmission and Distribution System and bring discipline in the system. The suggested mechanism to consider only for revenue

earning source for OPTCL towards capital expenditure for Capacitor Bank installation at high voltage level is not the intention of OGC and IEGC.

- In order to achieve back to back arrangement for levy and servicing of reactive energy charges from consumers to OPTCL the licensees have been proposing for KVAH billing for three phase Consumers in the ARR applications of FY 2010-11.
- In view of the above, the present petition of OPTCL may not be considered by the Commission and SLDC may be restricted to generate any bills towards Reactive Energy Charges from stake holders until a suitable mechanism is developed and put in place for receiving Reactive Energy Charges from three phase LT & HT consumers.

9. CESU in its written submission has submitted that

- CESU may be allowed, certain time for installation of Capacitor Banks in different 33/11 KV Substations in its controlled area as envisaged in the ongoing CAPEX Scheme.
- The Commission may consider operation of State Reactive Account under guidance of SLDC as per OGC, so that, DISCOMs will be encouraged to invest for VAR requirement within their networks and consequently contribute to improve voltage profile of State Grid.
- Power factor penalty as well as incentive may be made applicable for all consumers above 10KW load which will consequently encourage them to contribute for VAR compensation at load end.
- As DISCOMs will be penalized for reactive power, similarly, STU may be penalized for not maintaining the voltage as per transmission operating standard.
- The Commission may introduce the reactive energy charge as an instrument to bring discipline in the Grid only after the scheduled time for installation of reactive power compensating unit is over.

10. The representative of NALCO submitted that the objective of the petition filed by OPTCL is to achieve voltage improvement at different low voltage pockets presently existing in the power system. The Reactive Power Pricing policy will encourage

DISCOMs and other Long Term Open Access (LTOA) Customers including NALCO to install capacitors bank/reactive power compensation equipments at their end not only to avoid the penalty imposition but also to get incentive. OPTCL has also proposed to create a fund by collection of Reactive Energy Charges which are to be utilized for voltage improvement purpose. But the applicant has not submitted its detailed plan for voltage improvement and utilization of the fund amount. If the voltage improvement is to be achieved only by installation of Capacitor Banks, then the proposed revenue collection through the proposed rate would be substantially high as compared to the yearly expenditure as per the calculation submitted by OPTCL. Besides the above there is no provision in the Orissa Grid Code for creation of such fund which will be highly irregular and unjustified and hence the said proposal may be quashed/set aside. Hence, the rate proposed for Reactive Energy Charges need to be reduced subsequently and both incentive and penalty of VAr transaction should be equally applicable to all the Long Term Open Access (LTOA) Customers i.e four DISCOMs including NALCO and IMFA.

11. M/s IMFA submitted that they are at the load centre and contribute to voltage stability, imposition of penalty would not arise in the case of IMFA. However, in case OPTCL system desires to have more VAr from IMFA, then substantial investment is required to be made by IMFA which needs to be paid by OPTCL. In case, IMFA is injecting more VAr to the system, it should get paid for at the same rate at which it will be charged if it draws VAr from the system. M/s IMFA further submitted that the petitioner OPTCL has singled out the respondents IMFA & NALCO to be deprived of receiving any benefit out of reactive energy pumping to their respective connecting GRIDs , especially when OPTCL system gets benefit out of same. So, the Commission may decide that both penalty and incentive for VAr injection/ drawal should be equally applicable to the Captive Generating Plants, who have industries located at a distance place.
12. Heard the parties at length on 30.04.2012 and in Order dtd. 03.05.2012, the Commission had directed the parties to file their written submission within seven days. But nobody has filed any written submission.
13. Further, we observed that while approving the ARR of OPTCL for FY 2012-13 , the commission in its order Dt. 23.03.2012 vide case No.92/2011 in Para 339 to 345 has dealt the matter and the same is reproduce below.

**Reactive Energy Charges:**

339. *OPTCL in its ARR application for FY 2012-13 has submitted that the Reactive Energy Charges shall be separately determined by the Commission as per Regulation 4 (5) of OERC (Determination of Open Access Charges) Regulations, 2006 and the Open Access Customers shall pay the same.*
340. *The Commission in order dated 06.04.2009 in Case No. 22/2009 had approved for preparation and billing of weekly Reactive Energy Charges (both provisional and final) for FY 2009-10 @ 5.75 paise/KVARh by SLDC as per Clause 1.7 of OGC during the interim period till the Commission finally approves an appropriate Reactive Energy Charges. Further, the Commission in order dated.20.03.2011 had approved Reactive energy charges provisionally @ 6.25 Paise /KVARh as per Clause 1.7 of OGC for FY 2011-12 and directs OPTCL to file the calculation of Reactive Energy Charges afresh with full justification thereof at earliest vide para 23.1/2/3 of the said order. OPTCL has not yet responded to the order of the Commission. In the mean time OPTCL has filed the calculation for Reactive Energy Charges for FY 2010-11 which was registered as case no 126/2010 is pending with the commission. The Commission hereby directs OPTCL to comply the directives vide para 23.1/2/3 of the order dated 06.04.2009 for further hearing and disposal of both the case on the issue of Reactive Energy Charges.*
341. *Further the Commission vide Order dtd. 06.4.2009 had directed OPTCL to install 150 MVAR compensation in 10 nos. of grid substations viz Bolangir, Patnagarh, Sonapur, Kendrapara, Patamundai, Rairangpur, Jajpur Town, Kesinga, Khariar and Saintala in FY 2009-10 and balance 125 MVAR in 13 nos. of Grid substation viz. Sambalpur, Dhenkanal, Puri, Ransinghpur, Bidanasi, Chandikhol, Choudwar, Cuttack, Nuapatna, Paradeep, Bhadrak, Jaleswar and Sunabeda during 2011-12 subject to system study report after installation of 1st phase 150 MVAR compensation.*
342. *The Commission had directed OPTCL to install 275 MVAR capacitors with the twin objectives i.e. to improve the voltage in the command areas of 23 nos. of Grid Substations as well as to save a considerable quantity of energy lost in the system in absence of requisite reactive compensation.*
343. *Commission has already approved the Investment proposal of OPTCL for Rs.18.594 cr. towards installation of Capacitor Banks (total 275MVAR) at 23 nos. existing grid sub-stations vide order dated 20.5.2010 in Case No. 23/2010. During the Performance Review of licensees held in the month of December 2011 OPTCL submitted that it has placed order for installation of 33 KV capacitor bank with an aggregate capacity of 275 MVAR at 20 numbers of sub stations with maintenance contract for 10 years. Out of the 20 grid sub stations OPTCL has proposed to install 10 nos in CESU area, 5 nos in NESO area, 4 nos in WESCO area and 1 in SOUTHCO area.*
344. *OPTCL submitted during hearing that the installation of shunt capacitor will be completed in 132/33 KV Grid Sub-stations at Mancheswar, Bhubaneswar by March, 2012 and at other 19 nos. of Grid Sub-stations during FY 2012-13. The*

*Commission hereby directs OPTCL to install shunt capacitors in balance 19 nos of Grid Sub-stations by December, 2012.*

345. *In view of above orders and observations on Reactive Energy Charges, the Commission approves such charges @ 6.50 paise / KVARh for FY 2012-13 provisionally in line with the provision of Clause 1.7 of OGC which states that the rate for charge/payment of Reactive Energy Charges shall be escalated at 0.25 paise / KVARh per year and directs the licensee to file the calculation of Reactive Energy Charges afresh with full justification thereof at the earliest.]*

14. We, further, observe that there are lots of ambiguities among the stakeholders regarding the modalities of billing of Reactive Energy Charges and utilization of revenue earned there from. So, the Commission is of the view that the modalities of billing should be decided first by SLDC and OPTCL after elaborate discussion in Grid Co-ordination Committee (GCC) meeting. Thereafter, Mock exercise may be started and continue for six months. Monthly Reactive Energy Charges billing may be made and served to the DISCOMs and other Open Access Customer if any. Any difficulties and ambiguities based on their feed back may be discussed again in GCC after three months of mock exercise for short out the problems. SLDC / OPTCL should be confident enough about the correctness of the billing during next three months of mock exercise. Hence, we direct SLDC and OPTCL to carry out the mock exercise in accordance with above observations and apprise to the Commission to its satisfaction. Thereafter, the Commission shall decide the rate for Reactive Energy Charges and it will be applicable prospectively. So, we direct OPTCL to go ahead with mock exercise as stated above and file a fresh petition on the out come along with a report on utilization of fund created from reactive energy charges.

15. Accordingly, the cases are disposed of.

Sd/-  
**(S.P.Swain)**  
**Member**

Sd/-  
**(B.K.Misra)**  
**Member**

Sd/-  
**(S. P. Nanda)**  
**Chairperson**