

**IN THE JHARKHAND STATE ELECTRICITY REGULATORY COMMISSION
AT RANCHI**

Case No. 05 of 2018

Adhunik Power & Natural Resources Limited (APNRL) Petitioner

Versus

Jharkhand Bijli Vitran Nigam Limited (JBVNL) Respondent

**CORAM: HON'BLE MR. (DR) ARBIND PRASAD, CHAIRPERSON
HON'BLE MR. R.N. SINGH, MEMBER (ENGINEERING)**

For the Petitioner : Mr. Parinay D.Shah, Advocate,

For the Respondent : Mr. Naveen Kumar, Mr. Amit Sinha, Mr. Amitabh,
Advocate

ORDER

Date – 8th March, 2019

1. This review petition has been filed by Adhunik Power & Natural Resources Limited (hereinafter referred to as '**APNRL**') under Section 94(1) (f) of the Electricity Act, 2003 read with Regulation 41.1 of the JSERC (Conduct of Business) Regulations 2016 against the order dated 19.02.2018 (hereinafter referred to as '**Impugned order**') passed by the Jharkhand State Electricity Regulatory Commission (hereinafter referred to as '**JSERC**' or the '**Commission**') in Case no. 15 of 2016 and 01 of 2017 relating to True-up for FY 2014-15 and FY 2015-16, Approval of Business Plan, ARR and Tariff for the MYT control period FY 2016-17 to 2020-21.

2. The Petitioner has submitted that the Review Petition has been filed within the limitation period prescribed under the relevant Regulation 41.4 of the Jharkhand State Electricity Regulatory Commission (Conduct of Business) Regulations, 2016 and is well within the review jurisdiction of the Commission as provided under Section 94 (1) (f) of Electricity Act 2003, and the JSERC Conduct of Business Regulation, 2016. Learned Counsel submitted that the Commission has equivalent power to review its own orders as a Civil Court has under the CIVIL Procedure Code and the Court which passes the order can only review its order.

3. Heard Learned Counsel for the Petitioner as well as Learned Counsel for the Respondent.

4. This Commission has the power under section 94 (1) (f) of the Electricity Act, 2003 to review decisions, directions and orders pronounced by it. The original Order dated 19.02.2018 was passed before the issue of jurisdiction of JSERC to regulate the tariff of APNRL arose. The apparent calculation mistake in the said order is therefore is being rectified.

5. Learned Counsel for the Petitioner submitted following issues of review:-

A. ISSUES PERTAINING TO TRUING UP ORDER FOR FY 2014-15 AND 2015-16

(i) Re-determination of Base Energy Rate (ECR) on account of Coal GCV and Coal Prices for FY 2014-15 2015-16

(ii) Re-determination of Fixed Charge on account of allowable interest on loan after correcting the opening balance of loan amount.

(iii) Re-determination of Allowable interest of Working Capital considering the corrected Coal Cost.

B. ISSUES PERTAINING TO MYT ORDER FOR FY 2016-17 TO 2020-21

(i) Re-determination of Base Energy Charge Rate (ECR) for FY 2016-17 to 2020-21

(ii) Typographical Error in approving the depreciation for FY 2020-21.

(iii) Escalation rate considered for increase in O&M expenses for the MYT period.

(iv) Re-determination of allowable interest of Working Capital based on corrected numbers post consideration of the above issue raised.

Each issue is discussed below:

A. ISSUES PERTAINING TO TRUING UP ORDER FOR FY 2014-15 AND 2015-16

(i) Re-determination of Base Energy Rate (ECR) on account of Coal GCV and Coal Prices for FY 2014-15 2015-16

Submission of the petitioner

a) Learned Counsel for the Petitioner submitted that the values of GCV and Cost of primary fuel considered by the Commission while approving the Energy Charge Rate are different than those proposed by the Petitioner in the Petition, as summarized below:

Coal Cost and GCV submitted by the Petitioner in the Petition

Particulars	Unit 1		Unit 2	
	FY 2014-15	FY 2015-16	FY 2014-15	FY 2015-16
Weighted average GCV (kCal/ Kg)	3338	3362	3485	3352
Weighted average price (Rs/ T)	2961	3091	3084	3088

Coal Cost and GCV approved by the Commission

Particulars	Unit 1		Unit 2	
	FY 2014-15	FY 2015-16	FY 2014-15	FY 2015-16
Weighted average GCV (kCal/ Kg)	3357	3430	3441	3386
Weighted average price (Rs/ T)	2962	3100	2918	3096

- b) Learned Counsel for the Petitioner has requested the Commission to re-determine the Energy Charge Rate (ECR)

Submission of the respondent

- a) Learned Counsel for the respondent submitted that the Commission in impugned tariff order dated 27.04.2018 while truing up the ECR for the FY 2014-15 has approved GCV of 3357 Kcal/kg for unit-I and GCV of 3341 Kcal/Kg for unit-II and for the FY 2015-16 Commission has approved GCV of 3430 Kcal/kg for unit- I and GCV of 3386 Kcal/kg for unit - II.
- b) Learned Counsel for the respondent submitted that Commission has admitted the value of GCV prayed by the petitioner and only after the due diligence has allowed GCV of different value. Learned Counsel submitted that as there is no clerical error or omission on the face of record the prayers of the petitioners are not maintainable as per the JSERC (Conduct of Business) Regulations, 2016.

Commission's observations & findings

- a) The Commission does not find in the petitioner's submission any substantive reason to make changes in the approved values and hence **no changes are made.**

A (ii) Re-determination of Fixed Charge on account of allowable interest on loan after correcting the opening balance of loan amount.

Submission of the petitioner

- a) Learned Counsel for the Petitioner submitted that the values of opening balances of normative loan considered by the Commission while approving the interest on loan amount are different than those proposed by the Petitioner in the Petition, as summarized below:

Interest on loan computation submitted by the Petitioner

Particulars	Unit 1		Unit 2	
	FY 2014-15	FY 2015-16	FY 2014-15	FY 2015-16
Opening Balance	1128.02	1051.28	1162.41	1085.03
Additions	3.31	7.28	3.45	7.22
Repayment	80.05	80.87	80.82	81.67
Closing Balance	1051.28	977.69	1085.04	1010.58
Interest on Debt%	13.62%	12.81%	13.63%	13.65%
Amount in Rs Cr	148.39	129.94	153.16	143.03

Interest on loan computation approved by the Commission

Particulars	Unit 1		Unit 2	
	FY 2014-15	FY 2015-16	FY 2014-15	FY 2015-16
Opening Balance	1120.97	1042.85	1156.03	1077.05
Additions	3.31	7.28	3.45	7.22
Repayment	81.43	82.43	82.43	83.20
Closing Balance	1042.85	967.70	1077.05	1001.07
Interest on Debt%	13.62%	13.13%	13.63%	13.28%
Amount in Rs Cr	147.36	131.99	152.18	137.99

- b) Learned Counsel for the Petitioner has requested the Commission to re-determine the interest on loan amount.

Commission’s observation & findings

- a. The Commission in order dated 01st September, 2016 had approved the interest on debt on the year FY 2012-13 and FY 2013-14 for Unit 1 and for FY 2013-14 for Unit 2.
- b. Subsequently, vide review order dated 09th January, 2018 in Case no. 13 of 2016, the Commission has revised the total project cost from INR 3271.69 Cr to INR 3314.24 Cr. Hence, the opening balances FY 2012-13 and FY 2013-14 for Unit 1 and for FY 2013-14 for Unit 2 was also revised.
- c. As such, the opening balance for the year FY 2014-15 and FY 2015-16 was arrived at after considering the re-revised capital costs and the subsequent change in repayments and additions in the previous years.
In view of the above, no change is warranted at this moment.

A (iii) Re-determination of Allowable interest on Working Capital considering corrected Coal Cost

Submission of the petitioner

- a) Learned Counsel for the Petitioner submitted that owing to re-determination of coal cost (as prayed above), the computation of working capital requirement and consequently the interest on working capital needs to be re-determined.

Commission's findings

- a) As stated above in the order, there is no change in the cost of coal.
Hence, no change is required in this section.

B. ISSUES PERTAINING TO MYT ORDER FOR FY 2016-17 TO 2020-21

(i) Re-determination of Base Energy Charge Rate (ECR) for FY 2016-17 to 2020-21

Submission of the petitioner

- a. Learned Counsel for the Petitioner submitted that the values of GCV and Cost of primary fuel considered by the Commission while approving the Energy Charge Rate are different than those proposed by the Petitioner in the Petition. As per the provisions of Generation Tariff Regulations, 2015, actual weighted average Coal GCV and Coal cost has to be considered for the last three months of the preceding financial year. In para 7.16 of the said order Hon'ble Commission has stated the Coal procurement ratio of both units by the petitioner as detailed below:

Particulars	% for FY 2016-17
MOU Coal	12%
Domestic Coal/Spot Coal	73%
Imported	15%
Total	100%

Considering the above Coal Mix, Coal Price and GCV of the Coal approved by the Hon'ble Commission, the weighted average coal price and GCV of Coal FY 201-17 works out as follows:

Particulars	% of for FY 2016-17	Coal Cost (Rs./MT)	GCV (Kcal)
MOU Coal	12%	2534	4050
Domestic Coal/Spot Coal	73%	3308	3233
Imported	15%	3860	3827
Weighted Average		3298	3420

However, the Hon'ble Commission in table 68 and 69 of the Impugned order, has approved the weighted average cost and GCV of Coal as Rs. 2826/ MT and 3918 Kcal respectively. The same has been wrongly calculated as % of coal Mix got inter changed between MOU Coal and domestic/spot market coal as explained in the table below:-

Particulars	% of for FY 2016-17	Coal Cost (Rs./MT)	GCV (Kcal)
MOU Coal	73%	2534	4050
Domestic Coal/Spot Coal	12%	3308	3233
Imported	15%	3860	3827
Weighted Average		2826	3918

Therefore, it is a clear case of error apparent on the face of record. This needs to be corrected, and a revised order has to be issued.

- b. Learned Counsel for the Petitioner also submitted that the Commission has not considered the auxiliary consumption norms while working out the Energy Charge Rate.
- c. Learned Counsel for the Petitioner further submitted that the Commission has not considered any escalation in coal costs while projecting the coal cost for the MYT period.
- d. Learned Counsel for the Petitioner requested the Commission to re-consider the calculation of energy charge after incorporating the above mentioned changes.

Submission of the Respondent

- a) Learned Counsel for the Respondent submitted that the petitioner has assumed an escalation of 5% year on year for arriving at the landed cost of primary fuel for the subsequent years. Learned Counsel further submitted that as per the Clause 8.21 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015, the landed cost of primary fuel for the tariff determination shall be based on the weighted averaged landed cost of primary fuel of last three months.
- b) Learned Counsel for the Respondent submitted that the Commission while approving the ECR has followed the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 and escalation of the weighted average cost of primary fuel would be against the aforementioned regulation. Learned Counsel further submitted that there is no merit in the contention of the petitioner and may be rejected upfront.

Commission's observation

- a) The Commission has provided the methodology for approval of Energy Charge Rate (ECR) in Paras 7.20 to 7.25 of the Tariff Order dated 19.02.2018.

*“7.21 However, the Petitioner, in one of the replies to the discrepancy notes also submitted that it has secured long term source of primary fuel in May 2017 under the ‘SHAKTI’ scheme introduced by Ministry of Coal. **Taking cognizance of the above, the Commission has approved the coal mix for the MYT Period same as that proposed by the Petitioner for FY 2016-17. The Commission shall approve the actual mix at the time of True-up of respective years, subject to prudence check and on submission of adequate data by the Petitioner.**”*

Emphasis added.

- b) In view of the above, the Commission has approved the coal mix ratio as given below:

Table 1: Coal mix ratio approved by the Commission

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
MOU Coal	12%	12%	12%	12%	12%
Domestic Coal	73%	73%	73%	73%	73%
Imported	15%	15%	15%	15%	15%
Total	100%	100%	100%	100%	100%

- c) The JSERC (Generation Tariff Regulations), 2015 also specifies the following:

*“8.21 The landed fuel cost of primary fuel and secondary fuel for tariff determination shall be based on actual **weighted average cost of primary fuel and secondary fuel of the three preceding months**, and in the absence of landed costs for the three preceding months, latest procurement price of primary fuel and secondary fuel for the generating station, before the start of the tariff period for existing stations and immediately preceding three months in case of new generating stations shall be taken into account.*

.....”

Further, as per Clause 7.37 of Generation Tariff Regulations, 2015,

“the cost of fuel in cases covered ... shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the Generating Company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period.”

- d) Based on the above mentioned Regulations, the Commission has derived the weighted average of GCV, cost of coal and cost of secondary fuel by considering actual values submitted by the Petitioner for the preceding three months of January –March 2016.
- e) As submitted by the Learned Counsel for the Petitioner, the Commission had inadvertently interchanged the coal mix ratio of MOU coal and Domestic coal. The same has been corrected and the following are the details as given below:

Revised Table 65: Coal Cost (Rs/MT) inclusive of transit loss for Unit 1 and Unit 2 approved by the Commission now

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Domestic Coal-Linkage	2534	2534	2534	2534	2534
Domestic Coal-Spot Market	3308	3308	3308	3308	3308
Imported Coal	3860	3860	3860	3860	3860
Weighted average (R.s/ MT)	3298	3298	3298	3298	3298

Revised Table 66: GCV (kCal/kg) of coal for Unit 1 and Unit 2 approved by the Commission now

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Domestic Coal-Linkage	4050	4050	4050	4050	4050
Domestic Coal-Spot Market	3233	3233	3233	3233	3233
Imported Coal	3816	3816	3816	3816	3816
Weighted average (kCal/kg)	3419	3419	3419	3419	3419

Cost and Calorific value of Secondary fuel for Unit 1 and Unit 2 approved by the Commission now

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
UNIT I					
Calorific value (kCal/L)	9337	9337	9337	9337	9337
Cost of Secondary fuel (Rs/kL)	42637	42637	42637	42637	42637
UNIT II					
Calorific value (kCal/L)	9334	9334	9334	9334	9334
Cost of Secondary fuel (Rs/kL)	45134	45134	45134	45134	45134

f) As such, revised ECR calculated is as given below:

Revised Table 68: Approved Energy Charge Rate for Unit 1

Particulars	Uom	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Normative Aux Consumption	%	9%	9%	9%	9%	9%
Heat Rate	kCal/kWh	2,387	2,387	2,387	2,387	2,387
Specific Oil Consumption	ml/kWh	1.00	1.00	1.00	1.00	1.00
Calorific Value of Oil	kCal/L	9337	9337	9337	9337	9337
Weighted average cost of Oil	Rs/KL	42637	42637	42637	42637	42637
Weighted Average Calorific Value of Coal	kCal/kg	3419	3419	3419	3419	3419
Weighted Average cost of Coal (Inc transit loss)	Rs/Tonne	3298	3298	3298	3298	3298
Energy Charge rate	Rs/kWh	2.340	2.340	2.340	2.340	2.340

Revised Table 69: Approved Energy Charge Rate for Unit 2

Particulars	Uom	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Normative Aux Consumption	%	9%	9%	9%	9%	9%
Heat Rate	kCal/kWh	2,387	2,387	2,387	2,387	2,387
Specific Oil Consumption	ml/kWh	1.00	1.00	1.00	1.00	1.00
Calorific Value of Oil	kCal/Kg	9334	9334	9334	9334	9334
Weighted average cost of Oil	Rs/KL	45134	45134	45134	45134	45134
Weighted Average Calorific Value of Coal	kCal/kg	3419	3419	3419	3419	3419
Weighted Average cost of Coal (Inc transit loss)	Rs/Tonne	3298	3298	3298	3298	3298
Energy Charge rate	Rs/kWh	2.343	2.343	2.343	2.343	2.343

B (ii) Typographical error in approving Depreciation cost for FY 2020-21

Submission of the petitioner

- a) Learned Counsel for the Petitioner submitted that the Commission, in Table 59 of its Order dated 19.02.2018, has approved depreciation for Unit 1 and Unit 2 as Rs 85.32 Cr and Rs 86.11 Cr respectively for FY 2020-21. However, as per Table 85 and 86 of the Order, the depreciation cost for Unit 1 and Unit 2 has been approved as Rs 82.37 Cr and Rs 83.15 Cr respectively for FY 2020-21.
- b) Learned Counsel for the Petitioner has requested the Commission to rectify the inconsistency.

Commission's observation

- a) The Commission observes that it had correctly mentioned in the approved depreciation values of FY 2020-21 in Tables 85 and 86 of the Order, which are the consolidated tables stating the Annual Fixed Charges, based on which the final tariffs are determined.
- b) However, there was a typographical error in Table 59 of the Order which is reproduced below for clarity:

Corrected Table 59: Depreciation approved by the Commission for FY 2020-21

Asset Type	Approved in the Order dated 19.02.2018		Approved now	
	Unit 1	Unit 2	Unit 1	Unit 2
Land owned under full title	-	-	-	-
Land held under lease	0.39	0.39	0.37	0.37
Plant and machinery	77.05	77.87	74.38	75.20
Building & civil works	7.51	7.46	7.25	7.21
Any Other Assets	0.38	0.38	0.37	0.37
Total Depreciation	85.32	86.11	82.37	83.15

- c) Since the values in the Tables 85 and 86 of the Order (indicating Annual Fixed Charges based on which final tariffs are determined) were mentioned correctly, there is no change in the approved Annual Fixed Charges and tariff for the MYT period.

B. (iii) Escalation rate considered for projections of O&M expenses for the MYT period.

Submission of the petitioner

- a) Learned Counsel for the Petitioner submitted that Commission in its Tariff Order dated 19.02.2018 has considered an escalation factor of 4.93% vis-à-vis 6.30% as proposed by the Petitioner.
- b) Learned Counsel for the Petitioner has requested the Commission to provide clarity on the computation methodology for the escalation rate.

Commission's observation

- a) The Commission had approved the O&M expenses through applying an escalation factor of 4.93% over the approved norm of FY 2015-16. The escalation factor has been arrived at by considering a composite index of WPI and CPI in the ratio of 80:20 over the last five year period. The computation of escalation factor is as follows:

Inflation Rate based on 80% of WPI & 20% of CPI			
	WPI	CPI	Weighted Avg. Inflation
FY 2011-12	8.88%	8.39%	8.78%
FY 2012-13	7.41%	10.44%	8.02%
FY 2013-14	5.98%	9.68%	6.72%
FY 2014-15	2.00%	6.29%	2.86%
FY 2015-16	-3.69%	6.00%	-1.75%
Average Inflation (%)			4.93%

It has been correctly computed based on actual data. **Hence, no change is required**

B (iv) Re-determination of Allowable interest on working capital based on corrected numbers post consideration of the above submissions.

Submission of the petitioner

- a) Learned Counsel for the Petitioner submitted that owing to re-determination of various cost components as proposed above, the computation of working capital requirement and consequently the interest on working capital needs to be re-determined.

Commission's observation

- a) In view of corrections of apparent errors in table 68 and 69 as detailed in section B (i), consequential effects in other table are as given below:

Revised Table 77: Interest on Working Capital (Rs Cr) approved by the Commission for Unit 1

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Coal cost 1 month or max coal stock whichever is lower	34.97	34.96	34.96	34.97	34.97
Coal Cost for 1 months	34.97	34.96	34.96	34.97	34.97
Cost of secondary fuel oil for 2 months	1.43	1.43	1.43	1.43	1.43
Receivables for 2 months	134.25	133.03	131.84	130.70	129.58
O&M Expenses for 1 month	6.00	6.30	6.61	6.93	7.27
Maintenance Spares	14.40	15.11	15.86	16.64	17.46
Total Working Capital	226.02	225.79	225.66	225.63	225.67
Rate of Interest	12.80%	12.80%	12.80%	12.80%	12.80%
Interest on Working Capital	28.93	28.90	28.88	28.88	28.89

Revised Table 78: Interest on Working Capital (Rs Cr) approved by the Commission for Unit 2

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Coal cost 1 month or max coal stock whichever is lower	34.96	34.97	34.96	34.97	34.97
Coal Cost for 1 months	34.96	34.97	34.96	34.97	34.97
Cost of secondary fuel oil for 2 months	1.51	1.51	1.51	1.51	1.51
Receivables for 2 months	135.30	134.06	132.82	131.64	130.48
O&M Expenses for 1 month	6.00	6.30	6.61	6.93	7.27
Maintenance Spares	14.40	15.11	15.86	16.64	17.46
Total Working Capital	227.14	226.91	226.72	226.66	226.66
Rate of Interest	12.80%	12.80%	12.80%	12.80%	12.80%
Interest on Working Capital	29.07	29.04	29.02	29.01	29.01

Revised Table 91: Approved tariff for 13% of total net capacity for Unit 1 – fixed charges

Description	Derivation	Unit	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Gross Capacity	A	MW	270	270	270	270	270
Auxiliary Consumption	B	%	9.00%	9.00%	9.00%	9.00%	9.00%
Net Capacity	$C = A \times (1 - B)$	MW	245.70	245.70	245.70	245.70	245.70
12% of net capacity for supply to JUVNL at Energy Charge	$D = C \times 12\%$	MW	29.48	29.48	29.48	29.48	29.48
Remaining Capacity from which Fixed Charges are to be recovered	$E = C - D$	MW	216.22	216.22	216.22	216.22	216.22
Total Annual Fixed Charge	F	Rs Cr	377.33	370.03	362.92	356.01	349.29
Annual Fixed Charges/MW	$G = F/E$	Rs Cr/MW	1.75	1.71	1.68	1.65	1.62
13% of Net Capacity for supply to JUVNL at full tariff	$H = C \times 13\%$	MW	31.94	31.94	31.94	31.94	31.94
AFC for 13% of Net Capacity	$I = G \times H$	Rs. Cr	55.74	54.66	53.61	52.59	51.60

Revised Table 92: Approved tariff for 13% of total net capacity for Unit 2 – fixed charges

Description	Derivation	Unit	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Gross Capacity	A	MW	270	270	270	270	270
Auxiliary Consumption	B	%	9.00%	9.00%	9.00%	9.00%	9.00%
Net Capacity	$C = A \times (1 - B)$	MW	245.70	245.70	245.70	245.70	245.70
12% of net capacity for supply to JUVNL at Energy Charge	$D = C \times 12\%$	MW	29.48	29.48	29.48	29.48	29.48
Remaining Capacity from which Fixed Charges are to be recovered	$E = C - D$	MW	216.22	216.22	216.22	216.22	216.22

Description	Derivation	Unit	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Total Annual Fixed Charge	F	Rs Cr	383.19	375.66	368.32	361.17	354.23
Annual Fixed Charges/MW	$G=F/E$	Rs Cr/MW	1.77	1.74	1.70	1.67	1.64
13% of Net Capacity for supply to JUVNL at full tariff	$H=C \times 13\%$	MW	31.94	31.94	31.94	31.94	31.94
AFC for 13% of Net Capacity	$I=G \times H$	Rs. Cr	56.61	55.50	54.41	53.35	52.33

CONCLUSION

6. In view of the above observation and findings, this review petition is disposed off accordingly.

Sd/-
(R.N. Singh)
Member (Engg)

Sd/-
(Dr. Arbind Prasad)
Chairperson