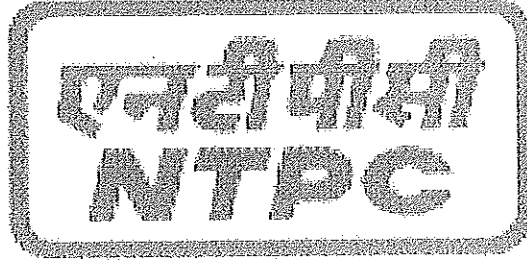


Petition No.....



A Maharatna Company

RGCCPP Kayamkulam Stage-I

(359.58 MW)

**TARIFF PETITION FOR THE PERIOD
01.04.2019 TO 31.03.2024**

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of **Rajiv Gandhi Combined Cycle Power Project (RGCCPP), Kayamkulam (359.58 MW)** for the period from 01.04.2019 to 31.03.2024.

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BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of **Rajiv Gandhi Combined Cycle Power Project (RGCCPP), Kayamkulam (359.58 MW)** for the period from 01.04.2019 to 31.03.2024.

AND
IN THE MATTER OF

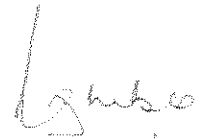
Petitioner: : NTPC Ltd.
NTPC Bhawan
Core-7, Scope Complex
7, Institutional Area, Lodhi Road
New Delhi-110 003.

Respondent 1. KSEB Limited

Vaidyuthi Bhavanam, Pattom
Thiruvananthapuram

The Petitioner humbly states that:

- 1) The Petitioner herein NTPC Ltd. (hereinafter referred to as 'Petitioner' or 'NTPC'), is a company incorporated under provisions of the Company Act, 1956 and a Government Company as defined under Section 2(45) of the Companies Act, 2013. Further, NTPC is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.



- 2) In terms of Section 79(1)(a) of Electricity Act, 2003, the Hon'ble Commission has been vested with the functions to regulate the tariff of NTPC, being a Generating Company owned and controlled by the Central Government. The regulation of the tariff of NTPC is as provided under Section 79(1)(a) read with Section 61, 62 and 64 of the Electricity Act, 2003 and the Regulations notified by the Hon'ble Commission in exercise of powers under Section 178 read with Section 61 of the Electricity Act, 2003.
- 3) The Petitioner is having power stations/ projects at different regions and places in the country. **Rajiv Gandhi Combined Cycle Power Project (RGCCPP) Kayamkulam, 359.58 MW (2GTs of 116.6 MW + 1 ST of 126.38 MW)** (hereinafter referred to as **RGCCPP**) is one such station located in the State of Kerala. The power generated from **RGCCPP** is being supplied to the respondent herein above.
- 4) The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (hereinafter 'Tariff Regulations 2019') which came into force from 01.04.2019, specifying the terms & conditions and methodology of tariff determination for the period 01.04.2019 to 31.03.2024.
- 5) Regulation 9(2) of Tariff Regulations 2019 provides as follows:
"(2) In case of an existing generating station or unit thereof, or transmission system or element thereof, the application shall be made by the generating company or the transmission licensee, as the case may be, by 31.10.2019, based on admitted capital cost including additional capital expenditure already admitted and incurred up to 31.3.2019 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2019-24 along with the true up petition for the period 2014-19 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2014."

The date of filing of Tariff Petition for the period 2019-24 has subsequently been extended by Hon'ble Commission vide order dated 28.10.2019 in Petition No. 331/MP/2019.

In terms of above, the Petitioner is filing the present petition for determination of tariff for **RGCCPP** for the period from 01.04.2019 to 31.03.2024 as per the Tariff Regulations 2019.

- 6) The tariff of the **RGCCPP** for the tariff period 1.4.2014 to 31.3.2019 was determined by the Hon'ble Commission vide its order dated 27.10.2016 in Petition No. 269/GT/2014 in accordance with the CERC (Terms & Conditions of Tariff) Regulations 2014. The Petitioner thereafter had filed an Appeal (being No. 40 of 2017) in Appellate Tribunal of Electricity on certain aspects of the order dated 27.10.2016. Hon'ble ATE has given its Judgement in Appeal No. 40 of 2017 on 05.08.2019. The petitioner vide affidavit dated 11.11.2019 has filed a separate true up petition for the period 01.04.2014 to 31.03.2019 for revision of tariff in line with the applicable provisions of Tariff Regulations 2014.
- 7) The Hon'ble Commission vide order dated 27.10.2016 in Petition no 269/GT/2014 has allowed a capital cost of Rs 1252.8654 Cr. as on 31.03.2019 based on the admitted projected capital expenditure for the 2014-19 period. However, the actual closing capital cost as on 31.03.2019 has been worked out in the foresaid true-up petition as Rs. 1257.9331 Crs based on the actual expenditure after truing up exercise for the period 2014-19. Accordingly, the Petitioner has adjusted an amount of Rs (+) 5.0677 Cr from the admitted capital cost as on 31.03.2019 and accordingly the opening capital cost as on 01.04.2019 has been considered as Rs 1257.9331 Cr. in the instant petition. The Hon'ble Commission may be pleased to accordingly adopt this adjustment in the admitted capital cost as on 31.3.2019 and determine the tariff in the present petition for the period 2019-24.
- 8) The capital cost claimed in the instant petition is based on the opening capital cost as on 01.04.2019 considered as above and estimated capital expenditures for the period 2019-24 projected based on the Regulation 19 and Regulation 25 and 26 of the Tariff Regulations, 2019.

- 9) As per Regulation 35(1)(6) of the Tariff Regulations 2019, the water charges, security expenses and capital spares consumed for thermal generating stations are to be allowed separately. The details in respect of water charges such as type of cooling water system, water consumption, rate of water charges as applicable for 2018-19 have been furnished below. Water charges for 2019-24 may be allowed in tariff based on Form-3A of Appendix-I. In accordance with provision of the Regulations, the petitioner shall be furnishing the details of actual for the relevant year at the time of truing up and the same shall be subject to retrospective adjustment.

Description	Remarks
Type of Plant	Naphtha / Gas
Type of cooling water system	Closed Circuit cooling
Consumption of Water/Allocation	32 cusec
Rate of Water charges	Rs. 1/kL
Total Water Charges	Rs. 0.93 Lakhs

- 10) Similarly, the Petitioner is claiming the security expenses based on the estimated expenses for the period 2019-24, the same shall be subject to retrospective adjustment based on actuals at the time of truing up. In respect of capital spares consumption, it is submitted that the same shall be claimed at the time of true-up in terms of the proviso to the Regulation 35 (1)(6) based on actual consumption of spares during the period 2019-24.
- 11) The Petitioner has already paid the requisite filing fee vide UTR No. CMS1106438370 on 22.04.2019 for the year 2019-20 and the details of the same have been duly furnished to the Hon'ble Commission vide our letter dtd. 25.04.2019. For the subsequent years, the fees shall be paid as per the provisions of the CERC (Payment of Fees) Regulations, 2012 as amended. Further Regulation 70 (1) of Tariff Regulations 2019 provides that the application fee and publication expenses may be allowed to be recovered directly from the beneficiaries at the discretion of the Hon'ble Commission.

Accordingly, it is prayed that Hon'ble Commission may be pleased to allow recover filing fee and publication fee directly from the beneficiaries.

- 12) The petitioner has accordingly calculated the tariff for 2019-24 period based on the above and the same is enclosed as **Appendix-I** to this petition.
- 13) The Petitioner has served a copy of the Petition to the Respondent mentioned herein above and has posted the Petition on the company website i.e. www.ntpc.co.in
- 14) The petitioner is filing this tariff petition subject to the outcome of its various appeals/ petitions pending before different courts. Besides, the petitions filed by NTPC for determination of capital base as on 31.3.2014 through true-up exercise are pending before the Hon'ble Commission and would take some time. The Petitioner, therefore, reserves its right to amend the tariff petition as per the outcome in such appeals/ petitions, if required.

Prayers

In the light of the above submissions, the Petitioner, prays that the Hon'ble Commission may be pleased to:

- i) Approve tariff of RGCCPP, Kayamkulam for the tariff period 01.04.2019 to 31.03.2024.
- ii) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publication expenses from the beneficiaries.
- iii) Pass any other order as it may deem fit in the circumstances mentioned above.

NEW DELHI
Jan. 29, 2020


Petitioner

BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of **Rajiv Gandhi Combined Cycle Power Project (RGCCPP), Kayamkulam (359.58 MW)** for the period from **01.04.2019 to 31.03.2024.**

**AND
IN THE MATTER OF**

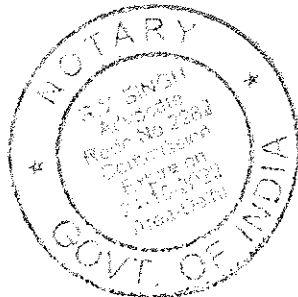
Petitioner: : NTPC Ltd.
NTPC Bhawan
Core-7, Scope Complex
7, Institutional Area, Lodhi Road
New Delhi-110 003

Respondents
1. KSEB Limited
Vaidyuthi Bhavanam, Pattom
Thiruvananthapuram

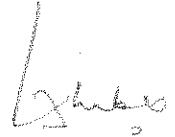
Affidavit

I, Rohit Chhabra, son of Sh. S M Chhabra, aged about 54 years, having office at NTPC Bhavan, SCOPE Complex, Lodhi Road, New Delhi do solemnly affirm and state as under:

1. That I am the Addl. General Manager (Commercial) in Petitioner Corporation NTPC Ltd. and am well conversant with the facts of the case and am competent to swear the present affidavit.



2. That I have read the contents of the accompanying Petition being filed by NTPC and have understood the same.
3. That the contents of the accompanying Petition being filed by NTPC are based on information available with the Petitioner in the normal course of business and believed by the deponent to be true.



Deponent

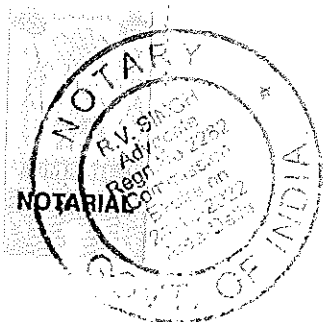
Verification

I, the deponent above named, do hereby verify that the contents of the above affidavit are true to the best of my knowledge, no part of it is false and nothing material has been concealed therefrom.

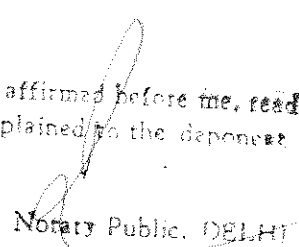
Verified at New Delhi on this day ^{29th}.....January 2020.



Deponent



Solemnly affirmed before me, read over & explained to the deponent.


Notary Public, DELHI

29 JAN 2020

TARIFF FILING FORMS (THERMAL)

FOR DETERMINATION OF TARIFF

FOR

Kayamkulam Stage-I

(From 01.04.2019 to 31.03.2024)

PART-I

APPENDIX-I

Checklist of Main Tariff Forms and other information for tariff filing for Thermal Stations

Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM- 1	Summary of Tariff	✓
FORM -1 (I)	Statement showing claimed capital cost	✓
FORM -1 (II)	Statement showing Return on Equity	✓
FORM-2	Plant Characteristics	✓
FORM-3	Normative parameters considered for tariff computations	✓
FORM-3A**	Statement showing O&M Expenses	✓
FORM-3B**	Statement of Special Allowance	NA
FORM- 4	Details of Foreign loans	✓
FORM- 4A	Details of Foreign Equity	NA
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	✓
FORM-5A**	Abstract of Claimed Capital Cost for the existing Projects	✓
FORM- 6	Financial Package upto COD	NA
FORM- 7	Details of Project Specific Loans	✓
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9A**	Summary of Statement of Additional Capitalisation claimed during the period	✓
FORM-9 ##	Statement of Additional Capitalisation after COD	✓
FORM- 10	Financing of Additional Capitalisation	✓
FORM- 11	Calculation of Depreciation on original project cost	NA
FORM- 12	Statement of Depreciation	✓
FORM- 13	Calculation of Weighted Average Rate of Interest on Actual Loans	✓
FORM- 14	Draw Down Schedule for Calculation of IDC & Financing Charges	NA
FORM- 15	Details of Fuel for Computation of Energy Charges	✓
FORM- 15A	Details of Secondary Fuel for Computation of Energy Charges	NA
FORM- 15B	Computation of Energy Charges	✓
FORM- 16	Details of Limestone for Computation of Energy Charge Rate	NA
FORM-17	Details of Capital Spares	***
FORM- 18	Non-Tariff Income	***
FORM-19	Details of Water Charges	***
FORM-20	Details of Statutory Charges	***

Provided yearwise for the period 2019-24

** Additional Forms

*** Shall be provided at the time of true up.

PART-I

List of Supporting Forms / documents for tariff filing for Thermal Stations

Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM-A	Abstract of Capital Cost Estimates	NA
FORM-B	Break-up of Capital Cost for Coal/Lignite based projects	NA
FORM-C	Break-up of Capital Cost for Gas/Liquid fuel based Projects	NA
FORM-D	Break-up of Construction/Supply/Service packages	NA
FORM-E	Details of variables , parameters , optional package etc. for New Project	NA
FORM-F	Details of cost over run	NA
FORM-G	Details of time over run	NA
FORM -H	Statement of Additional Capitalisation during end of the useful life	***
FORM -I	Details of Assets De-capitalised during the period	***
FORM -J	Reconciliation of Capitalisation claimed vis-à-vis books of accounts	***
FORM -K	Statement showing details of items/assets/works claimed under Exclusions	***
FORM-L	Statement of Capital cost	***
FORM-M	Statement of Capital Woks in Progress	***
FORM-N	Calculation of Interest on Normative Loan	✓
FORM-O	Calculation of Interest on Working Capital	✓
FORM-P	Incidental Expenditure up to SCOD and up to Actual COD	NA
FORM-Q	Expenditure under different packages up to SCOD and up to Actual COD	NA
FORM-R	Actual cash expenditure	NA
FORM-S	Statement of Liability flow	***
FORM-T	Summary of issues involved in the petition	NA

*** Shall be provided at the time of true up

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List of supporting documents for tariff filing for Thermal Stations

S. No.	Information/ Document	Tick
1	Certificate of incorporation, Certificate for Commencement of Business, Memorandum of Association, & Articles of Association (For New Station setup by a company making tariff application for the first time to CERC)	NA
2	A. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures on COD of the Station for the new station & for the relevant years.	NA
	B. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures for the existing station for relevant years.	***
3	Copies of relevant loan Agreements	
4	Copies of the approval of Competent Authority for the Capital Cost and Financial package.	NA
5	Copies of the Equity participation agreements and necessary approval for the foreign equity.	NA
6	Copies of the BPSA/PPA with the beneficiaries, if any	NA
7	Detailed note giving reasons of cost and time over run, if applicable.	NA
	List of supporting documents to be submitted:	
	a. Detailed Project Report	
	b. CPM Analysis	
	c. PERT Chart and Bar Chart	
	d. Justification for cost and time Overrun	
8	Generating Company shall submit copy of Cost Audit Report along with cost accounting records, cost details, statements, schedules etc. for the Generating Unit wise /stage wise/Station wise/ and subsequently consolidated at Company level as submitted to the Govt. of India for first two years i.e. 2019-20 and 2020-21 at the time of mid-term true-up in 2021-22 and for balance period of tariff period 2019-24 at the time of final true-up in 2024-25. In case of initial tariff filing the latest available Cost Audit Report should be furnished.	NA
9	Any other relevant information, (Please specify)	NA
10	Reconciliation with Balance sheet of any actual additional capitalization and amongst stages of a generating station	***
11	BBMB is maintaining the records as per the relevant applicable Acts. Formats specified herein may not be suitable to the available information with BBMB. BBMB may modify the formats suitably as per available information to them for submission of required information for tariff purpose.	NA

*** Shall be provided at the Time of Truing Up

Summary of Tariff

Name of the Petitioner:	NTPC Limited								
Name of the Generating Station:	Kayamkulam Stage-I								
Place (Region/District/State):	Southern Region/Alapuzha/ Kerala								
	Amount in Rs. Lakhs								

S. No.	Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8	9
1.1	Depreciation	Rs Lakh	1,950.90	2,106.91	2,414.32	2,854.69	3,304.69	3,935.39
1.2	Interest on Loan	Rs Lakh	0.00	0.00	-	-	-	-
1.3	Return on Equity	Rs Lakh	7,373.64	7,060.98	7,143.16	7,233.32	7,297.27	7,347.42
1.4	Interest on Working Capital	Rs Lakh	14,190.25	6,360.06	6,370.37	6,399.08	6,428.61	6,460.91
1.5	O&M Expenses	Rs Lakh	7,938.17	7602.80	7658.98	7993.13	8344.51	8717.69
1.6	Special Allowance (If applicable)	Rs Lakh	0.00	0.00	0.00	0.00	0.00	0.00
1.7	Compensation Allowance (If applicable -- relevant for column 4 only)	Rs. Lakh	0.00					
	Total	Rs Lakh	31452.96	23130.75	23586.84	24480.22	25375.07	26461.42
2.1	Landed Fuel Cost (coal/gas/RLNG/ liquid)	Rs/Ton			40346.844			
	(%) of Fuel Quantity	(%)			100.000			
2.2	Landed Fuel Cost Imported Coal					NA		
	(%) of Fuel Quantity					NA		
2.3	Landed Fuel Cost (coal/gas /RLNG/liquid) other than FSA	Rs/Ton						
	(%) of Fuel Quantity	(%)						
2.4	Landed Fuel Cost Imported Coal other than FSA.							
	(%) of Fuel Quantity							
2.5	Secondary fuel oil cost	Rs/Unit						
	Energy Charge Rate ex-bus (Paise/kWh)	Rs/Unit					7.324	

Signature
(Petitioner)

Name of the Petitioner:	NTPC Limited
Name of the Generating Station:	Kayamkulam Stage-I

Amount in Rs. Lakhs

Statement showing claimed capital cost – (A+B)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	1,25,793.31	1,27,620.31	1,28,710.31	1,30,820.31	1,30,980.31
2	Add: Addition during the year/period	1,827.00	1,090.00	2,110.00	160.00	1,620.00
3	Less: De-capitalisation during the year/period	-	-	-	-	-
4	Less: Reversal during the year / period	-	-	-	-	-
5	Add: Discharges during the year/ period	-	-	-	-	-
6	Closing Capital Cost	1,27,620.31	1,28,710.31	1,30,820.31	1,30,980.31	1,32,600.31
7	Average Capital Cost	1,26,706.81	1,28,165.31	1,29,765.31	1,30,900.31	1,31,790.31

Statement showing claimed capital cost eligible for RoE at normal rate (A)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	125793.31	127620.31	128710.31	130820.31	130980.31
2	Add: Addition during the year / period	1827.00	1090.00	2110.00	160.00	1620.00
3	Less: De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	127620.31	128710.31	130820.31	130980.31	132600.31
7	Average Capital Cost	126706.81	128165.31	129765.31	130900.31	131790.31

**Statement showing claimed capital cost eligible for RoE at weighted average rate of interest
on actual loan portfolio (B)**

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	0.00	0.00	0.00	0.00	0.00
2	Add: Addition during the year / period	0.00	0.00	0.00	0.00	0.00
3	Less: De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	0.00	0.00	0.00	0.00	0.00
7	Average Capital Cost	0.00	0.00	0.00	0.00	0.00

[Signature]
(Petitioner)

Name of the Petitioner:

NTPC Limited

Name of the Generating Station:

Kayamkulam Stage-I

Statement showing Return on Equity at Normal Rate

Amount in Rs. Lakhs

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity					
1	Gross Opening Equity (Normal)	37,320.37	37,868.47	38,195.47	38,828.47	38876.47119
2	Less: Adjustment in Opening Equity					
3	Adjustment during the year		0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	37,320.37	37,868.47	38,195.47	38,828.47	38,876.47
5	Add: Increase in equity due to addition during the year / period	548.10	327.00	633.00	48.00	486.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	37,868.47	38,195.47	38,828.47	38,876.47	39,362.47
11	Average Equity (Normal)	37,594.42	38,031.97	38,511.97	38,852.47	39,119.47
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782
13	Total ROE	7,060.98	7,143.16	7,233.32	7,297.27	7,347.42


(Petitioner)

Name of the Petitioner: NTPC Limited

Name of the Generating Station: Kayamkulam Stage-I

Statement showing Return on Equity at Normal Rate

Amount in Rs. Lakhs

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity (beyond the original scope of work excluding additional capitalization due to Change in Law)					
1	Gross Opening Equity (Normal)	0.00	0.00	0.00	0.00	0.00
2	Less: Adjustment in Opening Equity	0.00	0.00	0.00	0.00	0.00
3	Adjustment during the year	0.00	0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	0.00	0.00	0.00	0.00	0.00
5	Add: Increase in equity due to addition during the year / period	0.00	0.00	0.00	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	0.00	0.00	0.00	0.00	0.00
11	Average Equity (Normal)	0.00	0.00	0.00	0.00	0.00
12	Rate of ROE (%)	8.00%	8.00%	8.00%	8.00%	8.00%
13	Total ROE	0.00	0.00	0.00	0.00	0.00


 (Petitioner)

Plant Characteristics

Name of the Petitioner	NTPC Ltd.		
Name of the Generating Station	Kayamkulam Stage-I		
Unit(s)/Block(s)/Parameters	GT-1	GT-2	STG
Installed Capacity (MW)	116.6	116.6	126.38
Schedule COD as per Investment Approval			
Actual COD /Date of Taken Over (as applicable)	01-01-1999	01-05-1999	01-03-2000
Pit Head or Non Pit Head	NOT APPLICABLE		
Name of the Boiler Manufacture			BHEL
Name of Turbine Generator Manufacture	BHEL	BHEL	BHEL
Main Steams Pressure at Turbine inlet (kg/Cm2) abs1.	NOT APPLICABLE		
Main Steam Temperature at Turbine Inlet (oC) 1			
Reheat Steam Pressure at Turbine inlet (kg/Cm2) 1			
Reheat Steam Temperature at Turbine inlet (oC) 1			
Main Steam flow at Turbine inlet under MCR condition (tons /hr)2			
Main Steam flow at Turbine inlet under VWO condition (tons /hr)2			
Unit Gross electrical output under MCR /Rated condition (MW)2			
Unit Gross electrical output under VWO condition (MW)2			
Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh)3			
Conditions on which design turbine cycle heat rate guaranteed			
% MCR			
% Makeup Water Consumption			
Design Capacity of Make up Water System			
Design Capacity of Inlet Cooling System			
Design Cooling Water Temperature (oC)			
Back Pressure			
Steam flow at super heater outlet under BMCR condition (tons/hr)			
Steam Pressure at super heater outlet under BMCR condition (tons/hr) BMCR condition) (kg/Cm2)			
Steam Temperature at super heater outlet under BMCR condition (oC)			
Steam Temperature at Reheater outlet at BMCR condition (oC)			
Design / Guaranteed Boiler Efficiency (%)			
Design Fuel with and without Blending of domestic/imported coal	Naphtha		
Type of Cooling Tower	Induced Draft --Forced Cooling		
Type of cooling system5	Closed cooling water system		
Type of Boiler Feed Pump6	Motor driven		
Fuel Details7	Naphtha		
-Primary Fuel	HSD (For start up only)		
-Secondary Fuel			
-Alternate Fuels			
Special Features/Site Specific Features8	Liquid fuel based Combined cycle Power project, Dual pressure, Unfired, water tube, natural circulation Heat Recovery Steam Generators(HRSG).		
Special Technological Features9			
Environmental Regulation related features10	Water injection in GT for NOx control		
Any other special features			

1: At Turbine MCR condition.

2: with 0% (Nil) make up and design Cooling water temperature

3: at TMCR output based on gross generation, 0% (Nil) makeup and design Cooling water temperature.

4: With Performance coal based on Higher Heating Value (HHV) of fuel and at BMCR) out put

5: Closed circuit cooling, once through cooling, sea cooling, natural draft cooling, induced draft cooling etc.

6: Motor driven, Steam turbine driven etc.

7: Coal or natural gas or Naptha or lignite etc.

8: Any site specific feature such as Merry-Go-Round, Vicinity to sea, Intake /makeup water systems etc. scrubbers etc. Specify all

9: Any Special Technological feature like Advanced class FA technology in Gas Turbines, etc.

10: Environmental Regulation related features like FGD, ESP etc.,

Note 1: In case of deviation from specified conditions in Regulation, correction curve of manufacturer may also be submitted.

Note 2: Heat Balance Diagram has to be submitted along with above information in case of new stations.

Note 3: The Terms - MCR, BMCR, HHV, Performance coal, are as defined in CEA Technical Standards for Construction of

Note 4: The copy of Certificate shall be submitted in terms of Regulation 4 as per Appendix-VI


 Petitioner

Normative parameters considered for tariff computations

Name of the Petitioner:		NTPC Limited					
Name of the Generating Station:		Kayankulam Stage-I					
		(Year Ending March)					
Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
Base Rate of Return on Equity \$\$	%	15.50	15.50	15.50	15.50	15.50	15.50
Base Rate of Return on Equity on Add. Capitalization** \$\$	%	-	6.5710%	6.5710%	6.5710%	6.5710%	6.5710%
Effective Tax Rate	%	21.4588	17.4720	17.4720	17.4720	17.4720	17.4720
Target Availability	%	85.00	85.00				
In High Demand Season	%	-	-	85.00	85.00	85.00	85.00
Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00
In Low Demand Season(Off-Peak)	%	-	-	85.00	85.00	85.00	85.00
Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Auxiliary Energy Consumption	%	2.50	2.75	2.75	2.75	2.75	2.75
Gross Station Heat Rate	kCal/kWh	2000.00	2000.00	2000.00	2000.00	2000.00	2000.00
Specific Fuel Oil Consumption	ml/kWh	0.00	0.00	0.00	0.00	0.00	0.00
Cost of Naptha for WC1	in Days	30	30	30	30	30	30
Cost of Naptha for WC1	in Days	15	15	15	15	15	15
Fuel Cost for WC2	in Months						
Liquid Fuel Stock for WC2	in Months						
O&M Expenses	Rs lakh/MW	18.72	17.58	18.2	18.84	19.5	20.19
Maintenance Spares for WC	% of O&M	30.00	30.00	30.00	30.00	30.00	30.00
Receivables for WC	in Days	60	45	45	45	45	45
Storage capacity of Primary fuel	MT	40000	40000				
SBI 1 Year MCLR plus 350 basis point ³	%	13.50	12.05	12.05	12.05	12.05	12.05
Blending ratio of domestic coal/imported coal							

** Rate of Return on Add - cap beyond original scope and excluding Change in Law

\$\$ Additional RoE due to better ramp rate would be claimed at the time of true-up or as per guidelines to be issued


 Petitioner

Calculation of O&M Expenses

Name of the Company : NTPC Limited
Name of the Power Station : Kayamkulam Stage-I

		Amount in Rs. Lakhs				
S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	7	8
1	O&M expenses under Reg.35(1)					
1a	Normative	6321.42	6544.36	6774.49	7011.81	7259.92
2	O&M expenses under Reg.35(6)					
2a	Water Charges*	1.00	1.00	1.00	1.00	1.00
2b	Security expenses*	1280.38	1113.62	1217.64	1331.70	1456.77
2c	Capital Spares**	0.00	0.00	0.00	0.00	0.00
3	O&M expenses-Ash Transportation**	0.00	0.00	0.00	0.00	0.00
	Total O&M Expenses	7602.80	7658.98	7993.13	8344.51	8717.69

** Shall be provided at the time of truing up

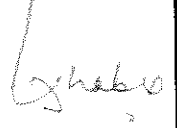
* Subject to true up

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Petitioner

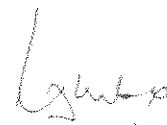
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Abstract of Admitted Capital Cost for the existing Projects

Name of the Company :		NTPC Limited	
Name of the Power Station :		Kayamkulam Stage-I	
Last date of order of Commission for the project		Date (DD-MM-YYYY)	27.10.2016
Reference of petition no. in which the above order was passed		Petition no.	269/GT/2014
Following details (whether admitted and /or considered) as on the last date of the period for which tariff is approved, in the above order by the Commission:			
Capital cost (as on 01.04.2019)		(Rs. in lakh)	1,25,286.54
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)			0
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)			9.53
Gross Normative Debt			88118.2
Cumulative Repayment			88118.2
Net Normative Debt			0
Normative Equity			37168.34
Cumulative Depreciation			98654.39
Freehold land			4207.58
			 (Petitioner)

Abstract of Claimed Capital Cost for the existing Projects

Name of the Company :	NTPC Limited	
Name of the Power Station :	Kayamkulam Stage-I	
Reference of Final True-up Tariff Petition	Affidavit dated	11.11.2019
Capital Cost as on 31.03.2019 as per Hon'ble Commission's Order dated 27.10.2016 In Pet. No. 269/GT/2014	Rs. Lakhs	1,25,286.54
Adjustment as per Para (7) of this petition		506.77
Following details as considered by the Petitioner as on the last date of the period for which final true-up tariff is claimed:		
Capital cost as on 01.04.2019	(Rs. in lakh)	125793.31
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		0
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		81.77
Gross Normative Debt		88,472.94
Cumulative Repayment		88,472.94
Net Normative Debt		0
Normative Equity		37,320.37
Cumulative Depreciation		98,684.37
Freehold land		4,720.40



(Petitioner)

**Statement Giving Details of Project Financed through a Combination of loan
Form 8**

BP NO 5050000241 TRANCHE NO T00001 DRAWAL NO. 1

Unsecured Loan From LIC-III		
Source of Loan :	LIC-III	
Currency :	INR	
Amount of Loan :	40,000,000,000	
Total Drawn amount :	5,000,000,000	
Date of Drawal	0	
Interest Type :	Fixed	
Fixed Interest Rate :	6.571%	
Rate of Interest 01.04.2019	6.571%	
Upfront fees	0.20% excluding service tax	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Half Yearly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	4 Years	
Moratorium effective from :	31.12.2003	
Repayment Period (Inc Moratorium) :		
	14 Years	
Repayment Frequency :	20 Half Yearly	
Repayment Type :	AVG	
First Repayment Date :	31-Dec-07	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	TALCHER-II	900,000,000.00
	RAMAGUNDAM-III	500,000,000.00
	KOLDAM	1,300,000,000.00
	VINDHYACHAL-III	800,000,000.00
	KAHALGAON-II	850,000,000.00
	SIPAT-II	350,000,000.00
	SIPAT-I	100,000,000.00
	UNCHAAR-III	150,000,000.00
	RGCCPP	50,000,000.00
Total Allocated Amount		5,000,000,000.00

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MP

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited			
Name of the Generating Station	Kayamkulam Stage-I			
COD	01-03-2000			
For Financial Year	2019-24 (Summary)			
				Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)				Justification/ Regulation under which claimed	Admitted Cost by the Commission, if any
		2019-20	2020-21	2021-22	2022-23		
1		3	4	5	6	7	8
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate							
1	Fuel Handling system 5 safety upgrades (MBLR Recommendations)	1,800.00	1,000.00				
	Bus bar protection for GIS switchyard		60				
2	Replacement of GRP Relay with numerical relay (3 units)				90		
3	Replacement of 11/6.6 kV with numerical relay			30.00	40		
4	Replacement of 220 kV breaker (operating mechanism) in GIS switchyard	27.00	30	30	30		
5	Upgradation of Mark V to Mark VIc			1,500			
6	ClO2 system			550			
7	Gas Conversion					1,500.00	
8	Total (A)	1,827.00	1,090.00	2,110.00	160.00	1,620.00	
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest							
	Total (B)	-	-	-	-	-	
	Total Add. Cap. Claimed (A+B)	1,827.00	1,090.00	2,110.00	160.00	1,620.00	

Please Refer Form-9 of respective years.

Signature

(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner: **NTPC Limited**
 Name of the Generating Station: **Kayamkulam Stage-I**
 COD: **01-03-2000**
 For Financial Year: **2019-20**

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)			Regulations under which claimed	Justification	Amount in Rs Lakh	
		Accrual basis as per IGAAP in col. 3	Un-discharged Liability included in col. 3	Cash basis IDC included in col. 3				Admitted Cost by the Commission, if any
1	2	3	4	5=(3-4)	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	Fuel Handling system : safety upgrades	1,800.00		1,800.00		26(1)(b) & 26(1)(d)	It is mandatory for Fuel handling facilities at unloading station and plant area to be completed as per OSID-117 (Fire protection facilities for petroleum depots, Terminals and pipeline installations). In this regard, Priority inspection report by Joint Director Factories and Boiler directed the instant station to carry out certain works for safety upgradation of fuel handling system. The said report is attached at Annexure-A. Based on this various works as recommended are carried out at Fuel Handling system. Hon'ble Commission may be pleased to allow the same.	
2	Replacement of 220 kV breaker (operating mechanism) in GIS switchyard	27.00		27		25(2)(c)	GIS had been in service for more than 20 years. The moving parts especially the hydraulic mechanism has been affected by wear and tear. There is no Indian manufacturer or vendor for spares supply. Spares not available due to obsolescence. Accordingly, replacement of hydraulic pump and power cylinder is envisaged for safe operation of the protection system. Hon'ble Commission may be pleased to allow the same under Regulation 25(2)(c)	
Total (A)		1,827.00		1,827.00				
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wid. Average rate of Interest								
Total (B)								
Total Add. Cap. Claimed (A+B)		1,827.00		1,827.00				

(Signature)

(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner		NTPC Limited		Kayamkulam Stage-I		01-03-2000		2020-21		Amount in Rs Lakh	
Name of the Generating Station		NTPC Limited		Kayamkulam Stage-I		01-03-2000		2020-21		Amount in Rs Lakh	
COD		NTPC Limited		Kayamkulam Stage-I		01-03-2000		2020-21		Amount in Rs Lakh	
For Financial Year		NTPC Limited		Kayamkulam Stage-I		01-03-2000		2020-21		Amount in Rs Lakh	
Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	ACE Claimed (Actual / Projected)	Cash basis included in col. 3	IDC included in col. 3	Regulations under which claimed	Justification	Admitted Cost by the Commission, if any		
1	2	3	4	5= (3+4)	6	7	8	9			
A.	Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate										
1	Fuel Handling system 5 safety upgrades (MBLR Recommendations)	1,000.00			1,000.00		26(1)(b) & 26(1) (d)	As per Form-9 of FY 2019-20			
2	Replacement of 220 kV breaker (operating mechanism) in GIS switchyard	30.00			30		25(2)(c)	As per Form-9 of FY 2019-20			
3	Bus bar protection for GIS switchyard	60.00			60.00		25(2)(c)	MBCZ low impedance for busbar protection relays are in service and no sparesd are available due to obsolescence . OEM letter in this regard is attached at Annexure-B. For reliable and safe operation of protection system the same are being replaced. Present relays of bus bar protection were obsolete due to which the upgradation of Bus bar protection with latest numerical relay has been carried out. The OEM letter of obsolescence is attached at Annexure-B.			
Total (A)		1,090.00			1,090.00						
Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest											
Total (B)											
Total Add. Cap. Claimed (A+B)		1,090.00			1,090.00						

(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner		NTPC Limited		Kayamkulam Stage-I		01-03-2000		2021-22		Amount in Rs Lakh	
Name of the Generating Station		NTPC Limited		Kayamkulam Stage-I		01-03-2000		2021-22		Admitted Cost	
COD		NTPC Limited		Kayamkulam Stage-I		01-03-2000		2021-22		by the Commission, if any	
For Financial Year		NTPC Limited		Kayamkulam Stage-I		01-03-2000		2021-22		9	
Sl. No.	Head of Work /Equipment	Actual basis as per IGAAP	Un-discharged Liability included in col. 3	ACE Claimed (Actual / Projected)	Cash basis included in col. 3	IDC included in col. 3	Regulations under which claimed	Justification	9		
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate											
1	Replacement of 11/6.6 kV with numerical relay	30.00		30.00	30.00		25(2)(c)	Replacement of existing Electromechanical relays with numerical relays are envisaged. Existing relays are old & spares are not available. The replacement of electromechanical relays to numerical relays has also been taken up during technical audits. This includes replacement of 11 kV and other LT feeders. Hon'ble Commission may be pleased to allow the same.			
2	Replacement of 220 kV breaker (operating mechanism) in GIS switchyard	30.00		30.00	30		25(2)(c)	As per Form-9 of FY 2019-20			
3	Upgradation of Mark V to Mark V1c	1,500.00		1,500.00	1,500.00		25(2)(c)	BHEL vide their letter on Life Cycle Notification for Mark V Controls has said that due to phasing out of the technology, GE has stopped manufacturing Mark V control system in April 2004. The support for spare parts can be extended only up to 2014. Extension of further support would be difficult due to obsolescence of technology. They have also suggested for the migration to new control system i.e. Mark V1c without compromising on reliability and availability. Correspondence by OEM support on unavailability of spares is attached at Annexure-C.			
4	ClO2 system	550.00		550.00	550.00		26(1)(b) & 26(1)(d)	In the instant station, at present Chlorine gas is being dozed directly at various stages of water treatment to maintain water quality and to inhibit organic growth in the water retaining structures/ equipment such as clarifiers, storage tanks, cooling towers, condenser tubes & piping etc. Chlorine dosing is done from chlorine stored in cylinders/ tonners. Chlorine gas is very hazardous and may prove fatal in case of leakage; handling and storage of same involves risk to the life of public at large. In the interest of public safety the chlorine dosing system is now being replaced by Chlorine Dioxide (ClO2) system, which is much safer and less hazardous than chlorine. In the proposed scheme ClO2 shall be produced on site by use of commercial grade HCl and sodium chlorite. As ClO2 is generated at site, avoids handling and storage risk. Further, at Kudgi NTPC project Department of Factories, Boiler, Industrial Safety and Health, Govt of Karnataka has directed NTPC to consider replacement of highly hazardous gas chlorination system with ClO2 system. SPCCB, Odisha while issuing consent to establish in case of Daripalli Station has asked NTPC to explore the possibility of installing ClO2 system instead of Chlorine gas system (Relevant documents is attached at Annexure-E). For safety of public NTPC is replacing the chlorination system with ClO2 system. Accordingly, Hon'ble Commission may be pleased to allow the same under Reg. 26(1)(b) & 26(1)(d).			
Total (A)		2,110.00	-	2,110.00	2,110.00	-	-	-	-	Average rate of Interest	
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest		-	-	-	-	-	-	-	-	-	
Total (B)		-	-	-	-	-	-	-	-	-	
Total Add. Cap. Claimed (A+B)		2,110.00	-	2,110.00	2,110.00	-	-	-	-	-	

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Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner		NTPC Limited									
Name of the Generating Station		Kayamkulam Stage-I									
COD		01-03-2000									
For Financial Year		2022-23									
Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed Un-discharged Liability included in col. 3	Cash basis included in col. 3	IDC included in col. 3	Regulations under which claimed	Justification	Admitted Cost by the Commission, if any	Amount in Rs Lakh		
		3	4	5=(3-4)	6	7	8	9			
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate											
1	Replacement of 11/6.6 kV with numerical relay	40.00		40.00		25(2)(c)	As per Form-9 of FY 2021-22				
2	Replacement of 220 kV breaker (operating mechanism) in GIS switchyard	30.00		30.00		25(2)(c)	As per Form-9 of FY 2019-20				
3	Replacement of GRP Relay with numerical relay (3 units)	90.00		90.00		25(2)(c)	Replacement of existing Electromechanical relays with numerical relays are envisaged. Existing relays are old & spares are not available. The replacement of electromechanical relays to numerical relays has also been taken up during technical audits. Hon'ble Commission may please allow the same.				
Total (A)		160.00	-	160.00	-						
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest											
Total (B)		-	-	-	-						
Total Add. Cap. Claimed (A+B)		160.00	-	160.00	-						

Name of the Petitioner		NTPC Limited						
Name of the Generating Station		Kayamkulam Stage-I						
COD		01-03-2000						
For Financial Year		2023-24						
Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)			Regulations under which claimed	Justification	Admitted Cost by the Commission, if any	
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis				IDC included in col. 3
1	2	3	4	5=(3-4)	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	Gas Conversion	1,500.00		1,500.00		26(1)(b)	This work was disallowed by Hon'ble Commission vide its order dated 27.10.2016 in petition 269/GT/2014. An appeal was filed in Hon'ble ATE. Hon'ble ATE vide its order dated 05.08.2019 in Appeal No. 40 of 2017 has stated that expenditure should be equally shared by both in the ratio of 50 : 50. The order of APTEL in the said appeal is attached at Annexure-D. At present, Erection work of Gas Conversion has already been completed, but could not be capitalised due to non-availability of gas for commissioning.	
2	Replacement of 220 KV breaker (operating mechanism) in GIS switchyard	30.00		30.00		25(2)(c)	As per Form-9 of FY 2019-20	
3	Replacement of GRP Relay with numerical relay (3 units)	90.00		90.00		25(2)(c)	As per Form-9 of FY 2022-23	
Total (A)		1,620.00	-	1,620.00	-			
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
Total (B)		-	-	-	-			
Total Add. Cap. Claimed (A+B)		1,620.00	-	1,620.00	-			

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Name of the Petitioner **NTPC Limited**
 Name of the Generating Station **Kayamkulam Stage-I**
 Date of Commercial Operation **01-03-2000**

Financial Year (Starting from COD)	Amount in Rs Lakh										
	Actual						Admitted				
	2019-20	2020-21	2021-22	2022-23	2023-24	2019-20	2020-21	2021-22	2022-23	2023-24	
1		3	4	5	6	7	8	9	10	11	

Amount capitalised in Work/ Equipment

Financing Details	
Loan-1	
Loan-2	
Loan-3 and so on	
Total Loan	
Equity	
Internal Resources	
Others (Pl. specify)	
Total	

Add cap is proposed to be finance in Debt:Equity ratio of 70:30

[Signature]

(Petitioner)

Statement of Depreciation

Name of the Company :		NTPC Limited							
Name of the Power Station :		Kayamkulam Stage-I							
		(Amount in Rs Lakh)							
S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24		
		3	4	5	6	7	8		
1	Opening Capital Cost	125789.32	1,25,793.31	1,27,620.31	1,28,710.31	1,30,820.31	1,30,980.31		
2	Closing Capital Cost	125793.31	1,27,620.31	1,28,710.31	1,30,820.31	1,30,980.31	1,32,600.31		
3	Average Capital Cost	125791.32	1,26,706.81	1,28,165.31	1,29,765.31	1,30,900.31	1,31,790.31		
1a	Cost of IT Equipments & Software included in (1) above*								
2a	Cost of IT Equipments & Software included in (2) above*								
3a	Average Cost of IT Equipments & Software								
4	Freehold land	4,718.41	4,720.40	4,720.40	4,720.40	4,720.40	4,720.40		
5	Rate of depreciation	1,08,965.61	1,09,787.77	1,11,100.42	1,12,540.42	1,13,561.92	1,14,362.92		
6	Depreciable value	6.27	5.27	4.27	3.27	2.27	1.27		
7.	Balance useful life at the beginning of the period	12,232.14	11,103.40	10,309.14	9,334.82	7,501.64	4,997.95		
8	Remaining depreciable value	0.00	2,106.91	2,414.32	2,854.69	3,304.69	3,935.39		
9	Depreciation (for the period)	1,950.90	2,106.91	2,414.32	2,854.69	3,304.69	3,935.39		
10	Depreciation (annualised)		1,00,791.28	1,05,205.60	1,06,060.28	1,09,364.97	1,13,300.36		
11	Cumulative depreciation at the end of the period	0.00	-	-	-	-	-		
12	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009	0.00	-	-	-	-	-		
13	Add: Cumulative depreciation adjustment on account of liability Discharge								
14	Less: Cumulative depreciation adjustment on account of de-capitalisation								
15	Net Cumulative depreciation at the end of the period after adjustments	98,684.37	1,00,791.28	1,03,205.60	1,06,060.28	1,09,364.97	1,13,300.36		

*Shall be provided at the time of truing up.

(Handwritten signature)
(Petitioner)

Name of the Company		NTPC Ltd				Part I
Name of the Station		KYCCP				Form 13
S No	Loan	2019-20	2020-21	2021-22	2022-23	Rs Lakhs 2023-24
1	LIC					
	Gross loan - Opening	500.00	500.00	500.00	500.00	500.00
	Cumulative repayments of Loans	350.00	383.33	416.67	450.00	483.33
	Net Loan Opening	150.00	116.67	83.33	50.00	16.67
	Repayment during the year	33.33	33.33	33.33	33.33	16.67
	Addition					
	Net Loan Closing	116.67	83.33	50.00	16.67	0.00
	Avg Loan	133.33	100.00	66.67	33.33	8.33
	Rate of Interest	6.5710%	6.5710%	6.5710%	6.5710%	6.5710%
	Interest	8.76	6.57	4.38	2.19	0.55
	Total Loan					
	Gross loan - Opening	500.00	500.00	500.00	500.00	500.00
	Cumulative repayments of Loans	350.00	383.33	416.67	450.00	483.33
	Net Loan Opening	150.00	116.67	83.33	50.00	16.67
	Repayment during the year	33.33	33.33	33.33	33.33	16.67
	Addition	0.00	0.00	0.00	0.00	0.00
	Net Loan Closing	116.67	83.33	50.00	16.67	0.00
	Avg Loan	133.33	100.00	66.67	33.33	8.33
	Rate of Interest	6.5710%	6.5710%	6.5710%	6.5710%	6.5710%
	Interest	8.76	6.57	4.38	2.19	0.55

Signature

Annexure-A2

FORM-15

Details/Information to be provided to beneficiaries under Clause (6) of Regulation 21 of CERC (Terms & Conditions of Tariff) Regulations, 2014

Details/Information to be submitted in respect of Fuel for Computation of Energy Charges

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kayamkulam

MONTH:- OCTOBER 2018

S.No.	Particulars	Unit	Liquid fuel -	Liquid fuel -	Liquid fuel -
			Naphtha (MT)	HSD (KL)	Nalco (KG)
1	Quantity of gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel)	(MT/KL/KG)	15147.416	160.744	7106.000
2	Adjustment (+/-) in quantity supplied by oil/gas company/supplier	(MT/KL/KG)	-	-16.001	-
3	Gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel) (1 + 2)	(MT/KL/KG)	15147.416	144.743	7,106.000
4	Normative transit & handling losses	(MT/KL/KG)	NOT APPLICABLE		
5	Net Gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel) (3 - 4)	(MT/KL/KG)	15,147.416	144.743	7,106.000
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	6111,50,437	85,43,873	24,43,122
7	Adjustment (+/-) in amount charged by oil/gas company/supplier	(Rs.)	-	(8,50,486)	-
8	Total amount charged inclusive of opening stock (for liquid fuel) (6 + 7)	(Rs.)	6111,50,437	76,93,387	24,43,122
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)	-	-	-
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	-	-	-
11	Demurrage charges, if any	(Rs.)	-	-	-
12	Cost of Diesel in Trans. Coal MGR Sys	(Rs)	-	-	-
13	Total Transportation Charges (9+/-10-11+12)	(Rs)	-	-	-
13A	Others	(Rs.)	-	-	-
14	Total amount charged for gas/RLNG/liquid fuel supplied including transportation (8+13+13A)	(Rs.)	6111,50,437	76,93,387	24,43,122
15	Landed cost of Gas	(Rs./MT)	40,346.84	53,152.05	343.81
16	Blending ratio		-	-	-
17	Weighted Price of Naphtha/HSD/NALCO	Rs. per MT/KL/KG	40,346.84	53,152.05	343.81
18	GCV of Domestic Gas as per bill of Coal /GasCompany, EM basis	(kCal/Kg)	-	-	-
19	GCV of Imported Gas as per bill of Coal /Gas Company, AD basis	(kCal/Kg)	-	-	-
20	Weighted average GCV of Gas as Billed	(kCal/Kg)	-	-	-
21	GCV of Domestic Gas as received at Station, TM Basis	(kCal/Kg)	-	-	-
22	GCV of Imported Gas as received at Station, TM Basis	(kCal/Kg)	-	-	-
	Weighted Average Price of Fuel	Rs/MT	40,346.84		
23	Weighted average GCV as fired	(kcal/Kg)	11,329.33		

श्री. रामा राव / B. RAMA RAO
 महाप्रबंधक (वित्त) / General Manager (Finance)
 एच. वी. (ए. ए. ए.) इन्फोर्मेशन / SSC (SR) - Adm. Building
 स्वयंसेवी सिद्धि - विराट / NTPC Limited - Simhadri
 विशाखपट्टणम - VISAKHAPATNAM - 531 020

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Annexure-B2

Details of GCV of Fuel on Received Basis

Details/Information to be provided to beneficiaries under Clause (6) of Regulation 21 of CERC
(Terms & Conditions of Tariff) Regulations, 2014

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kayamkulam

MONTH:- OCTOBER 2018

S.No.	Particulars	Unit	Value
1	Weighted average GCV of natural gas, as received	(kcal/SCM)	
2	Weighted average GCV of RLNG, as received	(kcal/SCM)	
3	Weighted average GCV of liquid fuel, as received	(kcal/kg)	11,329.33

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Annexure - C2

Details/Information to be uploaded on website under Clause (6) of Regulation 21 of CERC (Terms & Conditions of Tariff) Regulations, 2014

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kayamkulam

MONTH:- OCTOBER 2018			
S.No.	Particulars	Unit	Value
1	Weighted average cost of natural gas	(Rs./ 1000 SCM)	
2	Weighted average cost of RLNG	(Rs./ 1000 SCM)	
3	Weighted average cost of liquid fuel	(Rs./ MT)	40,346.84
4	Weighted average GCV of natural gas, as received	(kcal/SCM)	
5	Weighted average GCV of RLNG, as received	(kcal/SCM)	
6	Weighted average GCV of liquid fuel, as received	(kcal/kg)	11,329.33

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FORM-15

Details/Information to be provided to beneficiaries under Clause (6) of Regulation 21 of CERC (Terms & Conditions of Tariff) Regulations, 2014

Details/Information to be submitted in respect of Fuel for Computation of Energy Charges

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kayamkulam

MONTH:- NOVEMBER 2018

S.No.	Particulars	Unit	Liquid fuel - Naphtha (MT)	Liquid fuel - HSD (KL)	Liquid fuel - Nalco (KG)
1	Quantity of gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel)	(MT/KL/KG)	15147.416	168.743	7106.000
2	Adjustment (+/-) in quantity supplied by oil/gas company/supplier	(MT/KL/KG)	-	-8.296	-
3	Gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel) (1 + 2)	(MT/KL/KG)	15147.416	160.447	7,106.000
4	Normative transit & handling losses	(MT/KL/KG)	NOT APPLICABLE		
5	Net Gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel) (3 - 4)	(MT/KL/KG)	15,147.416	160.447	7,106.000
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	6111,50,437	91,92,771	24,43,122
7	Adjustment (+/-) in amount charged by oil/gas company/supplier	(Rs.)	-	(4,51,949)	-
8	Total amount charged inclusive of opening stock (for liquid fuel) (6 + 7)	(Rs.)	6111,50,437	87,40,822	24,43,122
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)	-	-	-
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	-	-	-
11	Demurrage charges, if any	(Rs.)	-	-	-
12	Cost of Diesel in trans. Coal MGR Sys	(Rs)	-	-	-
13	Total Transportation Charges (9+/-10-11+12)	(Rs)	-	-	-
13A	Others	(Rs.)	-	-	-
14	Total amount charged for gas/RLNG/liquid fuel supplied including transportation (8+13+13A)	(Rs.)	6111,50,437	87,40,822	24,43,122
15	Landed cost of Gas	(Rs./MT)	40,346.84	54,477.94	343.81
16	Blending ratio		-	-	-
17	Weighted Price of Naphtha/HSD/NALCO	Rs. per MT/KL/KG	40,346.84	54,477.94	343.81
18	GCV of Domestic Gas as per bill of Coal /GasCompany, EM basis	(kCal/Kg)	-	-	-
19	GCV of Imported Gas as per bill of Coal /Gas Company, AD basis	(kCal/Kg)	-	-	-
20	Weighted average GCV of Gas as Billed	(kCal/Kg)	-	-	-
21	GCV of Domestic Gas as received at Station, TM Basis	(kCal/Kg)	-	-	-
22	GCV of Imported Gas as received at Station, TM Basis	(kCal/Kg)	-	-	-
	Weighted Average Price of Fuel	Rs/MT	40,346.84		
23	Weighted average GCV as fired	(kcal/Kg)	11,329.33		

श्री. रामा राव / B. RAMA RAO
 महाप्रबंधक (वित्त) / General Manager (Finance)
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 इन्दिरा गैरी रिजिडेंस - विन्हाद्री / NTPC Limited - Simhadri
 विशाखापट्टणम - VISAKHAPATNAM - 531 020

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Annexure-B2

Details of GCV of Fuel on Received Basis

Details/Information to be provided to beneficiaries under Clause (6) of Regulation 21 of CERC
(Terms & Conditions of Tariff) Regulations, 2014

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kayamkulam

MONTH:- NOVEMBER 2018

S.No.	Particulars	Unit	Value
1	Weighted average GCV of natural gas, as received	(kcal/SCM)	
2	Weighted average GCV of RLNG, as received	(kcal/SCM)	
3	Weighted average GCV of liquid fuel, as received	(kcal/kg)	11,329.33

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Statement no 1

Annexure - C2

Details/Information to be uploaded on website under Clause (6) of Regulation 21 of CERC (Terms & Conditions of Tariff) Regulations, 2014

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kayamkulam

MONTH:- NOVEMBER 2018

S.No.	Particulars	Unit	Value
1	Weighted average cost of natural gas	(Rs./ 1000 SCM)	
2	Weighted average cost of RLNG	(Rs./ 1000 SCM)	
3	Weighted average cost of liquid fuel	(Rs./ MT)	40,346.84
4	Weighted average GCV of natural gas, as received	(kcal/SCM)	
5	Weighted average GCV of RLNG, as received	(kcal/SCM)	
6	Weighted average GCV of liquid fuel, as received	(kcal/kg)	11,329.33

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Annexure-A2

FORM-15

Details/Information to be provided to beneficiaries under Clause (6) of Regulation 21 of CERC (Terms & Conditions of Tariff) Regulations, 2014

Details/Information to be submitted in respect of Fuel for Computation of Energy Charges

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kayamkulam

MONTH:- DECEMBER 2018

S.No.	Particulars	Unit	Liquid fuel - Naphtha (MT)	Liquid fuel - HSD (KL)	Liquid fuel - Nalco (KG)
1	Quantity of gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel)	(MT/KL/KG)	15147.416	160.447	7106.000
2	Adjustment (+/-) in quantity supplied by oil/gas company/supplier	(MT/KL/KG)	-	-8.489	-
3	Gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel) (1 + 2)	(MT/KL/KG)	15147.416	151.958	7,106.000
4	Normative transit & handling losses	(MT/KL/KG)	NOT APPLICABLE		
5	Net Gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel) (3 - 4)	(MT/KL/KG)	15,147.416	151.958	7,106.000
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	6111,50,437	87,40,822	24,43,122
7	Adjustment (+/-) in amount charged by oil/gas company/supplier	(Rs.)	-	(4,62,463)	-
8	Total amount charged inclusive of opening stock (for liquid fuel) (6 + 7)	(Rs.)	6111,50,437	82,78,359	24,43,122
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)	-	-	-
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	-	-	-
11	Demurrage charges, if any	(Rs.)	-	-	-
12	Cost of Diesel in trans. Coal MGR Sys	(Rs)	-	-	-
13	Total Transportation Charges (9+/-10-11+12)	(Rs)	-	-	-
13A	Others	(Rs.)	-	-	-
14	Total amount charged for gas/RLNG/liquid fuel supplied including transportation (8+13+13A)	(Rs.)	6111,50,437	82,78,359	24,43,122
15	Landed cost of Gas	(Rs./MT)	40,346.84	54,477.94	343.81
16	Blending ratio		-	-	-
17	Weighted Price of Naphtha/HSD/NALCO	Rs. per MT/KL/KG	40,346.84	54,477.94	343.81
18	GCV of Domestic Gas as per bill of Coal /Gas Company, EM basis	(kCal/Kg)	-	-	-
19	GCV of Imported Gas as per bill of Coal /Gas Company, AD basis	(kCal/Kg)	-	-	-
20	Weighted average GCV of Gas as Billed	(kCal/Kg)	-	-	-
21	GCV of Domestic Gas as received at Station, TM Basis	(kCal/Kg)	-	-	-
22	GCV of Imported Gas as received at Station, TM Basis	(kCal/Kg)	-	-	-
	Weighted Average Price of Fuel	Rs/MT	40,346.84		
	Weighted average GCV as fired	(kcal/Kg)	11,329.33		
23	Weighted average GCV as fired	(kcal/Kg)	11,329.33		

श्री. रामा राव / B. RAMA RAO
 महाप्रबंधक (वित्त) / General Manager (Finance)
 एच एच ई (एच वी), इलेक्ट्रिकल / SSC (SR) - A.M.S. Bldg
 यूनिट ई वी सिमहद्री - सिमहद्री / NTPC Limited - Simhadri
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Annexure-B2Details of GCV of Fuel on Received Basis

Details/Information to be provided to beneficiaries under Clause (6) of Regulation 21 of CERC
(Terms & Conditions of Tariff) Regulations, 2014

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kayamkulam

MONTH:- DECEMBER 2018

S.No.	Particulars	Unit	Value
1	Weighted average GCV of natural gas, as received	(kcal/SCM)	
2	Weighted average GCV of RLNG, as received	(kcal/SCM)	
3	Weighted average GCV of liquid fuel, as received	(kcal/kg)	11,329.33

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Statement no 1

Annexure - C2

Details/Information to be uploaded on website under Clause (6) of Regulation 21 of CERC (Terms & Conditions of Tariff) Regulations, 2014

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kayamkulam

MONTH:- DECEMBER 2018

S.No.	Particulars	Unit	Value
1	Weighted average cost of natural gas	(Rs./ 1000 SCM)	
2	Weighted average cost of RLNG	(Rs./ 1000 SCM)	
3	Weighted average cost of liquid fuel	(Rs./ MT)	40,346.84
4	Weighted average GCV of natural gas, as received	(kcal/SCM)	
5	Weighted average GCV of RLNG, as received	(kcal/SCM)	
6	Weighted average GCV of liquid fuel, as received	(kcal/kg)	11,329.33

Below



Computation of Energy Charges

Name of the Company	NTPC Limited				
Name of the Power Station	Kayamkulam Stage-I				

	2019-20	2020-21	2021-22	2022-23	2023-24
No of Days in the year	366	365	365	365	366
Days					
Sp. Oil consumption ml/kwh	0	0	0	0	0
%	2.75	2.75	2.75	2.75	2.75
Auxiliary consumption Kcal/Kwh	2,000.00	2,000.00	2,000.00	2,000.00	2000
Heat Rate					

Computation of Energy Charges

1 Rate of Energy Charge from Sec. Fuel Oil/ Alternate Fuel (p/kwh) $(REC)_s$

$$= (Q_o)_n \times P_s$$

2 Heat Contribution from SFO / Alternate Fuel $(H_p)_s$

$$= (Q_s)_n \times (GCV)_s$$

3 Heat Contribution from coal $(H_p)_s$

$$= GHR \cdot H_s$$

4 Specific Primary Fuel Consumption $(QP)_n$

$$= H_p / (GCV)_p$$

5 Rate of Energy charge from Primary Fuel (p/kwh) $(REC)_p$

6 Rate of Energy charge ex-bus (p/kWh) (REC)

$$= ((REC)_s + (REC)_p) / (1 - (AUX))$$

Computation of Variable Charges

	2019-20	2020-21	2021-22	2022-23	2023-24
Variable Charge (Naptha) p/kwh	732.396	732.396	732.396	732.396	732.396
Variable Charge (Oil) p/kwh	0.000	0.000	0.000	0.000	0.000
Total p/kwh	732.396	732.396	732.396	732.396	732.396

Price of fuel from Form-15/15A

Coal Cost (Rs./MT)	40346.84	40346.84	40346.84	40346.84	40346.84
Oil Cost (Rs./KL)	0.00	0.00	0.00	0.00	0.00

Computation of Fuel Expenses for Calculation of IWC:

ESO in a year (MUs)	2610.94	2603.80	2603.80	2603.80	2610.937
ESO for 30 days (MUs)	214.011	214.011	214.011	214.01	214.011
Cost of Naptha for 45 Days (Rs. Lakh)	23511.13	23511.13	23511.13	23511.13	23511.13
Cost of oil for 2 months (Rs. Lakh)	0.00	0.00	0.00	0.00	0.00
Energy Expenses for 45 days (Rs. Lakh)	23511.13	23511.13	23511.13	23511.13	23511.13

Coal	3rd month	2nd month	1st month	Wtd. Avg.
Wtd. Avg. Price of Naptha Rs./MT	40346.84	40346.84	40346.84	40346.84
Wtd. Avg. GCV of Naptha as received kCal/Kg	11329.33	11329.33	11329.33	11329.33
Sec. Oil				
Wtd. Avg. Price of Secondary Fuel Rs/KL				
Wtd. Avg. GCV of Secondary Fuel kCal/L				

Signature

PETITIONER

Statement of Additional Capitalisation during five year before the end of useful life of the Project

		NTPC Limited		Kavamkolam Stage-I		(Amount in Rs. Lakh)			
		01-03-2000							
S. No.	Year	Work/ Equipment added during last five years of useful life of each Unit/Station	ACE Claimed (Actual / Projected)				Regulations under which claimed	Justification	Impact on life extension
			Accrual basis	Un-discharged Liability included in col. 4	Cash basis	IDC included in col. 4			
1	2020-21	Fuel Handling system 5 safety upgradations (MBLR Recommendations)	1000	1000	1000	1000	26(1)(b)	It is mandatory for Fuel handling facilities at unloading station and plant area to be complied as per OSID-117 (Fire protection facilities for petroleum depots, Terminals and pipeline installations). In this regard, Priority inspection report by Joint Director Factories and Boiler directed the instant station to carry out certain works for safety upgradation of fuel handling system. The said report is attached at Annexure-A. Based on this various works as recommended are carried out at Fuel Handling system. Honble Commission may be pleased to allow the same.	10
2	2020-21	Replacement of 220 kV breaker (operating mechanism) in GIS switchyard	30		30		25(2)(c)	GIS had been in service for more than 20 years. The moving parts especially the hydraulic mechanism has been affected by wear and tear. There is no Indian manufacturer or vendor for spares supply. Spares not available due to obsolescence. Accordingly, replacement of hydraulic pump and power cylinder is envisaged for safe operation of the protection system. Honble Commission may be pleased to allow the same under Regulation 25(2) (c)	9
3	2020-21	Bus bar protection for GIS switchyard	60		60		25(2)(c)	MBCZ low impedance for busbar protection relays are in service and no spares are available due to obsolescence. OEM letter in this regard is attached at Annexure-B. For reliable and safe operation of protection system the same are being replaced. Present relays of bus bar protection were obsolete due to which the upgradation of Bus bar protection with latest numerical relay has been carried out. The OEM letter of obsolescence is attached at Annexure-B.	
4	2021-22	Replacement of 11/6.6 kV with numerical relay	30		30		25(2)(c)	Replacement of existing Electromechanical relays with numerical relays are envisaged. Existing relays are old & spares are not available. The replacement of electromechanical relays to numerical relays has also been taken up during technical audits. This includes replacement of 11 kV and other LT feeders. Honble Commission may be pleased to allow the same.	
5	2021-22	Replacement of 220 kV breaker (operating mechanism) in GIS switchyard	30		30		25(2)(c)	As at Sl.No 2 above	

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Statement of Additional Capitalisation during five year before the end of useful life of the Project

Name of the Company :		NTPC Limited							
Name of the Power Station :		Kavankulam Stage-I							
COD		01-03-2000							
		(Amount in Rs. Lakh)							
S. No.	Year	Work / Equipment added during last five years of useful life of each Unit/Station	ACE Claimed (Actual / Projected)				Regulations under which claimed	Justification	Impact on life extension
			Accrual basis	Un-discharged Liability included in col. 4	Cash basis	IDC included in col. 4			
1	2	3	4	5	6 = 4 - 5	7	8	9	10
6	2021-22	Upgradation of Mark V to Mark VIe	1500			1500	25(2)(c)	BHEL vide their letter on Life Cycle Notification for Mark V Controls has said that due to phasing out of the technology, GE has stopped manufacturing Mark V control system in April 2004. The support for spare parts can be extended only up to 2014. Extension of further support would be difficult due to obsolescence of technology. They have also suggested for the migration to new control system i.e. Mark VIe without compromising on reliability and availability. Correspondence by OEM support on unavailability of spares is attached at Annexure-C.	
7	2021-22	ClO2 system	550			550	26(1)(b) & 26(1)(d)	In the instant station, at present Chlorine gas is being dozed directly at various stages of water treatment to maintain water quality and to inhibit organic growth in the water retaining structures/ equipment such as clarifiers, storage tanks, cooling towers, condenser tubes & piping etc. Chlorine dosing is done from chlorine stored in cylinders/ tonners. Chlorine gas is very hazardous and may prove fatal in case of leakage; handling and storage of same involves risk to the life of public at large. In the interest of public safety the chlorine dosing system is now being replaced by Chlorine Dioxide (ClO2) system, which is much safer and less hazardous than chlorine. In the proposed scheme ClO2 shall be produced on site by use of commercial grade HCl and sodium chlorite. As ClO2 is generated at site, avoids handling and storage risk. Further, at Kudgi NTPC project Department of Factories, Boiler, Industrial Safety and Health, Govt of Karnataka has directed NTPC to consider replacement of highly hazardous gas chlorination system with ClO2 system. SPCB, Odisha while issuing consent to establish in case of Daripalli Station has asked NTPC to explore the possibility of installing ClO2 system instead of Chlorine gas system (Relevant documents is attached at Annexure-E). For safety of public NTPC is replacing the chlorination system with ClO2 system. Accordingly, Hon'ble Commission may be pleased to allow the same under Reg. 26(1)(b) & 26(1)(d).	
8	2022-23	Replacement of 11/6.6 kV with numerical relay	40			40	26(1)(b)	As at Sl.No 4 above	
9	2022-23	Replacement of 220 kV breaker (operating mechanism) in GIS switchyard	30			30	25(2)(c)	As at Sl.No 2 above	
10	2022-23	Replacement of GRP Relay with numerical relay (3 units)	90			90	25(2)(c)	Replacement of existing Electromechanical relays with numerical relays are envisaged. Existing relays are old & spares are not available. The replacement of electromechanical relays to numerical relays has also been taken up during technical audits. Hon'ble Commission may please allow the same.	

Signature

Signature

Statement of Additional Capitalisation during five year before the end of useful life of the Project

Name of the Company : NTPC Limited									
Name of the Power Station : Kayamkulam Stage-I									
COD : 01-03-2000									
S. No.	Year	Work / Equipment added during last five years of useful life of each Unit/Station	ACE Claimed (Actual / Projected)				Regulations under which claimed	Justification	Impact on life extension
			Accrual basis	Un-discharged Liability included in col. 4	Cash basis	IDC included in col. 4			
1	2	3	4	5	6 = 4 - 5	7	8	9	10
11	2023-24	Gas Conversion	1500		1500		26(1)(b)		This work was disallowed by Hon'ble Commission vide its order dated 27.10.2016 in petition 269/GT/2014. An appeal was filed in Hon'ble ATE. Hon'ble ATE vide its order dated 05.08.2019 in Appeal No. 40 of 2017 has stated that expenditure should be equally shared by both in the ratio of 50 : 50. The order of APTEL in the said appeal is attached at Annexure-D At present, Erection work of Gas Conversion has already been completed, but could not be capitalised due to non-availability of gas for commissioning.
12	2023-24	Replacement of 220 KV breaker (operating mechanism) in GIS switchyard	30		30		25(2)(c)		As at Sl.No 2 above
13	2023-24	Replacement of GRP Relay with numerical relay (3 units)	90		90		25(2)(c)		As at Sl.No 10 above

Signature

(Petitioner)

Name of the Petitioner
Name of the Generating StationNTPC Ltd
Kayamkulam Stage-I**Statement of Capital cost**
(To be given for relevant dates and year wise)

(Amount in Rs. Lakh)

S. No.	Particulars	As on relevant date		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening Gross Block Amount as per books	135747.38	117.30	135630.08
	b) Amount of IDC in A(a) above	4545.52		
	c) Amount of FC in A(a) above			
	d) Amount of FERV in A(a) above	12125.38		
	e) Amount of Hedging Cost in A(a) above			
	f) Amount of IEDC in A(a) above	3521.24		
B	a) Addition in Gross Block Amount during the period (Direct purchases)			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Addition in Gross Block Amount during the period (Transferred from CWIP)			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in Gross Block Amount during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing Gross Block Amount as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			


 (Petitioner)

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Name of the Petitioner
Name of the Generating Station

NTPC Ltd
Kayamkulam Stage-1

Statement of Capital Woks in Progress

(To be given for relevant dates and year wise)

(Amount in Rs. Lakh)

S. No.	Particulars	As on relevant date		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening CWIP as per books	5332.36	240.09	5092.27
	b) Amount of IDC in A(a) above			
	c) Amount of FC in A(a) above			
	d) Amount of FERV in A(a) above			
	e) Amount of Hedging Cost in A(a) above			
	f) Amount of IEDC in A(a) above			
B	a) Addition in CWIP during the period			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Transferred to Gross Block Amount during the period			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in CWIP during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing CWIP as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			


(Petitioner)

Calculation of Interest on Normative Loan

Name of the Company :		NTPC Limited							
Name of the Power Station :		Kayamkulam Stage-I							
S.No.	Particulars	Existing	2019-20	2020-21	2021-22	2022-23	2023-24	(Amount in Rs Lakh)	
		2018-19	4	5	6	7	8		
1	2	3							
1	Gross Normative loan - Opening	88,470.15	88,472.94	89,751.84	90,514.84	91,991.84	92,103.84		
2	Cumulative repayment of Normative loan up to previous year	88,470.15	88,472.94	89,751.84	90,514.84	91,991.84	92,103.84		
3	Net Normative loan - Opening	-	0.00	-	-	-	-		
4	Add: Increase due to addition during the year / period	2.79	1,278.90	763.00	1,477.00	112.00	1,134.00		
5	Less: Decrease due to de-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00	0.00		
6	Less: Decrease due to reversal during the year / period								
7	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00	0.00		
8	Less: Repayment of Loan	2.79	1,278.90	763.00	1,477.00	112.00	1,134.00		
9	Net Normative loan - Closing	0.00	0.00	-	-	-	-		
10	Average Normative loan	0.00	0.00	-	-	-	-		
11	Weighted average rate of interest	6.571%	6.571%	6.571%	6.571%	6.571%	6.571%		
12	Interest on Loan	0.00	0.00	0.00	0.00	0.00	0.00		

Shubha

(Petitioner)

Calculation of Interest on Working Capital

Name of the Company :		NTPC Limited							
Name of the Power Station :		Kayamkulam Stage-I							
		(Amount in Rs Lakh)							
S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24		
1	2	3	4	5	6	7	8		
1	Fuel Cost	27,447.25	15674.09	15674.09	15674.09	15674.09	15674.09		15674.09
2	Liquid Fuel Stock	13,723.63	7837.04	7837.04	7837.04	7837.04	7837.04		7837.04
3	O & M Expenses	661.51	633.57	638.25	666.09	695.38	726.47		726.47
4	Maintenance Spares	2,381.45	2280.84	2297.69	2397.94	2503.35	2615.31		2615.31
5	Receivables	60,899.09	26355.08	26419.10	26529.24	26639.57	26764.59		26764.59
6	Total Working Capital	105112.93	52780.62	52866.17	53104.41	53349.43	53617.50		53617.50
7	Rate of Interest	13.5000	12.0500	12.0500	12.0500	12.0500	12.0500		12.0500
8	Interest on Working Capital	14190.25	6360.06	6370.37	6399.08	6428.61	6460.91		6460.91

Barney

Petitioner

Sr. No.	Name of the Party	Name of the work	Year of creation of liability capitalised in Gross block	Admitted/ Non-Admitted	Liability in Additional Capitalisation for 2010-11	Undischarged liabilities relating to GD 31.03.2010	Discharge during the year 2010-11	Total discharge	Undischarged liabilities relating to GD 31.03.2010
							By payment	By reversal	
1	Sigma Constructions	Construction of 14x300	2004-01	A	0.00	0.00	0.00	0.00	0.00
2	Rajpal Communications	Construction of D Type Quarters	2004-01	A	0.00	0.00	0.00	0.00	0.00
3	Rajpal Communications	Construction of D Type Quarters	2004-01	A	0.00	0.00	0.00	0.00	0.00
4	District Collector-LA Gurgaon	Construction of D Type Quarters	1999-2004	A	299729.50	0.00	0.00	0.00	299729.50
5	District Collector-LA Gurgaon	LA Compensation claim	102410-29	N	0.00	102410.29	0.00	0.00	102410.29
6	District Collector-LA Gurgaon	LA Compensation claim	102410-29	N	0.00	102410.29	0.00	0.00	102410.29
7	District Collector-LA Gurgaon	LA Compensation claim	102410-29	N	0.00	102410.29	0.00	0.00	102410.29
8	District Collector-LA Gurgaon	LA Compensation claim	120403-00	N	0.00	120403.00	0.00	0.00	120403.00
9	District Collector-LA Gurgaon	LA Compensation claim	2766803-01	A	0.00	0.00	0.00	0.00	0.00
10	COURT J & BOYCE MFG CO LTD	CAPITAL OF IP SURVEILLANCE CCTV SYSTEM 4000041010	2010-11	A	0.00	0.00	0.00	0.00	0.00
11	MARINA TOURING IMAGE ENCO	SRD STAGE NOZZLES ASSEMBLY 4000050703	2011-12	A	0.00	292905.44	0.00	0.00	292905.44
12	GOORJ & BOYCE MFG CO LTD	IP SURVEILLANCE CCTV SYSTEM 4000050770	2011-12	A	0.00	0.00	0.00	0.00	0.00
13	HEL INFINE LTD	Photo Copier 4000110174	2011-12	N	0.00	53840.00	0.00	53840.00	0.00
14	ALSTOM TAD INDIA LTD	DISTURBANCE RECORDER WITH PC & PRINTER 4000174471	2012-13	N	0.00	0.00	0.00	0.00	0.00
15	ALSTOM TAD INDIA LTD	GIS INTERCONNECTION FACILITY 4000266202	2012-13	N	0.00	0.00	0.00	0.00	0.00
16	MUS INTERNATIONAL LTD	KIT OF 30 SHROUDS STAGE 3 4000301294	2012-13	N	0.00	0.00	0.00	0.00	0.00
17	MUS INTERNATIONAL LTD	KIT OF 40 SHROUDS STAGE 7 4000301294	2012-13	N	0.00	0.00	0.00	0.00	0.00
18	GE INDIA INDUSTRIAL D	PORTABLE ULTRASONIC FLOWMETER 4000302024	2012-13	N	0.00	0.00	0.00	0.00	0.00
19	GOORJ & BOYCE MFG CO LTD	SC TV Electronic Module 4000305547	2012-13	A	0.00	0.00	0.00	0.00	0.00
20	RISHON INDIA LTD	PHOTOGRAPHER PRISM MODEL 2 NBS 400010471	2012-13	N	0.00	0.00	0.00	0.00	0.00
21	RISHON SPORTS INDUSTRIES	PHOTOGRAPHER PRISM MODEL 2 NBS 400010471	2012-13	N	0.00	0.00	0.00	0.00	0.00
22	STALLEN SYSTEMS AND SOLUTIONS	MAILING MACHINE 3 Nos 4000020205	2012-13	N	0.00	0.00	0.00	0.00	0.00
23	STALLEN SYSTEMS AND SOLUTIONS	HANDHELD LASER CODE SCANNER WITH PRINTER 4000193020	2012-13	N	0.00	0.00	0.00	0.00	0.00
24	LIANET SOLUTIONS P	DFG CONNECTION BETWEEN DM PLANT & CGR 4000200720	2012-13	N	0.00	0.00	0.00	0.00	0.00
25	District Collector-LA Gurgaon	LA Compensation claim	2012-13	A	0.00	444700.50	0.00	0.00	444700.50
26	BIHEL	VALVE SPINDLE 4000070709	2013-14	N	0.00	0.00	0.00	0.00	0.00
27	POTENCE CONTROL	SILICA ANALYZER 4000107817	2013-14	N	0.00	0.00	0.00	0.00	0.00
28	ALSTOM TAD INDIA LTD	DISTURBANCE RECORDER FOR GEM ETG - 1 4000102500	2013-14	N	0.00	0.00	0.00	0.00	0.00
29	General Engineers Pvt Ltd	VFD FOR POWERCYCLIC MAKEUP PUMP 4000104681	2013-14	N	0.00	0.00	0.00	0.00	0.00
30	General Engineers Pvt Ltd	VFD FOR HVAC MAKEUP PUMP 4000104681	2013-14	N	0.00	0.00	0.00	0.00	0.00
31	ALSTOM TAD INDIA LTD	GPS UNIT FOR DISTURBANCE RECORDER 4000105000	2013-14	N	0.00	0.00	0.00	0.00	0.00
32	EMERSON PROCESS MANAGEMENT INDIA	MICRO MOTION CORIOLIS FRIERS SENSOR 4000117120	2013-14	N	0.00	0.00	0.00	0.00	0.00
33	CHEMTRONICS INDUSTRIES LTD	INAPTHA SENSOR FOR CT 4000117915	2013-14	N	0.00	0.00	0.00	0.00	0.00
34	CONTROL TECHNIQUES INDIA PVT LTD	VFD SYSTEM FOR NOX INJECTION PUMP 4000118093	2013-14	N	0.00	0.00	0.00	0.00	0.00
35	CONTROL TECHNIQUES INDIA PVT LTD	VFD SYSTEM FOR RAW WATER PUMP MOTOR 4000118093	2013-14	N	0.00	0.00	0.00	0.00	0.00
36	OMAX TEST EQUIPMENTS PVT LTD	IN CIRCUIT TO TESTER 4000122506	2013-14	N	0.00	0.00	0.00	0.00	0.00
37	IRFGEN ASSOCIATES PVT LTD	SOLDERING/INSULATING STATION 4000118270	2013-14	N	0.00	0.00	0.00	0.00	0.00
38	IRFGEN ASSOCIATES PVT LTD	BOOK SHELF AT KV 4000207022	2013-14	N	0.00	0.00	0.00	0.00	0.00
39	CREATIVE MARKETING AGENCIES	BOOK SHELF AT KV 4000207022	2013-14	N	0.00	0.00	0.00	0.00	0.00
40	CREATIVE MARKETING AGENCIES	BOOK SHELF AT KV 4000207022	2013-14	N	0.00	0.00	0.00	0.00	0.00
41	MOHITAM CONTROL SOFTWARE PVT LTD	IP BAGGED CCTV SYSTEM AT FUJI UNLOADING AREA 5000010400	2013-14	A	0.00	0.00	0.00	0.00	0.00
42	GOORJ & BOYCE MFG CO LTD	CCTV at Plant Area 5000010505	2013-14	A	0.00	0.00	0.00	0.00	0.00
43	SOOJO ECONOMIC UNIT FOUNDATION	BIOMETRICATION PLANT AT CANTEN 4000103012	2013-14	N	0.00	0.00	0.00	0.00	0.00
44	Tera Machines Tech Services Pvt Ltd	PAPER RECYCLING EQUIPMENT 4000122171	2013-14	N	0.00	0.00	0.00	0.00	0.00
45	RR PERIPHERALS	WINDOWS SERVER 4000202091	2013-14	N	0.00	0.00	0.00	0.00	0.00
46	RR PERIPHERALS	HP PROLIANT SERVER 4000202091	2013-14	N	0.00	0.00	0.00	0.00	0.00
47	STALLION SYSTEMS AND SOLUTIONS	BARCODE PRINTER 4000202940	2013-14	N	0.00	0.00	0.00	0.00	0.00
48	AVNI ENERGY SOLUTIONS PVT LTD	SOLAR OPERATED STREET LIGHT 4000102540	2013-14	N	0.00	0.00	0.00	0.00	0.00
49	PAAN COMMUNICATIONS PVT LTD	SOLAR PV SYSTEM - ADM BLDG 4000120805	2013-14	N	0.00	0.00	0.00	0.00	0.00
50	PAAN COMMUNICATIONS PVT LTD	HIGH DEFINITION VIDEO CONFERENCE SYSTEM 4000201335	2013-14	N	0.00	0.00	0.00	0.00	0.00
51	LIANET SOLUTIONS PVT LTD	LAN TESTER EQUIPMENT 4000202007	2013-14	N	0.00	0.00	0.00	0.00	0.00
52	PROTECO AUTOMATION TECHNOLOGIES	ENERGY MANAGEMENT SOFTWARE 4000109030	2013-14	N	0.00	0.00	0.00	0.00	0.00
53	SOUTH INDIAN CONSTRUCTIONS	VERMIL COMPOST SHED AT PTS: 4000115778	2013-14	N	0.00	0.00	0.00	0.00	0.00
54	SATYAM CONSTRUCTIONS	POTABLE WATER PVC PIPELINE 4000090207	2013-14	N	0.00	0.00	0.00	0.00	0.00
55	District Collector-LA Gurgaon	Capital of LAR interest upto judgement date	2014-15	A	0.00	1301500.68	0.00	0.00	1301500.68
56	AVI ENGINEERING CONSULTANTS	MAGNADRIE COUPLING FOR DMCV PUMP 4000125153	2014-15	N	0.00	0.00	0.00	0.00	0.00
57	AVI ENGINEERING CONSULTANTS	PROGRESS 303 INCG & DIAGNOSTIC STATION 4000134078	2014-15	N	0.00	0.00	0.00	0.00	0.00
58	ROTORC CONTROL INDIAN PVT LTD	ROTORC ACTUATOR 1500 4000137993	2014-15	N	0.00	0.00	0.00	0.00	0.00
59	EMERSON PROCESS MANAGEMENT INDIA	LEVEL TRANSMITTER 0-3600 MM 4000134274	2014-15	N	0.00	0.00	0.00	0.00	0.00
60	EMERSON PROCESS MANAGEMENT INDIA	HPT INNER CASING MODEL M30-25 4000105698	2014-15	N	0.00	0.00	0.00	0.00	0.00
61	EMERSON PROCESS MANAGEMENT INDIA	FULL INTERNAL ASSY. OF ROTOR FOR CFP 4000123138	2014-15	N	0.00	0.00	0.00	0.00	0.00
62	EMERSON PROCESS MANAGEMENT INDIA	NEW HYDRAULIC CYLINDER 4000138204	2014-15	N	0.00	0.00	0.00	0.00	0.00
63	EMERSON PROCESS MANAGEMENT INDIA	PROGRESS 303 INCG STATION - INSTALLATION 4000135729	2014-15	N	0.00	0.00	0.00	0.00	0.00
64	EMERSON PROCESS MANAGEMENT INDIA	SMART DP TRANSMITTER 0-10000 MM H2O 4000140201	2014-15	N	0.00	0.00	0.00	0.00	0.00
65	EMERSON PROCESS MANAGEMENT INDIA	SMART PRESSURE TRANSMITTER 0-20000 PSI 4000140201	2014-15	N	0.00	0.00	0.00	0.00	0.00
66	EMERSON PROCESS MANAGEMENT INDIA	SMART PRESSURE TRANSMITTER 0-20000 PSI 4000140201	2014-15	N	0.00	0.00	0.00	0.00	0.00
67	EMERSON PROCESS MANAGEMENT INDIA	VAPOR ABSORPTION SYSTEM FOR H2S 5000119171	2014-15	A	0.00	0.00	0.00	0.00	0.00
68	KALRI COMMUNICATION TECHNOLOGIES	ART MONITORING SYSTEM - Supply 4000122027	2014-15	N	0.00	0.00	0.00	0.00	0.00
69	KALRI COMMUNICATION TECHNOLOGIES	ART MONITORING SYSTEM - Installation 4000122027	2014-15	N	0.00	0.00	0.00	0.00	0.00

6/2/20

1/2

Flow of Capital Inflows from 01.04.2015 and onwards

Sr. No.	Name of the Party	Name of the work	Year of creation of liability capitalised in Gross Book	Admitted/ Non-Admitted	Liability in Additional Capitalisation for 2018-19	Undischarged liabilities pending to CD 31.03.2018	Discharge during the year 2018-19		Undischarged liabilities pending to CD 31.03.2019
							-by payment	-by reversal	
137	RADIANT SOLAR PVT. LTD	18 KW GRID TIED SOLAR PV SYSTEM - SIGEAR BLDG. 4600037411	2015-17	N	243893.00	0	0	243893.00	
138	RADIANT SOLAR PVT LTD	60KW FLOATING SOLAR PV PLANT WITH GRID MOUNTING P.4000197000	2015-17	N	241298.00	0	0	241298.00	
139	FOAK CONTROL ENGINEERS	60KW PROTECTORS UPGRADEATION AND HAAL-UPK 4000100005	2015-17	N	0.00	389250	0	0.00	
140	Chyde Pumpa Indre Pvt Ltd	3HP PROTECTOR PUMP, 2 NO. PUMPS. 4000159033	2015-17	N	389250.00	0	0	0.00	
141	RHARAT HEAVY ELECTRICALS LTD	3HPV CONTROL MODULE 2340 WAT FOR ACTUATORS	2015-17	N	0.00	0	0	0.00	
142	TRIDENT AUTOMATICS PVT LTD	3HPV INVERTER COMPRESSOR AIR CYCLE 5500007005 A 87	2015-17	N	0.00	0	0	0.00	
143	TONY ENTERPRISES	ALUMINUM EXHAUST FAN - 14 Nos. 4000178406	2015-17	N	31000.00	0	0	31000.00	
144	K M TECHNOLOGIES	PHOTOCOPIER MACHINE SHARP 4600009417	2015-17	N	8100.00	0	0	8100.00	
145	DIVA BUSINESS SYSTEMS PVT LTD	CAPITALISATION OF MULTI FUNCTION FAX MACHINE 4600043070	2015-17	N	14000.00	0	0	14000.00	
146	DELTA SOLAR SYSTEMS PVT LTD	SOLAR OPERATED STREET LIGHT 4000171041	2015-17	N	67950.00	0	0	67950.00	
147	LINKNET SYSTEMS PVT LTD	WIRELESS ACCESS POINT - 1 NO. FL-10 Nos. 4000046000	2015-17	N	63200.00	0	0	63200.00	
148	SUTRON HYDROMET SYSTEMS PVT LTD	AUTOMATIC WEATHER STATION FOR SOLAR PLANT 4000101802	2015-17	N	0.00	0	0	0.00	
149	Direct Collector-LA Crepe	LA Compensation	2017-18	A	0.00	0	0	0.00	
150	RADIANT SOLAR PVT LTD	Solar PV System - STG Roof. 4600036158	2017-18	N	935000.00	0	0	935000.00	
151	TOPREY INFOTECH PVT LTD	SUPPLY & INSTALLATION OF WORKSTATION AND LAPTOPS. 4600044440	2017-18	N	29804.00	0	0	29804.00	
152	ROTORCH CONTROL(SINDIA)PVT LTD	ROTORCH ACTUATOR K120 4300177051	2017-18	N	1040.00	0	0	1040.00	
153	POWERTECH CONTROLS & SAFETY	SELF CONTAINED BREATHING APPARATUS 4600179528	2017-18	N	74400.00	74400	0	0.00	
154	GENINI COMMUNICATION LTD	SUPPLY AND INSTALLATION OF CAMERA AND ACCESSORIES FOR FTP DRAIN. 4000184108	2017-18	N	14750.00	14700	0	0.00	
155	VOLTECH (INDIA)	SUPPLY AND INSTALLATION OF FIRE RESISTANT GUT 4000188330	2017-18	N	10004.00	10004	0	0.00	
156	HITACHI SYSTEMS MICRO CLINIC	SUPPLY AND INSTALLATION OF SERVER AGAINST CORROSION RANT CONTRACT. 4600046805	2017-18	N	19450.00	0	0	19450.00	
157	S.M ENGINEERING WORKS	SUPPLY AND INSTALLATION OF PLAYGROUND EQUIPMENT 4000046012	2017-18	N	22070.00	22070	0	0.00	
158	SERJAM SYSTEM PVT LTD	SUPPLY AND INSTALLATION OF SAFETY KOLER 4600046014	2017-18	N	30000.00	30000	0	0.00	
159	PUREKA FORNELL LTD	SUPPLY AND INSTALLATION OF HOT CHICKS. COLD WATER COOLER CUM PURIFIERS. 4600046070	2017-18	N	19000.00	19000	0	0.00	
160	INFITEC AUTOMATION PRIVATE LIMITED	SUPPLY AND INSTALLATION OF HOT CHICKS. COLD WATER COOLER CUM PURIFIERS. 4600046070	2017-18	N	22800.00	22800	0	0.00	
161	FEDORANI FINVICO SOLUTIONS PVT LTD	FLUKE CLAMP METER MODEL NO 310 DIRECT PURCHASE. 4600046246	2017-18	N	48000.00	48000	0	0.00	
162	Direct Collector-LA Crepe	LA Compensation	2018-19	A	0.00	0	0	0.00	
163	Direct Collector-LA Crepe	LA Compensation	2018-19	A	1248015.77	0	0	1248015.77	
164	DR. L.C. CHAS	SPARE PARTS FOR LASER 4600110020	2018-19	N	10000.00	0	0	10000.00	
165	NEW BHARAT PHOTOCOPY COLLECTION SYSTEM	SUPPLY OF CO2 AND O2 FINE EXTINGUISHERS. 400010710	2018-19	N	31850.00	0	0	31850.00	
166	ROYAL ROYAL CHOCOLATE DATE FORBES B	PORTABLE MULTI GAS DETECTOR 4000107051	2018-19	N	22370.00	0	0	22370.00	
167	HITACHI SYSTEMS MICRO CLINIC	SUPPLY 911KV 550 Circuit Breaker 4600020008	2018-19	N	96000.00	0	0	96000.00	
168	S.M ENGINEERING WORKS	SUPPLY AND INSTALLATION OF SERVER 4600046250	2018-19	N	71004.00	0	0	71004.00	
169	S.M ENGINEERING WORKS	SUPPLY AND INSTALLATION OF SERVER 4600046250	2018-19	N	10044.00	0	0	10044.00	
170	LINKNET SOLUTIONS PVT LTD	UPGRADE LAN UPGRADEATION 4600000000	2018-19	N	25000.00	0	0	25000.00	
171	HIRAL TEKTRONIX PVT LTD	ARGUMENTATION OF INFLATION 4600000000	2018-19	N	71571.00	0	0	71571.00	
172	TECHNIT SOLUTIONS (P) LTD	SUPPLY OF LAN ITEMS AND INSTALLATION 4000059307	2018-19	N	7000.00	0	0	7000.00	
173	TECHNIT SOLUTIONS (P) LTD	WINDOW STORAGE SERVER MAGLO NAS SERVER 4600055247	2018-19	N	9000.00	0	0	9000.00	
174	K.M TECHNOLOGIES	CISCO ROUTER NETWORK CARD 4600000005	2018-19	N	331492.00	0	0	331492.00	
175	K.M TECHNOLOGIES	SUPPLY AND INSTALLATION OF 65 INCH DISPLAY. 4600044609	2018-19	N	2481726.02	0	0	2481726.02	
					10303307.33	1188655.00	0.00	11716128.33	

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Exhibits

Mr

Summary of issue involved in the petition

Name of the Company :		NTPC Limited
Name of the Power Station :		Kayamkulam Stage-I
1	Petitioner:	NTPC Limited
2	Subject	Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of Rajiv Gandhi Combined Cycle Power Project (RGCCPP), Kayamkulam (359.58 MW) for the period from 01.04.2019 to 31.03.2024.
3	Prayer: i) Approve tariff of RGCCPP, Kayamkulam for the tariff period 01.04.2019 to 31.03.2024. ii) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publication expenses from the beneficiaries. iii) Pass any other order as it may deem fit in the circumstances mentioned above.	
4	Respondents:	As per petition
Name of Respondents		
a.		
b.		
c.		
5	Project Scope	
	Cost	
	Commissioning	
	Claim	
	AFC	
	Capital cost	
	Initial spare	
	NAPAF (Gen)	85%
	Any Specific	

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[Handwritten signature]

Annexure - III

Annexure - A

→ AGM (MTR) for records & n.a. ps. 27/05/14

No. B4/1407/2014

Office of the Joint Director of Factories & Boilers, Thirumullavarom, P.O., Kollam

Dated: 16/5/2014

To
The Managing Director,
National Thermal Power Corporation Ltd,
Choolatheruvu, Alappuzha

27/05/14
DM Safety
AGM (MTR)
for n.a.
27/05/14


Sir,

Sub - Priority Inspection at your factory - Inspection report forwarding of reg..

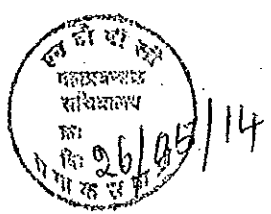
Ref: - Inspection conducted on 24-04-2014

I am forwarding herewith the report of the Priority Inspection conducted at your factory on 24-04-2014. You are requested to furnish a compliance report through the Inspector of Factories & Boilers, Grade II, Alappuzha: within 30 days on receipt of this report.

Yours Faithfully,


Joint Director of Factories & Boilers,
Kollam.

Enclosure: Report



Name of Factory

**NATIONAL THERMAL POWER
CORPORATION LTD
Choolatheruvu
Alappuzha - 690506**

Phone 0479-2419400

E-mail

Reg No APY/01/346/98

Name of the Occupier

Sri.C.V.Subramanian, General Manager.

Name of Manager

Sri. V.Krishnakumar, AGM (Operations)

Date of Inspection

24-04-2014

Inspection Team

1. DrRuben C Cyril
2. Sri.B.Siyad
3. Sri. Nithish Devaraj
4. Sri.G.Jayakumar
5. Sri S. Padma kumar

Joint Director of Factories & Boilers, (Medical)
Chemical Inspector, Kollam
Inspector of Factories & Boilers Grade-II, Alappuzha
Technical Assistant, Industrial Hygiene Lab, Tvm
Chemist, Industrial Hygiene Lab, Tvm

Type of Company

Major Accident Hazard Installation

Major Hazard

Fire, Explosion and Toxic release

Main activity

Power Generation from the fuel Naphtha

Main Raw materials

Naphtha, Chlorine, Hydrochloric Acid, Sodium Hydroxide.

Intermediate Products

Nil

Chemical	Capacity
Naphtha	40000 KL
HSD	365 KL
Hydrochloric Acid	84 M3
Sodium Hydroxide	50 M3
Chlorine	13 Tonners
Argon	118 Cyl @ 40.5kg.

Number of employees

Lic Strength 300

Present Strength Male 251 Female 22

Power 360 MW

Observations and Recommendations

1: The Following points are pending in the previous Priority Inspections.

- 1, Hydro carbon sensors shall be provided in storage dyke, Naphtha Pump House and integrated with the control room with Audio Visuals.
 - 2, All the supervisors shall be trained as per rule 81AN of the Kerala Factory Rules 1957.
 - 3, Doctor in Charge of the Occupational Health Centre may be trained as per Rule 81AJ(2) of Kerala Factory Rules 1957.
 - 4, Hand Rails shall be provided around the cooling tower pond.
 - 5, All the Naphtha storage shall be painted urgently.
 - 6, Bottom plate of Naphtha tank shall be scanned fully for corrosion under the plate.
 - 7, Separate Dyke wall may be provided for acid and alkaline storage in DM Plant.
2. Safety audit shall be done as per statute. External Safety Audit Report prepared by you is not acceptable. The team of auditors shall be from qualified multidisciplinary experts from Electrical, Mechanical, Chemical, Instrumentation areas. The report you submitted is prepared by personal from only one area. And also it shall be carried out as per IS 14489: 1998 - Code of practice on Occupational Safety and Health Audit as under:-
- i. Internally once in a year by a team of suitable plant personnel.
 - ii. Externally once in two years by a competent agency
 - iii. In the year when an external audit is carried out, internal audit need not be done.

So you have to submit the external safety audit immediately.

2. A report with respect to the implementation of External Safety audit recommendation shall be forwarded within thirty days of the completion of the audit along with a copy of the audit report.
3. Onsite Emergency Plan shall be updated by including Procedures for types of fires (in Generator, Turbine, Chemical Fire Etc) each requires different responses. The plan should cover Cross country Naphtha Pipe line leakage emergency.
4. Since structures of different areas are corroded Residual life assessment studies for all structures shall be carried out on regular intervals.
5. Periodical Calibration/Testing of all indicating and recording meter/instruments protective and safety devices shall be ensured.
6. Floor of the Dyke shall be of leak proof for preventing ingress of the material to the soil. The valve of the dyke always keep closed for avoiding the spillage to other areas.
7. Automatic Rim Seal Fire detection and Suppression system shall be installed.
8. Whenever Pipe Line Transfer takes place, to avoid Pilferages a mass flow meter with integrator shall be provided with the delivery pipelines.
9. Naphtha flow velocities shall be monitored and ensure at safe levels for avoiding formation of static electricity and recorded in a register.

10. Thermal Safety Valve/ Expansion line shall be provided for blocked portion of pipe lines to take care of the thermal expansion of product due to temperature rise.

11. The first body valve on the tank should be Remote Operated Shut Off Valve (ROSOV) on the tank nozzle inside the dyke with Remote Operation only from outside the dyke as well as from the control room. ROSOV should be fail safe and fire safe.

12. All the motor operated valves shall be kept outside the dyke wall.

13. An emergency kit shall be provided consisting of safety items viz. fire suits, SCBAs, various leak plugging gadgets, High intensity intrinsically safe search lights for hazardous area, etc and shall be readily available at the terminal.

14. SOP of all critical operations shall be displayed near the respective areas.

15. Permission for the Argon storage may be obtained from The Director, Factories & Boilers.

16. Representatives of contract workers may be included in the safety committee and canteen committee,

17. Automatic fire extinguishing system may be provided in the Electrical Switch yard.

18. Proper provision shall be provided for containing liquid Chlorine in case of any leakage. The present system is not effective for liquid chlorine leakages.

19. Medical History of all workers may be noted with the Form 17 (health reg).

20. Bonding of all flanges with proper stripes may be provided.

21. Flanges of Naphtha vent pipes shall be bonded and earthed.

22. It is observed that only one Mock drill was conducted during the last year. Mock drill of the OSEP shall be conducted at least once in every six months under intimation to the Factories & Boilers Department. A detailed report of the mock drill conducted shall be immediately available to the Department.

23. Regular inspection of pipelines including thickness survey and pipeline support shall be carried out and records maintained.

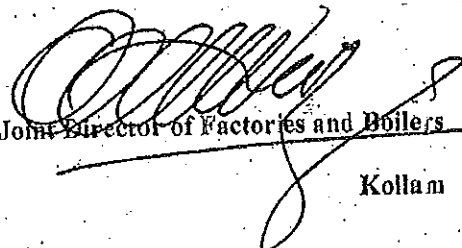
24. All terminal operating personnel including regular contract workers and security personnel should be given fire fighting training.

25. Some of the wind socks were found damaged. Sufficient number of wind socks shall be installed and maintained.

26. In the Naphtha Storage tank the pressure / vacuum valves should be checked periodically.

27. Safety shoes should be provided for all contract workers as per the ISI standard.

28. Workers exposed to noise shall be provided with suitable PPEs.


Joint Director of Factories and Boilers

Kollam

Kollam

05-05-2014

Annexure - B



GE Renewable Energy
Grid Solutions - HVDC

Lord Nelson Building
William Bagnall Drive
Stafford
ST16 1WS
T +44 1785 223251
www.gegridsolutions.com

To whom it may concern

29 May 2019

Dear Sir/Madam:

MBCZ BUSBAR PROTECTION RELAYS

I would like to take this opportunity to explain that the MBCZ low impedance busbar protection relays were made obsolete 31/01/2006. Other low impedance busbar relays are available in the GE portfolio of products such as the MiCOM Agile P741/2/3 or P746 or P747 busbar protection relays or the UR B30 or B90 busbar protection relays.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'G Lloyd'.

Graeme Lloyd
Product Applications Product Management Leader

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BHEL-GE Gas Turbine Services Pvt Ltd.

Annexure - C

A Joint Venture of BHEL and GE
203 Bhoopal Chambaers
146/A Sardar Patel Road
Secunderabad 500003, A.P. India
Phone : 91-40-27841923 / 27841961
Fax : 91-40-27816962

January 4, 2010

Mr. Joseph Bastian
Sr. Supdt., C&I /O&M
NTPC Ltd, Kayamkulam Plant
Choolatheruvu P.O.
Alapuzha Dist., Kerala - 690506

Sub: Life Cycle Notification for Mark V Controls

Dear Sir

You are aware that GE has been carrying out intensive research for constantly upgrading the reliability and availability of gas turbines besides uprating the machines for better efficiency and output. Upgrading of controls is a part of this program.

Due to phasing out of the technology, GE had stopped manufacturing Mark V control system in April 2004. The support for spare parts can be extended only up to 2014. Extension of the further support would be difficult due to obsolescence of the technology and is subject to availability of components. We encourage our esteemed customers, like you, to plan ahead for the migration to new control system to continue getting benefit of your assets without compromising on reliability and availability.

The current technology platform called Mark VIe system already has an experience base of well over four hundred turbine and plant systems. The Mark VIe supports additional advanced applications and DCS control features for both combined cycle and fossil power plants in addition to compressor / pipeline applications. The GE flexible architecture platforms, on-board I/O processors, networks, versatile programming libraries, and many other features offer significant advancements over past controls to drive lower overall life cycle costs. They provide a common control platform to directly monitor the unique sensors and actuators on the rotating machinery, communications with other GE systems (i.e. PLC, protection relays, and asset management products) and direct control of balance-of-plant equipment, therefore, simplifying operation and reducing spare parts, training, and maintenance costs.

BGGTS can support Mark VIe control upgrades from concept to commissioning.

Should you require any further inputs or discussions, please feel free to contact us.

Sincerely,

R. Ramakrishna
General Manager (Engineering)

**APPELLATE TRIBUNAL FOR ELECTRICITY AT NEW DELHI
(APPELLATE JURISDICTION)**

APPEAL NO. 40 OF 2017

Dated : 05th August, 2019

**Present: Hon'ble Mrs. Justice Manjula Chellur, Chairperson
Hon'ble Mr. S.D. Dubey, Technical Member**

IN THE MATTER OF :

NTPC Limited
NTPC Bhavan,
Core – 7, Institutional Area, Lodhi Road,
New Delhi - 110003

...APPELLANT

VERSUS

1. Central Electricity Regulatory Commission
3rd & 4th Floor, Chanderlok Building,
36, Janpath,
New Delhi- 110001

2. Kerala State Electricity Board Limited,
Vaidyuthi Bhavanam, Pattom
Thiruvananthapuram-695004

...RESPONDENT(S)

Counsel for the Appellant (s) : Mr. Sanjay Sen, Sr. Adv.
Mr. Pratiksha Chaturvedi

Counsel for the Respondent(s) : Mr. Manu Seshadri
Mr. Samarth Chowdhary for R-1

Mr. Mukund P. Unny
Mr. P.V. Dinesh
Ms. Sreeja for R-2

J U D G M E N T

PER HON'BLE MR. S. D. DUBEY, TECHNICAL MEMBER

1. The present Appeal has been filed by M/s NTPC Limited, a generating company (hereinafter referred to as the "Appellant") under Section 111 of the Electricity Act, 2003 and the Appellant is challenging the legality, validity and propriety of the Order dated 27.10.2016 (herein referred to as the "Impugned Order") passed by the Respondent Commission in Petition No. 269/GT/2014. Vide the impugned order the Respondent Commission while observing that the scheme for supply of gas is uncertain disallowed the additional capital expenditure of Rs. 30 crores claimed for the Multi fuel firing system by the Appellant. Further the Respondent Commission also disallowed Rs. 161 Lakhs claimed towards inert gas fire-fighting system in 2014-15 on the ground that the same has been claimed after much efflux of time.

2. Brief facts of the case :-

2.1 The Appellant, NTPC is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003 (hereinafter referred to as the "Act"), having power stations/ projects at different regions and

places in the country. The Rajiv Gandhi Combined Cycle Power Project (RGCCPP), Kayamkulam (hereinafter referred to as "RGCCPP") is one such station located in the State of Kerala having an approved installed capacity of 359.58 MW (2GTs of 116.6 MW + 1 ST of 126.38 MW). The tariff determination of said project is the subject matter of the instant appeal.

2.2 Respondent No. 1 is the Central Electricity Regulatory Commission, a statutory body functioning in accordance with Section 76 of the Electricity Act 2003.

2.3 Respondent No. 2 is the Kerala State Electricity Board Ltd., is the successor entity of Kerala State Electricity Board which was constituted by the Government of Kerala, as per order no. EL1-6475/56/PW dated 7-3-1957 of the Kerala State Government, under the Electricity (Supply) Act, 1948 for carrying out the business of Generation, Transmission and Distribution of electricity in the state of Kerala.

3. Questions of law :-

The Appellant has raised following questions of law for our consideration :-

3.1 Whether the Impugned Order has been passed in violation of the

Judgment of Appeal No.40 of 2017

provisions of the Electricity Act, 2003 and the CERC Tariff Regulations of 2009 and 2014?

- 3.2 Whether the Respondent Commission erred in not allowing the expenditure towards inert gas firefighting system under Regulation 14(3)(ii) of the Tariff Regulations, 2014?
- 3.3 Whether the Impugned Order violates the principles enumerated under the Montreal Protocol Treaty and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014?
- 3.4 Whether the Respondent Commission failed to appreciate that replacement of CO₂ was ascertained only after checking the availability of the proper substitute for inert gas?
- 3.5 Whether the Respondent Commission has failed to appreciate that the work for installing the inert gas fire fighting system was further awarded and was completed and is in use since 2014-2015?
- 3.6 Whether the Respondent Commission has failed to appreciate that the Appellant has signed a Supplementary PPA dated 15.02.2013 with KSEB?

Judgment of Appeal No.40 of 2017

3.7 Whether the Respondent Commission erred in not appreciating that permission to lay pipeline is still under consideration with Government of Kerala and the same has not been rejected till date?

4. **Shri Sanjay Sen, learned senior counsel appearing for the Appellant has filed the written submissions for our consideration as under:-**

4.1 The present appeal relates to Rajiv Gandhi Combined Cycle Power Project, Kayakulam ("RGCCPP"), Stage-1) located in the State of Kerala having an approved installed capacity of 359.58 MW (2GTs of 116.6 MW + 1 ST of 126.38 MW). The power generated from RGCCPP is being supplied to the Respondent No. 2 under a Power Purchase Agreement (PPA) dated 06.01.1995 extended from time to time.

4.2 The Appellant preferred the petition being Petition No. 269/GT/2014 for determination of tariff for RGCCPP for the period from 01.04.2014 to 31.03.2019 as per the CERC (Terms and Conditions of Tariff) Regulations, 2014 ("Tariff Regulations 2014") wherein the Central Electricity Regulatory Commission ("Respondent Commission"), vide the order dated 27.10.2016 erroneously disallowed the following:

Judgment of Appeal No.40 of 2017

- a. additional capital expenditure of Rs. 30 crore claimed for the Multi fuel firing facility for GTs by the Appellant; and
- b. expenditure of Rs. 161 Lakhs claimed towards inert gas fire-fighting system for the control room in 2014-15.

Being aggrieved by the said order dated 27.10.2016 ("Impugned Order"), the Appellant is preferring the present appeal qua the following issues:

DISALLOWANCE OF ADDITIONAL CAPITAL EXPENDITURE OF RS. 30 CRORES FOR THE PERIOD 2018-19 TOWARDS MULTI FUEL FIRING FACILITY FOR GT'S

- 4.3 The Respondent Commission vide Record of the Proceedings (ROP) dated 24.05.2016 directed the Appellant to furnish brief note on the balance life of the plant after 2018-19 as per the supplementary PPA signed with respondent KSEB in 2013 and detailed note giving the reasons and proper justification for converting from Naphtha fuel firing mode to multi-fuel firing facility at the fag end of the life of the plant along with cost benefit analysis.
- 4.4 The Appellant accordingly submitted the affidavit dated 28.06.2016. It is evident from para 3 (iii) (b) of the said Affidavit that after the conversion of Kayamkulam from Naphtha fuel to multi

fuel firing facility will bring down the cost of generation from Kayamkulam. Further, Respondent No. 2, KSEB would have agreed to enter into a supplementary agreement dated 15.02.2013 only after ascertaining the benefit of conversion from Naphtha to multi fuel firing system. However, the Respondent Commission failed to appreciate the same and disallowed the additional expenditure towards multi fuel firing system.

4.5 The Appellant in compliance of the directions contained in ROP dated 12.07.2016 furnished additional information vide an affidavit in August 2016 of which Extracts are reproduced herein below:

(A) Para 5 (i): It is submitted that the Petitioner is making all efforts for arranging RLNG for Kayamkulam Station. The following options are discussed with PSUs viz GAIL, IOCL and BPCL for supply and transportation of LNG/RLNG from Kochi terminal of PLL to Kayamkulam Station:

- Laying of sub-sea pipeline
- Laying of underground pipeline
- Through Barges
- Floating Storage Re-gasification Unit (FSRU).

Judgment of Appeal No.40 of 2017

The supplementary PPA dated 15.2.2013 signed with KSEB provides that Gas Transportation Agreement (GTA) & Gas Supply Agreement (GSA) shall be signed with prior approval of KSEB. Accordingly, presentations were made to KSEB in this regard. KSEB rejected pipeline option (sub- sea/ underground) due to environmental concerns/ Right of Way issues and other options were considered as costlier.

The transportation of LNG/ RLNG to Kayamkulam remains an issue as the permission to lay sub-sea/ underground pipeline is still under consideration with Govt. of Kerala.

(B) Para S(ii): Detailed break-up of projected expenditure of Rs. 30.00 Cr. on multi fuel firing system is as below:

Sr. No.	Breakup of Projected Expenditure	Amount (Rs. Cr.)
1.	Supply Package: which mainly includes Gas Valve Module, Fuel Nozzles, Fire Protection System, Gas conditioning skid, Control /Ball valves, Drain tank, PLC, software, spares and other miscellaneous items.	26.0

Judgment of Appeal No.40 of 2017

2.	Erection Package: Site services for installation & commissioning.	3.2
3.	Civil works	0.8
	Total	30.0

These figures are excluding taxes, duties, cess etc.

4.6 Even Respondent No. 2 in its reply has not objected against the prayer of the Appellant seeking additional expenditure for Multi fuel firing system. The relevant extract from the reply filed by the Respondent No. 2 is reproduced herein under:

(iv) Multi fuel firing system for GT's

(1) The petitioner has claimed an additional capitalization amount of Rs. 3000 Lakhs in the financial year 2018-19 for multi fuel firing facility for GT's under regulation 14(3)(vii) of the CERC (Terms and Conditions of Tariff) Regulations, 2014.

(2) In this matter, KSEBL may submit the following:

- The petitioner has stated that a supplementary PPA is signed with KSEBL in February 2013 extending PPA. validity for balance life of plant with a provision of technological conversion of Kayamkulam station from

Naphtha firing to Multi fuel firing. The petitioner has further stated that the technological conversion works are in full swing.

- However, the petitioner has not provided the details of the claim substantiated with the technical justification duly supported by the documentary evidence like details of the cost of implementation, approval for the same etc.

- Hence, the petitioner may be directed to furnish the details of the expenditure including approval of the competent authority for implementing the scheme. Further, it is requested that Hon'ble Commission may admit the same only after detailed prudence check including the reasonableness of the expenditure, cost-benefit and the benefits accruing out of the expenditure.

4.7 Further, the Respondent No. 2 vide its letters dated 20.06.2013 and 04.07.2013 has appreciated the decision of the Appellant Board for the approval of technological conversion of the existing

RGCCPP station Kayakulam from Naphtha firing to multi fuel firing mode. The Respondent No. 2 also agreed to bear the increase in fixed charges due to conversion, once the plant commences its commercial operation on LNG on approval of GSA and GTA.

4.8 From the above, it is abundantly clear that the Respondent No. 2 is also in line with the view that the conversion of Kayamkalam plant from Naphtha fuel to Multi fuel firing system was necessary and beneficial for the project. It is submitted that Respondent Commission by disallowing the Appellant for the additional expenditure towards multi fuel firing system has resulted into double jeopardy to the Appellant as the cost of generation will be high which in case of multi fuel firing system is low and secondly, the Appellant will not get the benefit of the Supplementary PPA dated 15.02.2013 signed with KSEBL. Such an approach of the Respondent Commission runs contrary to the intent and purpose behind the 2014 Tariff Regulations as well as the principles enumerated under the Electricity Act, 2003.

4.9 The Respondent Commission under para 29 of the Impugned Order has proceeded on the wrong presumption that the Scheme placed before Government of Kerala is not viable to be allowed.

Judgment of Appeal No.40 of 2017

The Respondent Commission has proceeded on baseless and meritless presumption. With respect to the reply of Respondent No.2 as quoted above and para 29 of Impugned Order, it is submitted that in Kerala, there is not a single pipeline and there is a high probability that the Government of Kerala may consider the Scheme of the Appellant for laying pipelines for transportation of gas. The proposal to lay pipeline is still under consideration before the Government of Kerala and no negative remarks have been passed by the Government of Kerala. The Respondent Commission failed to appreciate that the Appellant as well as Respondent No. 2 both are in a consonance as the Respondent No. 2 has not put any objection before the Respondent Commission against the additional expenditure claimed by the Appellant towards Multi fuel firing system.

4.10 Vide its letter dated 04.07.2013, KSEB appreciated the decision of the board to convert from Naphtha firing to multi fuel firing mode for the Kayamkulam power station. In the said letter, KSEB has also agreed to bear the increased fixed charges due to such conversion once the plant commences its operation on LNG on approval of GSA and GTA. At the cost of repetition, it is stated that KSEB has also supported the Appellant during the proceedings

before the Respondent Commission, which is part of the record and extracted in the impugned order.

4.11 The counsel appearing for KSEB while arguing before this Tribunal, has referred to the reply filed by KSEB to the appeal of the Appellant, whereby a departure was made by KSEB from its earlier stand, both in the aforementioned letter as well as before the Respondent Commission. Under the para 14 of the reply filed by KSEB, it is seeking for disallowing the capital expenditure of Rs. 30 crores, since the scheme of gas transportation for RGCCPP is not yet finalized. This argument does not stand in the light of the understanding between KSEB and the Appellant, and also the supplementary PPA.

4.12 It is wrong to suggest that the execution of supplementary PPA was conditional on the conversion of RGCCPP to gas to reduce the cost of scheduling. On the contrary, it was mutually agreed under the supplementary PPA to go ahead with the proposed of technology conversion of the existing Kayamkulam station from Naphtha to multi fuel firing mode i.e. Naphtha/ RLNG/ Natural gas using the most optimal technology, for which concurrence of KSEB shall be obtained. Therefore, there is no denial fo the fact that the

scheme of conversion was in principle approved by KSEB and the parties have arrived at a consensus, on the basis of which the capital expenditure of Rs. 30 Crores was made by the Appellant.

4.13 It was made condition under a supplementary PPA that GSA and GTA shall be made by the Appellant with prior approval of KSEB. Both the Appellant and KSEB shall explore all possible means for risk mitigation. Having agreed on these lines under the supplementary PPA, the Appellant acted upon it and made the expenditure of Rs. 30 crores by installing the technology. Now due to external circumstances peculiar to the State of Kerala for which pipelines are not being able to be laid, KSEB cannot withdraw its in principle approval for the conversion of technology.

4.14 In the light of the above, it is wrong on the part of the Respondent Commission to disallow the capital expenditure of Rs. 30 crores in principle. Admittedly, the non-implementation of the GTA and GSA are due to external circumstances like the issue of ROW and other local issues which are not disputed by KSEB. Hence, the Appellant is entitled to in principle approval which is in consonance with the supplementary PPA as well as the understanding arrived at, between KSEB and the Appellant.

DISALLOWANCE OF ADDITIONAL EXPENDITURE OF RS. 161 LAKHS FOR THE INERT GAS FIREFIGHTING SYSTEM

4.15 The Respondent Commission erred in not considering the material fact that as per the Montreal Protocol Treaty dated 16.09.1987 where India is also a signatory, the production and consumption of Ozone Depleting Substances (ODS) is to be phased out as per the schedule specified in the protocol. In view of this, Ministry of Environment and Forest has notified the Capital ODS (Regulation & Control) Rules 2000. Till 1991, all NTPC stations were built with halon fire protection system. It is submitted that as per Article 2B of the Montreal Protocol, parties agreed to oust the use of the ozone depleting substances such as Halons .

4.16 The RGCCPP, Kayamkulam was envisaged after Montreal Protocol and as a stop gap arrangement, CO2 extinguishers were deployed in control room as proper substitute for halon was not available at that point of time of project execution at Kayamkulam.

4.17 Further, Regulation 12(5)(f)(v) of Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2010 was notified on 20.08.2010

mandating the installation of inert gas firefighting system. Accordingly, for safety of equipment as well as working personnel in control room, the Appellant proceeded to award the work for installation of the inert gas based fire extinguisher system in accordance with Regulation 12(5)(f)(v) of Central Electricity Authority Regulations of 2010 as CO2 system was not suitable for Control Room due to human presence. Thereafter, the work towards installation of such system took considerable time and the inert gas system for control room at Kayamkulam was commissioned in the year 2014. In this regard, the Appellant also submitted an affidavit dated 28.06.2016 which was completely ignored by the Respondent Commission.

4.18 In view of the Montreal Protocol and Central Electricity Authority Regulations of 2010, the Appellant complied with the mandate provided therein in the year 2014 hence the Appellant is entitled to claim the expenditure of Rs. 161 lakhs incurred towards installation of inert gas firefighting system. Therefore, the observations made by the Respondent Commission under para 19 of Impugned Order is liable to be set aside.

Re: Violation of Regulation 14(3)(ii) of the Tariff Regulations, 2014

4.19 Further, the Regulation 14 of the Tariff Regulations, 2014 lays down that additional expenditure in a new or existing project may be admitted by the Respondent Commission. Relevant part of regulation 14 is extracted here under:

"14. Additional Capitalisation and De-capitalisation:
(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:
(i)
(ii) Change in law or compliance of any existing law;
..."

4.20 It is evident that any capital expenditure, which is incurred after the cut-off date, may be admitted by the Respondent Commission in the event that the same has been incurred due to "change in law" or "in compliance of existing law". As stated above, earlier CO2 fire extinguishers were used and it was only after the notification of the CEA Regulations, 2010 on 20.08.2010, inert gas firefighting system was installed at Kayamkulam. Hence, in view of Regulation 14(3)(ii) of the Tariff Regulations, 2014, the Appellant has complied with the existing law and therefore, the Respondent Commission ought to have allowed the projected additional

expenditure of Rs. 161 Lakhs for the inert gas firefighting system.

Therefore, the observations made by the Respondent Commission under para 19 of Impugned Order is liable to be set aside.

4.21 In view of the aforesaid facts and submissions, it is most respectfully prayed that this Hon'ble Tribunal may graciously be pleased to allow the present appeal.

5. Mr. Mukund P. Unny, learned counsel appearing for the Respondent No.2 has filed the written submissions for our consideration as under:-

5.1 The aforesaid petition was filed by the appellant-NTPC before Respondent No.1-CERC for approval of tariff of Rajiv Gandhi Combined Cycle Power Project, Kayamkulam Stage-I ("Kayamkulam plant") having a scheduled capacity of 359.58 MW. The Respondent No.2 herein has a power purchase agreement with the appellant-NTPC. The said power generating station of the appellant-NTPC is a combined cycle station operating with indigenous and imported naphtha as its fuel. The contentions of the Appellant are denied unless specifically admitted.

ISSUES CONCERNING THE PRESENT APPEAL

5.2 The present appeal is filed by the Appellant-NTPC raising substantially the following two issues:

- a) Disallowance by the Respondent No.1-CERC of Rs. 161 Lakhs claimed by the appellant towards establishment of inert gas firefighting system for control room in Rajiv Gandhi Combined Cycle Power Project (hereinafter "Kayankulam generating station") of the appellant during 2014-2015.
- b) Disallowance by the Respondent No.1-CERC of Rs. 30 crore claimed by the appellant for Multi Fuel Firing system in Kayankulam generating station.

FACTS IN ISSUE

- a) For the purposes of addressing the first issue mentioned above, the Respondent No.2-KSEB, no facts are reproduced herein as the same is purely a question of law.
- b) For making submissions regarding the second question mentioned above, it is submitted that the Respondent No.2-KSEB had entered into a Power Purchase Agreement with the Appellant-NTPC on 06.01.1995 for purchase of entire power from Kayankulam generating station. The term of the agreement was initially for 5 years from the commercial operation date which was

extended for two more years from 01.03.2005 (the date of expiry of original PPA) and further extended upto 28.02.2013 on mutual agreement. Subsequent to the expiry of the same on 28.02.2013, the Respondent No.2-KSEB entered into a supplementary PPA with the Appellant-NTPC on 15.02.2013, for extending the validity of the PPA for a further period of 12 years from 01.03.2013 with the certain conditions mentioned in the Supplementary Agreement.

c) Due to the excessive cost of Naphtha and resultant variable cost, most often the Respondent-KSEB has not been scheduling power from the plant. Even with pooling of 180MW of power from Talcher- II station, the cost of power from Kayamkulam does not come under the merit order of dispatch. The plant is being scheduled only when there is a contingent requirement of power in the state and this arrangement has been continuing since 01.03.2013.

DISALLOWANCE OF RS.161 LAKHS FOR INERT GAS FIRE FIGHTING

5.3 The Appellant-NTPC had claimed projected additional capital expenditure of Rs.161 Lakh in 2014-15 towards inert gas fire-fighting system for control room basing their expenditure on Regulation 14(3)(ii) of the CERC (Terms and conditions of Tariff) Regulations, 2014. The claim was made citing the Montreal

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Protocol dated 16.09.1987 as well as the Central Electricity Authority (Technical Standards for construction of Electrical Plants and Electric Lines) Regulations, 2010.

Regulation 14(3) of the 2014 Tariff Regulations provides as under:

"14 (3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:

- (i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;*
- (ii) Change in law or compliance of any existing law.*

xxxxx"

5.4 As extracted above, Regulation 14(3)(ii) stipulates capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred after the cut-off date, consequent to change in law or compliance of any existing law.

Change in law stipulated in Regulation 14(3)(ii) of the CERC(Terms and Conditions of Tariff)Regulations,2014 is defined in Regulation 9 of the Tariff Regulations,2014 as extracted below:

"(9) "Change In Law" means occurrence of any of the following events:

- (a) enactment, bringing into effect or promulgation of any new Indian law; or*
- (b) adoption, amendment, modification, repeal or re-enactment of any existing Indian law; or*

(c) change in interpretation or application of any Indian law by a competent court, Tribunal or Indian Governmental Instrumentality which is the final authority under law for such interpretation or application; or

(d) change by any competent statutory authority in any condition or covenant of any consent or clearances or approval or licence available or obtained for the project; or

(e) coming into force or change in any bilateral or multilateral agreement/treaty between the Government of India and any other Sovereign Government having implication for the generating station or the transmission system regulated under these Regulations.”

Therefore, it is clear that regulation brought out by CERC itself will prove that the CEA regulation relied on by the Appellant-NTPC is neither a new law nor a re-enactment or adoption or change in interpretation or application and thus do not come under any of the clauses under the definition of ‘Change in Law’ as extracted above.

5.5 Further, the projected expenditure claimed for this asset in 2014-15 is rightly disallowed by CERC and the Appellant may be directed to account such expenditure, if any, in the O&M cost.

DISALLOWANCE OF RS. 30 CRORE CLAIMED BY THE APPELLANT FOR MULTI FUEL FIRING SYSTEM

5.6 The Appellant - NTPC had claimed projected capital expenditure of Rs. 30 Cr in 2018-19 towards conversion of the project from a Naphtha firing to a multi-fuel firing facility for GT's under Regulation 14(3)(vii) of the 2014 Tariff Regulations. It was deemed

to be necessary by both the parties to effect a change in the technology of the Kayamkulam Plant because the respondent-KSEB was not regularly scheduling power from the Appellant because of the high price of power as Naptha, which is the input fuel, was costly. Irrespective of scheduling power from the plant, respondent-KSEB has been promptly paying the annual fixed cost commitment since the CoD. This includes interest on working capital, O&M cost, Interest expenses, RoE and depreciation. With very less or nil scheduling of power from the plant, KSEB is paying annual fixed cost of around Rs.300 Crores.

5.7 A supplementary PPA was executed by the Appellant and Respondent no.2-KSEB for the conversion which was expected to result in reasonable reduction in tariff.

5.8 The change in technology of the plant was however subject to certain conditions mutually agreed upon between the parties executed in the aforesaid PPA. The said conditions are available in page no 47-48 of the Counter Affidavit filed by the Respondent No.2-KSEB. The said conditions are as follows:

1. *“As mutually agreed, NTPC shall go ahead with the proposal of technology conversion of the existing Kayamkulam Station(360 MW) from existing mode of firing “Naptha Fuel” to multi fuel firing mode i.e “Naptha/RLNG/Natural Gas” using the most*

optimal technology for which concurrence of KSEB shall also be obtained.

2. That the implementation cost of the above proposed conversion of 360MW station shall be capitalized as per CERC norms.

3. That for transportation of Gas to Kayamkulam Station, M/S Gail shall lay pipeline from Kochi to Kyamkulam for which a 'Gas Transportation Agreement', shall be signed with GAIL with prior approval of KSEB. KSEB shall bear all applicable charges for the same initially and the charges shall be reworked in a proportionate manner depending on KSEB's actual usage of the pipeline once other customers also start using the transported gas.

4. That NTPC and KSEB shall approach Govt. of India for priority allocation of 'Domestic Gas' after signing of 'Gas Transportation Agreement' for existing Kayamkulam Station (360 MW).

5. That till such time the domestic gas is allocated, RLNG shall be tied up for quantity as mutually agreed with KSEB.

6. While finalizing the Gas Supply/ transportation contracts, NTPC jointly with KSEB shall explore all possible means for risk mitigation. GSA and GTA shall have prior approval of KSEB. The terms and conditions of the finalized contracts as above shall be applicable to KSEB on back to back basis."

5.9 It is very clear from the aforesaid conditions enumerated in the supplementary PPA dated 15.02.2013 that the change in technology is to be undertaken with the prior approval of KSEB. It is also very clear that the parties had to reach a prior agreement

with respect to Gas Supply Agreement ("GSA") and Gas Transportation Agreement ("GTA").

5.10 The Appellant had vide letter dated 18.02.2013 assured KSEB that at the end of 5 years from signing of the supplementary PPA, the Appellant shall make all efforts on its part to keep Kayamkulam power viable for Respondent No. 2. This will include technology-change that will go along with cheaper gas. On 03.09.2013, the Appellant made a presentation before KSEB relating to various possible options for transportation of LNG. However, the Appellant itself found the proposal to be impractical and no viable proposals were forthcoming from the Appellant-NTPC with respect to a workable GSA and GTA.

5.11 It was also made clear by the Respondent No 2-KSEB vide letter dated 04.07.2013 that mutual agreement between the parties is important with respect to finalizing GSA and GTA for making available gas at the Kayamkulam plant. It was specifically made clear by the KSEB in the letter dated 04.07.2013 as follows:

"As such GSA and GTA for ensuring fuel availability at site at an affordable rate may be finalized at the earliest and concurrence of KSEB may be obtained for the same. KSEB is agreeable to bear the increase in fixed charges due to conversion, once the plant commences its commercial operation on LNG on

approval of GSA and GTA. You may hence kindly proceed for the conversion on the above lines.

5.12 It was always made clear that the conversion of technology is subject to a workable GSA and GTA whereby it can be ensured that the multi fuel firing system installed at the plant is viable for KSEB in terms of its financials. This letter dated 04.07.2013 was also filed by the Appellant before this Tribunal on 09.04.2019 during the hearing.

5.13 Vide affidavit dated 05.08.2016 which the Appellant submitted before CERC to report the latest status of gas transportation pipeline work to bring gas from Kochi LNG terminal to Kayamkulam station, the Appellant stated that it had made efforts for arranging RLNG for Kayamkulam Station. The Appellant further stated therein that it had also entered into discussions with GAIL, IOCL and BPCL for supply and transportation of LNG/RLNG from Kochi terminal to Kayamkulam station.

- Laying of sub-sea pipelines
- Laying of underground pipelines
- Through Barges/ Inland Waterways
- Floating Storage Re-gassification Unit (FSRU)

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The Appellant further stated in the said affidavit that the supplementary PPA dated 15.02.2013 signed with KSEB provides that Gas Transportation Agreement (GTA) & Gas Supply Agreement (GSA) should be signed with prior approval of KSEB and that KSEB is yet to accept any of the above options due to various concerns.

5.14 It is necessary to point out that the Appellant had made a presentation before KSEB on 03.09.2013 relating to various possible options of transportation of LNG highlighting the issues/constraints related to them and the support required from KSEB/Government of Kerala for waiver of VAT & custom duty as well as for obtaining various state level statutory clearances. Subsequent to the presentation, it was opined that considering the issues involved and the time required, transportation by road tankers is the most workable option and for that the Appellant sought consent of KSEB to proceed further with the IOCL for the same. However, the proposal was found impractical by the Appellant itself and vide letter dated 13-8-2014, the Appellant intimated that as part of technological conversion of existing Kayamkulam station, the Appellant had issued global EOI for supply cum transportation of RLNG to the existing Kayamkulum

station on long term basis and requested KSEB to indicate power requirement from Kayamkulam on continual basis round the year.

5.15 The Appellant had made a detailed presentation on the offers received in the EOI before KSEB on 04.11.2014. However, as per the offers received from various firms in the EOI invited, the landed price of gas at plant was found to be exorbitantly high. As per the offer of the Appellant, the cost of power from plant even after conversion was around Rs.9.20/unit on long term basis, even after pooling with cheaper ER power and exemption of VAT and customs duty. It is submitted that in the State of Kerala, laying inland pipeline is not possible due to severe RoW issues. Further, laying submarine pipeline will also be difficult due to issues of getting clearances from various agencies. Also, laying pipeline from Kochi to Kayamkulam (100 kms) was found to be not feasible on cost economic basis and hence, the proposal was ruled out by KSEB.

5.16 In view of the uncertainties as explained above and non finalization of the Gas Transportation Agreement, the Respondent, KSEB was unable to give an unconditional consent for technological conversion of Kayamkulam plant. Further, Government of Kerala

has not given approval till date for laying pipelines (sub-sea/underground) for gas transportation and the scheme is not under the active consideration of Government of Kerala.

5.17 The CERC has disallowed the expenditure proposed by the Appellant in exercise of its powers under Regulation 14(3)(vii) of CERC(Terms and Conditions of Tariff) Regulations,2014. According to a composite reading of the said Regulation it can be found out that additional capital expenditure will be allowed by the CERC only upon its due prudence check. It is necessary to see that the term "prudence check" is defined by the CERC in the aforesaid Regulations as follows:

"Regulation 3 (48) 'Prudence Check' means scrutiny of reasonableness of capital expenditure incurred or proposed to be incurred, financing plan, use of efficient technology, cost and time over-run and such other factors as may be considered appropriate by the Commission for determination of tariff. While carrying out the Prudence Check, the Commission shall look into whether the generating company or transmission licensee has been careful in its judgments and decisions for executing the project or has been careful and vigilant in executing the project"

5.18 The prudence check has thus been defined correctly as scrutiny of reasonableness of capital expenditure incurred or proposed to be incurred. It is further stated that while carrying out the prudence check, the Commission shall look into whether the generating company or transmission licensee has been careful in its

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judgments and decisions. It can be concluded that the Appellant has not been careful in its judgment to go ahead with the upgradation or technology-change of the plant without having a GSA or GTA. It has been correctly held by the CERC that in the backdrop of GTA and GSA not been approved by the KSEB and the permission of the Government of Kerala for laying the underground/sub-sea pipeline not been received till date, there is no reason to allow the expenditure claimed on a scheme with so many uncertainties and where the balance life of the generation, as on the year projected additional capitalization, shall be six years.

5.19 Since no scheme is finalized for gas transportation for RGCCPP, the capital expenditure proposed by the Appellant for multi fuel firing facility for Rs.30 Cr in the year 2018-19 is not justifiable and ought to be disallowed.

5.20 In view of the above facts and position of law, the instant appeal deserves to be dismissed

6. We have heard learned counsel appearing for the Appellant, learned counsel for the Respondents at considerable length of time and have gone through carefully their written submissions/arguments and also taken note of the relevant material available on records during the proceedings. On the

basis of the pleadings and submissions available, the following principal issues emerge in the instant Appeal for our consideration:-

Issue No.1: Whether the Central Commission has correctly disallowed Rs.161 lakhs claimed by the Appellant towards establishment of inert gas firefighting system for the control room of the generating station?

Issue No.2: Whether the Central Commission has correctly disallowed Rs. 30 crores claimed by the Appellant for multiple fuel firing system for the generating station?

OUR ANALYSIS AND FINDINGS:

7. ISSUE NO.1:-

7.1 Learned counsel for the Appellant/NTPC submitted that the Central Commission has erred not considering the various facts which led to installation of inert gas firefighting system in the control room of Kayamkulam generating station. He vehemently submitted as per Montreal Protocol Treaty dated 16.09.1987 where India is also a signatory, the production and consumption of Ozone Depleting Substances (ODS) is to be phased out as per the schedule specified in the protocol. In pursuance of the said treaty, Ministry of Environment and Forest notified the Capital ODS (Regulation & Control) Rules 2000 for implementation of Article 2B of the Montreal Protocol. Further, Regulation 12(5)(f)(v) of Central Electricity Authority (Technical Standards for Construction of

Electrical Plants and Electric Lines) Regulations, 2010 was notified on 20.08.2010 mandating the installation of inert gas firefighting system in generating stations. Accordingly, for safety of equipment as well as working personnel in control room, NTPC proceeded to award the work for installation of the inert gas based fire fighting system in accordance with Central Electricity Authority Regulations, 2010. The Appellant complied with mandate provided thereafter in the year 2014 and accordingly Appellant is entitled to claim the expenditure of Rs.161 lakhs incurred towards installation of inert gas firefighting system. Learned counsel contended that in view of these facts, the observation made by the Central Commission under Para 19 of the impugned order is liable to be set aside.

- 7.2** Learned counsel for the Appellant was quick to submit that the Regulation 14 of the Tariff Regulations, 2014 lays down that additional expenditure in a new or existing project may be admitted by the Respondent Commission for capitalisation. The relevant portion of regulation 14 is extracted below:-

*"14. Additional Capitalisation and De-capitalisation:
(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date,*

may be admitted by the Commission, subject to prudence check:

(i)

(ii) Change in law or compliance of any existing law;

..."

7.3 Learned counsel further contended that It is thus evident from the above, that any capital expenditure, which is incurred after the cut-off date, may be allowed by the Respondent Commission in the event that the same has been incurred due to "change in law" or "in compliance of existing law". He further submitted that in view of these provisions, the Appellant is duly entitled to claim the reference expenditure towards installation of inert gas firefighting system as earlier CO2 fire extinguishers was provided and only after the notification of the CEA Regulations, 2010, the same has been replaced by inert gas base firefighting system and thus clarified under change in law. Learned counsel contended that as per CERC Regulations, the expenditure of Rs. 161 Lakhs ought to have been allowed by the Central Commission.

7.4 Learned counsel for the Appellant alleged that the Central Commission is adopting different standard for different projects in the same matter. Learned counsel for the Appellant quoted the reference of another thermal project namely Talchar Super Thermal Power Station Stage-I (1000 MW) wherein by the review

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order dated 21.02.2017, the Central Commission has allowed the expenditure on installation of inert gas firefighting system. Accordingly, the instant case is squarely covered by the said order of CERC and needs to be applied in the present case.

7.5 Per contra, learned counsel for the Respondent No.2/KSEBL submitted that the regulation brought about by CERC itself will prove that the CEA regulation relied on by the Appellant-NTPC is neither a new law nor a re-enactment or adoption or change in interpretation or application and thus do not come under any of the clauses under the definition of 'Change in Law' as notified in the CERC Regulations. Accordingly, the proposed expenditure of Rs.161 lakhs has been rightly disallowed by CERC and the Appellant may be directed to account such expenditure, if any, in the O&M cost.

Our Findings:-

7.5 We have considered the rival contentions of both the parties in the matter and also perused the findings of the Central Commission in its impugned order regarding disallowance of the expenditure towards installation of inert gas firefighting system. It is admitted fact that prior to notification of the referred CEA Regulations,

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2010, the generating stations were provided with CO2 gas based firefighting system and after the notifications, the system was required to be augmented with fire fighting system based on inert gas. The Appellant in pursuance of the Montreal Protocol & CEA Regulations, 2010 went ahead for installation of inert gas firefighting system and incurred an expenditure of Rs.161 lakh. While referring to the order dated 21.02.2017 of the Central Commission in respect of another thermal station namely Talchar Super Thermal Power Station Stage-I (1000 MW) relating to identical issue, we note that the Central Commission has acknowledged that CEA Regulations, 2010 for augmentation of firefighting system constitutes change in law in terms of Regulation 14 (3)(ii) i.e. compliance of any existing laws and accordingly has allowed the claim of NTPC for capitalisation of expenditures towards augmentation of firefighting system. We, therefore, opine that the claim of NTPC regarding augmentation of firefighting system is duly covered by the referred order of CERC. Accordingly, the claim of NTPC - Rs. 161 lakh for installation of inert gas firefighting system would need to be appraised by the Central Commission afresh in accordance with law.

8. ISSUE NO.2:-

8.1 Learned counsel for the Appellant submitted that Multi fuel firing system facility was considered and installed by the Appellant with an objective of bringing down the cost of generation from Kayamkulam generating station. He further submitted that considering the aforesaid benefit, the Respondent No.2/KSEBL agreed for the same while entering into a supplementary agreement dated 15.02.2013. Learned counsel was quick to point out that notwithstanding the benefit and agreement between the parties, the Central Commission failed to appreciate the same and disallowed the additional expenditure towards Multi fuel firing system amending to Rs.30 crores. The supplementary PPA dated 15.02.2013 signed between NTPC and KSEBL provides that Gas Transportation Agreement (GTA) and Gas Supply Agreement (GSA) shall be signed with prior approval of KSEB. Learned counsel for the Appellant contended that even Respondent/KSEBL in its reply has not objected against the prayer of the Appellant seeking additional expenditure for Multi fuel firing system. Additionally, Respondent No.2 vide its letter dated 20.06.2013 & 04.07.2013 has appreciated the decision of the Appellant / Board for the approval of technological conversion of the existing Kayamkulam station from Naptha Fuel" to multi fuel firing mode.

Further Respondent No.2 also agreed to bear the increase in the fixed charges due to conversion once the plant commences its commercial operation on LNG on approval of GSA & GTA.

8.2 Learned counsel for the Appellant alleged that the Respondent Commission by disallowing the Appellant for the additional expenditure towards Multi fuel firing system has resulted to total jeopardy to the Appellant as the cost of generation will be high which in case of Multi fuel firing system is low and secondly the Appellant will not get the benefit of the supplementary PPA dated 15.02.2013. Learned counsel was quick to point out that such an approach of the Central Commission runs contrary to the intent of purpose behind 2014 Regulations as well as the principles enumerated under the Electricity Act, 2003. Learned counsel for the Appellant further submitted that the Respondent Commission has proceeded on baseless and meritless presumptions that the scheme placed by the Appellant before Govt. of Kerala is not viable to be allowed. Learned counsel vehemently submitted that under the supplementary PPA, it was mutually agreed to go ahead with the proposal of technology conversion from Naptha to Multi fuel firing mode using the most optimal technology for which concurrence of KSEBL shall be obtained. Therefore, there is no

denial to the fact that the scheme of conversion was in principally approved by KSEB and the parties had arrived at a consensus on the basis of which the capital expenditure of Rs.30 crore was made by the Appellant. Under the supplementary PPA, it was made a condition that GSA & GTA shall be made by the Appellant with prior approval of the KSEB.

8.3 Learned counsel contended that having agreed on these lines under the supplementary PPA, the Appellant acted upon it and incurred the expenditure of Rs.30 crore by installing the new technology. However, due to external circumstances peculiar to the State of Kerala for which pipelines are not being able to be laid, the Respondent/KSEBL cannot take a different stand in the in principal approval for the conversion of technology. Learned counsel summed up his submissions and reiterated that the Central Commission has wrongly disallowed the capital expenditure of Rs. 30 crore.

8.4 *Per contra*, learned counsel for Respondent No.2/KSEBL submitted that it was deemed to be necessary by both the parties to effect a change in the technology of the Kayamkulam Plant because the respondent-KSEB was not regularly scheduling power

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from the Appellant due to the fact that the price of Naptha was very high. However, irrespective of scheduling power from the plant, respondent-KSEB has been promptly paying the annual fixed cost commitment since the CoD of the plant and liability of KSEB on this account is around Rs.300 Crores per annum. Learned counsel further submitted that the change in technology of the plant was however subject to certain conditions mutually agreed upon between the parties. Among others, one of the main conditions was that for transportation of Gas to Kayamkulam Station, M/S Gail shall lay pipeline from Kochi to Kyamkulam for which a GTA shall be signed with GAIL with prior approval of KSEB. Additionally, the supplementary PPA envisaged that while finalising gas supply/transportation contracts, NTPC jointly with KSEB shall explore all possible means for risk mitigation and the GSA and GTA shall have prior approval of KSEB. Learned counsel contended that it was always made clear to the Appellant that the conversion of technology is subject to the workable GSA & GTA whereby it can be ensured that the multi fuel firing system installed at the plant is viable for KSEB in terms of its financials. Learned counsel for the Respondent further contended that the Appellant made various presentation before KSEB regarding the supply of gas and its various modes of transportation. However,

no concrete proposal could be finalised and submitted to Respondent / KSEB for its consideration. Learned counsel was quick to submit that after various efforts/proposals and analysis of the Appellant, the cost of power from the plant even after conversion was around Rs.9.20 per unit on long term basis considering pooling with cheaper ER power and exemption of VAT and custom duty.

8.5 Learned counsel further submitted that in the state of Kerala laying inland pipeline is not possible due to severe RoW issues and similar is the case for submarine pipelines. Learned counsel summing up his arguments vehemently submitted that in view of the uncertainties as explained above and non finalization of the Gas Transportation Agreement, the Respondent, KSEB was unable to give an unconditional consent for technological conversion of Kayamkulam generating station. Further, Government of Kerala has not given approval till date for laying pipelines for gas transportation and the scheme is not under the active consideration of Government of Kerala. In view of these facts, the Central Commission has correctly disallowed the expenditure proposed by the Appellant applying its regulations and prudence check.

Our Findings:-

8.5 We have gone through the submission of the Appellants as well as Respondent and also heard at length the learned counsel for the parties during proceedings. It is not in dispute that Kayamkulam combined cycle generating station using Naptha as input fuel was supplying power to the Respondent/KSEB at exorbitantly higher cost and accordingly, both the parties i.e. NTPC & KSEB through a supplementary PPA dated 15.02.2013 agreed to go ahead for augmenting the station with multi fuel firing system. It is relevant to note that the said understanding was reached between the parties with a sole objective of reducing the cost of generation so that the station could be scheduled for supply of power to Respondent at reduced cost. Admittedly, the supplementary PPA in this regard was executed with an understanding that GSA & GTA shall be finalised with prior approval of KSEB. Based on these facts, the Appellant initiated the follow up on actions for installation of multi fuel fire system along with various options for supply and transportation of LNG/GLNG from Kochi Terminal of PLL and Kayakulam station which, among others, inter-alia envisaged laying up sub-sea pipeline, laying up underground pipeline, through barges, floating storage re-gasification unit etc..

However, the transportation of LNG/RLNG from Kochi terminal to Kayamkulam station remains an issue as the permission to laying of sub-sea pipelines is still under consideration with Govt. of Kerala.

8.6 While taking note of the observations made by the Central Commission under Para 29 of the impugned order, it is relevant to note that the Respondent Commission has proceeded on the presumption that laying of any kind of pipeline may not be approved by the Govt. of Kerala as there is not a single such pipeline as on date in the state of Kerala. On the other hand, the Appellant has reiterated that the proposal to lay pipeline is still under consideration with the Govt. of Kerala and so for no negative remarks have been received from them. It is the stand of the Appellant that with the clear understanding with the Respondent/KSEB for augmenting the multi fuel firing system from Naptha to LNG/RLNG, it proceeded with requisite follow up actions including tendering and procurement/installation of the multi fuel firing system for the ultimate benefit of the respondent.

8.7 Contrary to the contentions of the Appellant, the Respondent/KSEB have contended that the Appellant/NTPC went

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ahead for incurring expenditure on installation of multi fuel firing system despite knowing that it may not be feasible to enter into GSA/GTA without approval of Kerala Govt.. As a result, KSEB could not get any benefit out of the said proposal of NTPC. Keeping all these aspects in view, we note that the instant case has arrived in a lose-lose situation for both the parties as the claim of Appellant (Rs.30 crores) has been disallowed by the Respondent Commission making them to lose that amount for capitalization and on the other hand, with such an expenditure the beneficiary KSEB does not stand benefitted in any way. While both parties took joint decision to augment the fuel firing system and agreed to explore all possible means for risk mitigation including execution of GSA/GTA, none of the parties can now absolve from the responsibilities and consequences thereof. We also note that pending finalization/execution of GSA/GTA, the Appellant/NTPC went ahead for installation of multi fuel firing system without applying proper prudence in the matter. In such a peculiar situation when the system has been put in place with claimed expenditure but in turn, has not yielded any benefit to the beneficiary / KSEB, we are of the opinion that burden of such an expenditure should be equally shared by both the parties in the ratio of 50 : 50

Summary of Findings:-

9. Based on our deliberations and findings in aforesaid paras, we summarise our findings as under:-

9.1 The claim of the Appellant regarding inert gas based fire fighting system shall be allowed to the extent reasonably justified after prudence check by the Central Commission.

9.2 The claim of the Appellant regarding installation of multi fuel firing system shall be allowed after considering the expenditure to be borne by both the parties in the ratio of 50 : 50.

ORDER

In light of the above, we are of the considered opinion that the instant Appeal No.40 of 2017 have merits and accordingly it is allowed.

The impugned order dated 27.10.2016 in Petition No.269/GT/2014 passed by Central Electricity Regulatory Commission is hereby set aside to the extent of our findings and directions indicated under Para No. 9.1 & 9.2

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The Central Electricity Regulatory Commission is directed to pass the consequential order at any pace within a period of six months.

No order as to costs.

Pronounced in the Open Court on this 05th August, 2019.

(S.D. Dubey)
Technical Member

(Justice Manjula Chellur)
Chairperson

REPORTABLE / ~~NON-REPORTABLE~~

Pr

Annexure - E

GOVERNMENT OF KARNATAKA
DEPARTMENT OF FACTORIES, BOILERS, INDUSTRIAL SAFETY & HEALTH

CSMC/TFC/CR-13/2013-14

Phone No. 080-26531200
Fax No. 080-26531202

Directorate of Factories, Boilers, Industrial Safety & Health, 'Kannika Bhavana' 2nd floor Near Bengaluru Dairy, I.T.I compound, Bannerghatta road Bengaluru-29 Dated: 23.09.2013

To,
General Manager,
M/s NTPC Limited,
Kudugi Super Thermal Power Project,
Plot No. 9, Mallikarjun Nagar,
Maneruli Road, Bijapur-586 109

Sir,

Subject: Site Clearance for setting up of super thermal power project.

- Reference: 1. Your letter dated 03.05.2013
2. Proceedings of Task force committee meeting held on 12.09.2013
3. Your reply mail dated 19.09.2013.

* * *

We are pleased to inform you that the Task Force Committee in its meeting held on 12.09.2013 has reviewed the presentation, documents, details of the safety systems adopted etc and has concurred in principle to issue the Site Clearance for the establishment of super thermal power project for generating electrical power of 5 X 800 MW at Near Kudugi village, Basavana bagewadi Taluk, Bijapur District.

The site clearance is issued subject to the following conditions:

1. The replacing of highly hazardous chlorine with available less hazardous alternative chemicals like chlorine dioxide, sodium hypo chlorite shall be considered.
2. The mobile hydrogen cylinder bank with manifold system shall be adopted in place of loose Hydrogen Cylinders
3. The safety check shall be prepared in storing, handling and usage of Hydrazine and its holding capacity shall be limited to a minimum required quantity
4. The exclusive safety, health and environment (SHE) department shall be formed under the direct control & supervision of the occupier. This department shall be supported by the senior level qualified and competent executives with adequate field staff
5. The effective online monitoring system shall be adopted to ensure the safe and healthy work environment with special trust to fugitive emission, it radiation, noise level etc.
6. No building of structure shall be constructed with obtaining a prior approval of plans by Director, Department of Factories, Boilers, Industrial Safety and Health.
7. The pre and periodical medical examination shall be carried out to all the category of employees including contract and casual. The medical surveillance shall be carried out by creating a base line health data and shall have the provision for up-dating the same and continuous basis.

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17/10/2013

8. The mitigation measures as submitted by the proponent and as suggested by the committee shall be incorporated in the on-site emergency plan. The same shall be submitted for scrutiny and approval.
9. The provisions of rule 50 to 251 of Building and Other Construction Workers (Regulation of Employment and condition of service) (Karnataka) Rules, 2006 shall be complied to ensure occupational safety and health of the construction workers involved project. The compliance shall be furnished regularly to jurisdiction officers of our department and to the Director of Factories, Boilers, Industrial Safety and Health.

Suggestions:

1. The industry shall adopt the rain harvesting system to harvest atleast 50% of the rain water.
2. The industry shall adopt solar energy system at least catering to street lighting and in other suitable areas like water heating in the canteen, etc.

All the above conditions and suggestions shall be complied and a copy of shall be submitted to the department reserves all the rights to modify or withdraw clearance issued at any point of time.

Your's faithfully,

Chairman
Task Force Committee
and Director of Factories, Boilers,
Industrial Safety and Health, Bangalore

GOVERNMENT OF KARNATAKA
DEPARTMENT OF FACTORIES, BOILERS INDUSTRIAL SAFETY & HEALTH

CSMS/TFC/CR—13/2013-14

Directorate of Factories, Boilers, Industrial Safety &
Health, Karmika Bhavana 2nd floor, Near Bengaluru
Dairy, ITI Compound Bannerhatta Road
Bengaluru -29 Date 23.09.2019

Phone No. 080-26531200
Fax No. 080-26531202

To
General Manager
M/s NTPC Limited
Kudgi Super Thermal Power Project

Sir,

Subject: Site Clearance setting up of super thermal power project-reg

Reference: 1. Your letter dtd. 03.05.2013
2. Proceedings of Task Force Committee Meeting held on 12.09.2013
3. Your reply mail dated 19.09.2013

We are pleased to inform that the Task Force Committee in its meeting held on 12.09.2013 has reviewed the presentation documents details of the safety systems adopted etc and has concurred in principle to issue the Site Clearance for the initial location for the establishment of super thermal power project for generating electricity of 3x500 MW at New Kudgi village, Basavana Bagewadi, Bijapur District

The Site clearance is issued subject to the following conditions:

1. The replacing of highly hazardous chlorine with available less hazardous alternative chemicals like chlorine dioxide, sodium hypochlorite shall be considered.
2. The mobile hydrogen cylinder bank with manifold system shall be adopted in place of loose hydrogen cylinders.
3. The Safety check shall be prepared in storing, handling and usage of hydrazine and its handling capacity shall be limited to a minimum required quantity.
4. The exclusive safety health and environment (SHE) department shall be formed under the direct control and supervision of the occupy. This department shall be supported by he senior level qualified and competent executive with adequate field staff.
5. The effective online monitoring system shall be adopted to ensure the safe and healthy work environment with special trust to fugitive emission, its radiation noise level etc. No building

of structure shall be constructed with obtaining a prior approval of plans by Director, Department of Factories, Boilers, Industrial Safety & Health.

6. No building of structure shall be constructed with obtaining a prior approval of plans by Director, Deptt of factories, boilers, industrial safety and health.
7. The pre and periodical medical examination shall be carried out to all the category of employees including contract and casual. The medical surveillance shall be carried out by creating a base line health data and shall have the provision for updating the same and continuous basis.
8. The mitigation measures as submitted in the presentation and as suggested by committee shall be incorporated in the on site emergency plan. The same shall be submitted for scrutiny and approval.
9. The provision of rule no. 251 of Building and Other Construction Workers (Regulation for employment and condition of service) (Karnataka) Rules 2006 shall be complied to ensure occupational safety and health of construction workers involved in the project. The compliance shall be regularly to jurisdiction officer of our department and to the director of factories, boilers, industrial safety and health.

SUGGESTIONS:

1. The industry shall adopt the rain-harvesting system to harvest at least 80% of the rain water.
2. The industry shall adopt solar energy system at least catering to street lighting to street light and in other suitable areas like water heating in the canteen, etc.

Yours faithfully

Chairman
Task Force Committee
And Director of Factories Boilers,
Industrial safety and Health, Bangalore