



**Delhi Electricity Regulatory Commission**  
**Viniyamak Bhawan, 'C' Block, Shivalik, Malviya Nagar, New Delhi – 17**

No. F. 11(1517)/DERC/2017-18/

**Petition No. 51/2017**

**In the matter of:      Petition under Section 62 of the Electricity Act, 2003 for true up of expenditure for FY 2010-2011 to FY 2016-17 and ARR for FY 2017-18 for 94.8 MW Rithala Combined Cycle Power Plant.**

**Tata Power Delhi Distribution Ltd.**

**....Petitioner**

**Coram:   Hon'ble Mr. Justice S S Chauhan, Chairperson**

**ORDER**

(Date of Order: 11.11.2019)

1.      The aforesaid True up Petition has been filed by Tata Power Delhi Distribution Ltd. (The Petitioner) for True up of expenses for FY 2010-11 to FY 2017-18 in respect of 94.8 MW Rithala Combined Cycle Power Plant in terms of applicable Tariff Regulations (2007, 2011 and 2017)
2.      Initially the prayer was, inter alia, for ARR for FY 2017-18, however, subsequently the Petitioner has amended the prayer to include true up for the FY 2017-18 as period of FY 2017-18 was already over; and therefore, the Petitioner is in respect of following prayers:
  - a)   True up the accounts of the petitioner for FY 2010-2011 to FY 2011-12 in accordance with Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2007;
  - b)   True Up the accounts of the Petitioner for FY 2012-13 to FY 2016-17 in accordance with Delhi Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2011; and
  - c)   True up the accounts for the FY 2017-18; and
  - d)   Exercise its powers and allow relaxed operational norms in terms of the Delhi Electricity Regulatory Commission (Terms and Conditions for determination of Generation Tariff) Regulations, 2007 and Delhi Electricity Regulatory Commission (Terms and Conditions for determination of Generation Tariff) Regulations, 2011.
3.      In terms of the applicable Tariff Regulations, governing the respective Control Periods, the Petition have been divided into three parts:

- Part A:** True up for the Period FY 2010-11 to FY 2011-12
- Part B:** True up for the Period FY 2012-13 to FY 2016-17
- Part C:** True up for the Period FY 2017-18

4. **Part A: True up for the Period FY 2010-11 to FY 2011-12**

**PETITIONER’S SUBMISSIONS**

4.1 **Fixed Cost**

- 4.1.1 This Commission by Order dated 31.08.2017 has approved the total Capital Cost for Rithala as Rs. 197.70 Crore.
- 4.1.2 The Commission has allowed a fixed cost of Rs.4.85 Crore for the period FY 10-11 (i.e. from 05.02.2011 to 31.03.2011), Rs.14.39 Crore for the period FY 11-12 from 01.04.2011 - 03.09.2011 and Rs. 30.29 Crore for FY 11-12 from 04.09.2011 - 31.03.2012.
- 4.1.3 The present petition is being filed for truing up of the capital cost as per the below table:

Particulars	FY 2010-11		FY 2011-12			
	05.02.11 - 31.03.11		01.04.2011-03.09.2011		04.09.11 - 31.03.12	
	(Open Cycle)		(Open Cycle)		(Combined Cycle)	
	Approved by Commission	To be Trued Up(Rs Crores)	Approved By Commission (Rs Crores)	To be Trued Up(Rs Crores)	Approved By Commission (Rs Crores)	To be Trued Up(Rs Crores)
O&M expenses	1.14	1.14	3.36	3.36	6.78	6.78
Depreciation	0.99	2.07	2.79	5.85	6.81	14.84
Advance Against Depreciation			0.46		1.13	
Interest on Loans	1.12	1.11	3.09	2.98	7.41	6.98
Return on Equity	0.69	0.69	1.95	1.95	3.7	4.77
Interest on Working Capital	0.92	0.93	2.74	3.03	4.46	4.49
<b>Total</b>	<b>4.86</b>	<b>5.94</b>	<b>14.39</b>	<b>17.17</b>	<b>30.29</b>	<b>37.85</b>

- 4.1.4 The details of computation of the above figures have been provided in the following paras.
- 4.2 **Interest on Loan**
- 4.2.1 The Petitioner has considered the repayment of loans equivalent to the depreciation claimed for relevant Financial Years and interest on loan has been calculated accordingly. Interest on loan has been considered on the weighted average rate of the actual portfolio.
- 4.2.2 Based on the above, the Petitioner requests the Commission to allow for the interest on loan as per the below table:

Particulars	2010-11 (Open cycle)		2011-12 (Open Cycle)		2011-12 (Closed Cycle)	
	COD of 1 & 2nd Unit (5.2.11 to 31.03.11)		COD of 1 & 2nd Unit (01.04.11 to 03.09.11)		Station COD (04.09.11 to 31.03.12)	
	Approved by Commission	True up Cost	Approved by Commission	True up Cost	Approved by Commission	True up Cost
Interest (Rs. Crore)	1.12	1.11	3.09	2.98	7.41	6.98

4.3 **Depreciation**

4.3.1 As per Para 27(a) of the Rithala Tariff Order dated 31.08.2017, the Commission has allowed the cost of the plant upto March 2018. Although the Petitioner had initially claimed the useful life of 15 years in anticipation that the plant will operate for 15 years. The depreciation will have to be calculated in such a manner that the same is consistent with the operational life of the Project as approved by this Commission i.e., till March 2018.

4.3.2 As such in terms of the Rithala Order dated 31.08.2017 and considering the operational life as the useful life i.e., March 2018, depreciation rates have been calculated as per table below, taking the total depreciation equivalent to 90% of the capital cost over useful life:

Period	Total allowable depreciation as a % of capital cost	Total useful life as per above table	Depreciation rates (%)
05.02.2011 to 31.03.2011 (Open cycle)	90	7 years 55 days	$90/(7+55/365) = 12.59$
01.04.2011 to 03.09.2011 (Open Cycle)	90	7 years 55 days	$90/(7+55/365) = 12.59$
04.09.2011 to 31.03.2012 (Combined Cycle)	90	6 years 210 days	$90/(6+210/366) = 13.69$

4.3.3 The amount of depreciation for the period FY 2010-11 and FY 2011-12 is calculated in the table below:

Financial Year	2010-11 (Open cycle)	2011-12 (Open Cycle)	2011-12 (Closed Cycle)
	COD of 1 & 2nd Unit (5.2.11 to 31.03.11)	COD of 1 & 2nd Unit (01.04.11 to 03.09.11)	Station COD (04.09.11 to 31.03.12)
Capital Cost (Rs.Crore)	109.08	109.08	197.70
Depreciation (%)	12.59%	12.59%	12.59% and 3.69%
No. of days in the relevant period / No. of days in the respective financial year	55/365	156/366	210/366
Basis	$109.08 \times 12.59\% \times 55/365$	$109.08 \times 12.59\% \times 156/366$	$109.08 \times 12.59\% \times 210/366 + 88.62 \times 13.69\% \times 210/366$
Depreciation (Rs.Crore)	2.07	5.85	14.84

4.4 **Return on Equity**

4.4.1 Return on Equity claim of the project for FY 2010-11 & 11-12 on capital cost of Rs 197.70 Crore is attached as **Form 25** to this petition and detailed below:.

S. No.	Equity Details	Unit	2010-11	2011-12	2011-12
			Actual (05.02.11 - 31.03.11)	Actual (01.04.11 - 03.09.11)	Actual (04.09.11 - 31.03.12)
1	Equity (Opening Balance)	Rs Crores	32.72	32.72	59.31
2	Net additions during the year	Rs Crores			
3	Equity (Closing Balance)	Rs Crores	32.72	32.72	59.31
4	Average Equity	Rs Crores	32.72	32.72	59.31
5	Rate of Return on Equity	%	14%	14%	14%
6	Rate of Return on Equity	Rs Crores	0.69	1.95	4.77

#### 4.5 **Income Tax**

- 4.5.1 Regulation 6.22 of the MYT 2007 provides that the Return on Equity will be allowed @ 14% (post Tax). It may be appreciated that the Petitioner has actually incurred capital cost of Rs. 302.26 Crore against which the Commission has allowed a capital cost of Rs. 197.70 Crore. In the absence of any Tariff Order for the said plant during the FY 2010-11 to FY 2016-17, the Petitioner has recognized the return on Equity of 14% post tax on Rs. 302.26 Crore and paid Income tax on the same.
- 4.5.2 It is submitted that the above submission also gets credence from the fact that this Commission had been provisionally allowing the power purchase cost from Rithala CCPP at the average rate of power purchase cost of gross power procured by the distribution division of the Petitioner. As such it was always anticipated by the Petitioner, that its entire capital cost will be allowed as and when this Commission determines the generation tariff of Rithala CCPP. Accordingly, the Petitioner was paying income tax taking into consideration the capital cost to be Rs. 302.26 crore.
- 4.5.3 It is submitted that the Tariff Order has now been passed on 31.08.2017, determining capital cost of Rithala CCPP as Rs. 197. 70 crores. The excess income tax paid by the Petitioner is not due to any fault of the Petitioner, the Petitioner should be allowed the Income tax on the ROE on capital cost of Rs. 302.26 Crore. The amount of Income Tax for the period FY 2010-11 and FY 2011-12 is calculated in the table below:

Particulars	2010-11	2011-12	2011-12
	(05.02.11 -31.03.11)	(01.04.11 - 03.09.11)	(04.09.11 - 31.03.12)
Capital Cost (Rs. Crore)	166.77	166.77	302.26
Days	55 days	156 days	210 days
Equity @30%	50.03	50.03	90.68
Rate of Return on Equity @14%	1.06	2.99	7.28
Tax Rate	19.93%	20.00%	20.00%
Tax On ROE	0.26	0.75	1.82

#### 4.6 **Interest on Working Capital**

- 4.6.1 Regulation 6.13 of MYT 2007 provides that for calculating the Working Capital the following parameters will be taken into consideration:
- (a) Cost of fuel for 1 month corresponding to the target availability.
  - (b) Cost of Liquid Fuel for 0.5 month.
  - (c) O&M expenses for 1 month
  - (d) Receivables equivalent to 2 months of fixed and variable charges for sale of electricity calculated on target availability.
- 4.6.2 Apart from the above the Petitioner prays before the Commission to permit Petitioner to include as additional component of Maintenance Spares at 1% of Capital Cost while calculating working capital. The said dispensation was allowed by the Commission, while determining the Generation tariff for IPCL and PPCL.

4.6.3 Accordingly, the maintenance spares cost for FY 2010-2011 has been considered as 1% of the capital cost amounting to Rs.1.09 Crores. Further, an inflation of 4% has been considered in line with this Commission's analysis in the Tariff Order dated 31.07.2013 passed for IPGCL. Also, for the period FY 2011-12, the inflation at the rate of 4% has been considered on the fuel cost and O&M cost (price of KG Basin Gas) of FY 2010-11.

4.6.4 The Interest rate has been taken as 11.75% for FY 10-11 and 13.00% for FY 2011-12) based on SBI PLR (as on 01.04.2010 and 01.04.2011) for calculating Interest on working Capital. Accordingly, Interest on Working Capital of the project for FY 2010-11 & 2011-12 comes out as reproduced herein below:

S. No	Description	Unit	2010-11	2011-12	2011-12
			05.02.11 - 31.03.11	01.04.11 - 03.09.11	04.09.11 - 31.03.12
			Normative		
1	Fuel expenses for 1 month	Rs Crores	14.78	15.37	15.37
2	O&M expenses for 1 month	Rs Crores	0.63	0.66	0.98
3	Maintenance Spares @ 1% Capital Cost	Rs. Crores	1.09	1.13	2.06
4	Receivables equivalent to 2 months of capacity and energy charge	Rs Crores	36.14	37.46	41.74
5	Total Working Capital	Rs Crores	52.64	54.62	60.15
6	Rate of Interest	%	11.75%	13.00%	13.00%
7	Interest on Working Capital	Rs Crores	0.93	3.03	4.49

#### 4.7 **Fixed Charges for Rithala Project**

4.7.1 Based on above the annual fixed cost for the period from 05.02.2011 to 31.03.2012 is as follows:

(Rs. in Crore)

S. No.	Particulars	2010-11	2011-12	2011-12
		05.02.11 - 31.03.11	01.04.11 - 03.09.11	04.09.11 - 31.03.12
1	O&M expenses	1.14	3.36	6.78
2	Depreciation	2.07	5.85	14.84
2a	Advance Against Depreciation		0	0
3	Interest on Loans	1.11	2.98	6.98
4	Return on Equity	0.69	1.95	4.77
5	Interest on Working Capital	0.93	3.03	4.49
	<b>Total</b>	<b>5.94</b>	<b>17.17</b>	<b>37.85</b>

#### **COMMISSION'S ANALYSIS**

4.8 The Commission vide its Order dated 31/08/2017 has approved the Fixed Charges for the period FY 2010-11 and FY 2011-2012 and various operational parameters like Station Heat Rate, Auxiliary Energy Consumption and Plant Load Factor (PLF) for Rithala CCPP.

4.9 The Commission noted that the Income Tax was not included in the annual fixed cost determined. Therefore, the Commission has determined the Income Tax as per Regulation 6.27 of Generation Tariff Regulations, 2007 wherein the tax on

income is limited to return on equity component of capital employed. Accordingly, the income tax has been computed based on the return on equity as determined in the order dated 31.08.2017.

4.10 Accordingly, the total annual fixed cost including income tax has been computed as under:

**(Rs. In Crore)**

S No .	Particulars	FY 2010-11		FY 2011-12			
		05.02.11 - 31.03.11		01.04.11 - 03.09.11		04.09.11 - 31.03.12	
		Claimed	Approved	Claimed	Approved	Claimed	Approved
1	O&M expenses	1.14	1.14	3.36	3.36	6.78	6.78
2	Depreciation	2.07	0.99	5.85	2.79	14.84	6.81
2a	Advance Against Depreciation	0.00	0.00	0.00	0.46	0.00	1.13
3	Interest on Loans	1.11	1.12	2.98	3.09	6.98	7.41
4	Return on Equity	0.69	0.69	1.95	1.95	4.77	3.70
5	Interest on Working Capital	0.93	0.92	3.03	2.73	4.49	4.46
6	Income Tax	0.26	0.17	0.75	0.49	1.82	0.92
	Total	6.20	5.03	17.92	14.87	39.68	31.21

**5. PART B & C: TRUING UP FOR FY 2012-13 to 2017-18**

**PETITIONER'S SUBMISSION**

5.1.1 The present petition is being filed for truing up of the fixed cost as per the below table:

**(Rs. In Crore)**

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
O&M expenses	25.65	27.12	28.67	30.31	32.04	33.88
Depreciation	25.93	25.95	25.97	25.99	25.99	25.99
Interest on Loans	11.35	8.51	5.65	2.79	0.68	0
Return on Equity	8.32	8.33	8.33	8.33	8.33	8.33
Interest on Working Capital	9.97	10.02	10.07	10.17	10.28	7.95
Income Tax	3.38	3.38	3.38	3.45	3.45	2.26
Total	84.60	83.32	82.08	81.05	80.78	78.42

5.1.2 The details of computation of the above figures have been provided in the following paras.

**5.2 O&M EXPENSES**

**PETITIONER'S SUBMISSION**

5.2.1 As per Regulation 6.43 of MYT 2011, the Commission had allowed O&M cost of Rs.27.06 lakhs, Rs.28.61 lakhs and Rs.30.24 lakhs per MW per year for small gas turbine power generating stations for FY 2012-13, FY 2013-14 and FY 2014-15 respectively.

5.2.2 It was observed that an escalation of 5.72% has been allowed by this Commission over the O&M costs of FY 2012-13, FY 2013-14 and FY 2014-15. Hence the petitioner has calculated the O&M costs for the FY 2015-16 and FY 2016-17 based on the same escalation factor of 5.72%.

## **COMMISSION ANALYSIS**

5.2.3 The Commission observed that the normative O&M Expenses for new generating stations as per DERC MYT Regulations, 2011 are on higher side as compared with the actual O&M Expenses incurred by the Petitioner Plant. It was further observed that the Petitioner Plant was not scheduled beyond FY 2013-14.

5.2.4 During the prudence check, the Petitioner has submitted the additional information on 30.11.2018. The Commission while determining the O&M Expenses has considered the additional information submitted by the Petitioner, the philosophy of giving escalation on O&M Expenses in Tariff Regulations and the fact that there was Nil generation from FY 2013-14 onwards. Accordingly, the Commission has fixed base year as FY 2012-13 and base year O&M Expenses as Rs. 13.61 Cr based on the actual audited expenses and thereafter an escalation of 5.7% has been applied to determine the O&M Expenses for FY 2013-14 to FY 2017-18 as under:

<b>(Rs. In Crore)</b>					
<b>FY 2012-13*</b>	<b>FY 2013-14</b>	<b>FY 2014-15</b>	<b>FY 2015-16</b>	<b>FY 2016-17</b>	<b>FY 2017-18</b>
13.61	14.39	15.21	16.07	16.99	17.96

\*Base Year

## **5.3 Depreciation**

### **PETITIONER'S SUBMISSION**

5.3.1 As per Para 27(a) of the Rithala Tariff Order dated 31.08.2017, the Hon'ble Commission has allowed the cost of the plant upto March 2018. Although the Petitioner had initially claimed the useful life of 15 years in anticipation that the plant will operate for 15 years. The depreciation will have to be calculated in such a manner that the same is consistent with the operational life of the Project as approved by this Commission i.e., till March 2018.

<b>S No</b>	<b>Particulars</b>	<b>FY 2012-13</b>	<b>FY 2013-14</b>	<b>FY 2014-15</b>	<b>FY 2015-16</b>	<b>FY 2016-17</b>
1	Details of additional expenditure during FY 11-12					
1.1	Additional Capital Expenditure (Rs. Lakhs)	*25.39				
1.2	Useful life (Years)	6				
1.3	Depreciation (Rs Lakhs) (90% of S No 1.1 / S No 1.2)	3.81	3.81	3.81	3.81	3.81
2	Details of additional expenditure during FY 12-13					
2.1	Additional Capital Expenditure (Rs. Lakhs)	32.39				
2.2	Useful life (Years)	5.5				
2.3	Depreciation (Rs Lakhs) (90% of S No 2.1 / S No 2.2)	2.65	5.30	5.30	5.30	5.30
3	Details of additional expenditure during FY 14-15					
3.1	Additional Capital Expenditure (Rs. Lakhs)			15.30		
3.2	Useful life (Years)			3.5		
3.3	Depreciation (Rs Lakhs) (90% of S No 3.1 / S No 3.2)			1.97	3.93	3.93
4	Total Additional depreciation (Rs Lakhs)	6.46	9.11	11.08	13.04	13.04



5.3.2 The COD date for the open cycle which is 05.02.2011 and the COD date for combined cycle which is 04.09.2011, therefore for the purpose of depreciation, the operational life of the plant has been considered for computation of depreciation and total depreciation equivalent to 90% of the Capital cost has been claimed as under:-

S.No.	Description	Rs. Crores
1	Capital Costs	197.70
2	Total depreciation to be recovered by 31st March 2018 (90% of S No 1)	177.93
3	Depreciation claimed up to 31/3/2012 as per true up petition	22.76
4	Remaining depreciation to be claimed over 6 years (S No 2 – S No 3)	155.17
5	Depreciation amount each year (S No 4 / 6 years of operational life)	25.86

*\*The capital expenditure of Rs.25.39 lakhs was incurred during FY 11-12 however, the petitioner has claimed the depreciation on the same from 01.04.2012 onwards.*

5.3.3 Hence, the depreciation amount claimed by the Petitioner for the period FY 2012-13 to FY 2017-18 is as per following table:

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
Depreciation (Rs Crores)	25.86	25.86	25.86	25.86	25.86	25.86
Additional depreciation (Rs Crores)	0.0646	0.0911	0.1108	0.1304	0.1304	0.1304
Total Depreciation (Rs Crores)	25.93	25.95	25.97	25.99	25.99	25.99

5.3.4 In view of the above submissions, the Petitioner prays before this Commission to allow the depreciation rate and charges in full as provided in the above table.

**COMMISSION ANALYSIS**

- 5.3.1 The Commission observed that the contention of the Petitioner for consideration of useful life of the plant for 6 years cannot be considered as the Commission in its order dated 31.08.2017 determined the useful life of the Petitioner plant as 15 years based on the certificates issued by the various agencies appointed by the Petitioner.
- 5.3.2 The plant has useful life of 15 years and it has been used for around 6 years only, the market value after usage of 6 years would not only be 10%, but a much better value in commensuration with the remaining useful life of the said plant. The Petitioner has informed that sincere efforts are being made for the disposal of the plant but things have not reached to the final stage, it is likely to take some more time.
- 5.3.3 In such a situation, without waiting for the final disposal of the plant, the petitioner is allowed depreciation as per the extant regulations. The Petitioner is allowed depreciation @6% as per the specified formula to recover the cost in 15 years.



Accordingly, the depreciation for the period FY 2012-13 to FY 2017-18 at the rate of 6% in line with the provisions of DERC MYT Regulations, 2011 and DERC Tariff Regulations, 2017 is as under:

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
Depreciation (Rs. Crore)	11.86	11.86	11.86	11.86	11.86	11.86

5.3.4 Depreciation for the FY 2010-11 and FY 2011-12 has already been approved as Rs.12.18 crore vide Tariff Order dated 31.08.2017. Accordingly, the cumulative depreciation for the period from FY 2010-11 to FY 2017-18 comes out to be Rs.83.34 crore.

5.4 **Interest on loan, Return on Equity and Interest on Working Capital**

**PETITIONER'S SUBMISSION**

5.4.1 **Interest on Loan**

5.4.2 The Petitioner has considered the repayment of loans equivalent to the depreciation claimed for relevant financial years and interest on loan has been calculated accordingly. Interest on loan has been considered on the weighted average rate of the actual portfolio.

5.4.3 In view of the aforesaid submission, the Petitioner prays before this Commission to allow for the interest on loan as per the below table

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
Interest on Loans (Rs Crores)	11.35	8.51	5.65	2.79	0.68	0.00

**Return on Equity**

5.4.4 Regulation 6.36 of MYT 2011 provides that the Return on Equity will be allowed @ 14% (post Tax). Accordingly, the Petitioner prays before this Commission to approve the income tax and other statutory duties as pass through on actual basis paid by the Petitioner. Return on Equity claim of the project for FY 2012-13 to FY 2017-18 is attached as Form 25 to this petition and detailed below:

S. No.	Equity Details	Unit	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
1	Equity (Opening Balance)	Rs Crores	59.31	59.48	59.48	59.53	59.53	59.53
2	Net additions during the year	Rs Crores	0.17	0	0.05	0	0	0
3	Equity (Closing Balance)	Rs Crores	59.48	59.48	59.48	59.48	59.48	59.48
4	Average Equity	Rs Crores	59.40	59.48	59.48	59.48	59.48	59.48
5	Rate of Return on Equity	%	14%	14%	14%	14%	14%	14%
6	Rate of Return on Equity	Rs Crores	8.32	8.33	8.33	8.33	8.33	8.33

5.4.5 The Petitioner prays before this Commission to approve the return on equity for the period FY 2012-13 to FY 2017-18 in full as prayed by the Petitioner.

**Interest on Working Capital**

5.4.6 The Interest rate has been taken as 13.50% (SBI Base Rate of 10% as on 1<sup>st</sup> Apr 2012 + 350 Basis points as per Regulations 6.28 of Generation Tariff Regulations 2011) for FY 2012-13 to FY 2016-17. Accordingly, Interest on Working Capital of the project for FY 2012-13 to FY 2016-17 comes out as detailed in Form 26 attached to this Petition and reproduced herein below:

S No	Description	Unit	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
1	Fuel expenses for 1 month	Rs. Crore	16.64	16.64	16.64	16.74	16.80	16.95
2	O&M expenses for 1 month	Rs. Crore	2.14	2.26	2.39	2.53	2.67	2.82
3	Maintenance Spares @ 30% of O&M	Rs. Crore	7.70	8.14	8.60	9.09	9.61	10.16
4	Receivables equivalent to 2 months of capacity and energy charge	Rs. Crore	47.38	47.17	46.96	46.99	47.07	46.97
	<b>Total Working Capital</b>	<b>Rs. Crore</b>	<b>73.86</b>	<b>74.21</b>	<b>74.60</b>	<b>75.35</b>	<b>76.16</b>	<b>76.91</b>
	Rate of Interest	%	13.50 %	13.50 %	13.50 %	13.50 %	13.50 %	10.34
	<b>Interest on Working Capital</b>	<b>Rs. Crore</b>	<b>9.97</b>	<b>10.02</b>	<b>10.07</b>	<b>10.17</b>	<b>10.28</b>	<b>7.95</b>

5.4.7 The Petitioner in the Working Capital has considered the impact of actual service tax on gas transportation and included the same in the normative fuel calculations as per table below:

Service Tax	Effective service tax
FY 12-13	12.36%
FY 13-14	12.36%
FY 14-15	12.36%
FY 15-16	13.91%
FY 16-17	14.92%

**COMMISSION ANALYSIS**

**Interest on Loan**

5.4.8 The Commission has considered actual weighted average rate of Loan portfolio as per the provisions of DERC MYT Regulations, 2011. Relevant Extract is as under:

*“6.18 The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of*

each year applicable to the project. Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered;

Provided further that if the generating station, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company as a whole shall be considered;

6.19 The interest on loan shall be calculated on the normative average loan of the respective years by applying the weighted average rate of interest."

5.4.9 Accordingly, the interest on loan for the period FY 2012-13 to FY 2016-17 has been determined as under:

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17
Opening Loan	126.21*	114.35	102.49	102.49	90.62
Less: Depreciation	11.86	11.86	11.86	11.86	11.86
Closing Loan	114.35	102.49	90.62	90.62	78.76
Average Loan	120.28	108.42	96.56	96.56	84.69
Interest Rate (%)	10.56%	10.56%	10.55%	10.55%	10.55%
Interest Charges (Rs. Cr)	12.71	11.45	10.19	10.19	8.94

\* (Rs. 197.70 Crore x 0.70 – 12.18 (already allowed accumulated depreciation vide DERC order dated 31/08/2017)

**Return on Equity**

5.4.10 The Commission has considered the return on equity @ 14.00% post tax as per the provisions of DERC MYT Regulations, 2011. Relevant Extract of which is as under:

“6.36 Return on equity shall be computed on the equity determined in accordance with clauses 6.6 - 6.10 of these Regulations and shall be 14% (post tax); Provided that return on equity invested in work in progress shall be allowed from the Date of Commercial Operation.”

5.4.11 Accordingly, return on equity for FY 2012-13 to 2016-17 has been computed as follows:

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17
Opening Equity	59.31*	59.31	59.31	59.31	59.31
Closing Equity	59.31	59.31	59.31	59.31	59.31
Average Equity	59.31	59.31	59.31	59.31	59.31
Rate of Return on Equity (%)	14.00%	14.00%	14.00%	14.00%	14.00%
Return on Equity (Rs. Cr)	8.30	8.30	8.30	8.30	8.30

\* (197.70 Crore x 0.30)

**Interest on Working Capital**

5.4.12 Interest on working capital has been considered as per the provisions of DERC MYT Regulations, 2011. The relevant extract of the Regulations is as under:

“6.28 Rate of interest on working capital shall be on normative basis and shall be equal to Base Rate of State Bank of India plus 350 basis points as on 1.4.2012 or on 1st April of the year in which the generating station or a unit thereof is declared under commercial operation, whichever is later.”

5.4.13 The fuel cost beyond FY 2013-14 has not been considered as there was no generation scheduled and valid GSPA. Further, the rate of interest on working capital has been considered as per provisions of DERC MYT Regulations, 2011.

<b>For Open-cycle Gas Turbine/ Combined Cycle thermal generating stations</b>	<b>UoM</b>	<b>FY13</b>	<b>FY14</b>	<b>FY15</b>	<b>FY16</b>	<b>FY17</b>
Fuel expenses for 1 month	Rs Crores	16.64	16.64	-	-	-
Liquid fuel stock for ½ month	Rs Crores	-	-	-	-	-
O&M expenses for 1 month	Rs Crores	1.13	1.20	1.27	1.34	1.42
Maintenance Spares @ 30% of O&M	Rs Crores	4.08	4.32	4.56	4.82	5.10
Receivables equivalent to 2 months of capacity and energy charge	Rs Crores	42.83	42.76	8.26	8.41	8.36
Total Working Capital	Rs Crores	64.69	64.91	14.08	14.57	14.87
Rate of Interest	%	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	Rs Crores	8.73	8.76	1.90	1.97	2.01

#### **Return on Capital Employed for FY 2017-18**

5.4.14 Interest on Loan, Return on Equity and Interest on Working Capital for FY 2017-18 have been considered under Return on Capital Employed (RoCE) concept in line with the provisions of DERC Tariff Regulations, 2017.

5.4.15 The rate of interest on loan, capitalization and working capital for FY 2017-18 has been considered

5.4.16 Accordingly, RoCE has been computed as under:

**(Rs. Crore)**

<b>Sl. No.</b>	<b>Particulars</b>	<b>Value</b>
A	Opening Original Cost of Fixed Assets (OCFA <sub>o</sub> )	197.70
B	Opening Accumulated depreciation (AD <sub>o</sub> )	71.49
C	Opening Working capital (WCo)	14.87
D	Opening RRB (RRBo)	141.08
E	Depreciation during the year (Di)	11.86
F	Change in capital investment ( $\Delta$ ABi)	(11.86)
G	Change in working capital during the year ( $\Delta$ WCi)	(0.48)
H	RRB Closing	128.74
I	RRBi	134.67
J	Opening Equity for Capitalisation (limited to 30%)	37.86
K	Closing Equity limiting to 30% of net capitalisation	34.30
L	Average Equity for Capitalisation (limited to 30%)	36.08
M	Opening Debt at 70% of net capitalisation	88.35
N	Closing Debt at 70% of net capitalisation	80.04
O	Avg Debt at 70% of net capitalisation	84.20
P	Debt at 100% of working capital	14.39
Q	Debt- balancing figure	98.59
R	Rate of return on equity (re)	14.00%
S	Rate of debt (rd) on capitalisation	8.84%
T	Rate of debt (rd) on working Capital	8.14%
U	Rate of interest on debt(rd)	8.74%
V	WACC	10.15%
W	RoCE	13.67

5.5 **Tax on Income**

**PETITIONER SUBMISSION**

S No	Description	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
1	Income Tax Paid on RoE based Capital Cost 302.99 (Rs Crore)	3.38	3.38	3.38	3.45	3.45	2.26
	<b>Total</b>	<b>3.38</b>	<b>3.38</b>	<b>3.38</b>	<b>3.45</b>	<b>3.45</b>	<b>2.26</b>

5.5.1 It is submitted that the Tariff Order has now been passed on 31.08.2017, determining capital cost of Rithala CCPP as Rs. 197. 70 crores. The excess income tax paid by the Petitioner is not due to any fault of the Petitioner, the Petitioner should be allowed the Income tax on the ROE on capital cost of Rs 302.99 Crore Accordingly the tax on income for the period FY 2012-13 to FY 2017-18 has been calculated as per the below table:

**COMMISSION ANALYSIS**

- 5.5.2 The Commission has computed the income tax as per the provisions of DERC MYT Regulations 2011 for the period from FY 2012-13 to 2016-17 and as per DERC Tariff Regulations, 2017 for FY 2017-18.
- 5.5.3 Accordingly, the income tax has been computed as under:

(Rs. Crore)

Description	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Income Tax	2.08	2.08	2.08	2.08	2.08	1.56

**Fixed Charges for Rithala Project**

5.5.4 Accordingly, the Annual Fixed Charges approved/allowed by the Commission for FY 2012-13 to FY 2017-18 are as under:

(in Rs. Crore)

S N	Particulars	FY 2012-13		FY 2013-14		FY 2014-15		FY 2015-16		FY 2016-17		FY 2017-18	
		Claimed	Allowed	Claimed	Allowed	Claimed	Allowed	Claimed	Allowed	Claimed	Allowed	Claimed	Allowed
1	O&M expenses	25.65	13.61	27.12	14.39	28.67	15.21	30.31	16.07	32.04	16.99	33.88	17.96
2	Depreciation	25.93	11.86	25.95	11.86	25.97	11.86	25.99	11.86	25.99	11.86	25.99	11.86
3	Interest on Loans	11.35	12.71	8.51	11.45	5.65	10.19	2.79	10.19	0.68	8.94	0	13.67
4	Return on Equity	8.32	8.30	8.33	8.30	8.33	8.30	8.33	8.30	8.33	8.30	8.33	
5	Interest on Working Capital	9.97	8.73	10.02	8.76	10.07	1.90	10.17	1.97	10.28	2.01	7.95	
6	Income Tax	3.38	2.08	3.38	2.08	3.38	2.08	3.45	2.08	3.45	2.08	2.26	1.56
7	<b>Total</b>	<b>84.60</b>	<b>57.29</b>	<b>83.31</b>	<b>56.84</b>	<b>82.07</b>	<b>49.54</b>	<b>81.04</b>	<b>50.47</b>	<b>80.77</b>	<b>50.17</b>	<b>78.41</b>	<b>45.05</b>

5.6 **Operational Norms for Computation of Variable Cost**

**PETITIONER'S SUBMISSION**

5.6.1 It is humbly prayed before this Commission to reconsider the Operational Norms for the Rithala Project, being a second hand plant no general norms can be made

applicable to it. It is respectfully submitted prayed before this Commission to relax the operational norms of the Rithala CCPP to bring it in parity with actual performance of the Project.

**Station Heat Rate (SHR)**

5.6.2 This Commission while approving the SHR for Rithala, has not considered its vintage and the applicability of parameters vis a vis a second hand generation plant. As such the applicable SHR for the Rithala Project needs to be fixed taking in to account:

- (a) the vintage of the Plant as the Rithala Project is based on re-conditioned plants, manufactured before 1990 which have already exhausted running life of five years; and
- (b) the significant gas cuts being effected which makes it impossible to operate the machines at low SHR.

5.6.3 It is further submitted that that the heat rate of any Gas Turbine primarily depends on:

- (a) Type of Gas Turbine
- (b) Number of years of degradation
- (c) Ambient conditions viz., temperature, humidity etc.

5.6.4 Accordingly, while approving the open cycle and combined cycle heat rate of Rithala Plant this Commission should consider the operational norms of Gas turbine of Indraprastha's Gas Turbine Power Station ("GTPS"), which is similar to Rithala CCPP which is evident from the following:

- (a) Gas Turbines of IPGCL's GTPS is frame 6 Gas Turbines, i.e., same as that of Rithala Plant, which means the Gas turbine for Rithala and IPGCL GTPs are same.
- (b) Gas Turbines and Steam Turbines of Indraprastha GTPS were commissioned in year 1985-86 and 1995-96 respectively which is almost close to manufacturing date of GTs and STG of Rithala plant i.e. 1988 and 1989 respectively, which means the both Rithala and IPGCL's GTPS have same numbers of years for degradation.
- (c) Gas Turbine of Indraprastha's GTPS is also situated in Delhi like Gas Turbines of Rithala Plant. Hence meet criteria no (c) for ambient conditions.

5.6.5 By Tariff Orders dated 26.08.2011 and 13.07.2012, passed for IPGCL the Commission has approved relaxed operational norms for IPGCL's GTPS, which is a plant of similar vintage as Rithala CCPP, as under:

Particulars	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
Combined Cycle Operations	2450	2450	2450	2450	2450
Open Cycle Operations	3125	3125	3125	3125	3125

Source: Tariff Order dated 26.08.2011 for FY 11-12 and Tariff Order dated 13.07.2012 for Multi Year Tariff Order for FY 2012-13 to FY 2014-15.

5.6.6 Apart from the above the Hon'ble Tribunal by an Order 10.01.2008 passed in Appeal No 81 of 2007 filed IPGCL, on the issue of Operational Norms was pleased to hold that:

- “14) For IPGTPS, the target of 2450 Kcal/kWh could not be achieved. Actual heat rate for 2006-07 was 2497 Kcal/kWh. So far as IPGTPS is concerned, the Commission has fixed the station heat rate norm as 2450 Kcal/kWh for financial years 2005-06 and 2006-07. This is based on the gross calorific value of gas. The appellant pleads that the station was very poorly maintained **and that the availability of gas was greatly reduced during the period in question.**
- 15) The impugned order shows that the petitioner had sufficiently canvassed its case of shortage of gas caused by the cuts imposed by GAIL. **The Commission has not analysed in the impugned order the affect of such cuts on the station heat rate of the IPGTPS station.** Even if the other factors mentioned in the 'Director's report' above are ignored **the shortage of gas should have been taken into account by Commission because this is not within the control of the appellant.** We, therefore, feel that the Commission needs to carry out this exercise afresh so far as the station heat rate of IPGTPS is concerned. **The Commission will now refix the target heat rate for the IPGTPS from 2006-07 after taking into consideration the shortage of gas as well as the factor mentioned in the Directors report as indicated in para 7 above.” (Emphasis Supplied)**

5.6.7 It is submitted that the issue of shortage of gas is a national phenomenon which has affected large number of gas plants across the country and Petitioner/THE PETITIONER had no control over the availability of Gas which has been severely impacted all across the Sector due to lower availability from KG –D6 Gas Fields from where the Project has been allocated Gas. Based on the reduced availability of Gas, the actual SHR during FY 10-11 and FY 11-12 for the Plant is depicted below:

SHR	2010-11 05.02.2011 - 31.03.2011	2010-11 01.04.11 - 03.09.11	2011-12 04.09.11 - 31.03.12
SHR (kCal/kWh) (GCV)	3617	3723	3512

5.6.8 It is submitted that after taking into account the aforesaid factors viz., Gas cut, vintage of plant, and the fact that the Commission has relaxed norms of other similar GTPS in Delhi, i.e., IPGCL's GTPS, this Commission may be pleased to relax the Station Heat Rate for Rithala Generation Plant for FY 2010-11 and FY 2011-12 and fix the same based on actual performance of the Rithala CCPP.

**Auxiliary Consumption**

5.6.9 During FY 10-11 & FY 11-12, the actual auxiliary energy consumption has been higher than the percentage fixed by the Commission for new plants. Considering the vintage of the Plant, it is requested that Auxiliary Consumption based on actuals may be fixed for the Rithala Plant. The actual Auxiliary consumption during FY 10-11 and FY 11-12 is depicted below:

	2010-11 05.02.2011 - 31.03.2011	2010-11 01.04.11 - 03.09.11	2011-12 04.09.11 - 31.03.12
Auxiliary Consumption	1.90	1.60	2.16



5.6.10 Accordingly, the Petitioner prays before this Commission to allow the Auxiliary Consumption for Rithala Plant as per actuals as mentioned in the above table.

**Target Availability**

5.6.11 The Petitioner had claimed the availability as per the MYT 2007 and the same has been approved by the Commission vide Order dated 31.08.2017.

5.6.12 The Actual Availability for the Period FY 10-11 and FY 11-12 is as follows:

FY 10-11	FY 11-12
79.86%	55.18%

5.6.13 Therefore, in view of the above actual availability, the Petitioner Claims Fixed Cost for the period FY 10-11 and FY 11-12 as follows:

Particulars	FY 10-11	FY 11-12
AFC at 80% Target Availability (A)	5.94 Crore	55.02 Crore
Actual availability (B)	79.86%	55.18%
AFC Claimed (Rs. Crores), (C = A*B/80%)	5.93 Crore	37.94 Crore

**Variable Cost for the Project**

5.6.14 As per Regulation 7.10 of MYT 2007:

*“The energy (variable) charge shall cover fuel costs.”*

5.6.15 Accordingly, the variable cost to achieve 80% availability is calculated based on the following:

Calculation of Variable cost for Rithala in Open Cycle & Closed Cycle mode					
		Open Cycle 2010-11	Open Cycle 2011-12	Combined Cycle 2011-12	Remarks
		05.02.11 - 31.03.11	01.04.11 - 03.09.11	04.09.11 - 31.03.12	
Description	MW	63.2	63.2	94.8	Installed Capacity
GHR	Kcal/K wh	2830	2830	1950	As approved in tariff Order dated 31.08.2017
Target Availability claimed	%	80%	80%	80%	
Time of operation	DAYS	55	156	210	
Gross Generation	MU	66.74	189.30	382.23	Computed
Auxiliary Consumption	%	1%	1%	3%	As approved in tariff Order dated 31.08.2017
Net Generation	MU	66.07	187.40	370.77	Computed
Total Gross Heat value required	Kcal	188871936000	535709491200	745355520000	
Gross Heat Obtained from KG Basin Gas	MMBT U/day - GCV	14271	14271	14271	
1 MMBTU	Kcal	252000	252000	252000	Standard formula

Calculation of Variable cost for Rithala in Open Cycle & Closed Cycle mode					
		Open Cycle 2010-11	Open Cycle 2011-12	Combined Cycle 2011-12	Remarks
		05.02.11 - 31.03.11	01.04.11 - 03.09.11	04.09.11 - 31.03.12	
Gross Heat Obtained from KG Basin Gas for the period	kcal	197799802200	561032166240	755235608400	
Gross Calorific Value of KG Basin Gas	Kcal/S CM	9500	9500	9500	
Volume of KG Basin Gas	SCM	20821031.81	59056017.5	79498485.09	
Price of KG Basin Gas	Rs/ MMBT U GCV	340	340	340	4% inflation applied on FY 10- 11 rates
Price of KG Basin Gas	Rs./ SCM	13	13.35	13.35	As per Gas Contract (GCV/NCV = 1.11)
KG Basin Gas Landed Cost FY 10-11 & FY 11-12	Rs. Crores	26.73	78.84	106.13	
<b>Total Fuel Cost</b>	Rs. Crores	26.73	78.84	106.13	
<b>Monthly Fuel Cost</b>	<b>Rs. Crores</b>	<b>14.78</b>	<b>15.37</b>	<b>15.37</b>	
Energy charge rate on Ex- bus basis FY 10-11 and FY 11-12	Rs./unit	4.05	4.21	2.86	
<b>Net Generation from KG Basin Gas</b>	<b>MU s</b>	<b>69.19</b>	<b>196.26</b>	<b>375.68</b>	
<b>Energy charge rate on Ex- bus basis FY 10-11 and FY 11-12 from KG Basin Gas</b>	<b>Rs./unit</b>	<b>3.86</b>	<b>4.02</b>	<b>2.82</b>	

Calculation of Variable cost for Rithala in Open Cycle & Closed Cycle mode					
		Open Cycle 2010-11	Open Cycle 2011-12	Combined Cycle 2011-12	Remarks
		05.02.11 - 31.03.11	01.04.11 - 03.09.11	04.09.11 - 31.03.12	
Description	MW	63.2	63.2	94.8	Installed Capacity
GHR	Kcal/Kwh	2830	2830	1950	As approved in tariff Order dated 31.08.2017
Target Availability claimed	%	80%	80%	80%	
Time of operation	DAYS	55	156	210	

Calculation of Variable cost for Rithala in Open Cycle & Closed Cycle mode					
		Open Cycle 2010-11	Open Cycle 2011-12	Combined Cycle 2011-12	Remarks
		05.02.11 - 31.03.11	01.04.11 - 03.09.11	04.09.11 - 31.03.12	
Gross Generation	MU	66.74	189.30	382.23	Computed
Auxiliary Consumption	%	1%	1%	3%	As approved in tariff Order dated 31.08.2017
Net Generation	MU	66.07	187.40	370.77	Computed
Total Gross Heat value required	Kcal	188871936000	535709491200	745355520000	
Gross Heat Obtained from KG Basin Gas	MMBTU/day - GCV	14271	14271	14271	
1 MMBTU	Kcal	252000	252000	252000	Standard formula
Gross Heat Obtained from KG Basin Gas for the period	kcal	197799802200	561032166240	755235608400	
Gross Calorific Value of KG Basin Gas	Kcal/SCM	9500	9500	9500	
Volume of KG Basin Gas	SCM	20821031.81	59056017.5	79498485.09	
Price of KG Basin Gas	Rs/MMBTU GCV	340	340	340	4% inflation applied on FY 10-11 rates
Price of KG Basin Gas	Rs./SCM	13	13.35	13.35	As per Gas Contract (GCV/NCV= 1.11)
KG Basin Gas Landed Cost FY 10-11 & FY 11-12	Rs. Crores	26.73	78.84	106.13	
<b>Total Fuel Cost</b>	Rs.Crores	26.73	78.84	106.13	
<b>Monthly Fuel Cost</b>	<b>Rs. Crores</b>	<b>14.78</b>	<b>15.37</b>	<b>15.37</b>	
Energy charge rate on Ex- bus basis FY 10-11 and FY 11-12	Rs./unit	4.05	4.21	2.86	
<b>Net Generation from KG Basin Gas</b>	<b>MU s</b>	<b>69.19</b>	<b>196.26</b>	<b>375.68</b>	
<b>Energy charge rate on Ex- bus basis FY 10-11 and FY 11-</b>	<b>Rs./unit</b>	<b>3.86</b>	<b>4.02</b>	<b>2.82</b>	

Calculation of Variable cost for Rithala in Open Cycle & Closed Cycle mode					
		Open Cycle 2010-11	Open Cycle 2011-12	Combined Cycle 2011-12	Remarks
		05.02.11 - 31.03.11	01.04.11 - 03.09.11	04.09.11 - 31.03.12	
12 from KG Basin Gas					

ER for gas supply FE component			
ER considered for FY 10-11 and FY 11-12 (USD/Rs)			45
Taxes			
CST considered for all FYs		2%	1.02
S. Tax considered for FY 10-11 and FY 11-12		10.30%	1.103
Gas Cost (GCV Basis)			
Billor	Currency	Per Unit Cost (Excluding taxes)	Remarks
Supply RIL	USD	3.91	Contract Price USD 4.34/mmbtu ncv basis
Transportation RGTIL	Rs.	60.94	Contract Price INR 67.64/mmbtu ncv basis
Transportation GAIL	Rs.	85.06	Contract Price on GCV basis
Total Transportation	Rs.	146.00	

5.6.16 The Petitioner based on the actual fuel costs and as per prevalent Regulations claims the following Variable Charges for the period FY 10-11, FY 11-12:

(Rs. Crore)

Particulars	FY 10-11	FY 11-12
Variable Charges (including FPA but excluding SoP)	13.17	93.31

**Ship – or – Pay Charges**

5.6.17 The Ship or Pay obligation exists in the transportation contracts with RGTIL (90% ship or pay obligation) and GAIL (95% ship or pay obligation), thereby making these expenses fixed since, they still need to be paid irrespective of despatch & procurement of Gas as the transportation capacity is contracted. The details of contract are as below:

Agreement	Gas Transportation Agreement dated 03.08.2010 (RGTIL)	Gas Transportation Agreement (GAIL)
Ship - or-Pay (S-O-P)	90% (Clause 5.2 of GTA)	95%(as per clause 6.1.1 ii of GTA amended vide side letter dated 25.02.2010)

5.6.18 The total Ship-or-Pay charges as claimed by RGTIL and GAIL are as per below table:

(Rs. Crore)

Particulars	2010-11 (Open cycle)		2011-12 (Open Cycle)	
	RGTIL	GAIL	RGTIL	GAIL
Ship-or-Pay charges	1.36	1.23	5.08	9.70

5.6.19 It is worthwhile to bring to the notice of the Commission that the gas based generating stations of Delhi like Bawana (PPCL-III) have been claiming the full ship-or-pay charges including the taxes as per actuals from the distribution licensees. The Commission is requested to allow claim of Ship or Pay charges on the same principle.

5.6.20 In view of the above, the Petitioner prays before this Commission to allow the Ship-or-pay charges for the period FY 2010-2011 and FY 2011-12 on actuals as per above table.

### **COMMISSION ANALYSIS**

5.6.21 The Commission, after due deliberation, has already determined the operational parameters for Petitioner Plant vide Order dated 31.08.2017. The submissions made by the Petitioner in respect of to the request of the Petitioner to relax the operational norms of the Petitioner Plant have been considered and has found no reason to accede to the request of the Petitioner.

5.6.22 Petitioner has claimed Energy Charges for the period from FY 2010-11 to FY 2013-14 as there was no Generation from the plant after the said period.

5.6.23 The contentions of the Petitioner were scrutinized and it was observed that there were some data gaps; besides some clarification and additional information were also required. Commission vide its letter dated 4/12/2017 had directed the Petitioner to submit Energy Charge Rate (ECR) and Fuel Price Adjustment (FPA) in line with DERC Generation Tariff Regulations 2007 and 2011 as the Variable Charges computed in their True up Petition was not in line with the said Regulations. Further, the Petitioner was also directed to explain and rectify the data gaps observable in the Petition.

5.6.24 Petitioner's subsequent submissions on the data gaps, year wise revised claim for True up of Variable Charges and certain clarifications have been analyzed for Truing up of Energy Charges and Fixed Charges for the period from FY 2010-11 to FY 2017-18, which are dealt in the subsequent sections:

5.6.25 The **Ship-or-Pay Charges** paid by the Petitioner till Oct'12 has also been verified from the bills of Gas Transporters. Therefore, as per existing FSA, Gas transporters have billed Ship-or-Pay Charges to the Petitioner which is considered as a part of Fuel Cost and not allowed separately as claimed by the petitioner.

5.6.26 The Commission vide its email dated 08/11/2017 had sought information about the generation in Open Cycle and Close Cycle mode of operation from SLDC for

Rithala CPP. Accordingly, SLDC vide its email dated 20/11/2017 had submitted the said information.

5.6.27 It is pertinent to state that the Commission vide its letter dated 04/09/2012 had directed SLDC to schedule power from Rithala CCPP from 4/09/2012 onwards. Therefore, SLDC has not provided generation data in Open & Closed cycle mode prior to Oct.' 12.

5.6.28 Further, Rithala CCPP was commissioned in Open Cycle mode on 4/02/2011 and its COD was on 4/09/2011 in Combined Cycle mode. Therefore, for the period prior to Oct.'12, the generation from Rithala in Open and Close Cycle Mode has to be considered as recorded by Area Load Dispatch Centre (ALDC) of the Petitioner.

5.6.29 However, it is observed that the Petitioner ran the Rithala CCPP nearly 100% in Open Cycle Mode from Sept.'11 to Mar.'12 (except Dec'11) whereas the plant was already commissioned in Combined Cycle mode on 4/09/2011, indicated in the table as follows:

Months	Sept'11	Oct'11	Nov'11	Dec'11	Jan'12	Feb'12	Mar'12
Percentage Generation in Open Cycle to Total Generation	90%	100%	100 %	4%	90 %	100%	100%

5.6.30 The Petitioner vide its email dtd. 2/01/2018 has replied to the above mentioned observation of the Commission that the exhaust pressure of the Gas Turbines was on the higher side when operated in Combined Cycle mode. The said problem was rectified in April 2012 and accordingly the plant started generation in Combined Cycle mode.

5.6.31 The Commission in its earlier Tariff Orders has stated that running of a plant in Open Cycle mode is very inefficient and the generation in Open Cycle mode should be resorted to only extreme/exceptional circumstances, if so warranted by the directions of SLDC, as follows:

*“The Commission is of the opinion that the plant should be always operated in the combined cycle mode, as the open cycle operations are very inefficient. However, under unforeseen circumstances, which are beyond the control of the Petitioner, the plant may be forced to operate in Open Cycle mode. The Commission will approve the operational parameters for open cycle and the conditions for open cycle operation as a part of Terms and Conditions of Tariff Regulations. In the interim period the heat rate for Single/Open Cycle operation shall be taken as 2900 kCal/kWh based on Gross Calorific Value (GCV) of fuel. **Simple/Open Cycle operation shall be resorted to only under extreme/exceptional circumstances, if so warranted, by the directions of the SLDC.**”*

5.6.32 In such a situation when the plant had run in open cycle mode for majority of FY 2011-12 (September'11 to March'12) due to one reason or the other, the percentage generation in open cycle mode in these months of FY 2011-12 has

been determined based on the percentage generation in open cycle mode of corresponding months of next year i.e. FY 2012-13 and the remaining generation has been considered in combined cycle mode.

5.6.33 In view of above, the comparative table for Variable Charges as claimed by the Petitioner and as approved by the Commission are as follows:

(in Rs. Crore)

Variable Charges	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	Ship or Pay Charges	Total
Claimed by the petitioner in Petition	13.17	93.31	44.64	0.28	30.09	181.49
Revised Claimed by the Petitioner as per DERC Generation Regulations	12.68	92.06	44.65	0.28	30.09	179.76
Approved	14.52	89.77	51.97	0.08	*	156.34

\* Ship or Pay Charges has been included in fuel cost for calculation of Variable Charges for respective year as mentioned in above paras.

6. With the observation and approval as contained hereinabove, the Petition is disposed of.

Sd/-  
(Justice S S Chauhan)  
Chairperson