



**ORDER
OF THE
WEST BENGAL ELECTRICITY REGULATORY COMMISSION**

IN CASES NO.

**APR – 96/ 21 – 22 AND
FPPCA – 88/ 17 – 18**

IN REGARD TO THE APPLICATIONS SUBMITTED BY HALDIA ENERGY LIMITED FOR APPROVAL OF FUEL COST ADJUSTMENT (FCA) AND ANNUAL PERFORMANCE REVIEW (APR) FOR FY 2016-17

PRESENT:

**DR. MALLELA VENKATESWARA RAO, CHAIRPERSON
SRI PULAK KUMAR TEWARI, MEMBER**

DATE: 28.02.2024



CHAPTER – 1 PREAMBLE

- 1.1. The Regulation 2.6 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011 as amended from time to time (hereinafter referred to as the 'Tariff Regulations'), mandates that the generating companies or licensees, as the case may be, are subject to Annual Performance Review (APR). The Commission vide its Order dated 29.01.2016 in Case No. TP-64/14-15 determined the tariff for Haldia Energy Limited (HEL) for its 2 X 300 MW Thermal Power Generating Station for the period from FY 2014-15 to FY 2016-17.
- 1.2. The final Project Cost of 2 x 300 MW HEL power plant was approved by the Commission vide its order dated 20.07.2022 in Case No. OA-270/17-18.
- 1.3. In the meanwhile, HEL has filed the Petition for approval of Fuel Cost Adjustment (FCA) for FY 2016-17 on 18.10.2017 and the Annual Performance Review petition for FY 2016-17 on 10.03.2022. The Commission had admitted the FCA and APR Petitions and numbered them as FPPCA-88/17-18 and APR-96/21-22 respectively.
- 1.4. On admission of the APR and FCA Petitions, HEL was directed to publish the gist of the APR and FCA Petitions of FY 2016-17, as submitted by HEL and approved by the Commission. Accordingly, the gist was published simultaneously on 18.04.2022 in the 'The Telegraph', the 'Aajkal', the 'Bartaman' and the 'The Times of India'. The publication requested for submission of suggestions and objections from the members, if any, on the application to the Commission within 21 days from the date of publication of gist. The approved gist along with the APR Petition for FY 2016-17 was also published on the website of HEL. Opportunities were also offered to all to inspect the application and take copies thereof.
- 1.5. No objection and suggestion has been received from any stakeholder within the due date.
- 1.6. During the course of analysis, the Commission has found certain deficiencies and accordingly sought clarifications/additional information from HEL which were duly submitted by HEL from time to time. The submissions of HEL and Commission's analysis on APR and FCA for FY 2016-17 are detailed in the following chapters.



CHAPTER – 2 COMPUTATIONS OF THE ALLOWABLE FUEL COST

- 2.1. In this part of the order, the Commission takes up the determination of fuel cost allowable to HEL on the quantum of power sold by it to CESC Limited during FY 2016-17 along with any gains arising from the performance of HEL over the operating norms set out by the Commission.
- 2.2. The Fuel and Power Purchase Cost Adjustments (in short "FPPCA") during the referred adjustment period, i.e., FY 2016-17 are to be ascertained by the formula enunciated in Part B of the Schedule 7A of the Tariff Regulations.
- 2.3. Further, Paragraph A of Schedule 9B of the Tariff Regulations, contains provisions for sharing the gains for coal fired thermal power stations, if any, on account of its better performances over the operating norms set out by the Commission. The operational parameters which are to be considered for such sharing of gains accrued to the generating stations are:
- Gain sharing for better Oil Consumption rate
 - Gain sharing for better Auxiliary Consumption rate
 - Gain sharing for better Gross Station Heat Rate (SHR)
- 2.4. Further, in terms of Paragraph D of Schedule 9 B of the Tariff Regulations, the total gains meant to be passed on to consumers shall be used first to compensate the deficit in fixed charge recovery of the concerned generating station in case the availability of the generating station falls below the availability norm and thereafter the balance if any shall be passed on to the consumers.
- 2.5. The Commission in its order dated 20.01.2016 in Case No OA-121/11-12 has specified the normative operating parameters for HEL as below:

Table 2-1: Normative parameters

Parameters	Normative value
Plant Availability Factor (PAF)	85%
Plant Load Factor (PLF)	80%
Auxiliary consumption (AEC)	9%
Station Heat Rate (SHR)	2345 kCal/kwh
Transit loss	0.80%
Oil consumption rate	1.00 ml/kWh
O&M expenditure	2014-15: Rs. 7.05 Lakh/MW 2015-16: Rs. 7.47 lakh/MW 2016-17: Rs. 7.92 lakh/MW
Man /MW	1.30

- 2.6. Before ascertaining the amount of admissible fuel cost as well as the amount of gains, if any, to



be shared with the beneficiary (CESC Limited) under the provisions of Tariff Regulations explained in aforesaid paragraphs, the actual performance of HEL in comparison to the operational norms set by the Commission in the tariff Order for the concerned year needs to be reviewed. Such comparisons are made hereunder:

Table 2-2: Normative v/s Actual Operating Parameters for FY 2016-17

Particulars	Units	Norms	Actual	Admissible
Rate of Auxiliary Consumption	%	9.00	7.97	9.00
Specific Consumption of Oil	MI/kWh	1.00	0.18	1.00
SHR	kCal/kWh	2345.00	1885.77	2345.00

2.7. The computations of actual rate of Auxiliary Consumption, Specific Consumption of Oil and SHR achieved are shown in Annexure - 2A.

2.8. As observed from above, actual performance of HEL generating Station relating to Specific Oil Consumption, Auxiliary Energy consumption and SHR qualify for deriving gains for sharing subject to the condition stipulated in Paragraph D of Schedule 9B of the Tariff Regulations.

2.9. HEL in APR application has submitted that it has achieved availability of 95.24% over the target availability of 85% as per norms. Therefore, the gains on improved performance will be shared with CESC Limited. The amount of gain and its share shall be determined in the subsequent paragraphs.

2.10. Determination of Allowable Fuel Cost

2.10.1. In terms of paragraph B of schedule -7A to the Tariff Regulations, fuel cost is to be determined for the amount of energy sold by a generating company to the licensee considering the admissible normative parameters and the principles specified in regulation 5.8 of the tariff Regulations. The weighted average calorific value of oil and the weighted average heat value of coal are the variable factors depending upon the actual mix of different grades of fuel used in operation. The declared heat value of each grade of coal varies within a range. The weighted average heat value of coal considered at the tariff fixation level was based on the minimum value of the range of each projected grade of coal and is subject to adjustments in terms of regulation 5.8.1(i) of the Tariff Regulations.

2.10.2. Generation and Auxiliary Consumption

2.10.2.1 Gross generation of the station has been estimated by taking into consideration the ex-bus injection schedule and normative auxiliary consumption.



Table 2-3: Gross Generation for FY 2016-17

Scheduled Injection (MU)	Normative Rate (%)	Normative Auxiliary Consumption (MU)	Admissible Gross Generation (MU)
3709.923	9.00	366.915	4076.838

2.10.3. Weighted Average GCV of Oil and cost of oil

2.10.3.1 HEL has submitted weighted average calorific value of oil for FY 2016-17 as 9343 kCal/L. HEL submitted detailed calculation along with month-wise oil stock and sample test report in support of their claim. As this is a variable factor depending on the grades of oil used, the Commission has considered the same caloric value of oil for working out the amount of allowable fuel cost. Average cost of oil (LDO) has been certified by the auditor as Rs.45,723.66/kL for FY 2016-17 and the same has been considered.

Particulars	Unit	For year 2016-17
Quantum of oil	kL	747.29
Price of oil	Rs./kL	45723.66
Heat value of oil	kCal/L	9343

2.10.4. Permitted Transit Loss & Handling Loss of Coal

2.10.4.1 HEL has claimed 0.80% transit loss on entire coal including imported coal. Accordingly, the same has been considered by the Commission for the purpose of this order.

2.10.5. Weighted Average GCV and price of coal

2.10.5.1 HEL has procured 89.80% of coal from CIL subsidiaries and balance 10.20% has been sourced through import during FY 2016-17. HEL has submitted the actual fuel price along with the break-up of coal prices. HEL also provided details of transportation cost of both imported and domestic coals. The landed coal price and heat value of coal purchased during the year 2016-17 as submitted by HEL in its FPPCA and APR petitions are as below:

Table 2-4: Price and UHV of Coal submitted by HEL

Details of coal purchased	Unit	FY 2016-17
a) Quantum of coal	Tonne	2872171
b) Price of coal	Rs./Tonne	1848.78
c) Transportation cost	Rs./Tonne	1107.98
d) Landed price (b + c)	Rs./Tonne	2956.76
e) Useful Heat value of coal	kCal/kg	2706.00



2.10.5.2 The Price of Domestic Coal submitted by HEL is as under:

Table 2-5: Price of Domestic Coal submitted by HEL

Details of coal purchased	Unit	FY 2016-17
a) Quantum of coal	Tonne	2580071
b) Price of coal	Rs./Tonne	1581.63
c) Transportation cost	Rs./Tonne	1127.75
d) Landed price (b + c)	Rs./Tonne	2709.38

2.10.5.3 HEL has fuel supply agreement (FSA) with CIL subsidiary Mahanadi Coalfields Limited (MCL) for G11 to G13 grade coal. HEL has procured 80.92% of total coal procured during the year through linkage. HEL has submitted the invoices of procurement of coal along with their petition. The Commission observed that the linkage coal prices are as per the basic price of coal for the respective grades as notified by CIL along with royalty, taxes and duties. Accordingly, the Commission has considered the price of linkage coal as submitted by HEL.

2.10.5.4 HEL submitted that in the month of August and September 2016, due to high power demand, all possibilities for sourcing of coal were explored apart from exhausting entire supplies from Linkages. HEL has procured 8.91% of total coal through Domestic E-Auction from MCL and Central Coalfields Limited (CCL). HEL was directed to submit all the invoices regarding the procurement of e-auction coal. HEL vide letter dated 29.09.2022 has provided the details of the price of e-auction coal along with invoices. Based on the submissions and documentary evidences relied upon by HEL the Commission has considered the price of e-auction coal as submitted by HEL.

2.10.5.5 HEL has submitted the invoice wise details of coal transportation along with copies of invoices. In this regard:

- The Commission has observed that 98.34% of the linkage coal has been transported through rail mode. HEL has submitted the relevant Railway receipts against the claim transportation cost. The Commission observes that only railway freight charges are applicable as per the freight rate of Indian Railways and considers the claim of transportation charges through rail mode.
- HEL has procured some portion of linkage coal (amounting to 1.66% of the total linkage coal procured) through Road-cum-rail (RCR) mode. HEL was directed to submit the relevant details in respect of the RCR mode of transportation. HEL has submitted the details and the Commission has considered the same while computing the transportation



cost.

- The transportation charge claimed by HEL for domestic coal includes demurrage charges. However, HEL has not provided any appropriate justification for the same. As such, the Commission has not allowed the demurrage charges (to the tune of Rs. 0.51/MT) in absence of any specific justification of such claim in terms of clause (vi) of Regulation 5.8.1 of the Tariff Regulations, 2011.

2.10.5.6 Based on the above, the price of domestic coal considered by the Commission is as under:

Table 2-6: Price of domestic coal considered by the Commission

Details of coal purchased	Unit	FY 2016-17	
		Claimed	Admitted
a) Quantum of coal	Tonne	2580071	2580071
b) Price of coal	Rs./Tonne	1581.63	1581.63
c) Transportation cost	Rs./Tonne	1127.75	1126.21
d) Landed price (b + c)	Rs./Tonne	2709.38	2707.84

2.10.5.7 HEL has also procured imported coal through competitive bidding process to meet its balance coal requirement. The Price of Imported Coal submitted by HEL is as under:

Table 2-7: Price of imported coal submitted by HEL

Details of coal purchased	Unit	FY 2016-17
a) Quantum of coal	Tonne	292100
b) Price of coal	Rs./Tonne	4208.46
c) Transportation cost	Rs./Tonne	933.33
d) Landed price (b+c)	Rs./Tonne	5141.79

2.10.5.8 The Commission observed that HEL has imported coal based on quotes from pre-approved enlisted suppliers on firm price basis. The Commission also noted the tendering was followed on different occasions as and when required basis among pre-approved enlisted suppliers. The Commission thus directed HEL to submit all the invoices regarding the procurement of imported coal. HEL vide letter dated 29.09.2022 has provided the details of the price of imported coal with documentary evidence like invoice of the coal, custom duty invoice, documentary evidence for wharfage, onboard handling, siding and haulage charges etc. From the documentary evidences submitted by HEL the Commission observes that the price of imported coal comes to Rs. 4208.5/MT, as claimed by HEL.

2.10.5.9 HEL vide letter dated 29.09.2022 has also submitted the invoice wise details of transportation of imported coal along with copies of invoices. The transportation charge claimed by HEL includes demurrage charges. However, HEL has not provided any appropriate justification for



the same. As such, the Commission has not allowed the demurrage charges (to the tune of Rs. 0.93/MT) in absence of any specific justification of such claim in terms of clause (vi) of Regulation 5.8.1 of the Tariff Regulations, 2011.

2.10.5.10 Based on the above, the price of imported coal considered by the Commission is as under:

Table 2-8: Price of imported coal considered by Commission

Details of coal purchased	Unit	FY 2016-17	
		Claimed	Admitted
a) Quantum of coal	Tonne	292100	292100
b) Price of coal	Rs./Tonne	4208.46	4208.46
c) Transportation cost	Rs./Tonne	933.33	932.41
d) Landed price (b+c)	Rs./Tonne	5141.79	5140.87

2.10.5.11 Based on the admitted price of Domestic Coal and Imported Coal the landed price of Coal admitted by the Commission for FY 2016-17 is as under

Table 2-9: Price of Coal admitted by the Commission

Details of coal purchased	Unit	Claimed			Admitted		
		Domestic Coal	Imported coal	Total Coal	Domestic Coal	Imported coal	Total Coal
a) Quantum of coal	Tonne	2580071	292100	2872171	2580071	292100	2872171
b) Price of coal	Rs./Tonne	1581.63	4208.46	1848.78	1581.63	4208.46	1848.78
c) Transportation cost	Rs./Tonne	1127.75	933.33	1107.98	1126.21	932.41	1106.50
d) Landed price (b+c)	Rs./Tonne	2709.38	5141.79	2956.76	2707.84	5140.87	2955.28

Heat Value of Coal

2.10.5.12 Considering the coal details submitted by HEL in their FCA application and through subsequent documents, the Commission determines the Useful Heat value (UHV) of coal following the provisions of Regulation 5.8.15 of the Tariff Regulations. However, conversion from GCV to UHV, in terms of Regulation 5.8.15 of the Tariff Regulations is not required for imported coal as such coal contains lesser ash and are of -50 mm in size and is not categorized under different grades of coal of Coal India Limited (CIL). The Commission finds no requirement of conversion of GCV to UHV in respect of e-auction coal in terms of regulation 5.8.15 of the Tariff Regulations. The Useful Heat Value determined considering minimum GCV of respective grade of coal is 2383 kcal/kg for FY 2016-17 for coal purchased during the year. The actual heat value submitted by HEL is 2706.00 kcal/kg, which is higher than the UHV computed considering the minimum GCV of respective grade of coal. Accordingly, in terms of



Order on FCA and APR of HEL for FY 2016-17

regulation 5.8.1(i), actual UHV (i.e. 2706.00kCal/kg) has been considered by the Commission. Detailed computations are shown in Annexure – 2C for the coal purchased during the year.

2.10.5.13 The Commission observed that, HEL has considered the price of coal consumed considering the coal purchased during the year and the opening coal stock available. However, from their submission it appears that the heat value of opening coal stock has not been factored while computing heat value of coal consumed during the year. In line with the approach adopted in the APR Order for FY 2015-16, the Commission finds it appropriate to compute the heat value of coal duly taking into the impact of coal purchased as well as closing stock. Similarly, the landed price of coal consumed needs to be analyzed based on the admitted coal purchase rates mentioned in above and the coal stock position submitted by HEL in notes under Form D3 of its APR petition. Accordingly, the admissible landed price and heat value of coal consumed during FY 2016-17 is computed below:

Table 2-10: Coal Stock Position Table of HEL for FY 2016-17

Particulars	Legend	Admitted
Stock Quantum (in MT)		
Opening Stock*	A	218021.40
Coal Purchase during the year	B	2872171.00
Coal consumed	C	2789471.69
Closing stock	D=A+B-C	300720.71
Stock price (in Rs. /MT)		
Price of opening stock*	E	2964.79
Price of coal purchased	F	2955.28
Price of coal consumed	$G = ((A*E+B*F)/(A+B))$	2955.95
Price of Closing Stock	$H = ((A*E+B*F)/(A+B))$	2955.95
UHV of Coal (in Kcal/Kg)		
Heat value of opening stock*	I	2944.98
Heat value of coal purchased	J	2706.00
Heat value of coal consumed	$K = ((A*I+B*J)/(A+B))$	2722.86
Heat value of Closing Stock	$L = ((A*I+B*J)/(A+B))$	2722.86

* The quantum, price and heat value of opening stock has been considered as per the closing stock of 2015-16.

2.10.6. Admitted Fuel Cost

2.10.6.1 Thus, the total fuel cost admissible for FY 2016-17 works out to Rs. 106070.05 Lakh against the claimed fuel cost of Rs. 106194.53 Lakh. Detailed Computation of the same is shown in Annexure - 2B.

**2.10.7. C_D: Cost Disallowable**

2.10.7.1 The factor C_D as referred to in the formula in paragraph B of Schedule 7A of Tariff Regulations, stands for cost as to be found disallowable by the Commission as having been incurred in breach of economic generation or of order/direction of the Commission if any, or for any other reason considered sufficient by the Commission during the adjustment period and adjusted corresponding to actual level of sales. As the unit rates of energy charges from the generating stations have been worked out based on normative parameters, no further disallowance is required on this account.

2.10.8. Gains on account of better performance over operating norms

2.10.8.1 As discussed in paragraph 2.8 above, gain due to improved specific oil consumption is as shown in the Table below:

Table 2-11: Gain due to improved specific oil consumption for FY 2016-17

Particulars	Unit	Value
Total Gross Generation	MU	4076.838
Oil consumption on normative basis	kL	4076.84
Actual oil consumption	kL	747.29
Savings in oil consumption	kL	3329.55
Average rate of oil	Rs./kL	45723.66
Savings in amount	Rs. Lakh	1522.39
Specific Consumption of Oil as per admissible Norms	ml/kWh	1.00
Actual Oil Consumption	ml/kWh	0.19
Difference in specific oil consumption	ml/kWh	0.81
Category		A
Sharing Ratio as per Sl. No. 4 of Category A		74 : 26
Share % of CESC Limited	%	26%
Share of CESC Limited	Rs. Lakh	395.82

2.10.8.2 Similarly, gain due to improved auxiliary consumption is as shown in the Table below:

Table 2-12: Gain due to improved auxiliary consumption for FY 2016-17

Particulars	Unit	Value
Normative Auxiliary Consumption	MU	366.915
Actual Auxiliary Consumption	MU	327.147
Savings in Auxiliary Consumption	MU	39.768
Cost of Generation	Rs./kWh	260.18
Gain	Rs. Lakh	1034.68
Normative Auxiliary Consumption	%	9.00%



Order on FCA and APR of HEL for FY 2016-17

Particulars	Unit	Value
Actual Auxiliary Consumption	%	8.12%
Difference in Auxiliary percentage	%	0.88%
Category		Category B
Sharing Ratio as per Sl. No. 1 of Category B		75 : 25
Share % of CESC Limited	%	25%
Share of CESC Limited	Rs. Lakh	258.67

2.10.8.3 Similarly, gain due to improved SHR is as shown in the table below:

Table 2-13: Gain due to improved SHR for FY 2016-17

Particulars	Unit	Value
Ratio of Heat Rate to Design Heat Rate in accordance with Para A3 of Schedule - 9B of the Tariff Regulations (SHR_n/D)		1.060
Category		Category B
SHR/SHR_n		Less than 0.96
Admissible Gross Generation	MU	4076.838
Cost of Coal considering Normative SHR (as per Annexure – 2B)	Rs. Lakh	104205.97
Coal cost for sale to the Purchaser considering actual SHR (as per Annexure – 2D)	Rs. Lakh	83724.44
Coal cost difference	Rs. Lakh	20481.53
Applicable criteria in accordance with Para A3 of Schedule - 9B to the Tariff Regulations		5
Share to the Purchaser in accordance with Para A3 of Schedule - 9B to the Tariff Regulations	%	14%
Amount to be passed on to the Purchaser (CESC Limited) in accordance with Para A3 of Schedule - 9B of the Tariff Regulations	Rs. Lakh	2867.41

2.10.8.4 The share of CESC Limited out of total gain on account of improved specific oil consumption, auxiliary energy consumption and Station Heat Rate is Rs. 3521.90 Lakh (Rs. 395.82 Lakh + Rs. 258.67 Lakh + Rs. 2867.41 Lakh).

2.10.9. Summing up the findings as explained in the earlier paragraphs, the amount of admissible fuel cost of HEL for FY 2016-17, net of sharing of gains due to improved performance as discussed aforesaid is shown in the table below:

Table 2-14: Fuel cost admitted by the Commission after necessary adjustments

Particulars	Unit	Admitted
Total Admissible Fuel Cost	Rs. Lakh	106070.05



Order on FCA and APR of HEL for FY 2016-17

Particulars	Unit	Admitted
Cost disallowed	Rs. Lakh	-
Less: Sharing of Gains with CESC	Rs. Lakh	3521.90
Fuel Cost admitted	Rs. Lakh	102548.15

2.11. The Commission now views the actual performance with reference to admitted parameters and cost allowed for FY 2016-17 as shown in the Table below:

Table 2-15: Fuel Cost per unit for FY 2016-17 (Paise/kWh)

Particulars	Value
Fuel cost per unit as per Tariff order	253.83
Fuel cost per unit as allowed in FCA	276.42

2.12. HEL submitted that the Tariff Order for FY 2016-17 was issued on 29.01.2016 and the recovery of Energy Charge of 253.83 paise/kWh was approved in the Tariff Order was billed from April 2016 upto 21.07.2016. From 22.07.2016, the Energy Charge of Rs. 269.83 Paise/kWh (including MFCA) was billed in FY 2016-17. Thus, revenue from energy charges realized by HEL during FY 2016-17 through sale to purchaser in actual was of Rs. 97922.77 Lakh.

2.13. Summing up the findings as explained in the earlier paragraphs, the amount of Fuel Cost Adjustment of HEL generating station for FY 2016-17 is now determined based on the FPPCA formula specified in paragraph B of Schedule -7A of the Tariff Regulations considering admissible fuel cost of HEL for FY 2016-17, net of sharing of gains due to improved performance vis-à-vis the fuel cost recovered during the year is shown in the table below:

Table 2-16: Fuel Cost Adjustment for 2016-17

Particulars	Unit	Admitted
Total Admissible Fuel Cost	FC	102548.15
Power Purchase Cost for pumping energy of PSP	PPC	Not applicable
Less: Cost disallowed	C _D	0.00
Adjustment, if any	A	0.00
Fuel cost recovered through sale to the purchaser	F _c	97922.77
Power purchase cost allowed in Tariff order for pumping energy		Not applicable
FPPCA	{FC + (PPC - CD) + A} - (fc + ppc)	4625.38

2.14. The admitted fuel cost has been considered by the Commission while approving the APR of HEL for FY 2016-17 in the next chapter of the order.

**COMPUTATION OF ACTUAL STATION HEAT RATE ACHIEVED IN FY 2016-17**

Sl. No.	Particulars	Unit	Value
1	Gross Generation (Actual)	MU	4031.070
2	Consumption of Oil (Actual)	kL	747.29
3	Consumption of Coal (Actual)	MT	2789471.69
4	GCV of Oil (Actual)	kcal/lit	9343.00
5	Heat Value of Coal (Actual)	kcal/kg	2722.86
6	Heat from Oil (2X4/1000)	M. kcal	6981.93
7	Heat from Coal (3X5/1000)	M. kcal	7595340.89
8	Total Heat Used (6+7)	M. kcal	7602322.821689.27
9	Station Heat Rate Achieved (8/1)	kcal/kWh	1885.93
10	Normative Station Heat Rate	kcal/kWh	2345.00

COMPUTATION OF ACTUAL AUXILIARY CONSUMPTION ACHIEVED IN FY 2016-17

Actual Gross Generation (MU)	Actual Sent Out Generation (MU)	Auxiliary Consumption (MU)	Actual Auxiliary Consumption	Normative Auxiliary Consumption
4031.070	3703.923	327.147	8.12%	9.00%

COMPUTATION OF SPECIFIC OIL CONSUMPTION ACHIEVED IN FY 2016-17

Actual Gross Generation (MU)	Actual Oil Consumption (kL)	Specific Oil Consumption (ml/kWh)	Normative Oil Consumption (ml/kWh)
4031.070	747.29	0.19	1.00

**COMPUTATION OF FUEL COST**

Operating Parameters	Legend	Unit	Claimed	Admitted
Sent out Energy - (Scheduled Injection at Haldia boundary)	A	MU	3709.923	3709.923
Normative Auxiliary Consumption	B	%	9%	9%
Auxiliary Consumption	C	MU	366.915	366.915
Gross Admissible Generation	D	MU	4076.838	4076.838
Heat Rate	E	kcal/kWh	2345.00	2345.00
Permitted Oil Consumption	F	ml/kWh	1.00	1.00
Heat Value of Oil	G	kcal/L	9343.00	9343.00
Heat Value of Coal	H	kcal/kg	2706.00	2722.86
Overall Permitted Heat	$I=D*E$	GCal	9560185.37	9560185.11
Permitted Heat from Oil	$J=D*F*G/10^3$	GCal	38089.94	38089.92
Permitted Heat from Coal	$K=I-J$	GCal	9522095.43	9522095.19
Permitted Oil Consumption	$L=(J/G)*10^3$	kL	4076.84	4076.84
Permitted Coal Consumption excluding transit loss		Tonne	3518882.27	3497093.20
Transit Loss		Tonne	28378.08	28202.36
Permitted Coal Consumption	$M=K/H/.992*10^3$	Tonne	3547260.35	3525295.56
Cost of Oil per kL	N	Rs./kL	45723.66	45723.66
Cost of Coal per Tonne	O	Rs./Tonne	2941.16	2955.95
Cost of Oil	$P=L*N/10^5$	Rs. Lakh	1864.08	1864.08
Cost of Coal	$Q=M*O/10^5$	Rs. Lakh	104330.45	104205.97
Total Cost of Fuel	$R=P+Q$	Rs. Lakh	106194.53	106070.05



**COMPUTATION OF COAL BASED ON MINIMUM OF DECLARED HEAT VALUE FOR HEL THERMAL
POWER STATION FOR FY 2016-17**

Source	Grade of coal	Quantity	GCV	UHV Min	UHV Max	GCV Min	GCV Max	Mean UHV on interpolation and Extrapolation basis
		MT	kcal/kg	kcal/kg	kcal/kg	kcal/kg	kcal/kg	kcal/kg
CCL - Auction	G10	7180	4301					4301
CCL - Auction	WIV	111153	3980					3980
MCL - Linkage	G12	932307	3701	1300	2400	3113	3865	2160
MCL - Linkage	G13	1353367	3401	1300	2400	3113	3865	1721
MCL -RCR	G12	38487	3701	1300	2400	3113	3865	2160
MCL - Auction	G12	91909	3701					3701
MCL - Auction	G13	45668	3401					3401
IMPORT		292100	4975					4975
OVERALL								2383



Computation of Coal cost at actual SHR

Operating Parameters	Legend	Unit	Amount
Sent out Energy - (Scheduled Injection at Haldia boundary)	A	MU	3709.923
Normative Auxiliary Consumption	B	%	9%
Auxiliary Consumption	C	MU	366.915
Gross Admissible Generation	D	MU	4076.838
Heat Rate	E	kCal/kWh	1885.93
Permitted Oil Consumption	F	ml/kWh	1.00
Heat Value of Oil	G	kCal/L	9343.00
Heat Value of Coal	H	kCal/kg	2722.86
Overall Permitted Heat	$I=D*E$	GCal	7688631.09
Permitted Heat from Oil	$J=D*F*G/10^3$	GCal	38089.92
Permitted Heat from Coal	$K=I-J$	GCal	7650541.17
Quantum of Coal required at normative transit loss	$M=K/H/.992*10^3$	Tonne	2832403.83
Cost of Coal per Tonne	O	Rs./Tonne	2955.95
Cost of Coal	$Q=M*O/10^5$	Rs. Lakhs	83724.44



CHAPTER – 3 FIXED COST DETERMINATION UNDER APR

- 3.1. The Commission in its order dated 29.01.2016 had determined the capacity charge for FY 2016-17 as Rs. 88586.00 Lakh considering the 95% of the project cost as claimed by HEL subject to approval of final project cost to be approved by the Commission.
- 3.2. The Commission vide its order dated 20.07.2022 in Case No. OA-270/17-18 approved the final capital cost as under:

“18.3 The Hard Cost claimed by HEL is inclusive of the additional capitalisation post COD. As the item wise cost has been approved considering the Hard Cost claimed by HEL, the same need to be apportioned as on COD and post COD. HEL in its additional information submitted the Hard Cost as on COD and the year wise additional capitalisation post COD. The Commission has apportioned the approved Hard Cost in the same proportion as submitted by HEL as on COD and post COD as under:

Table 30: Hard Cost as on COD and Additional Capitalisation post COD (Rs. Crore)

Particulars	Claimed	Computed by the Commission
Hard Cost as on COD	3285.7	3145.2
Additional Capitalisation		
FY 2015-16	50.3	48.1
FY 2016-17	37.6	36.0
FY 2017-18	98.8	94.6
FY 2018-19	39.2	37.5
FY 2019-20	0.7	0.7
Balance Additional Capitalisation	13.4	12.8
Total Additional Capitalisation	240.0	229.7
Total Hard Cost	3525.7	3374.9

“24.0 The Commission after considering all the facts and the project report submitted by HEL along with the submissions, clarifications and documents in terms of Regulation 2.8.5.1 of the Tariff Regulations approves the final Project Cost of Rs. 3832.6 Crore as per the details given below:

Table 35: Capital Cost approved by the Commission (Rs. Crore)

Particulars	Claimed	Approved
BTG	1687.8	1680.3
BoP	1302.9	1262.3
Railway Infrastructure	154.0	154.0
Intake Water System	71.0	65.3
Other Enabling Works	104.9	53.5
Land and Site Development	70.6	70.6
Consultancy	22.5	21.0
Overheads	112.0	67.9
Contingencies	0.0	0.0



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Particulars	Claimed	Approved
Total Hard Cost	3525.7	3374.9
IDC and FC	541.5	457.7
Total	4067.2	3832.6

25.0 As discussed earlier, the Hard Cost approved by the Commission includes Additional Capitalization of Rs 229.7 Crore post COD of the Project. The additional capitalization post COD considered as part of Capital Cost shall not be construed as final approval by the Commission. The year wise additional capitalization shall be dealt with in the APR Order for the respective year based on the prudence check of the submissions of HEL in its APR Petitions in accordance with the provisions of the Tariff Regulations.”

- 3.3. HEL has claimed the additional capitalisation of Rs. 3763 Lakh for FY 2016-17. The Commission directed HEL to submit the justification for the claimed additional capitalisation along with package wise/head wise break-up.
- 3.4. The item wise break-up of additional capitalisation submitted by HEL is as shown in the Table below:

Table 3-1: Item wise break-up of additional capitalisation claimed by HEL (Rs. Lakh)

Particulars	Claimed
Land and Site development	169
BTG including taxes and duties	819
Railway	82
Intake water system	1041
Other enabling works	1180
Overhead and pre-operative expenses	472
Total	3763

- 3.5. The Commission in its order dated 20.07.2022 in Case No. OA-270/17 – 18 had admitted additional capitalization of Rs. 3600 lakh for the year 2016-17, in proportion to the admitted capital cost of the project. The order has been challenged by the petitioner before the Hon'ble Appellate Tribunal for Electricity (APTEL). Under these circumstances, the Commission decides to consider Rs. 3600.00 Lakh as additional capitalization for 2016-17. However, HEL has liberty to approach before the Commission for redetermination of additional capitalisation based on the decision of Hon'ble APTEL..
- 3.6. Based on the above, the capital cost considered for FY 2016-17 is as shown in the Table below:

Table 3-2: Capital cost for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Opening capital cost	387768.28	365094.94
Additional capitalisation	3763.21	3600.00
Closing capital cost	391531.49	368694.94



3.7. The Paragraph 3.4 of the Schedule 1 of the Tariff Regulations define capacity charges as Annual Revenue Requirement (ARR) minus the fuel cost. The Commission, in Chapter 2, has dealt with the fuel cost for FY 2016-17. In this Chapter, the Commission deals with the components of ARR, other than fuel cost, claimed by HEL as detailed hereunder.

3.8. HEL has claimed the following components of ARR other than the fuel cost:

- 1) Operation and Maintenance (O&M) expenses
- 2) Insurance premium
- 3) Employee cost
- 4) Rent, Rate and Taxes (other than income tax)
- 5) Coal and Ash handling expenses
- 6) Corporate Social Responsibility (CSR) expenses
- 7) Statutory charges
- 8) Water Cess
- 9) Interest expenses
- 10) Other finance charges
- 11) Depreciation and Advance Against Depreciation (AAD)
- 12) Tax
- 13) Return on Equity
- 14) Incentives
- 15) Special allocation
- 16) Income other than sale of energy
- 17) Capacity Charge adjustment linked to Plant Availability Factor (PAF)

O&M expenses

3.9. The O&M expenses viz., repairs and maintenance expenses including cost of consumables, legal and professional charges, audit fees, administrative and general expenses are categorised as controllable items in terms of the Tariff Regulations.

3.10. The Commission vide order dated 20.01.2016 in Case No OA-121/11-12 has approved the normative O&M expenses of Rs. 7.92 Lakh/MW for FY 2016-17 which works out to Rs. 4752.00 Lakh for 600 MW.

Table 3-3: O&M Expense Normative

Particulars	Normative O&M Expense (Rs. Lakh/MW)	Capacity (MW)	No of Days in Operation (Days)	Normative O&M Expense (Rs. Lakh)
Unit 1	7.92	300	365	2376.00
Unit 2	7.92	300	365	2376.00
Total				4752.00

3.11. HEL in its petition has claimed Rs. 3469.40 Lakh as Repair & Maintenance Expenses (including consumables), Rs. 115.60 Lakh as legal charges, Rs. 7.30 Lakh as Auditor's fees and Rs.



2488.40 Lakh as other Administrative & General Charges in its Form E(B). It is observed that, Rs. 43.40 Lakh related to other bank charges and Rs. 27.90 Lakh for L/C opening charges are claimed separately under Finance Charge, which being routine expenses in nature should come under administrative and general expenses. Also, it is observed that, HEL has claimed Rs. 159.94 Lakh Expense under the head of Coal and ash handling expense which are O&M in nature as elaborated in para 3.17 in FY 2016-17. In view of above, the Commission recompute the actual O&M expenses based on the submission of the petitioner as below:

Table 3-4: Actual O&M Expense for FY 2016-17 (Rs. Lakh)

Sl. No.	Particulars	Actual O&M Expense (Rs. Lakh)
1.	R&M including Consumables	3469.40
2.	R&M Expense related Coal and Ash handling	159.94
3.	Legal Charges	115.56
4.	Auditor Fees	7.30
5.	Other Administrative and General Charges	2488.38
6.	Other Bank Charges	43.40
7.	LC Opening Charges	27.90
	Total	6311.88

3.12. The actual O&M expenses are higher than the normative expenses and hence in accordance with Regulation 2.5.5, the Commission admits the normative O&M expenses of Rs. 4752 Lakh for FY 2016-17

Table 3-5: O&M expenses for FY 2016-17 (Rs. Lakh)

Particulars	Normative	Claimed	Actual	Admitted
O&M expenses	4752.00	6080.70	6311.88	4752.00

Insurance premium

3.13. HEL has claimed the insurance premium of Rs. 635.09 Lakh for FY 2016-17. The Commission observed that, as per the audited accounts, the total insurance premium for FY 2016-17 is Rs. 731.44 Lakh out of which the amount of Rs. 635.09 Lakh pertains to generation business and the amount of Rs. 96.35 Lakh pertains to evacuation system. The Commission directed HEL to substantiate that the insurance policy was availed after following the transparent process in terms of regulation 5.23.1 of the Tariff Regulation and submit copies of tender documents, quotations received, etc. In response HEL submitted insurance details, property benchmarking and quotes received from vendors, but did not submit the tender documents. From the submitted documents, it is observed that HEL has selected the least quoted insurer for



comprehensive mega risk policy. However, the Commission observed that in addition to 'All Risks & Machinery Breakdown', the insurance premium also covers Business interruption in terms of Gross profit & increased cost of working due to reduction in its turnover following loss covered under Machinery Breakdown. The Commission is of considered opinion that insurance covering the loss of profit of the company shall not be passed on to the consumer through tariff. Thus, premium paid proportionate to sum insured Business Interruption is not admitted. Accordingly, the Commission admits Rs. 534.89 Lakh as insurance premium of HEL Generating station as below:

Table 3-6: Insurance premium for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Insurance premium (Comprehensive Mega risk policy)	591.53	591.53
Less: proportionate premium for business interruption		100.20
Other small insurance coverages	43.56	43.56
Net Insurance premium	635.09	534.89

Rent, Rates and Taxes (other than income tax)

3.14. HEL has claimed the amount of Rs. 53.08 Lakh towards rates and taxes for payment made on account of municipal/ panchayat tax, land revenue, way leave license, license fees for railway corridor etc. The actual expenditure on this account has been admitted by the Commission, after prudence check.

Table 3-7: Rent, rates and taxes for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Rent, Rates and Taxes	53.08	53.08

Statutory charges

3.15. HEL has claimed an amount of Rs. 15.52 Lakh towards statutory charges in terms of regulation 5.14.1 of the Tariff Regulations for payments made under various statute of Government as well as regulatory authority. The actual expenditure on this account has been admitted by the Commission, after prudence check.

Table 3-8: Statutory charges for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Statutory charges	15.52	15.52

Employee cost

3.16. Employee cost include mainly salary and wages, expenditure on account of terminal benefits to the employees and welfare expenses. HEL has claimed the employee cost of Rs. 5091.00 Lakh.



From the submissions of HEL, the Commission's findings are as follows:

- a) The maximum ceiling man/MW requirement approved by the Commission vide its Order dated 20.01.2016 in Case No. OA-121/11-12 is 1.3 thereby the maximum ceiling number of employees corresponding to 600 MW works out to seven hundred and eighty (780).
- b) The actual number of employees is seven hundred and forty-seven (747) comprising of own employees of two hundred and four (204) and contract employees of five hundred and forty-three (543) as per auditor's certificate. Similarly, Actual Employee Expense due to Own Employee is 2962.60 Lakh and due to Contract Employee is 2006.40 Lakh totalling to Rs. 4969.00 Lakh. Total actual Employee cost is Rs. 4969 Lakh.
- c) However, HEL has considered the number of employees as seven hundred and eighty (780) comprising of own employees of two hundred and four (204) and contract employees of five hundred and seventy-six (576). Accordingly, it claimed Total Employee expense of Rs. 5091.00 Lakh (Own Employee expense Rs. 2962.60 Lakh and contract employee expense 2128.40 Lakh)
- d) The Commission finds that HEL has claimed increased number of contract employees so as to match the number of employees corresponding to approved man/MW ratio of 1.3.
- e) As the man/MW requirement of 1.3 is maximum ceiling. the Commission does not find the approach adopted for increasing the number of contract employees and consequent increase in employee cost to be prudent. Hence, the Commission considers the number of employees and employee cost as per Auditor's Certificate.
- f) Accordingly, the Commission admits the employee cost of Rs. 4969 Lakh for FY 2016-17.

Table 3-9: Employee cost for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Own Employees	2962.60	2962.60
Contractual Employees	2128.40	2006.40
Total Employee Cost	5091.00	4969.00

Coal and Ash handling expenses

3.17. HEL has claimed the amount of Rs. 1208.30 Lakh towards coal and ash handling expenses which have also been booked in the annual accounts for FY 2016-17. HEL has submitted the item wise break-up of claimed coal and ash handling expenses. HEL vide letter dated 29.09.2022 has also submitted the supporting documents to substantiate the claimed expenses. The Commission has noted the submission and after prudence check and observed that Rs. 1048.36 Lakh is related to Coal and ash handling expense and the remaining expenses amounting to Rs. 159.94 Lakh claimed by HEL under the coal and ash handling expense comes



under O&M expenses. The Commission also observed that the coal and ash handling expenses, excluding O&M related work during 2015-16 was Rs. 672.52 lakh, which has now increased to Rs. 1048.36 Lakh in 2016-17. HEL has not submitted any justification regarding 56% increase from the previous year. The Commission is of the view that the coal and ash handling expenses can be increased on year-to-year basis due to i) increase in gross generation or ii) increase in inflation (CPI) or iii) major difference in quality of coal. The Commission observed that the actual gross generation has been increased from 3662.360 MU in 2015 – 16 to 4031.070 MU in 2016 – 17, so coal and ash handling expense shall increase to that extent. The Commission considers CPI inflation for Coal and Ash Handling expenses of generating plants, in view of manpower intensive activities. The CPI has decreased from 5.65% in 2015 – 16 to 4.15% in 2016 – 17, so no increase is found reasonable in terms of inflation. It is also noted that average Heat Value of coal in 2015-16 was 2944.98 kcal/kg, which is equivalent to G15 grade coal and in 2016 – 17 the heat value is 2722.86 kcal/kg is equivalent to G16 grade of CIL coal. Hence, there is apparently no major difference in coal quality. Thus, in absence of any proper justification by HEL, the Commission finds it prudent to determine the admissible coal and ash handling expenses considering the impact of actual generation over and above the admitted cost during 2015-16 limited to the expense claimed in 2016-17.

Table 3-10-1: Coal and ash handling expenses for FY 2016-17(Rs. Lakh)

	Actual coal & ash handling expense in 2015-16	Actual generation in 2015-16	Actual generation in 2016-17	Admissible coal & ash handling expense for 2016-17	Actual for 2016-17	Admitted amount for 2016-17
	A	B	C	$D = A \times C / B$	E	$F = \text{Min}(D, E)$
	672.52	3662.360	4031.070	740.23	1048.36	740.23

Corporate Social Responsibility (CSR) expenses

3.18. HEL has claimed the amount of Rs. 162.00 Lakh towards CSR expenses. The same has not been allowed since the same is an allocation of profit and a statutory obligation. The Commission takes a serious note regarding the said claim of CSR expenses in APR when such Expenditure shall have to be met from the profits of the company. The Commission cautions the petitioner that claiming of CSR expenses in Tariff/APR shall attract penal action in the forthcoming filings.

**Table 3-11: CSR expenses for FY 2016-17 (Rs. Lakh)**

Particulars	Claimed	Admitted
CSR expenses	162.00	0.00

Water Cess

3.19. HEL has claimed the amount of Rs. 44.40 Lakh towards water cess. The actual expenditure of Rs 44.40 Lakh on this account as per Auditor's certificate has been admitted by the Commission.

Table 3-12: Water Cess for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Water Cess	44.40	44.40

Depreciation and Advance Against Depreciation (AAD)

3.20. HEL has claimed the amount of Rs. 13902.70 Lakh and Rs. 12.60 Lakh towards depreciation and AAD respectively.

3.21. The claimed depreciation has been computed as per Schedule A in Annexure A of the Tariff Regulations. The Commission decides to go by the amounts of depreciation as claimed after incorporating appropriate reduction on account of reduced project cost. Accordingly, the actual depreciation has been allowed in proportion to the approved average capital cost to the claimed average GFA.

Table 3-13: Depreciation for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Opening capital cost	387768.30	365094.94
Closing capital cost	391531.50	368694.94
Depreciation	13902.70	13090.80

3.22. HEL has claimed AAD of Rs. 12.60 Lakh. In terms of Tariff Regulations, depreciation is primarily used for repayment of capital expenditure loan. Where the depreciation falls short of the actual repayment, such shortfall is allowed under AAD. The Commission now proceeds to determine the allowable amount of AAD. The Commission has considered the capital expenditure loan repayment of Rs. 11889.18 Lakh and as against the same, the depreciation has been admitted as Rs. 13090.98 Lakh. Therefore, the allowable depreciation is higher than the loan repayment and hence, the provision of AAD does not arise. Hence, the Commission has admitted AAD as nil for FY 2016-17.



Return on Equity (RoE)

3.23. HEL has claimed the amount of Rs. 15845.96 Lakh towards RoE.

3.24. The Commission in the APR Order for FY 2015-16 had approved the closing equity for FY 2015-16 as Rs. 102231.60 Lakh. As the opening equity of Rs. 102231.60 Lakh is less than 30% of the approved capital cost the Commission has considered the same. The Commission observes that the entire claimed additional capitalisation for FY 2016-17 has been funded by 100% loan, HEL has not proposed any equity addition during the year. Therefore, the Commission has not considered any equity addition during FY 2016-17. The Commission has admitted the closing equity for FY 2016-17 as Rs. 102231.60 Lakh, the same as the approved opening equity. RoE has been allowed at the rate of 15.50% in accordance with the Regulations.

Table 3-14: RoE for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Opening equity	102232.00	102231.60
Closing equity	102232.00	102231.60
Rate of RoE	15.50%	15.50%
RoE	15845.96	15845.90

Interest expenses

3.25. HEL has claimed the amount of Rs. 35416.80 Lakh towards interest expenses. These include (i) interest on capital expenditure loan, (ii) interest on working capital and (iii) interest on temporary accommodation. Each of the above items have been discussed in detail hereunder.

Table 3-15: Interest expenses claimed by HEL (Rs. Lakh)

Particulars	Claimed
Interest on capital expenditure loan	30870.60
Interest on working capital	2046.20
Interest on temporary accommodation	2500.00
Total	35416.80

Interest on capital expenditure loan

3.26. HEL has claimed the amount of Rs. 30870.60 Lakh towards interest on capital expenditure loan. HEL has submitted the computations in the prescribed Form C of Annexure-I of APR Petition. HEL has also furnished an auditor's certificate for interest cost.

3.27. HEL in its Petition submitted that it has refinanced the domestic project loan in order to optimize the borrowing cost with consequent benefits to be passed through the tariff. In this regard HEL was directed to submit



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- a detailed note on the refinancing done by it clearly demonstrating the optimization of the borrowing cost achieved and the consequent benefits proposed to be passed through tariff.
- The copies of loan agreements before restructuring and after restructuring

3.28. HEL vide reply dated 11.07.2022 submitted that the outstanding term Loan amounting to Rs. 245442 Lakh as on 29.08.2016, at the average interest rate of 10.7% has been refinanced with the interest rate of 10% thereby resulting in saving in interest rate by 0.7% and this saving has been proposed to be passed on through tariff. HEL submitted the loan sanction letters. In accordance with Regulation 5.6.4.2 (iii) of the Tariff Regulations, the generating company is allowed to swap the existing loans as long as it results in net benefit to the beneficiaries after taking into consideration all the associated cost inclusive of prepayment of premium for such benefit analysis. The cost associated with such beneficial swapping shall be borne by the beneficiaries. As submitted by HEL, the front end fees claimed for FY 2016-17 (Rs. 871.20 Lakh) includes the charges incurred during restructuring of loan. The Commission in the APR Order for HEL (Transmission) for FY 2016-17 dated 21.07.2022 in Case No. APR-76/19-20 had approved the interest charges on Borrowed Capital taking into consideration the refinancing of the Term Loan during FY 2016-17. The Loan position for FY 2016-17 as submitted by HEL is as under:

Table 3-16: Loan position for FY 2016-17 as submitted by HEL (Rs. Lakh)

Particulars	Legend	Value
Before Refinancing		
Debt Outstanding at the beginning of the year	A	298051
Normal repayment	B	6068
Loans outstanding	C=A-B	291983
Loan amount repaid for refinancing	D	245442
Loan amount outstanding after repayment for refinancing	E=C-D	46540
After Refinancing		
Loan Amount outstanding before drawing refinanced loan	F=E	46540
Loan amount drawn	G	245442
Total amount outstanding	H	291982
Normal repayment made	I	7847
Loan outstanding at the end of the year	J=H-I	284135

3.29. The term loan availed by HEL for Generation and Transmission is the same sources and therefore the Commission has admitted the interest on capital expenditure Loan based on the details furnished in Form – C. The interest paid as per Form – C is as under:



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Table 3-17: Interest Paid Before Refinancing (From 01.04.2016 to 29.08.2016)

Loan Source	Opening Balance	Closing Balance	Average Balance	Interest Paid
IDBI	59208.46	-	29,604.23	2549.64
SBI	42291.76	-	21,145.88	1804.56
UBI	25375.06	-	12,687.53	1081.41
CENTRAL BANK	17339.62	-	8,669.81	735.70
BANK OF BARODA	34256.33	-	17,128.16	1492.24
PNB	31718.82	-	15,859.41	1340.98
ICICI	41238.70	-	20,619.35	1867.49
IIFCL	32554.05	32,472.66	32,513.36	1426.83
ICICI-ECB	14067.75	14,067.75	14,067.75	603.39
Total			172295.48	12902.24

Table 3-18: Interest Paid After Refinancing (From 30.08.2016 to 31.03.2017)

Loan Source	Opening Balance	Closing Balance	Average Balance	Interest Paid
IDBI	0.00	40135.60	20067.80	2404.02
SBI	0.00	31647.78	15823.89	1895.04
United Bank	0.00	15629.02	7814.51	936.14
BANK OF BARODA	0.00	15638.24	7819.12	962.62
PNB	0.00	17435.95	8717.97	1040.94
ICICI	0.00	33601.74	16800.87	3629.59
IIFCL	32472.66	32228.51	32350.58	2011.73
Allahabad bank	0.00	10500.54	5250.27	628.96
IDFC	0.00	33601.74	16800.87	2003.37
Union Bank	0.00	29147.79	14573.89	1757.50
Punjab & Sind Bank	0.00	10500.54	5250.27	628.96
ICICI-ECB	14067.75	14067.75	14067.75	855.14
Interest Credit				(-)785.6
Total			165337.80	17968.4

Total Interest paid = Rs 12902.2 lakh + Rs 17968.4 lakh = Rs 30870.60 lakh

Weighted average interest rate = 10.61%.

3.30. The closing loan balance approved in the APR of FY 2015-16 has been considered as the opening loan balance for FY 2016-17. The debt portion of the admitted additional capitalisation



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during the year has been considered as the loan addition during the year as there is no equity infusion for funding the additional capitalisation during FY 2016-17. The capital cost approved by the Commission is on the lower side in comparison to the capital cost claimed by HEL hence, the actual repayment of loan has been considered in proportion to the admitted opening loan balance and that claimed by HEL. Based on the above, the actual interest has been allowed on proportionate basis of admitted average loan balance to the claimed average loan balance.

Table 3-19: Interest on capital expenditure loan for FY 2016-17 (Rs. Lakh)

Actual Loan Balance	Admitted
Opening	254647.51
Addition	3600.00
Repayment including Refinancing	
Refinancing	
Repayment	11889.00
Closing	246358.51
Average	250503.01
Interest Rate	10.61%
Interest Amount	26578.37

Interest on working capital

- 3.31. HEL has claimed the amount of Rs. 2046.20 Lakh towards interest on working capital. Regulation 5.6.5 of the Tariff Regulations specify the principles for determination of interest on working capital. The interest on working capital has been computed in accordance with the same.
- 3.32. The one year MCLR of SBI as on 01.04.2016 is 9.20%. The Commission thus has computed normative rate of interest on working capital as 12.70% (9.20%+3.50%). Further, in accordance with the Regulations, the lower of actual and normative interest on working capital shall be considered in APR.
- 3.33. Accordingly, the interest on working capital for FY 2016-17 is as shown in the Table below:

Table 3-20: Computation of interest on working capital for FY 2016-17 (Rs. Lakh)

Sl. No.	Particulars	Admitted
A	Gross Sales excluding Incentive	176508.52
B1	Less: Depreciation including Advance Depreciation	13090.80
B2	Less: Deferred Revenue Expenditure	0.00
B3	Less: Return on Equity	15845.90
B4	Less: Reserve for unforeseen exigencies	0.00
B	Total Deductions (sum B1:B4)	28936.70
C	Allowable Gross Sales for Working Capital (A-B)	147571.82
D	Allowable Working Capital @ 10% on C	14757.18
E	Interest Rate (lower of actual and SBI PLR)	12.70%



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Sl. No.	Particulars	Admitted
F	Interest on Working Capital (E % on D)	1874.16
G	Actual interest paid	1247.99
H	Interest on working capital allowable (Lower of F & G)	1247.99

Interest on temporary accommodation

- 3.34. HEL has claimed the amount of Rs. 2500.00 Lakh towards interest on temporary accommodation. In Form 1.17(a), HEL has submitted the detailed loan balance and interest on temporary accommodation for FY 2016-17.
- 3.35. According to Regulation 5.6.5.4 of the Tariff Regulations the Commission may allow Interest on Temporary Accommodation if taken by generating company in actual from any source to a reasonable extent. HEL has submitted its claim related to interest on temporary accommodation in Form – 1.17 (a) of the APR petition for the amounts of Interest actually incurred. As per information submitted to the Commission in Form-C it is observed that HEL has actually incurred the interest on temporary accommodation amounting to Rs. 73.48 lakh.
- 3.36. The Commission vide its APR Orders for FY 2014-15 and FY 2015-16 dated 22.09.2023 and 22.02.2024 respectively had determined the recoverable amount of Rs. 2774.26 Lakh and refundable amount of Rs. 538.86 Lakh respectively aggregating to cumulative recoverable amount of Rs. 2235.40 Lakh upto FY 2015-16. This amount has been considered as the opening balance of recoverable amount for FY 2016-17. The Commission in this order, on APR for FY 2016-17, has determined the refundable amount of Rs. 10657.83 Lakh. As the refundable amount admitted for FY 2016-17 is more than the outstanding recoverable amount at the beginning of FY 2016-17, the outstanding position as at the end of FY 2016-17 is net refundable amount of Rs. 8422.43 Lakh and the average of outstanding balances at the beginning and end of FY 2016-17 works out to refundable amount of Rs. 3093.52 Lakh. As Interest on Temporary Accommodation is not allowable refundable amount the Commission has not approved any interest on temporary accommodation for FY 2016-17.

Table 3-21: Interest on temporary accommodation claimed for FY 2016-17 (Rs. Lakh)

Sl. No.	Particulars	Claimed	Actual	Admitted
1	Opening Balance	17187.81	-	2235.40
2	Addition during the year	6608.00	-	(10657.83)
3	Repayment for the year	-	-	-
4	Closing Balance	23795.81	-	(8422.43)
5	Average balance	20491.81	-	(3093.52)
6	Interest on Temporary Accommodation on the average balance at actual contractual rate - 12.20%	2500.00	73.48	0.00



3.37. Based on the above, the total interest charges for FY 2016-17 are as under:

Table 3-22: Interest charges for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Interest on capital expenditure loan	30870.61	26578.37
Interest on working capital	2046.22	1247.99
Interest on temporary accommodation	2500.00	0.00
Total	35416.83	27826.36

Other Finance charges

3.38. HEL has claimed the amount of Rs. 943.63 Lakh towards finance charges. These include (i) guarantee commission, (ii) front end fees, (iii) other bank charges and (iii) LC opening charges. Each of the above items have been discussed in detail hereunder.

Guarantee commission

3.39. HEL has claimed the amount of Rs. 1.10 Lakh towards guarantee commission. The approved loan balances being lower than the claimed loan balance, the Commission admits the guarantee commission in proportion to the admitted average loan balance and the claimed average loan balance. Accordingly, the Commission admits the guarantee commission of Rs. 0.95 Lakh.

Front end fees

3.40. HEL has claimed the amount of Rs. 871.20 Lakh towards front end fees. The approved loan drawal (Rs. 3600 Lakh) being lower than the claimed loan drawal (Rs. Lakh) for the year, the Commission admits the front end fees in proportion to the admitted loan drawal for the year. Accordingly, the Commission approves the front end fees of Rs. 12.78 Lakh.

Particulars	Claimed	Admitted
Loan Drawal	245442.20	3600.00
Front End Fees	871.20	12.78

Other bank charges

3.41. HEL has claimed the amount of Rs. 43.40 Lakh towards other bank charges. The Commission noted that details of bank charges for routine cash management services are part of routine A&G expense as furnished in Format 1.17 (c). The Commission has accordingly considered other bank charges under O&M Expense.

Letter of Credit (LC) opening charges

3.42. HEL has claimed the amount of Rs. 27.90 Lakh towards LC opening charges. The Commission noted that LC opening charges are the charges incurred for issue and/or renewal of letters of credit for procurement of goods and services. Thus, it is part of routine A&G expense as



furnished in Format 1.17 (c). The Commission has accordingly considered other bank charges under O&M Expense.

3.43. Based on the above, the other finance charges for FY 2016-17 is as shown in the Table below:

Table 3-23: Other finance charges for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Guarantee commission	1.10	0.95
Front-end Fees	871.20	12.78
Other Bank Charges	43.40	0.00
LC opening Charges	27.90	0.00
Total	943.60	13.73

Interest credit on depreciation

3.44. HEL has not claimed any amount for interest credit on depreciation.

3.45. In terms of Tariff Regulations, depreciation is primarily used for repayment of capital expenditure loan. Where the depreciation falls short of the actual repayment, such shortfall is allowed under AAD. Similarly, when the actual loan repayment in a year is lower than the allowed depreciation, an interest credit at the rate of weighted average cost of debt for the corresponding year needs to be adjusted on such excess depreciation charged. Further, in terms of the Tariff Regulations, it is required to be ensured that the depreciation allowed should not go beyond 90% of the original project cost and after repayment of the entire loan the resulting depreciable amount shall be spread over the balance useful life of the fixed asset.

3.46. Accordingly, the Commission decides to compute the interest credit for FY 2016-17 considering the cumulative amount of depreciation and AAD allowed in previous APR orders. Accordingly, the interest credit on depreciation computed by the Commission for FY 2016-17 is as under:

Table 3-24: Interest credit on depreciation computed by the Commission for FY 2016-17 (Rs. Lakh)

Particulars	Units	Amount
Admissible opening Debt	Rs Lakh	254647.51
Repayment of Admissible Debt in FY 2016-17	Rs Lakh	11889.00
1/10th of Original Debt Amount	Rs Lakh	25464.75
Maximum Repayment Admissible for FY 2016-17	Rs Lakh	11889.00
Depreciation Allowed for FY 2016-17	Rs Lakh	13090.80
Excess of Depreciation and AAD over repayment upto 31.03.2016	Rs Lakh	7037.00
AAD for FY 2016-17	Rs Lakh	0.00
Excess of Depreciation over repayment upto 2016-17	Rs Lakh	8238.80
Weighted Average Cost of Debt	%	10.61%



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Particulars	Units	Amount
Interest Credit for FY 2016-17	Rs Lakh	874.14

3.47. Based on the above, the interest credit on depreciation for FY 2016-17 is as shown in the Table below:

Table 3-25: Interest credit on depreciation for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Interest credit on depreciation	0.00	874.14

Income Tax

3.48. HEL has claimed the amount of Rs. 7514.63 Lakh towards tax. HEL has submitted the income tax assessment order for FY 2016-17. The Commission, after prudence check of the same, approves the income tax as claimed by HEL.

Table 3-26: Tax for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Income Tax	7514.63	7514.63

Incentives

3.49. HEL has claimed the amount of Rs. 2892.34 Lakh towards performance incentives. These include (i) incentive for less oil consumption rate, (ii) incentive for better SHR, (iii) incentive for early completion. Each of the above items have been discussed in detail hereunder.

Incentive for less oil consumption rate

3.50. HEL has claimed the amount of Rs. 120.90 Lakh towards incentive for less oil consumption rate. The Commission has computed the incentive for less oil consumption rate in accordance with Paragraph 3 of Schedule 10 of the Tariff Regulation as under.

Table 3-27: Incentive for less oil consumption rate

Particulars	Unit	Admitted
Normative Oil Consumption Rate	ml/Kwh	1.0
Actual Oil Consumption Rate	ml/Kwh	0.19
Difference of Normative Oil Consumption Rate and Actual Oil Consumption Rate	ml/Kwh	0.81
Generation	MU	4076.838
Rate of Incentive	Paise/Unit	0.3
Incentive on Less Oil Consumption Rate	Rs. Lakhs	122.31

Incentive for better SHR

3.51. HEL has claimed the amount of Rs. 100.80 Lakh towards incentive for better SHR. The Commission has computed the incentive for better SHR in accordance with Paragraph 4 of



Schedule 10 of the Tariff Regulation as under.

Table 3-28: Incentive for better for FY 2016-17 (Rs. Lakh)

Particulars	Unit	Value
Station Heat Rate (SHR)	kcal/kWh	1885.93
Design Heat Rate (DSHR)	kcal/kWh	2219
SHR/(DSHR)		0.85
Rate of Incentive	Paise/Unit	0.25
Generation	MU	4076.838
Incentive on Better Gross Station Heat Rate	Rs. Lakhs	101.92

Incentive for early commissioning

3.52. HEL has claimed the amount of Rs. 2670.63 Lakh towards incentive for early commissioning. HEL submitted that it had achieved COD within the construction period specified in the Tariff Regulations and accordingly claimed the incentive. The actual project completion period of 40 months is lower than the normative construction period of 48 months specified in the Tariff Regulations. However, in accordance with Paragraph 10 of Schedule 10 of the Tariff Regulations.

3.53. Para 10 of the Schedule 10 of WBERC Tariff Regulations, 2011 states the following:

*“If the actual COD with full load operation and all load bearing equipment’s is **achieved earlier than both the COD as stipulated in the agreement and in Schedule-9C**, 75% of the saved interest during construction shall be allowed as incentive in such number of monthly installments over first four year of operation of the generating station as may be stipulated by the Commission in the tariff order”.*

3.54. While HEL had achieved COD before the specified time in the Tariff Regulations, but there is a delay of 4 months w.r.t. the scheduled COD as per the BTG contract. Hence, on account of non-fulfilment of dual conditions stipulated in Paragraph 10 of Schedule 10 of the Tariff Regulations, the incentive for early commissioning has not been approved by the Commission.

3.55. Based on the above, the incentives for FY 2016-17 is as shown in the Table below:

Table 3-29: Incentives for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Incentive for less oil consumption rate	120.93	122.31
Incentive for better SHR	100.78	101.92
Incentive for early commissioning	2670.63	0.00
Total	2892.34	224.23

Special allocation

3.56. HEL has claimed an amount of Rs. 969.42 Lakh towards special allocation under appropriation



to reserve for unforeseen Exigencies.

- 3.57. Regulation 5.11.1 of the Tariff Regulations specify that the generating company may provide and maintain a reserve for dealing with unforeseen exigencies up to 0.25% of the value of gross fixed assets at the beginning of the year annually and the provision made for the year will be allowed in their Aggregate Revenue Requirement subject to an overall ceiling of 5% of the value of gross fixed assets at the beginning of the year. The existing amount of contingency reserve in the books of accounts of the generating station, if any, will have to be considered while arriving at the overall ceiling as stated herein. Regulation 5.24.1 of the Tariff Regulations specify that the sum apportioned to the reserve for unforeseen exigencies shall have to be invested separately prudently. Further, Regulation 5.24.2 of the Tariff Regulations specify that the interest accrued from such investment shall be reinvested under the same reserve / fund.
- 3.58. The Commission notes that HEL has not been allowed any such special allocation under appropriation to Reserve for unforeseen Exigencies in the Tariff Order, neither HEL has submitted any document showing investment towards reserve for unforeseen exigencies in terms of Regulation 5.11. In the absence of any documentary evidence, the Commission does not approve the same.

Table 3-30: Special allocation for FY 2016-17 (Rs. Lakh)

Particulars	Claimed	Admitted
Special allocation	969.42	0.00

Income other than sale of energy

- 3.59. HEL has claimed an amount of Rs. 53.70 Lakh towards income other than sale of energy. However, note 25 of the Audited Financial Statements of HEL shows Rs. 1256 lakh as 'Other Income' consisting of Rs. 107 Lakh towards 'Interest Income from Bank', Rs. 212 Lakh towards 'Gain on sale of current investments (net)', Rs. 441 Lakh towards 'Foreign Exchange restatement gain', Rs. 194 towards 'Interest on inter corporate deposit', Rs. 9 Lakh towards 'Unwinding of discount on financial instrument', Rs. 240 Lakh towards 'Mark to Market (MTM) gain on derivatives' and Rs. 53 Lakh towards 'Other non-operating income'.
- 3.60. In its additional submission dated 30.01.2024, HEL inter-alia submitted that, except Rs. 54 lakh shown under the head of 'other non-operating income', all incomes are made out of retained earnings. However, from the submissions made under specific heads of other income, it is observed that, incomes except incomes related to 'Foreign Exchange restatement gain', 'Unwinding of discount of financial instrument' and 'MTM gain on derivatives' are generated out of investment of cash / fund available with the Company in the ordinary course of business. It is noted that, the item shown as "Foreign Exchange restatement gain' is a notional entry in the



books of account and there is no realization in cash. Similarly, 'Unwinding of discount of financial instrument' and 'MTM gain on derivatives' are reported as part of Ind AS disclosure at fair value of the instruments and the resultant gain / loss is never realized /paid.

- 3.61. The Commission observed that in terms of the Tariff Regulation, income from investments and bank balances is to be considered under 'Other Income' wherein income from all investments is required to be considered except those made out of profit and / or any equity issue exclusively meant for non-core business excluding embedded generation of licensee. From the submission dated 30.01.2024, the Commission observed that HEL could not explicitly establish that income made from the 'Income from Banks', 'Gain on sale of current investments (net)' and 'Interest on inter corporate deposit' has been made from investments made out of profits. HEL has affirmed in such submission that the incomes arose due to the term deposits/ investments of mutual fund made out of cash/ funds available with the Company in the ordinary course of business. Therefore, the Commission finds it reasonable to consider these as other incomes in terms of clause 6.1 of Schedule 1 of the Tariff Regulations. As no amount was adjusted in the APR of the evacuation system of HEL, the Commission considers Rs. 566 Lakh as Income other than sale of energy as per audited accounts in its generation function.
- 3.62. In this regard, the Commission directs HEL to provide specific disclosure in its subsequent APR petitions whenever any gain in regard to 'Foreign Exchange Restatement' has been realized by them actually in cash.

Table 3-31: Other income for FY 2016-17 (Rs. Lakh)

Particulars	Note 25 of annual account	Claimed	Admitted
Interest income from bank	107.00	0.00	107.00
Gain on sale of current investments (Net)	212.00	0.00	212.00
Interest on inter corporate deposit	194.00	0.00	194.00
Foreign Exchange restatement gain	441.00	0.00	0.00
Unwinding of discount on financial instrument	9.00	0.00	0.00
MTM gain on derivatives	240.00	0.00	0.00
Other operative income	53.00	53.70	53.00
Total	1256.00	53.70	566.00

Total Fixed Charge

- 3.63. On the basis of above analysis, the total Fixed Charge of HEL for FY 2016-17 comes to Rs. 74184.60 lakh. The element wise fixed cost for HEL as discussed in para 3.1 to 3.62 is given in Annexure 3A.

Admissibility of capacity charges based on Availability



- 3.64. In terms of Regulation 6.4.2 of the Tariff Regulation, the recovery of capacity charges for generating station of HEL shall be against the normative availability. Schedule 9A of the Tariff Regulations specify the target Plant Availability Factor (PAF) for coal fired thermal generating stations.
- 3.65. **PAF Achieved:** From the submissions of HEL, it has been observed that the actual PAF achieved during FY 2016-17 was 95.24% which is higher than the norm of 85%. This has been established from the certificates provided by SLDC.
- 3.66. **Admissible Capacity Charge:** In terms of Regulation 6.4.2 of the Tariff Regulations, the capacity charge of generating stations is determined. As the actual availability being higher than the normative availability of HEL, the Commission decides to allow the computed fixed cost on proportionate basis of Rs. 78639.62 Lakh.

Table 3-32: Admissible Capacity Charge of HEL for FY 2016-17

Particular	Value
Admitted Fixed Charge (AFC) (In Rs. Lakh)	74184.60
Less: Incentive (In Rs. Lakh)	224.23
Admitted Fixed Charge (AFC) excluding incentive and coal handling expense (In Rs. Lakh)	73960.37
Normative PAF (PAFN)	85%
Actual PAF (PAFA)	95.24%
Admissible Capacity Charge (AFC x (0.5 + 0.5 x PAFA / PAFN) (In Rs. Lakh)	78415.39
Add: Incentive	224.23
Total admissible Capacity Charge	78639.62



Fixed Charges claimed by HEL vis-à-vis approved by the Commission for FY 2016-17 (Rs. Lakh)

Sl. No.	Particulars	Admitted
1	O&M Expenses	4752.00
2	Rates and Taxes	53.10
3	Insurance Charges	534.89
4	Employee Cost	4969.00
5	Coal and Ash Handling	740.23
6	Water Cess	44.40
7	Statutory Charges	15.50
8	Depreciation	13090.80
9	Return on Equity	15845.90
10	Interest on Capital Expenditure, Loans and Public Deposits	26578.37
11	Interest on Working Capital	1247.99
12	Interest on Temporary Accommodation	0.00
13	Other Finance Charges	13.73
14	Income Tax	7514.60
15	Incentives	224.23
16	Special Allocation	0.00
17	Sub - Total Fixed Cost	75624.74
18	Less: Income other than sale of Energy (NTI)	566.00
19	Less: Interest Credit on Depreciation	874.14
20	Total Fixed Cost	74184.60



CHAPTER – 4 AMOUNT ADJUSTABLE ON APR

- 4.1. Based on the forgoing analysis and admissions of the adjustments under different uncontrollable factors / elements of fixed charges and fuel cost, the re-determined admitted fixed charges as well as fuel cost of HEL during FY 2016-17 is as under:

Table 4-1: Admitted Net ARR for FY 2016-17 (Rs. Lakh)

Sl. No.	Particulars	Amount
1	Admitted Fuel Cost (From Para 2.10.9)	106070.05
2	Fixed / capacity charge (From Para 3.66)	78639.62
3	Less: Sharing of gain with CESC Limited (From Para 2.10.9)	3521.90
4	Admitted Net ARR for recovery (1+2-3)	181187.77

- 4.2. The total revenue for HEL from operations for FY 2016-17 as per the audited accounts is Rs. 203246.60 Lakh which includes the revenue of Rs. 191845.60 Lakh and Rs. 11401.00 Lakh for Generation and transmission businesses respectively. The total Revenue for Generation Business includes revenues from energy charges and capacity charges of Rs. 97922.78 Lakh and Rs. 93922.77 Lakh respectively.
- 4.3. In view of the admitted net ARR in Table 4-1 above, HEL has to return the amount of Rs. 10657.83 Lakh as under:

Table 4-2: Amount adjustable on APR for FY 2016-17 (Rs. Lakh)

Sl. No.	Particulars	Total
1	Total recoverable	181187.77
2	Amount recovered	191845.60
3	Balance (refundable) / adjustable amount (1-2)	(10657.83)

- 4.4. The FCA and APR of HEL for FY 2016-17 has now been finalised and total balance refundable amount works out to Rs. 10657.83 Lakh. In terms of the Tariff Regulations, this amount shall be adjusted with the amount of aggregate revenue requirement for subsequent period or through a separate Order as may be decided by the Commission.
- 4.5. HEL is to take note of this order.
- 4.6. The Petition is thus disposed of.
- 4.7. A copy of the order shall be posted in the website of the Commission.



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- 4.8. HEL shall download the copy of the order from website of the Commission and act on it. Certified copy of the order, if applied for, be given to the parties on completion of formalities laid down in the West Bengal Electricity Regulatory Commission (Conduct of Business) Regulations, 2013 as amended and on submission of necessary fees.

Sd/-
(PULAK KUMAR TEWARI)
MEMBER

Sd/-
(MALLELA VENKATESWARA RAO)
CHAIRPERSON

Dated: 28.02.2024

Sd/-
SECRETARY