CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 348/GT/2022

Coram:

Shri Jishnu Barua, Chairperson
Shri Ramesh Babu V, Member
Shri Harish Dudani, Member

Date of Order: 2nd December, 2024

In the matter of:

Petition under Section 62 and 79(1)(a) of the Electricity Act, 2003 read with Regulation 29 of the Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2019 for determination of tariff on installation of various Emission Control Systems (ECS) at National Capital Thermal Power Station (NCTPS), Dadri Stage-II (980MW) in compliance of Revised Emission Standards.

And

In the matter of:

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

Vs

1. Uttar Pradesh Power Corporation Limited,
Shakti Bhawan, 14, Ashok Marg, Lucknow-226 001

2. Tata Power Delhi Distribution Limited,
Grid Substation, Hudson Road, Kingsway Camp,
New Delhi-110 009

3. BSES Rajdhani Power Limited,
BSES Bhawan, Nehru Place, New Delhi-110 019

4. BSES Yamuna Power Limited,
Shakti Kiran Building, Karkardooma, Delhi-110 092 **…...Respondents**

Parties present:

Shri Venkatesh, Advocate, NTPC
Shri Nihal Bharadwaj, Advocate, NTPC
Shri Kunal Veer Chopra, Advocate, NTPC
Shri Buddy Ranganathan, Advocate, BYPL & BRPL

Shri Rahul Kinra, Advocate, BYPL & BRPL
Shri Aditya Ajay, Advocate, BYPL & BRPL
Shri Isnain Muzamil, Advocate, BYPL & BRPL
Ms. Shweta Chaudhary, Advocate, BRPL & BYPL
Ms. Jaya, Advocate, BYPL
Shri Anand Shrivastava, Advocate, TPDDL
Ms. Ishita Jain, Advocate, TPDDL
Shri Yash Sharma, Advocate, TPDDL

ORDER

The Petitioner, NTPC Limited, has filed this Petition for the determination of tariff on the installation of the various Emission Control Systems (ECS) at the National Capital Thermal Power Station (NCTPS), Dadri Stage-II (980 MW) (in short, "the generating station") in compliance with the Revised Emission Standards. Accordingly, the Petitioner has sought the following relief(s):

> *(i)* *Allow Petitioner to bill provisional supplementary tariff based on implementation of CM system and FGD system in the instant Petition till the supplementary tariff is finally determined and approved by the Hon'ble Commission.*
> *(ii)* *Allow the recovery of the cost of reagent consumption through supplementary energy charges from the date of commissioning and put to use of the ECS schemes till 31.3.2024*
> *(iii)* *Determine and approve the supplementary tariff of NCTPS Dadri Stage-II for the tariff period from the date of operationalisation of the ECS schemes till 31.3.2024.*
> *(iv)* *Grant liberty to approach Hon'ble Commission for undertaking implementation of remaining ECS.*
> *(v)* *Direct the beneficiaries of the instant station to not consider the supplementary energy charge for Merit Order Dispatch.*
> *(vi)* *Pass any other order as it may deem fit in the circumstances mentioned above.*

Background

2. On 7.12.2015, the Ministry of Environment, Forest and Climate Change, Government of India ("MoEFCC") notified the Environment (Protection) Amendment Rules, 2015 ("MoEFCC Notification") to mandatorily require all thermal power plants installed and to be installed, like the Petitioner's Projects, to comply with the revised norms as specified in the MoEFCC Notification as mentioned below:

Date of Installation	PM	SO_2	NO_x	Mercury (Hg)
Before 31-12 2003	100 mg/Nm^3	600 mg/Nm^3 for <500MW 200 mg/Nm^3 for >=500MW	600 mg/Nm^3	0.03 mg/Nm^3 for >=500MW
After 01-01-2004 & Upto 31-12-2016	50 mg/Nm^3	600 mg/Nm^3 for <500MW 200 mg/Nm^3 for >=500MW	300 mg/Nm^3	0.03 mg/Nm^3
On or after 01-01-2017	30 mg/Nm^3	100 mg/Nm^3	100 mg/Nm^3	0.03 mg/Nm^3

3. In compliance with the revised emission standards under the said Notification dated 7.12.2015, the Petitioner was required to install various Emission Control Systems (ECS) in the generating station. Accordingly, in-principle approval was sought by the Petitioner, vide affidavit dated 26.04.2017 in Petition No. 98/MP/2017 filed by the Petitioner, with regard to the issues related to the installation of ECS at the generating stations of the Petitioner. The said Petition was disposed of the by Commission vide Order dated 20.7.2018 as under:

> *"46. ……. In all these situations, additional capital expenditure on "change in law or compliance with any existing law" is allowed. Therefore, additional capital expenditure on implementation of the ECS in terms of Notification dated 7.12.2015 shall be admissible after due prudence check, under Regulation 14 of the 2014 Tariff Regulations."*

4. On 7.3.2019, the Commission issued the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (in short, "the 2019 Tariff Regulations"). Thereafter, on 25.8.2020, the 2019 Tariff Regulations were amended to specify the regulatory framework for the determination of the supplementary tariff for ECS, which was effective from 3.2.2021 (the date of publication in the gazette). Pursuant to this, the Petitioner filed Petition No. 499/MP/2020 seeking approval of the additional expenditure on installation of various ECS at the generating station, and the Commission vide order dated 17.11.2021approved the hard cost of Rs 49.40 lakh /MW towards the installation of WFGD and DSI based FGD system, in the generating

stations/units for reduction of SO_2 emission levels. Also, the Commission, in the said order, while approving the installation of Combustion Modification System (CM) in the generating station, was not inclined to approve the capital cost of the CM system at this stage. However, liberty was granted to the Petitioner to claim the same after installation in the petition to be filed under Regulation 29(4) of the 2019 Tariff Regulations. With regard to the Petitioner's claim for IDC, IEDC, FERV, taxes, and duties & other costs, the Commission, in the order dated 17.11.2021, observed as under:

> *"99. Besides the hard cost towards installation of WFGD, DSI based FGD system and De-NOx systems, the Petitioner has also claimed IDC, IEDC, FERV, taxes and duties and other costs. As the instant petitions are for "in-principle" approval of ACE towards installation of ECS to comply with the MoEFCC Notification, the Petitioner's claim for the same is not considered in this order and these claims would be considered on case to case basis on the petitions to be filed by the Petitioner for determination of tariff after implementation of ECS as provided under Regulation 29(4) of the 2019 Tariff Regulations."*

5. As regards the prayer of the Petitioner for additional APC, additional water consumption, additional O&M expenses, cost of reagents, Gross Station Heat Rate (GSHR), and to allow deemed availability on account of shutdown for installation of ECS, the Commission in the Order dated 17.11.2021 directed as under:

> *"102. The Petitioner has further prayed for additional APC, additional water consumption, additional O&M Expenses, cost of reagents, Gross Station Heat Rate (GSHR) and allow deemed availability on account of shutdown for installation of ECS under Regulation 76, i.e. Power to Relax of the 2019 Tariff Regulations. Some of the Respondents have raised their concerns on the said prayers of the Petitioner. The Petitioner in the case of TTPS has also prayed to not consider the supplementary variable charge for Merit Order Dispatch. As the instant petition is for "in-principle" approval of ACE towards installation of ECS, we do not deem fit to go into these prayers at this stage and we would consider them in petitions to be filed by the Petitioner under Regulation 29(4) of the 2019 Tariff Regulations after installation of ECS. However, we would like to point out that after filing of the instant petitions by the Petitioner and during the present proceedings, the Commission has introduced a separate tariff stream for ECS by amending the 2019 Tariff Regulations vide the 2020 Amendment Regulations. Accordingly, the Petitioner's prayer for additional APC, additional water consumption and additional O&M Expenses will be considered as per Regulation 49(E)(f), Regulation 35(1)(6) and Regulation 35(1)(7) of the amended 2019 Tariff Regulations respectively. The Petitioner's prayer for allowing cost of reagents, GSHR and deemed availability on account of shutdown will be dealt on a case to case basis on a petition under Regulation 29(4) of the 2019 Tariff Regulations."*

6. Accordingly, the Petitioner has filed the present petition in terms of the 2019 Tariff Regulations read with the first amendment to the said Regulations, claiming the following capital cost and annual fixed charges:

Capital Cost claimed

(Rs. in lakh)

	2019-20		2020-21	2021-22	2022-23		2023-24	
	(6.4.2019 to 5.10.2019)	(6.10.2019 to 31.3.2020)			(1.4.2022 to 14.6.2022)	(15.6.2022 to 31.3.2023)	(1.4.2023 to 7.2.2024)	(8.2.2024 to 31.3.2024)
Opening capital cost	0.00	1407.26	1463.07	1463.07	1463.07	42795.96	47507.19	63283.97
Add: Addition during the year/ period	0.00	0.00	0.00	0.00	0.00	219.42	132.39	0.00
Less: De-capitalisation during the year/ period	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Less: Reversal during the year/ period	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year/ period	761.68	55.81	0.00	0.00	52.58	4,491.81	5736.86	8.17
Closing capital cost	761.68	1463.07	1463.07	1463.07	1515.65	47507.19	53376.44	63292.14

Annual Fixed Charges claimed

(Rs. in lakh)

	2019-20		2020-21	2021-22	2022-23		2023-24	
	(6.4.2019 to 5.10.2019)	(6.10.2019 to 31.3.2020)			(1.4.2022 to 14.6.2022)	(15.6.2022 to 31.3.2023)	(1.4.2023 to 7.2.2024)	(8.2.2024 to 31.3.2024)
Depreciation	20.11	75.78	77.25	77.25	78.64	2216.49	2476.18	3142.08
Interest on Loan	20.21	68.80	51.24	42.91	42.12	1643.60	1809.33	2246.19
Return on Equity	16.68	62.86	64.09	64.09	65.24	1723.39	1925.31	2760.72
Interest on Working Capital	1.62	4.64	4.17	3.83	3.90	155.50	191.47	275.52
O&M Expenses	15.23	30.47	31.53	32.64	33.78	1007.26	1042.51	1231.43
Total	**73.85**	**242.55**	**228.28**	**220.71**	**223.68**	**6746.24**	**7444.80**	**9655.93**

Hearing dated 16.2.2023

7. The Petition was listed for hearing on 16.2.2023, and the Commission, after directing the Petitioner to file certain additional information, and the parties to complete their pleadings. In response, the Petitioner has filed the additional information vide affidavit dated 24.4.2023, after serving a copy to the Respondents. While the Respondent BSES Discoms have filed their reply vide affidavit dated 26.5.2023, the Respondent TPDDL has filed its reply vide affidavit dated 29.6.2023.

Hearing dated 30.6.2023

8. During the hearing on 30.6.2023, the learned counsel for the Petitioner and the learned counsel for the Respondent BSES Discoms made detailed oral submissions in the matter. However, the Commission, after directing the Petitioner to file certain additional information and the parties to file their responses, adjourned the hearing of the matter. In response, the Petitioner, vide affidavit dated 19.9.2023, has filed the additional submissions after serving a copy on the Respondents.

Hearing dated 8.11.2023

9. The Commission, due to the non-availability of the arguing counsel, adjourned the matter, after directing the Petitioner to file certain additional information and for the parties to complete their pleadings. In response, the Petitioner vide affidavit dated 7.3.2024 has filed the additional submissions after serving a copy on the Respondents.

Hearing dated 29.4.2024

10. During the hearing on 29.4.2024, the learned counsel for the Petitioner submitted that it had filed an amended petition based on the actual commissioning of FGD of the Units on 15.6.2022 and 8.2.2024, respectively. He also prayed that the Petitioner may be permitted to revise and file a few tariff filing forms, after serving a copy on the

Respondents. The Commission, while permitting the Petitioner to amend the petition as such, directed the Petitioner to file certain additional information and the parties to complete their pleadings. Subject to this, and based on the consent of the parties, the order in the petition was reserved. In response, the Petitioner vide affidavit dated 24.5.2024 has filed the additional information, including the revision of the tariff filing forms. Respondent TPDDL has filed its reply to the said additional information on 11.6.2024, and the Petitioner has filed its rejoinder the same on 26.4.2024.

<u>Hearing dated 8.8.2024</u>

11. Since the order in the Petition could not be issued prior to one Member of this Commission, who formed part of the Coram, demitting office, the matter has been re-listed for hearing on 8.8.2024. At the outset, the learned counsels for the Petitioner, the Respondent TPDDL, and Respondent BSES Discoms submitted that since the pleadings and arguments have been completed, the Commission may reserve its order in the petition. The Commission, after permitting the parties to file their short note of arguments, reserved its order in the petition. In compliance with the above, the Petitioner and the Respondents have filed their short-written notes of arguments.

12. Based on the submissions and the documents on record, we proceed to examine the prayer(s) of the Petitioner in the petition, as stated in the subsequent paragraphs.

13. The dates of commercial operation (COD) of the units of the generating station and the dates of operation (ODe) of the FGD and CM are as under:

	COD of units of generating station	Date of Operation	
		FGD	CM
Unit-5	1.1.2010	15.6.2022	6.4.2019
Unit-6	30.7.2010	8.2.2024	6.10.2019

Time Overrun

14. The scheduled date of commissioning, as per the investment approval and the actual date of commissioning of the FGD, are as under:

	Scheduled ODe	Actual ODe	Delay (in Months)
Unit-5 (FGD)	30.9.2019	15.6.2022	33
Unit-6 (FGD)	1.1.2020	8.2.2024	49

Reasons for Time overrun

15. The Petitioner in the Petition, vide affidavit dated 19.9.2023, has mainly submitted as under:

(i) The Petition is based on the actual capital expenditure of Rs. 15.23 crores as on the ODe of CM systems in both the units and estimated capital cost of Rs. 614.92 crores as on the anticipated ODe of Unit-2 of FGD (31.7.2023). Considering the top most priority for implementation of new environment norms in the generating station, the Petitioner had adopted limited tendering in place of open tendering for the FGD package to save tendering time.

(ii) The investment approval for the FGD package was granted in the 456th meeting of the board of directors held on 31.1.2018, and the package was awarded to M/s BHEL vide LOI dated 1.2.2018 with a work schedule of 22 months. The package was awarded, and the site was mobilised in March 2018. Due to a lack of technical know-how in the country with respect to FGD systems, the piling works scheduled to be started by March 2018 were started by July 2018.

(iii) Based on the NGT order, all civil works in the NCR region were stopped in November 2018 by EPCA. this halt in work affected the progress for more than two months as daily labourers hired by contractors opted for other work in the nearby areas, and it took more than 6-8 weeks for the remobilisation of resources and manpower for the execution of the FGD work.

(iv) There was again an EPCA ban on construction works from 1.11.2019 to 10.12.2019 (40 days) and a night work ban from 11.12.2019 to 15.2.2020 (67 nights) due to pollution concerns in NCR, which caused a delay of 6 months due to logistics after each ban-period. Further, the three waves of the Covid pandemic had a devastating effect on the work progress at the Petitioner's site. Also, during the Covid period, international travel was banned for a long time, which resulted in the non-availability of OEM experts at the site for the erection and commissioning of critical equipment/systems. The total impact of COVID-19 on the FGD system is estimated to be around 27 months.

(v) The multiple events/activities/orders issued by the GOI, state governments, including the Government of UP and various other authorities pertaining to the Covid-19 pandemic from 24 .3.2020 to 22.3.2022 have impacted FGD project progress/performance with lockdowns, travel restrictions, and labour shortages impacting all industrial activities. Technical challenges, a limited vendor base, and the novelty of the technology added to the complexity, causing additional delays. These events substantially prevented the suppliers and associated agencies from performing their contractual obligations at all places, including the site, officers, and manufacturing works of BHEL and its suppliers/subcontractors abroad from December 2019, and such hindrance from discharging their contractual obligations continued in phases till the completion of the project.

(vi) The ongoing Russia-Ukraine war disrupted global supply chains, delaying the delivery of critical materials. Protests by local farmers from November 2022 to February 2023 and the scarcity of skilled manpower also hindered progress. The Central Electricity Authority (CEA) acknowledged the challenges due to the pandemic, recommending a longer completion time.

Submissions of the Respondents

16. The Respondent UPPCL, vide its reply dated 14.2.2023, has submitted that the commissioning time of more than 22 months from the date of award of the start of work on FGD may not be allowed and the excess IDC and IEDC be reduced from the claim. The Respondents BSES Discoms, vide their common reply dated 26.5.2023, have submitted that additional costs incurred by the Petitioner on account of delay should not be passed on to the Respondents and its consumers, more so, in the absence of any explanation for the delay. The Respondent TPDDL, vide its reply affidavit dated 29.6.2023, has submitted that in terms of Regulation 22(1)(b) of the 2019 Tariff Regulations, the delay in execution of the project on account of contractor or supplier or agency of the generating company is a controllable factor. Referring to Regulation 21 of the 2019 Tariff Regulations, which provides that a detailed justification along with supporting documents are required to be submitted in case of additional cost incurred on account of delay in the completion of work, the Respondent has submitted that since the Petitioner has not filed any documents in support of IDC and IEDC and in view of the statutory provisions, the cost claimed in the present Petition cannot be allowed.

Cost Overrun

17. Though the Petitioner has submitted that there is no cost overrun due to the delay in the implementation of the FGD package, it has thereafter furnished the details of cost overrun in Form-B for both FGD and CM installation, as under:

(Rs. in lakh)

	As per the I.A.	**Actual cost**	**Cost Overrun**
FGD			
Plant & Machinery, and Civil Works	57966	58119.61	153.61
IDC, FC, IEDC, FERV & Hedging cost	* 4791.0	5089.25	298.25
Combustion Modification			
Plant & Machinery, and initial spares	1707.58	1527.40	(-) 180.18
IDC, FC, IEDC, FERV & Hedging Cost	55.13#	0.00	(-) 55.13
Total ECS System (FGD + CM)	**64519.71**	**64736.26**	**216.55**

** including contingency of Rs.17.39 crore towards FGD   # Rs.0.26 crore towards CM*

Analysis and Decision

18. It is noticed from the submissions of the Petitioner that the delay is on account of a combination of various factors (as stated in para 9 above), including the rising labour and material costs, leading to an overall cost overrun of Rs. 2.17 crore in the installation of FGD and CM technologies. Though the Petitioner has furnished the reasons for the delay in achieving the ODe of Unit-1 of FGD and for the anticipated ODe of Unit-2 of FGD (15.11.2022), in the main petition, it has, vide its affidavit dated 8.4.2024, amended the petition based on the actual ODe of Unit-2. Though the anticipated ODe of Unit-2, which was 15.11.2022, was revised to 31.7.2023, we note that the actual ODe of Unit-2 was achieved on 8.2.2024. However, the Petitioner has not submitted the updated reasons for the delay in achieving the actual ODe of Unit-2 of FGD in the amended petition. It is also noticed that the Petitioner has not submitted the relevant tariff forms pertaining to cost and time overrun in Form-F and Form-G, respectively. According to us, in order to examine the issues related to FGD installation and to confirm whether these reasons for delay were beyond the control of the Petitioner, the complete details

of the time overrun with regard to the ODe of Units-1 and 2 of the FGD system, are required to be furnished with adequate supporting documents for scrutiny and consideration. As such, the time overrun is not being analysed in the instant order. The Petitioner is, therefore, directed to furnish the same at the time of truing-up of tariff. Be that as it may, we note that this generating station has been designated as Category-A and has to meet the MOEFCC compliance for its SOx emissions by December 2024. Thus, considering the fact that the installation of ECS at existing generating stations is in order to comply with the new stringent environmental norms is necessary so that power could be made available to the beneficiaries on a sustained basis, meeting all statutory requirements and in order to avoid cash flow problems, we are inclined to allow the provisional supplementary tariff on implementation of CM system and FGD system in the generating station, based on the capital cost as approved in the Investment Approval. The same is subject to adjustment after truing up of tariff in terms of the 2019 Tariff Regulations. We direct accordingly. The Petitioner is also directed to furnish the details of liquidated damages recovered from the contractors for the delay in completing the work and cost overrun in the prescribed formats as per forms (Form-F and Form-G) of the 2019 Tariff Regulations.

Capital cost as on ODe of ECS

19. The Petitioner has claimed the following capital cost (as per Form-1(I)) as on the ODe of the ECS system:

(Rs. in lakh)

	6.4.2019	6.10.2019	15.6.2022	8.2.2024
Capital Cost as on ODe	0.00	1407.26	41184.72	60316.96
Un-Amortized Finance charges	0.00	0.00	146.91	186.17
Notional IDC	0.00	0.00	128.64	499.76
Loan ERV charged to P&L	0.00	0.00	1335.70	2117.25
IDC charged to P&L	0.00	0.00	0.00	69.63
IEDC charged to P&L	0.00	0.00	0.00	94.20
Opening Capital Cost as on ODe	**0.00**	**1407.26**	**42795.96**	**63283.97**

20. It is noticed that the capital cost of Rs 632.83 crore (cash basis) claimed by the Petitioner for the ECS system of the generating station, as on 31.3.2024, is within the approved capital cost of Rs. 645.19 crores (including the hard cost of Rs. 596.74 crores) as per the I.A. However, the claimed capital cost of Rs. 41184.72 lakhs (on a cash basis) as on 15.6.2022 as per Form-1(I) (i.e., ODe of FGD for Unit-1) is at variance with the arrived cash capital cost of Rs.41188.75 lakh (Rs.52455.99 lakhs *minus* Rs.12786.92 lakhs, pertaining to FGD *plus* Rs.1527.40 lakhs *minus* Rs.7.72 lakhs, pertaining to CM), considering the details of the capitalisation and the un-discharged liabilities as submitted in Form-B and Form-S. Though the I.A. includes the provision towards contingency, the same has not been reflected in Form-B. Accordingly, for the present, the capital cost (including all its components viz IDC, IEDC, FC & FERV etc.) as claimed as on the respective ODe of the ECS system is allowed. The Petitioner is, however, directed to furnish the (i) Auditor-certified statement showing the reconciliation of capital cost claimed as on ODe of ECS as well as the additional capital expenditure claimed thereafter; (ii) Detailed clarification regarding the expenditure towards contingencies, as on the ODe of ECS system, included in I.A. approved cost; (iii) Detailed workings in respect of IDC, FC and FERV calculations, as on the respective ODe of ECS system; The Petitioner is also directed to submit the complete details of the scheme of the ECS system along with the major components capitalized as per Form-9A of the 2019 Tariff Regulations along with the details of the old items de-capitalized as per Form-9B(i) of the 2019 Tariff Regulations.

Additional Capital Expenditure

21. Regulation 29 of the 2019 Tariff Regulations provides for the additional capitalization related to compliance with the ECS as under:

"29. Additional Capitalization on account of Revised Emission Standards: (1) A generating company requiring to incur additional capital expenditure in the existing generating station for compliance of the revised emissions standards shall share its proposal with the beneficiaries and file a petition for undertaking such additional capitalization.

(2) The proposal under clause (1) above shall contain details of proposed technology as specified by the Central Electricity Authority, scope of the work, phasing of expenditure, schedule of completion, estimated completion cost including foreign exchange component, if any, detailed computation of indicative impact on tariff to the beneficiaries, and any other information considered to be relevant by the generating company.

(3) Where the generating company makes an application for approval of additional capital expenditure on account of implementation of revised emission standards, the Commission may grant approval after due consideration of the reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission.

(4) After completion of the implementation of revised emission standards, the generating company shall file a petition for determination of tariff. Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on reasonableness of the cost and impact on operational parameters shall form the basis of determination of tariff.

(5) *Un-discharged liability, if any, on account of emission control system shall be allowed as additional capital expenditure during the year it is discharged, subject to prudence check."*

22. The Petitioner has claimed the following additional capital expenditure under Regulation 24(1)(b) and Regulation 29(5) of the 2019 Tariff Regulations:

(Rs. in lakh)

PARTICULARS	2019-20 (06.04.2019 TO 05.10.2019)	2019-20 (06.10.2019 TO 31.03.2020)	2020-21	2021-22	2022-23 (01.04.2022 TO 14.06.2022)	2022-23 (15.06.2022 TO 31.03.2023)	2023-24 (01.04.2023 TO 07.02.2024)	2023-24 (08.02.2024 TO 31.03.2024)
Wet FGD System	-	-	-	-	-	219.42	128.36	-
Combustion Modification System	-	-	-	-	-	-	4.03	-
Total Add Cap	-	-	-	-	-	219.42	132.39	-
Discharge of Liabilities	761.68	55.81		-	52.58	4,491.81	5,736.86	8.17
Total Add Cap Claimed	761.68	55.81	-	-	52.58	4711.23	5869.25	8.17

23. We now examine the additional capital expenditure claims of the Petitioner as under:

Wet Limestone FGD System

24. The Petitioner has claimed the additional capital expenditure of Rs. 347.78 lakh (Rs. 219.42 lakh in 2022-23 and Rs. 128.36 lakh in 2023-24 (from 1.4.2022 to ODe of Unit-2 COD) under Regulation 24(1)(b) of the 2019 Tariff Regulations for the FGD system installed in the generating station. In justification for the same, the Petitioner has submitted that the work/asset claimed to form part of the FGD system is within the original scope of work and up to the cut-off date. The matter has been examined. It is noticed that the Petitioner has claimed the additional capital expenditure under Regulation 24(1)(b) of the 2019 Tariff Regulations. However, the provisions of Regulation 29 are only applicable for the purpose of additional capital expenditure in the present case. Moreover, the claim of the Petitioner is for the period between the ODe of Unit-1 (i.e.,15.6.2022) and till the ODe of Unit-2 (i.e., 8.2.2024), but from the submissions of the Petitioner, it is not clear as to whether the claim relates to Unit-1 or Unit-2. In view of this, the claim of the Petitioner has not been considered in this order. However, the Petitioner is at liberty to claim the additional capital expenditure along with the break-up details and clearly indicate the same in relation to Units-1 and 2 at the time of the truing-up of the tariff.

Combustion Modification(CM)

25. The Petitioner has claimed the additional capital expenditure of Rs.4.03 lakh under Regulation 24(1)(b) of the 2019 Tariff Regulations towards the CM system installed in the generating station. In justification for the same, the Petitioner has submitted that the work/ asset claimed form part of the CM system, which is within the original scope of work. In view of this, the claim of the Petitioner is allowed under Regulation 29(4) of the

2019 Tariff Regulations. However, the Petitioner is directed to submit the break-up details of the additional capital expenditure claimed at the time of the truing-up of the tariff.

Discharge of Liabilities

26. The Petitioner has claimed a total discharge of liabilities of Rs.11106.91 lakh under Regulation 24(1)(a) and Regulation 29(5) of the 2019 Tariff Regulations, with the period-wise breakup as under:

(Rs. in lakh)

	2019-20		**2020-21**	**2021-22**	**2022-23**		**2023-24**	
	(6.4.2019 to 5.10.2019)	**(6.10.2019 to 31.3.2020)**			**(1.4.2022 to 14.6.2022)**	**(15.6.2022 to 31.3.2023)**	**(1.4.2023 to 7.2.2024)**	**(8.2.2024 to 31.3.2024)**
Add: Discharges during the year/ period	761.68	55.81	0.00	0.00	52.58	4491.81	5736.86	8.17

27. The discharge of liabilities claimed as above is allowed.

28. Based on the above, the total additional capital expenditure allowed for the purpose of the supplementary tariff is as under:

(Rs. in lakh)

	2019-20		**2020-21**	**2021-22**	**2022-23**		**2023-24**	
	(6.4.2019 to 5.10.2019)	**(6.10.2019 to 31.3.2020)**			**(1.4.2022 to 14.6.2022)**	**(15.6.2022 to 31.3.2023)**	**(1.4.2023 to 7.2.2024)**	**(8.2.2024 to 31.3.2024)**
Additional capital expenditure allowed	0.00	0.00	0.00	0.00	0.00	0.00	4.03	0.00
Add: Discharges allowed	761.68	55.81	0.00	0.00	52.58	4491.81	5736.86	8.17
Net additional capital expenditure allowed	**761.68**	**55.81**	**0.00**	**0.00**	**52.58**	**4491.81**	**5740.89**	**8.17**

Capital Cost for the purpose of supplementary tariff

29. Accordingly, the capital cost allowed for the purpose of the supplementary tariff is as under:

(Rs. in lakh)

	2019-20		2020-21	2021-22	2022-23		2023-24	
	(6.4.2019 to 5.10.2019)	(6.10.2019 to 31.3.2020)			(1.4.2022 to 14.6.2022)	(15.6.2022 to 31.3.2023)	(1.4.2023 to 7.2.2024)	(8.2.2024 to 31.3.2024)
Opening capital cost	0.00	1407.26	1463.07	1463.07	1463.07	42795.96	47287.77	63283.97
Net additional capital expenditure allowed	761.68	55.81	0.00	0.00	52.58	4491.81	5740.89	8.17
Closing capital cost	**761.68**	**1463.07**	**1463.07**	**1463.07**	**1515.65**	**47287.77**	**53028.66**	**63292.14**
Average capital cost	380.84	1435.17	1463.07	1463.07	1489.36	45041.87	50158.22	63288.06

Debt-Equity Ratio

30. Regulation 18 of the 2019 Tariff Regulations provides as under:

"18. Debt-Equity Ratio: (1) For a new project, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:
Provided that:
i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.
Explanation.-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.
(2)The generating company or the transmission licensee, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.
(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered:
Provided that in case of generating station or a transmission system including communication system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, equity in excess of 30% shall not be taken into account for tariff computation;
Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.

(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.
(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.
(6) Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation."

31. The Petitioner has claimed tariff considering the debt-equity ratio of 70:30 as on the ODe of ECS, as well as for the purpose of additional capital expenditure and the same has been considered.

Return on Equity

32. Regulation 30 of the 2019 Tariff Regulations provides as under:

"30. Return on Equity:
(1) Return on equity shall be computed in rupee terms on the equity base determined in accordance with Regulation 18 of these regulations.
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations transmission system including communication system and run of river hydro generating station and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:
Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope, excluding additional capitalization on account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%.
Provided further that:
(i) In case of a new project the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO) data telemetry communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;
(ii) in case of existing generating station as and when any of the requirements under
(i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;
(iii) in case of a thermal generating station with effect from 1.4.2020:

(a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;
(b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute subject to ceiling of additional rate of return on equity of 1.00%:
Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.
(3) The return on equity in respect of additional capitalization on account of emission control system shall be computed at the base rate of one year marginal cost of lending rate (MCLR) of the State Bank of India as on 1st April of the year in which the date of operation (ODe) occurs plus 350 basis point, subject to ceiling of 14%."

33. Regulation 31 of the 2019 Tariff Regulations provides as under:

"31. Tax on Return on Equity:
(1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee as the case may be. The actual tax paid on income from other businesses including deferred tax liability (i.e. income from business other than business of generation or transmission as the case may be) shall be excluded for the calculation of effective tax rate.
(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:
Rate of pre-tax return on equity = Base rate / (1-t)
Where "t" is the effective tax rate in accordance with Clause (1) of this Regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business as the case may be and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT) "t" shall be considered as MAT rate including surcharge and cess.
Illustration-
(i) In case of the generating company or the transmission licensee paying Minimum Alternate
Tax (MAT) @ 21.55% including surcharge and cess:
Rate of return on equity = 15.50/(1-0.2155) = 19.758%
(ii) In case of a generating company or the transmission licensee paying normal corporate tax including surcharge and cess:
(a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs
1000 crore;
(b) Estimated Advance Tax for the year on above is Rs 240 crore;
(c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore/Rs 1000 Crore = 24%;
(d) Rate of return on equity = 15.50/ (1-0.24) = 20.395%.
(2) The generating company or the transmission licensee as the case may be shall true up the grossed-up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 on actual gross income of any financial year. However, penalty if any arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under-recovery or over-recovery of grossed up rate on return

on equity after truing up shall be recovered or refunded to beneficiaries or the long-term transmission customers as the case may be on year to year basis."

34. The Petitioner has claimed tariff, considering the rate of Return on Equity (ROE) of 14.601% for the period from 6.4.2019 to 14.6.2022, 12.723% for the period from 15.6.2022 to 7.2.2024 and 14.541% for the period from 8.2.2024 to 31.3.2024. The same is in order and is allowed for the purpose of tariff. Accordingly, ROE has been worked out as under:

(Rs. in lakh)

	2019-20		**2020-21**	**2021-22**	**2022-23**		**2023-24**	
	(6.4.2019 to 5.10.2019)	**(6.10.2019 to 31.3.2020)**			**(1.4.2022 to 14.6.2022)**	**(15.6.2022 to 31.3.2023)**	**(1.4.2023 to 7.2.2024)**	**(8.2.2024 to 31.3.2024)**
Normative Equity-Opening (A)	0.00	422.18	438.92	438.92	438.92	12838.79	14186.33	18985.19
Addition of Equity due to additional capital expenditure (B)	228.50	16.74	0.00	0.00	15.77	1347.54	1722.27	2.45
Normative Equity-Closing [C = (A+B)]	228.50	438.92	438.92	438.92	454.70	14186.33	15908.60	18987.64
Average Normative Equity [D = (A+C)/2]	114.25	430.55	438.92	438.92	446.81	13512.56	15047.46	18986.42
Return on Equity (Base Rate) (E)	12.050%	12.050%	12.050%	12.050%	12.050%	10.500%	10.500%	12.000%
Effective Tax Rate for the year (F)	17.472%	17.472%	17.472%	17.472%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity (Pre-Tax) [G = E/(1-F)]	14.601%	14.601%	14.601%	14.601%	14.601%	12.723%	12.723%	14.541%
Return on Equity (Pre-Tax) (H = D x G) *(annualized)*	**16.68**	**62.86**	**64.09**	**64.09**	**65.24**	**1719.20**	**1914.49**	**2760.81**
Return on Equity (Pre-Tax) *(pro-rata)*	**8.34**	**30.57**	**64.09**	**64.09**	**13.41**	**1365.94**	**1637.25**	**399.79**

Interest on Loan

35. Regulation 32 of the 2019 Tariff Regulations provides as under:

"32. Interest on loan capital: (1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.
(2) The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.
(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalization of such asset.
(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.
(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:
Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:
Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.
(5a) The rate of interest on loan for installation of emission control system shall be the weighted average rate of interest of actual loan portfolio of the emission control system or in the absence of actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered.
(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.
(7) The changes to the terms and conditions of the loan shall be reflected from the date of such re-financing."

36. Interest on loan has been worked out as under:

(a) Gross normative loan equivalent to 70% of the capital cost allowed as on respective ODe's of ECS has been considered.

(b) Addition to normative loan on account of additional capital expenditure approved above has been considered.

(c) Depreciation allowed has been considered as repayment of normative loan during the respective year of the period 2019-24.

(d) The weighted average rate of interest as claimed by the Petitioner has been considered for the purpose of tariff.

37. Necessary calculations for interest on loan are as under:

(Rs. in lakh)

	2019-20		2020-21	2021-22	2022-23		2023-24	
	(6.4.2019 to 5.10.2019)	(6.10.2019 to 31.3.2020)			(1.4.2022 to 14.6.2022)	(15.6.2022 to 31.3.2023)	(1.4.2023 to 7.2.2024)	(8.2.2024 to 31.3.2024)
Gross opening loan (A)	0.00	985.08	1024.15	1024.15	1024.15	29957.17	33101.44	44298.78
Cumulative repayment of loan upto previous year (B)	0.00	6.86	31.98	84.65	137.32	148.34	1436.66	2980.88
Net Loan Opening (C = A - B)	0.00	978.23	992.17	939.50	886.83	29808.83	31664.78	41317.90
Addition due to additional capital expenditure (D)	533.18	39.07	0.00	0.00	36.81	3144.27	4018.62	5.72
Repayment of loan during the year (E)	6.86	25.13	52.67	52.67	11.02	1288.32	1544.22	329.93
Net Loan Closing (F = C + D - E)	526.32	992.17	939.50	886.83	912.61	31664.78	34139.19	40993.69
Average Loan [G = (C+F)/2]	263.16	985.20	965.83	913.16	899.72	30736.80	32901.98	41155.80
WAROI (H)	7.727%	7.048%	5.459%	4.982%	5.056%	5.387%	5.607%	5.619%
Interest on Loan (I = G x H) (*annualised*)	**20.33**	**69.44**	**52.72**	**45.49**	**45.49**	**1655.79**	**1844.81**	**2312.54**
Interest on Loan (pro-rata)	**10.17**	**33.77**	**52.72**	**45.49**	**9.35**	**1315.56**	**1577.67**	**334.88**

Depreciation

38. Regulation 33 of the 2019 Tariff Regulations provides as under:

"33. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units:
Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple

elements of a transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:
Provided that the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

Provided further that in case of hydro generating stations, the salvage value shall be as provided in the agreement, if any, signed by the developers with the State Government for development of the generating station:

Provided also that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:

Provided also that any depreciation disallowed on account of lower availability of the generating station or unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life or the extended life.

(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-I to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2019 from the gross depreciable value of the assets.

(7) The generating company or the transmission licensee, as the case may be, shall submit the details of proposed capital expenditure five years before the completion of useful life of the project along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure.

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services.

9) Where the emission control system is implemented within the original scope of the generating station and the date of commercial operation of the generating station or unit thereof and the date of operation of the emission control system are the same, depreciation of the generating station or unit thereof including the emission control system shall be computed in accordance with Clauses (1) to (8) of this Regulation.

(10) Depreciation of the emission control system of an existing or a new generating station or unit thereof where the date of operation of the emission control system is subsequent to the date of commercial operation of the generating station or unit thereof, shall be computed annually from the date of operation of such emission control system

based on straight line method, with salvage value of 10%, over a period of — a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit thereof has completed its useful life."

39. The Petitioner has claimed the tariff considering the Weighted Average Rate of Depreciation (WAROD) of 5.28% for the period from 6.4.2019 to 14.6.2022, 4.91% for the period from 15.6.2022 to 7.2.2024 and 4.96% for the period from 8.2.2024 to 31.3.2024. The COD of the generating station is 30.7.2010, which is within 15 years from the ODe of the respective ECS. Accordingly, depreciation has been calculated considering the WAROD of 3.60% (calculated using the Straight-Line Method (SLM) with a salvage value of 10% over a life of 25 years). Accordingly, depreciation has been computed as under:

(Rs. in lakh)

	2019-20		**2020-21**	**2021-22**	**2022-23**		**2023-24**	
	(6.4.2019 to 5.10.2019)	**(6.10.2019 to 31.3.2020)**			**(1.4.2022 to 14.6.2022)**	**(15.6.2022 to 31.3.2023)**	**(1.4.2023 to 7.2.2024)**	**(8.2.2024 to 31.3.2024)**
Average capital cost (A)	380.84	1435.17	1463.07	1463.07	1489.36	45041.87	50158.22	63288.06
Depreciable Value (B = A x 90%)	342.76	1291.65	1316.76	1316.76	1340.42	40537.68	45142.39	56959.25
Remaining depreciable value at the beginning of the year (C = B - 'G' of previous year / period)	342.76	1284.79	1284.78	1232.11	1203.10	40389.34	43705.73	53978.37
WAROD (D)	3.60%	3.60%	3.60%	3.60%	3.60%	3.60%	3.60%	3.60%
Depreciation during the year (E = A x D) *(annualised)*	**13.71**	**51.67**	**52.67**	**52.67**	**53.62**	**1621.51**	**1805.70**	**2278.37**
Depreciation during the year (F) *(pro-rata)*	**6.86**	**25.13**	**52.67**	**52.67**	**11.02**	**1288.32**	**1544.22**	**329.93**

Cumulative depreciation at the end of the year (G = F + 'G' of previous year / period)	6.86	31.98	84.65	137.32	148.34	1436.66	2980.88	3310.80

O&M Expenses

40. Regulation 35(7) of the 2019 Tariff Regulations provides for O&M expenses for ECS system as under:

> *"The operation and maintenance expenses on account of emission control system in coal or lignite based thermal generating station shall be 2% of the admitted capital expenditure (excluding IDC and IEDC) as on its date of operation, which shall be escalated annually @3.5% during the tariff period ending on 31st March 2024:*
>
> *Provided that income generated from sale of gypsum or other by-products shall be reduced from the operation and maintenance expenses."*

41. Based on the above, the Petitioner has claimed the following O&M expenses:

Particulars	2019-20 (06.04.2019 to 05.10.2019)	2019-20 (06.10.2019 to 31.03.2020)	2020-21	2021-22	2022-23 (01.04.2022 to 14.06.2022)	2022-23 (15.06.2022 to 31.03.2023)	2023-24 (01.04.2023 to 07.02.2024)	2023-24 (08.02.2024-31.03.2024)
O&M expenses under Reg.35(1)(7)								
Normative O&M expenses- ECS	15.23	30.47	31.53	32.64	33.78	1007.26	1042.51	1231.43
O&M expenses under Reg.35(6)								
Water Charges	-	-	-	-	-	-	-	-
Secutiry Expenses	-	-	-	-	-	-	-	-
Capital Spares	-	-	-	-	-	-	-	-
Total O&M Expenses	15.23	30.47	31.53	32.64	33.78	1007.26	1042.51	1231.43

42. We have examined the claim. The O&M expenses claimed are in line with Regulation 35(7) of the 2019 Tariff Regulations. It is observed that the Petitioner has claimed the O&M expenses for both the CM system and the FGD system. However, no justification or details of the works covered under the CM system, necessitating the additional O&M expenses have been furnished. It appears that only some modifications

were made to the existing burner. Since no proper justification has been furnished for the O&M expenses claimed for the CM system, we allow the O&M expenses for the FGD system only, in this order. The Petitioner is, however, directed to furnish the complete component-wise details of the CM system at the time of truing-up of tariff.

43. As per the proviso to Regulation 35(7) of the 2019 Tariff Regulations, the income generated from the sale of gypsum and other by-products shall be reduced from the O&M expenses. The Petitioner, vide affidavit dated 19.9.2023, has submitted the following details regarding the consumption of limestone, gypsum production, and revenue from the sale of gypsum from the generating station:

S. No.	Month	FGD Availability (%)	Limestone Consumption (MT)	Gypsum Production (MT)	Gypsum Revenue (Rs)
1	June'22	100	1151	1740	6104101.25
4	August'22	100	1368	2085	3791432.45
5	September'22	99.23	2341	3572	5138641.95
6	October'22	98.54	2081	3153	4159799.15
7	November'22	96.73	2479	3792	9653556.25
8	December'22	99.18	2470	3747	5865030.8
9	January'23	99.56	2713	4098	9890319.8
10	February'23	100	2356	3585	5102387.9
11	March'23	100	2656	3999	8308424.45
12	April'23	98.44	2256	3391	4786300.75
13	May'23	100	1532	2309	4876059.85
14	June'23	97.87	1968	3011	4790914.65
15	July'23	100	1230	1897	4838592.85
				Total (*Rs. in lakh*)	**773.055621**

44. The revenue earned from gypsum in 2022-23 was Rs. 580.14 lakh (from June 2022 to March 2023), while in 2023-24, the revenue earned was Rs.192.92 lak**h** (for the period of April 2023 to July 2023). It is also noticed that the Petitioner has claimed the O&M expenses based on the ODe of FGD, considering the escalated O&M expenses from the previous period (i.e., the ODe of 1st FGD) and the net cost as on ODe of the 2nd FGD. This has been considered. Further, the O&M expenses have been calculated after adjusting the revenue from the sale of gypsum (on a pro-rata basis during 2023-

24) as submitted by the Petitioner. Accordingly, the following O&M expenses are allowed for the FGD system:

(Rs. in lakh)

	2022-23 (15.6.2022 to 31.3.2023)	2023-24 (1.4.2023 to 7.2.2024)	2023-24 (8.2.2024 to 31.3.2024)
Capital cost as on ODe of FGD excluding IDC and IEDC (a)	37294.17		17933.54
Normative O&M expenses as per Regulation 35(7) of the 2019 Tariff Regulations, i.e., 2% of above (b)	745.88	771.9858	1130.656
Revenue from the sale of gypsum (pro rata basis during 2023-24) (c)*	580.14	164.98	27.94
Annualized O&M expenses allowed (d)=(b)-(c)	165.74	607.01	1102.72
O&M expenses allowed *(pro-rata)*	131.68	519.11	159.68

**The revenue of Rs.192.92 lakh from the sale of gysum during 2023-24 (April-24 to June-24) is being adjusted for the period on a prorate basis for 1st FGD (Rs. 164.98 lakh) and for both FGD (Rs. 27.94 lakh).*

45. The above O&M expenses allowed are subject to truing-up, based on the finalization of capital cost as of the ODe of FGD system and adjustment of the actual revenue from the sale of Gypsum during the entire period of operation of FGD system. It is noted from the Petitioner's submission that the rate of sale of gypsum varies in the range from Rs.1319.09 per MT to Rs. 3508.05 per MT. The Petitioner is, therefore, directed to furnish the (i) basis on which the rate of sale of gypsum has arrived (ii) the reasons for the variation in the ratio of the production of gypsum to the consumption of limestone, (iii) income generated from the sale of gypsum for the entire period of operation of the FGD system, duly certified by an auditor, at the time of truing-up of tariff. The O&M expenses allowed for the FGD system, as above, shall be used for the calculation of IWC.

Operational Norms

46. The operational norms with respect to ECS (FGD), i.e., normative annual plant availability factor, gross station heat rate, specific limestone consumption, and auxiliary power consumption, are discussed below:

Normative Annual Plant Availability Factor (NAPAF)

47. The Petitioner has claimed NAPAF of 85% and the same is allowed to the generating station.

Gross Station Heat Rate (kCal/kWh)

48. The Petitioner has claimed the Gross Station Heat Rate (GSHR) of 2362.50 kCal/kWh. The Commission, vide its order dated 1.6.2022 in Petition 2/GT/2021, had allowed the GSHR of 2362.50 kCal/kWh, and the same is considered.

Specific limestone consumption

49. Regulation 49 clause (F) of the 2019 Tariff Regulations provides as under:-

*"(**F) Norms for consumption of reagent:***

(1) The normative consumption of specific reagents for various technologies for the reduction of emission of sulphur dioxide shall be as under:

(a) For Wet Limestone based Flue Gas De-sulphurisation (FGD) system:
The specific limestone consumption (g/kWh) shall be worked out by following formula:
[K x SHR x S/CVPF] x [85/ LP]
Where, S = Sulphur content in percentage,
LP = Limestone Purity in percentage,
SHR= Gross station heat rate, in kCal per kWh
CVPF = (a) Weighted Average Gross calorific value of coal as received, in kCal per kg for coal based thermal generating stations less 85 kCal/kg on account of variation during storage at generating station;
(b) Weighted Average Gross calorific value of lignite as received, in kCal per kg, as applicable for lignite based thermal generating stations:

Provided that value of K shall be equivalent to (35.2 x Design SO2 Removal Efficiency/96%) for units to comply with SO2 emission norm of 100/200 mg/Nm3 or (26.8 x Design SO2 Removal Efficiency/73%) for units to comply with SO2 emission norm of 600 mg/Nm3 ;

Provided further that the limestone purity shall not be less than 85%."

50. The Petitioner has claimed the following Specific Reagent Consumption (SRC) based on the average values of CVPF, Sulphur Content (S), Limestone Purity (LP). The following normative consumption of specific reagents has been claimed using the above methodology:

	Unit	2022-23 (15.6.2022 to 31.3.2023)	2023-24 (1.4.2023 to 7.2.2024)	2023-24 (8.2.2024 to 31.3.2024)
Specific Reagent Consumption	kg/kWh	8.400	8.727	7.769

51. The Petitioner has claimed the above SRC based on the following assumptions:

(Amount in Rs Lakh)

SN	Particulars	Unit	2019-20 (06.04. 2019 to 05.10.20	2019-20 (06.10.2 019 to 31.03.2	2020-21	2021-22	2022-23 (01.04.2 022 to	2022-23 (15.06.2022 to 31.03.2023)	2023-24 (01.04.2 023 to 07.02.20	2023-24 (08.02.2 024- 31.03.20
1	Auxiliary consumption	%	Reagent Not Required					5.75	5.75	5.75
2	Additional Auxiliary Power Consumption (ECS	%						1.00	1.00	1.00
3	Design SO2 Removal Effeciency	%						95.06	95.06	95.06
4	SHR							2362.50	2362.50	2362.50
5	CVPF							3981.33	3710.33	3797.00
6	**Specific Reagent Consumption (**	kg/kwh						8.400	8.727	7.769
4	**Landed Cost of Reagent (Rs/MT)**	Rs/MT						2,130	2,247	2,310
7	**Supplementary Energy Charge**	Rs/kwh						0.0669	0.0694	0.0702
8	Installed Capacity	MW						980	980	980
9	No of Days in the year	Days						365	365	366
10	ESO in 1 Day	MU						9.32	9.32	18.64
11	Cost of Reagent consumed in a day	Rs Lakh						1.67	1.83	3.35

LP		90.00	90.07	92.53
ECR supp.	dECR+ [(SRC x LPR / 10)/(100-(AUXn + AUXen))]	0.0669	0.0694	0.0702
dECR	ECRen-ECRn	0.048	0.048	0.051
SRC	[K x SHR x S/CVPF] x [85/ LP]	8.40	8.73	7.77
K	(35.2x Design SO2 Removal Efficiency/96%)	34.86	34.86	34.86
CVPF		3981.33	3710.33	3797.00
ECRn		4.46	4.47	4.75
ECRen		4.51	4.51	4.80
S		0.43	0.42	0.39

(Petitioner)

Form-O(i) Parameters

CVPF	3,827.00	4,122.00	3,995.00	3,650.00	3,728.00	3,753.00	3,753.00	3,686.00	3,952.00
CVPF (Average)	3981.33			3710.33			3797.00		
LP(Average)	90.00			90.07			92.53		
Sulphur Content(Average)	0.43			0.42			0.39		
ECRn(Average)	4.46			4.47			4.75		
ECREn(Average)	4.51			4.51			4.80		

52. Considering the fact that there is no specific norm for SRC, we, in this order, consider the assumptions submitted by the Petitioner and allow the above-claimed SRC by the Petitioner. However, the Petitioner was directed to furnish the month-wise details

of CVPF, Sulphur Content (S), and Limestone Purity (LP) as per Form Oi of the 2019 Tariff Regulations at the time of truing-up of tariff.

Auxiliary Power Consumption (APC)

53. With regard to APC, Sub-clause (f) of Clause (E) of Regulation 49 of the 2019 Tariff Regulations provides 1% of APC for wet limestone-based FGD systems. Accordingly, the same is allowed.

Interest on Working Capital

54. Regulation 34(a) (aa) of the 2019 Tariff Regulations covers the provisions for the Interest on Working Capital the following provisions for the working capital in the emission control system:

> *"(aa) For emission control system of coal or lignite based thermal generating stations:*
>
> *(i) Cost of limestone or reagent towards stock for 20 days corresponding to the normative annual plant availability factor;*
>
> *(ii) Advance payment for 30 days towards cost of reagent for generation corresponding to the normative annual plant availability factor;*
>
> *(iii) Receivables equivalent to 45 days of supplementary capacity charge and supplementary energy charge for sale of electricity calculated on the normative annual plant availability factor;*
>
> *(iv) Operation and maintenance expenses in respect of emission control system for one month;*
>
> *(v) Maintenance spares @20% of operation and maintenance expenses in respect of emission control system."*

55. The Petitioner has claimed the following Interest on Working Capital:

1		2019-20 (06.04.2019 to 05.10.2019)	2019-20 (06.10.2019 to 31.03.2020)	2020-21	2021-22	2022-23 (01.04.2022 to 14.06.2022)	2022-23 (15.06.2022 to 31.03.2023)	2023-24 (01.04.2023 to 07.02.2024)	2023-24 (08.02.2024 to 31.03.2024)
No of days		366	366	365	365	365	365	366	366
Cost of Limestone/Reagent Stock	20 days	Reagent Not Required					33.36	36.55	66.92
Cost of Limestone/Reagent Advance Payment	30 Days						50.04	54.83	100.37
Receivables	45 days	9.11	29.90	28.14	27.21	27.58	1,112.16	1,208.79	,779.76
O & M Expenses	1 month	1.27	2.54	2.63	2.72	2.81	83.94	86.88	102.62
Maintenance Spares	@20%	3.05	6.09	6.31	6.53	6.76	201.45	208.50	246.29
Total Working Capital		13.42	38.54	37.08	36.46	37.15	1480.96	1595.54	2295.96
Rate of Interest	%	12.05	12.05	11.25	10.50	10.50	10.50	12.00	12.00
Interest on Working Capital		1.62	4.64	4.17	3.83	3.90	155.50	191.47	275.52

Landed Cost of Reagent

56. As regards the landed cost of limestone, Regulation 41(1) of the 2019 Tariff Regulations provides as under:

> *41(1) Where specific reagents such as Limestone, Sodium Bi-Carbonate, Urea or Anhydrous Ammonia are used during operation of emission control system for meeting revised emission standards, the landed cost of such reagents shall be determined based on normative consumption and purchase price of the reagent through competitive bidding, applicable statutory charges and transportation cost.*

57. The Petitioner, in Form 16A, has claimed the following landed cost of reagent:

	2022-23 (15.6.2022 to 31.3.2023)	2023-24 (1.4.2023 to 7.2.2024)	2023-24 (8.2.2024-31.3.2024)
Cost of Limestone/Reagent Stock (20 days per annum) corresponding to the normative annual plant availability factor	33.36	36.55	66.92
Advance Payment for limestone (30 days per annum) for generation corresponding to the normative annual plant availability factor	50.04	54.83	100.37

58. It is noticed from the claim of the Petitioner, in Form-16, that the cost of the limestone claimed by the Petitioner is not audited, and as per the requirements of Regulation 41(1) of the 2019 Tariff Regulations, the Petitioner has not submitted the calculation of the landed cost of the reagents based on normative consumption and the purchase price of the reagent through competitive bidding, applicable statutory charges and transportation cost. Further, the transportation cost of the limestone varies in the range from Rs. 8.40 lakh/MT to Rs.14.22 lakh/MT. The reason for the same is not submitted by the Petitioner. In view of the above, we are considering the claim of the Petitioner in this order. However, the Petitioner is directed to certify, at the time of truing-up of tariff, that the purchase price of Reagent is through a competitive bidding process with supporting documents along with the basis of the transportation rates/details of the transport charges, duly certified by the Auditor along with the reason for its variations.

59. Accordingly, the cost of the reagent considered for the calculation of working capital is as under:

(Rs. in lakh)

	2022-23 (15.6.2022 to 31.3.2023)	**2023-24 (1.4.2023 to 7.2.2024)**	**2023-24 (8.2.2024 to 31.3.2024)**
Cost of Limestone/Reagent Stock (20 days per annum) corresponding to the normative annual plant availability factor	33.36	36.55	66.92
Advance Payment for limestone (30 days per annum) for generation corresponding to the normative annual plant availability factor	50.04	54.83	100.37

Supplementary Energy Charge Rate (SECR)

60. As regards the SECR, Regulation 43 (1a) of the 2019 Tariff Regulations provides as under:

> *" (1a) The supplementary energy charge on account of emission control system shall cover the differential energy charges due to auxiliary energy consumption and cost of reagent consumption, and shall be payable by every beneficiary for the total energy*

scheduled to be supplied to such beneficiary during the calendar month on ex-power plant basis, at the supplementary energy charge rate of the month. Total supplementary energy charge payable to the generating company for a month shall be:

Supplementary Energy Charges = (Supplementary energy charge rate in Rs./kWh) x {Scheduled energy (ex-bus) for the month in kWh}"

61. Regulation 43(2)(a) (aa) of the 2019 Tariff Regulations provides as under:

"(aa) Supplementary ECR for coal and lignite based thermal generating stations:

Supplementary ECR = (ΔECR) + [(SRC x LPR / 10)/(100-(AUXn + AUXen))]
Where,

(ΔECR) = Difference between ECR with revised auxiliary energy consumption with emission control system equivalent to (AUXn + AUXen) and ECR with normative auxiliary energy consumption as specified in these regulations and revised;
SRC = Specific reagent consumption on account of revised emission standards (in g/kWh);

LPR = Weighted average landed price of reagent for emission control system (in Rs./kg)".

62. The Petitioner has claimed SECR as follows:

	Unit	**2022-23 (15.6.2022 to 31.3.2023)**	**2023-24 (1.4.2023 to 7.2.2024)**	**2023-24 (8.2.2024 to 31.3.2024)**
Auxiliary consumption	%	5.75	5.75	5.75
Additional Auxiliary Power Consumption (ECS)	%	1.00	1.00	1.00
Design SO2 Removal Efficiency	%	95.06	95.06	95.06
SHR		2362.50	2362.50	2362.50
CVPF		3981.33	3710.33	3797.00
Specific Reagent Consumption (kg/kwh)	gm/kWh	8.400	8.727	7.769
Landed Cost of Reagent (Rs/MT)	Rs/MT	2130	2247	2310
Supplementary Energy Charge (Rs/kwh)	Rs/kwh	0.067	0.069	0.070

63. The claims of the Petitioner have been verified. The Petitioner has claimed the above SECR in terms of Regulation 43(1)(a) and Regulation 43(2)(a) (aa) of the 2019 Tariff Regulations. Hence, the same is considered. However, the Petitioner is directed to submit the relevant documents in support of the claim for Design SO_2 Removal

Efficiency, month-wise details of CVPF, LPR, and Limestone purity, at the time of truing-up of tariff.

Working Capital for Receivables

64. The Petitioner has claimed Receivables equivalent to 45 days of supplementary capacity charge and supplementary energy charge for the sale of electricity, calculated on the normative annual plant availability factor, as under:

(Rs. in lakh)

	2019-20 (6.4.2019 to 5.10.2019)	2019-20 (6.10.2019 to 31.3.2020)	2020-21	2021-22	2022-23 (1.4.2022 to 14.6.2022)	2022-23 (15.6.2022 to 31.3.2023)	2023-24 (1.4.2023 to 7.2.2024)	2023-24 (8.2.2024 to 31.3.2024)
Receivables equivalent to 45 days of supplementary capacity charge	9.11	29.90	28.14	27.21	27.58	828.05	913.48	1181.61
supplementary energy charge for sale of electricity calculated on the normative annual plant availability factor	0.00	0.00	0.00	0.00	0.00	280.44	290.93	589.31
Total	**9.11**	**29.90**	**28.14**	**27.21**	**27.58**	**1112.16**	**1208.79**	**1779.76**

65. Considering the energy charges and capacity charges allowed, the allowable receivables work out as under:

(Rs. in lakh)

	2019-20 (6.4.2019 to 5.10.2019)	2019-20 (6.10.2019 to 31.3.2020)	2020-21	2021-22	2022-23 (1.4.2022 to 14.6.2022)	2022-23 (15.6.2022 to 31.3.2023)	2023-24 (1.4.2023 to 7.2.2024)	2023-24 (8.2.2024 to 31.3.2024)
Receivables equivalent to 45 days of supplementary capacity charge	6.33	22.96	21.19	20.27	20.53	650.18	778.52	1071.06
supplementary energy charge for sale of electricity calculated on the normative annual plant availability factor	0.00	0.00	0.00	0.00	0.00	280.44	290.93	589.31
Total	**6.33**	**22.96**	**21.19**	**20.27**	**20.53**	**930.62**	**1069.45**	**1660.37**

O&M Expenses (1 month) for computation of working capital

66. In terms of Regulation 34 (aa) (iv) of the 2019 Tariff Regulations, one month's O&M expenses allowed is as under:

(Rs. in lakh)

2022-23 (15.6.2022 to 31.3.2023)	2023-24 (1.4.2023 to 7.2.2024)	2023-24 (8.2.2024 to 31.3.2024)
13.81	50.58	91.89

Maintenance Spares for computation of working capital

67. In terms of Regulation 34(aa)(v) of the 2019 Tariff Regulations, maintenance spares @ 20% of the O&M expenses allowed is as under:

(Rs. in lakh)

2022-23 (15.6.2022 to 31.3.2023)	2023-24 (1.4.2023 to 7.2.2024)	2023-24 (8.2.2024 to 31.3.2024)
33.15	121.40	220.54

68. In line with Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital is considered as 12.05% (i.e., 1-year SBI MCLR of 8.55% as on 1.4.2019 + 350 bps) for 2019-20, 11.25% (i.e., 1 year SBI MCLR of 7.75% as on 1.4.2020 + 350 bps) for the year 2020-21, 10.50% (i.e., 1 year SBI MCLR of 7.00% as on 1.4.2021 / 1.4.2022 + 350 bps) for the period 2021-23 and 12.00% (i.e., 1 year SBI MCLR of 8.50% as on 1.4.2023 + 350 bps) for the year 2023-24. Accordingly, Interest on working capital has been computed and allowed as under:

(Rs. in lakh)

	2019-20 (6.4.2019 to 5.10.2019)	2019-20 (6.10.2019 to 31.3.2020)	2020-21	2021-22	2022-23 (1.4.2022 to 14.6.2022)	2022-23 (15.6.2022 to 31.3.2023)	2023-24 (1.4.2023 to 7.2.2024)	2023-24 (8.2.2024 to 31.3.2024)
Working capital for Cost of Limestone/ Reagent Stock (20 days generation corresponding to NAPAF) (A)	0.00	0.00	0.00	0.00	0.00	33.36	36.55	66.92
Working capital for advances towards Cost of Limestone/ Reagent	0.00	0.00	0.00	0.00	0.00	50.04	54.83	100.37

(30 days generation corresponding to NAPAF) (B)								
Working capital for Maintenance Spares (20% of O&M expenses) (D)	0.00	0.00	0.00	0.00	0.00	33.15	121.40	220.54
Working capital for Receivables (45 days of sale of electricity at NAPAF) (E)	6.33	22.96	21.19	20.27	20.53	930.62	1069.45	1660.37
Working capital for O&M expenses (1 month of O&M expenses) (F)	0.00	0.00	0.00	0.00	0.00	13.81	50.58	91.89
Total Working Capital (G = A+B+C+D+E+F)	**6.33**	**22.96**	**21.19**	**20.27**	**20.53**	**1060.97**	**1332.81**	**2140.09**
Rate of Interest (H)	12.05%	12.05%	11.25%	10.50%	10.50%	10.50%	12.00%	12.00%
Interest on Working Capital (I = G x H) *(annualised)*	**0.76**	**2.77**	**2.38**	**2.13**	**2.16**	**111.40**	**159.94**	**256.81**
Interest on Working Capital *(pro-rata)*	**0.38**	**1.35**	**2.38**	**2.13**	**0.44**	**88.51**	**136.78**	**37.19**

<u>Supplementary tariff for the period 2019-24</u>

69. Accordingly, the supplementary tariff approved for the installation of ECS in the generating station for the period 2019-24 is summarised below:

(Rs. in lakh)

	2019-20 (6.4.2019 to 5.10.2019)	**2019-20 (6.10.2019 to 31.3.2020)**	**2020-21**	**2021-22**	**2022-23 (1.4.2022 to 14.6.2022)**	**2022-23 (15.6.2022 to 31.3.2023)**	**2023-24 (1.4.2023 to 7.2.2024)**	**2023-24 (8.2.2024 to 31.3.2024)**
Depreciation	13.71	51.67	52.67	52.67	53.62	1621.51	1805.70	2278.37
Interest on Loan	20.33	69.44	52.72	45.49	45.49	1655.79	1844.81	2312.54
Return on Equity	16.68	62.86	64.09	64.09	65.24	1719.20	1914.49	2760.81
Interest on Working Capital	0.76	2.77	2.38	2.13	2.16	111.40	159.94	256.81
O&M Expenses	0.00	0.00	0.00	0.00	0.00	165.74	607.01	1102.72
Total	**51.49**	**186.73**	**171.87**	**164.38**	**166.50**	**5273.64**	**6331.95**	**8711.26**

Note: *(1) All figures are on an annualized basis. (2) All figures under each head have been rounded. The figure in total column in each year is also rounded. As such, the sum of individual items may not be equal to the arithmetic total of the column.*

70. The pro-rata tariff is to be calculated using the bases as under:

(Rs. in lakh)

	2019-20 (6.4.2019 to 5.10.2019)	2019-20 (6.10.2019 to 31.3.2020)	2020-21	2021-22	2022-23 (1.4.2022 to 14.6.2022)	2022-23 (15.6.2022 to 31.3.2023)	2023-24 (1.4.2023 to 7.2.2024)	2023-24 (8.2.2024 to 31.3.2024)
No. of days in year	366	366	365	365	365	365	366	366
No. of days for which tariff is to be calculated	183	178	365	365	75	290	313	53

71. The supplementary tariff approved as above, is subject to truing-up in terms of Regulation 13 of the 2019 Tariff Regulations.

72. Petition No. 348/GT/2022 is disposed of in terms of the above.

Sd/-	Sd/-	Sd/-
(Harish Dudani)	**(Ramesh Babu V.)**	**(Jishnu Barua)**
Member	**Member**	**Chairperson**