

**ODISHA ELECTRICITY REGULATORY COMMISSION**  
**BIDYUT NIYAMAK BHAWAN**  
**UNIT-VIII, BHUBANESWAR - 751 012**  
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**Present:**        **Shri S. P. Nanda, Chairperson**  
                     **Shri S. P. Swain, Member**  
                     **Shri A. K. Das, Member**

**In the matter of:**    **Further proceeding on remand as per Judgment dated 17.10.2014 in Appeal No. 159 of 2013 of the Hon'ble ATE for re determination of tariff as per the directions given in the said order within three months from the date of the communication of their above judgment.**

**AND**

**Case Nos.28 & 29/2010**

**In the matter of:**    **For procurement of power from the proposed 50MW Thermal Power Plant at Ghantikhal, Cuttack/ Under S.86 of the Electricity Act, 2003 read with S.21 of the OER Act, 1995.**

GRIDCO Ltd.	.... Petitioner
Vrs.	
M/s. Aarti Steels Ltd., Cuttack & Another	..... Respondents

**And**

**Case Nos.107&108/2010**

**In the matter of:**    **Application for u/s 94(1) of the Act read with Regulation 70 of the OERC (conduct of Business) Regulations, 2004 for review of order 04.05.2010 passed in Case Nos. 28&29/2010.**

M/s Aarti Steels Ltd., Cuttack	.... Petitioner
Vrs.	
GRIDCO Ltd. & Ors.	..... Respondents

Parties were present: Mr. Hemant Singh, Advocate & Mr. Baljeet Singh, GM, M/s. Aarti Steels Ltd., Mr. U N Mishra, CGM (PP), GRIDCO, Mr. L. R. Dash, GM (PP), GRIDCO, Mr. S. K. Harichandan, AGM (Law), CESU, Mr. T. K. Mohanty, GM (Com), CESU, Mr. G. K. Chakrabraty, GM (El.), CESU and Ms. Niharika Pattnayak, ALO, DoE, GoO are present. Nobody is present on behalf of OPTCL, WESCO, NESCO & SOUTHCO.

## **ORDER**

**Date of Hearing: 06.01.2015**

**Date of Order: 09.06.2015**

GRIDCO Ltd. had submitted a PPA signed between M/s. Aarti Steel Ltd. (hereafter referred M/s. ASL) and itself on 24.10.2009 for purchase of 12% power generated from the 50 MW generating unit of M/s. ASL at variable cost for the approval of the Commission. In the meantime GRIDCO Ltd. facing with acute shortage of power purchased total power generated from M/s. ASL generating station (50 MW) from 24.04.2010 (date of its Commercial Operation) till June, 2011. GRIDCO has prayed the Commission to determine the variable cost of 12% power generated from generating station of M/s. ASL as per PPA so also the tariff of balance 88% power procured upto June, 2011.

2. After carefully considering all the above records as well as the submissions of all the stakeholders during hearing, the Commission in its order dated 16.04.2013 determined the status of generating unit M/s. ASL as CGP and accordingly had determined the tariff for supply of power by M/s. ASL to GRIDCO.
3. Being aggrieved by the said Order of the Commission dated 16.04.2013 M/s. ASL moved the Hon'ble APTEL in Appeal No. 159 Of 2013 and Hon'ble APTEL in their order dated 17.10.2014 held the status of the generating unit of M/s. ASL as IPP and remanded the matter to the Commission for determination of tariff accordingly.
4. The Commission again in obedience to the said direction of the Hon'ble Tribunal heard the matter on remand on 06.01.2015 with due notice to the parties concerned.
5. In view of the above direction of the Hon'ble APTEL, the Commission now treats the subject 50 MW power plant of M/s. ASL as an IPP and accordingly proceeds to determine the tariff for the power generated from the said power plant in subsequent paragraphs.
6. The tariff of 50 MW generating plant shall be determined by this Commission for a period from 24.04.2010 to June, 2011 first. As per Section 61 (a) of Electricity Act, 2003 and Regulation 3 (a) of OERC (Terms and Conditions for Determination of Tariff) Regulation, 2004 which was in vogue at that time, the Commission is to be guided by the principles and methodologies specified by the Central Commission for determination of tariff for the power purchased by GRIDCO Ltd. from a generating station. Therefore, the Commission feels it appropriate to adopt the principles laid

down in CERC (Terms & Conditions of Tariff) Regulations, 2009 for the plants having similar unit size and with some minor modifications suitable for State of Odisha for the purpose of tariff determination of M/s. ASL Generating station. Accordingly, the Commission broadly accepts the Tariff Principle followed by CERC in case of Talcher Thermal Power Station (TTPS-NTPC) where the size of some units are nearer to the present unit size of M/s. ASL (50 MW).

7. According to the PPA executed between M/s. ASL and GRIDCO Ltd. the Commission is to determine the tariff of State share of power (14% or 12% depending upon coal block allocation) at variable cost. The Commission observed that the subject 50 MW generating unit of M/s. ASL has been commissioned on 05.03.2010 and started commercially operating on 24.04.2010 (COD). As per the submission made by M/s. ASL, the entire Ex-bus generation of the subject 50 MW generating unit has been drawn by GRIDCO Ltd. upto June, 2011. Therefore, the Commission is to determine the tariff of entire power generated from March, 2010 to June, 2011 and variable cost of power since date of commercial operation (COD).
8. Therefore, the Commission needs to determine not only the variable cost of power but also the fixed charges for the 50 MW Generating Unit of M/s. ASL from March, 2010 to June, 2011 which we shall determine in this Order. However, any future procurement of power by GRIDCO Ltd. from the subject power plant of M/s. ASL beyond State share shall be through a negotiated price with valid PPA duly vetted by the Commission or through competitive bidding process. But regarding drawal of State share (14% or 12% of total generation) GRIDCO Ltd. shall continue to purchase the same at variable cost as per the formula given by the Commission in this Order.
9. Now, we shall proceed to determine the capacity charge to be paid by GRIDCO Ltd. to M/s. ASL for drawal of 50 MW of power from April 2010 to June, 2011.

#### **Determination of Component of Capacity Charge**

##### **Capital Cost**

10. The Commission scrutinized the balance sheet of FY 2010-11 and 2011-12 as submitted by the M/s. ASL and found out the Capital Cost of the 50 MW Generating Unit as follows.

	<b>2010-11</b>	<b>2011-12</b>
Opening Capital Cost (Rs. in Crore)	167.40	186.50
Addition of Capital Cost during the year (Rs. in Crore)	19.10	19.78
Closing Capital Cost (Rs. in Crore)	186.50	206.27
Average Capital Cost (Rs. in Crore)	176.95	196.39

**(i) Return on Equity**

M/s ASL in its tariff calculation has indicated the Debt: Equity Ratio as 70: 30, and considered the Return on Equity @ 18.67% (having base rate of 15.5% and MAT rate of 16.98%) which is accepted by the Commission as per CERC norm. Accordingly, RoE for the year 2010-11 and 2011-12 comes to Rs. 9.91 Crore and Rs. 11.00 Crore respectively.

**(ii) Depreciation**

The Commission has considered the depreciation at the rate of 5.28% as per CERC norms on the gross block of assets at the beginning of the year.

**(iii) Interest on Loan**

M/s. ASL in its submission has indicated the rate of interest on the borrowed capital at 11.50% which is accepted by the Commission. The computation of interest on loan capital is given below.

		<b>2010-11</b>	<b>2011-12</b>
Weighted avg. Rate of Interest	%	11.50%	11.50%
Gross Loan	Rs.Crs	117.18	130.55
Cumulative Repayment upto previous Year	Rs.Crs		8.84
<b>Net Opening Loan</b>	Rs.Crs	<b>117.18</b>	<b>121.71</b>
Addition of New Loan due to addition of capital	Rs. Cr.	13.37	13.84
Repayment of normative Loan during the year	Rs. Cr.	8.84	9.85
<b>Net Closing Loan</b>	Rs. Cr.	<b>121.71</b>	<b>125.71</b>
Avg. Normative Loan	Rs. Cr.	119.44	123.71
<b>Interest on term loan</b>	Rs. Cr.	<b>13.74</b>	<b>14.23</b>

**(iv) O & M Expenses**

In its tariff calculation, M/s. ASL has asked Rs.14.27 Crore and Rs.15.09 Crore towards O & M Expenses for the year 2010-11 & 2011-12 respectively which is lower than the norm fixed by CERC for TTPS. The Commission accepts the same for calculation of fixed charges of M/s. ASL.

(v) **Interest on Working Capital**

In the audited balance sheet for the FY 2010-11 and 2011-12, interest on working capital has been shown as Rs.1.92 Crore and Rs.1.24 Crore respectively. However, the Commission accepts the CERC norms on Interest on working capital which shall be payable on normative basis notwithstanding the generating company or the transmission licensee has not taken any loan for working capital from any outside agency. Accordingly, the interest on working capital has been computed basing on SBI PLR of 12.50% prevailing at that time which comes to Rs.3.62 Cr. & Rs.3.73 Cr. respectively for FY 2010-11 & 2011-12. The Commission accepts the same.

(vi) **Cost of Secondary Fuel Oil**

CERC in its Tariff Regulation 20 (1) has prescribed a formula for calculation of the expenses on secondary fuel oil consumption for coal based generating station which shall be computed corresponding to the normative specific fuel oil consumption considering the weighted average landed price of secondary fuel adopted and NAPAF of the generating station. The Commission accepts the same principle while calculating the cost of secondary fuel oil for the subject generating station of M/s. ASL which has been shown in the table below. However, GRIDCO Ltd. shall verify the actual secondary fuel oil bill considering fuel price adjustment at the end of the each financial year of tariff based on Regulations 20 (2) of CERC Tariff Regulations, 2009.

**Computation of Annual Capacity Charges**

11. The Annual Fixed Charges proposed and approved in respect of the generating station for the period 2010-11 and 2011-12 is as under.

<b>(Rs. in Crore)</b>				
	<b>Submitted by ASL</b>		<b>Approved by the Commission</b>	
	<b>2010-11</b>	<b>2011-12</b>	<b>2010-11</b>	<b>2011-12</b>
Depreciation	10.278	9.735	8.839	9.847
Interest on Loan	15.669	14.102	13.736	14.227
Return on Equity	10.903	10.904	9.911	11.00
Interest on Working Capital	3.132	4.50	3.623	3.732
O & M Expenses	14.27	15.09	14.27	15.09
Cost of Secondary fuel oil	0.432	0.432	1.44	1.44
<b>Total</b>	<b>54.683</b>	<b>54.762</b>	<b>51.815</b>	<b>55.476</b>

Note: All figures are on annualized basis.

12. The Capacity Charge (inclusive of incentive) payable to M/s. ASL for a calendar month shall be calculated in accordance with the formula laid down in the Regulation 21(2)(a) of CERC Tariff Regulations, 2009 which is given below:-

Generating stations in commercial operation for less than ten(10) years on 1<sup>st</sup> April of the financial year :

$AFC \times (NDM/NDY) \times (0.5 + 0.5 \times PAFM/NAPAF)$  (in Rupees);

Provided that in case the plant availability factor achieved during a financial year (PAFY) is less than 70%, the total capacity charge for the year shall be restricted to

$AFC \times (0.5 + 35/NAPAF) \times (PAFY/70)$  (in Rupees)

Where,

AFC = Annual fixed cost specified for the year, in Rupees

NAPAF= Normative annual plant availability factor in percentage

NDM = Number of days in the month

DFY = Number of days in the year

PAFM = Plant availability factor achieved during the month, in percentage which shall be calculated basing on actual energy generated when there is no declared capacity by the generator.

PAFY = Plant availability factor achieved during the year, in percentage

**Normative Annual Plant Availability Factor (NAPAF)**

13. As per CERC norms the NAPAF for Thermal Generating Stations is to be taken as 85% for the Tariff period 2009 to 2014 in general. However, for Talcher Thermal Power Station, CERC has considered 82% NAPAF for the same period. So, the Commission feels it appropriate to take NAPAF of the subject 50 MW Generating Station of M/s ASL at 82 % for the FY 2010-11 & 2011-12 as against 80% claimed by M/s. ASL.

**Energy /Variable Charge**

14. The energy charge is to be calculated and billed by the generator on month to month basis as per Regulations 21(5) and 21(6)(a) of the CERC Tariff Regulation, 2009. Sub-clause (a) of clause (6) of Regulation 21 of the CERC Tariff Regulations, 2009

provides that the Energy Charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the formulae as under:

**(a) For coal based and lignite fired based stations**

$$ECR = \{(GHR - SFC \times CVSF) \times LPPF / CVPF + LC \times LPL\} \times 100 / (100 - AUX)$$

Where,

*AUX = Normative auxiliary energy consumption in percentage.*

*CVPF = Gross calorific value of primary fuel as fired, in kCal per kg, per liter or per standard cubic meter, as applicable.*

*CVSF = Calorific value of secondary fuel, in kCal per ml.*

*ECR = Energy charge rate, in Rupees per kWh sent out.*

*GHR = Gross station heat rate, in kCal per kWh.*

*LC = Normative limestone consumption in kg per kWh.*

*LPL = Weighted average landed price of limestone in Rupees per kg.*

*LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per liter or per standard cubic meter, as applicable, during the month.*

*SFC = Specific fuel oil consumption, in ml per kWh.*

15. The Generator, M/s. ASL shall furnish the information to GRIDCO Ltdd. as regard to details of coal with break-up as per the amendments of Regulations 21 of the CERC Tariff Regulations, 2009 which is quoted below:

*The following proviso shall be added under Clause (6) of Regulation 21 of the Principal Regulations as under namely:*

*“Provided that generating company shall provide to the beneficiaries of the generating station the details of parameters of GCV and price of fuel i.e domestic coal, imported coal, e-auction coal, lignite natural gas, RLNG, liquid fuel etc., as per the 15 of the Part-I of Appendix 1 to these regulations:*

*Provided further that the details of blending ratio of the imported coal with domestic coal proportion of e-auction coal and the weighted average GCV of the fuels as received shall also be provided separately, along with the bills of the respective month;*

*Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG,*

*liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months.”*

16. From the submission of M/s. ASL it is understood that they have used E-auction coal and imported coal during the period of present tariff determination as they have no coal linkage during that period for the said IPP. GRIDCO Ltd. is to verify details of coal purchased and consumed as well as GCV of the same. However, for better understanding of principle of determination of ECR as per CERC Regulation, the Commission has calculated the energy charge rate basing on the weighted average price & GCV of both Coal and fuel oil burnt for the three months i.e. April, May & June, 2010 as submitted by M/s. ASL for the initial period just after the COD which is an indicative one. Accordingly, ECR has been worked out for the purpose of tariff based on the followings.

	Unit	Submitted by ASL for FY 2010-11	Accepted by the Commission for the 1 <sup>st</sup> Quarter of FY 2010-11
Capacity	MW	50	50
Gross Station Heat Rate	Kcal/Kwh	3219.05	2950 (As per TTPS)
Auxiliary Energy Consumption	%	11.00	10.50 (As per TTPS)
Weighted average GCV of coal	Kcal/Kg	3153.24	3170.04 ( As submitted by ASL for 1 <sup>st</sup> quarter of 2010-11)
Weighted average price of coal	Rs/MT	1873.84	1446.97 (As submitted by ASL for 1 <sup>st</sup> quarter of 2010-11)
Rate of energy charge- (Ex-bus)	Paise/kwh	<b>214.27</b>	<b>149.94</b>

17. Billing of ECR shall be made to GRIDCO Ltd. by M/s. ASL on monthly basis with the details of coal/oil used for generation as indicated above for scrutiny and payment. However, the Commission is of the view that the blending of imported coal should not be more than 10% to avoid tariff burden on the State consumers. Further, in case of allotment of the coal block to the power plant, the domestic coal should be utilized for generation of power for State use.
18. In addition to the above M/s. ASL is entitled to recover other taxes / duty etc. levied by the Govt. or any statutory authority pertaining to generation of the subject 50 MW generating unit only during the drawal of entire power by GRIDCO Ltd.
19. During the hearing GRIDCO Ltd. submitted that they have preferred an appeal before the Hon'ble Supreme Court of India against the judgment dated 17.10.2014 of the

Hon'ble APTEL passed in Appeal No. 159/2013 in Civil Appeal No. 1298/2015 and the Hon'ble Apex Court has admitted the said Civil Appeal and has issued notice to the Commission for filing of reply in the said matter. The present order of the Commission shall be subject to the outcome of the said Civil Appeal pending with the Hon'ble Supreme Court for final disposal.

20. With the above observation the present cases are disposed of accordingly.

Sd/-  
**(A. K. Das)**  
**MEMBER**

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

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