

BEFORE
THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. ___ /TT/ ___

IN THE MATTER OF: -

Petition for truing up of transmission tariff for 2019-24 and determination of transmission tariff for 2024-29 tariff block for **Combined Assets under "Northern Region System Strengthening Scheme-V" in Northern Region** under Section 62 read with Section 79 (1) (d) of the Electricity Act, 2003 and under the Regulation 15 (1) (a) and Regulation 23 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 read with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024.

Power Grid Corporation of India Ltd.

--- PETITIONER

Registered office: B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi. 110 016.

Corporate Centre: 'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon-122 001 (Haryana).

--- RESPONDENT(S)

Uttar Pradesh Power Corporation Ltd.

Shakti Bhawan, 14, Ashok Marg

Lucknow - 226 001

Represented by Its Chairman

And others

FILED BY

POWER GRID CORPORATION OF INDIA LTD.

GURGAON

REPRESENTED BY

DATED: 23.09.2024

(V.C. Sekhar)
Sr. General Manager (Regulatory Cell)



BEFORE
THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.:

IN THE MATTER OF: Petition for truing up of transmission tariff for 2019-24 and determination of transmission tariff for 2024-29 tariff block for **Combined Assets under "Northern Region System Strengthening Scheme-V" in Northern Region** under Section 62 read with Section 79 (1) (d) of the Electricity Act, 2003 and under the Regulation 15 (1) (a) and Regulation 23 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 read with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024.

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Lucknow - 226 001

Represented by Its Chairman

And others

----- RESPONDENT(S)

To
The Secretary
Central Electricity Regulatory Commission
New Delhi 110001
Sir,

The present tariff Petition is filed under Section 62 read with Section 79 (1) (d) of the Electricity Act, 2003 and under the Regulation 15 (1) (a) and Regulation 23 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 read with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff)



Regulations, 2024 and same may please to be registered and taken on record by the Hon'ble Commission.

GURGAON

FILED BY

DATED: - 23.09.2024

POWER GRID CORPORATION OF INDIA LTD.

REPRESENTED BY


V. C. Sekhar
Sr. General Manager (Regulatory Cell)



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Uttar Pradesh Power Corporation Ltd.

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Lucknow - 226 001

Represented by Its Chairman

And others

MEMO OF PARTIES

Power Grid Corporation of India Ltd.

VERSUS

--- PETITIONER

Northern Region

--- RESPONDENT

1. UTTAR PRADESH POWER CORPORATION LTD.
SHAKTI BHAWAN, 14, ASHOK MARG
LUCKNOW - 226 001
REPRESENTED BY ITS CHAIRMAN



2. AJMER VIDYUT VITRAN NIGAM LTD
CORPORATE OFFICE, VIDYUT BHAWAN,
PANCHSHEEL NAGAR, MAKARWALI ROAD
AJMER-305004 (RAJASTHAN)
REPRESENTED BY ITS MANAGING DIRECTOR
3. JAIPUR VIDYUT VITRAN NIGAM LTD
132 KV, GSS RVPNL SUB- STATION BUILDING,
CALIGIRI ROAD, MALVIYA NAGAR, JAIPUR-302017
(RAJASTHAN)
REPRESENTED BY ITS MANAGING DIRECTOR
4. JODHPUR VIDYUT VITRAN NIGAM LTD
NEW POWER HOUSE, INDUSTRIAL AREA ,
JODHPUR – 342 003(RAJASTHAN)
REPRESENTED BY ITS MANAGING DIRECTOR
5. HIMACHAL PRADESH STATE ELECTRICITY BOARD LTD
VIDYUT BHAWAN
KUMAR HOUSE COMPLEX BUILDING II
SHIMLA-171 004
REPRESENTED BY ITS CHAIRMAN
6. PUNJAB STATE POWER CORPORATION LIMITED
THE MALL, PSEB HEAD OFFICE, PATIALA - 147 001
REPRESENTED BY ITS CHAIRMAN AND MANAGING
DIRECTOR
7. HARYANA POWER PURCHASE CENTRE
SHAKTI BHAWAN, SECTOR-6
PANCHKULA (HARYANA) 134 109
REPRESENTED BY ITS S.E. / C & R-1
8. JAMMU KASHMIR POWER CORPORATION LIMITED
220/66/33 KV GLADNI SS SLDC BULIDING
NARWAL, JAMMU
REPRESENTED BY ITS CHAIRMAN
9. BSES YAMUNA POWER Ltd,
B-BLOCK, SHAKTI KIRAN, BLDG.
(NEAR KARKADOOMA COURT),
KARKADOOMA 2ND FLOOR,
NEW DELHI-110092
REPRESENTED BY ITS CEO
10. BSES RAJDHANI POWER Ltd,
BSES BHAWAN, NEHRU PLACE,
NEW DELHI
REPRESENTED BY ITS CEO



11. TATA POWER DELHI DISTRIBUTION LTD.
33 KV SUBSTATION, BUILDING
HUDSON LANE, KINGSWAY CAMP
NORTH DELHI - 110009
REPRESENTED BY ITS CEO
12. CHANDIGARH ELECTRICITY DEPTT.
CHANDIGARH ADMINISTRATION
SECTOR -9, CHANDIGARH.
REPRESENTED BY ITS CHIEF ENGINEER
13. UTTARAKHAND POWER CORPORATION LTD.
URJA BHAWAN
KANWALI ROAD
DEHRADUN.
REPRESENTED BY ITS MANAGING DIRECTOR
14. NORTH CENTRAL RAILWAY
ALLAHABAD.
REPRESENTED BY CHIEF ELECTRICAL
DISTRIBUTIONENGINEER
15. NEW DELHI MUNICIPAL COUNCIL
PALIKA KENDRA, SANSAD MARG,
NEW DELHI-110002
REPRESENTED BY CHAIRMAN

GURGAON

DATED: 23.09.2024

PETITIONER
POWER GRID CORPORATION OF INDIA LTD.
REPRESENTED BY

Sr. General Manager (Regulatory Cell)



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Lucknow - 226 001

Represented by Its Chairman

And others

--- RESPONDENT(S)

MEMO OF APPEARANCE

POWER GRID CORPORATION OF INDIA LTD.

-- PETITIONER

1. Shri Dilip Nagesh Rozekar, ED (Commercial & RC), POWERGRID
2. Shri Mohd. Mohsin, Chief GM (Comml- Petition), POWERGRID
3. **Shri V.C. Sekhar, Sr. GM (Commercial-RC), POWERGRID**
4. Shri Zafrul Hasan, GM (Comml- Petition), POWERGRID
5. Shri Angaru Naresh Kumar, DGM, POWERGRID
6. Smt Suchitra Gautam, DGM, POWERGRID
7. Shri Vishal Sagar, DGM, POWERGRID



8. Shri G. Vijay, DGM, POWERGRID
9. Shri Vivek Kumar Singh, DGM, POWERGRID
10. Shri Amit Kumar Chachan, DGM, POWERGRID
11. Smt. Supriya Kumari, CM (Law), POWERGRID
12. Shri Arjun Malhotra, Manager (Law), POWERGRID
13. Smt. Tanushree Rao, DM (Law), POWERGRID

I, V.C. Sekhar, the Petitioner above named do hereby nominate to act, plead and appear on my behalf in the aforesaid matter.

IN WITNESS WHEREOF I have set and subscribed my hands to this writing on this 23rd day of September 2024.

PETITIONER
POWER GRID CORPORATION OF INDIA LTD.

GURGAON

DATED:-23.09.2024

Sr. General Manager (Regulatory Cell)



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----- RESPONDENT(S)

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And others

A. Executive Summary of the Petition:

(i) Brief Background of the Petitioner

1. The Petitioner herein, Power Grid Corporation of India Ltd. (Hereinafter referred to as "**POWERGRID/Petitioner**") is a Government Company within the meaning of the Companies Act, 2013. POWERGRID is deemed transmission licensee in terms of Section 14 of the Electricity Act, 2003. POWERGRID by virtue of a transmission licensee is required to inter-alia build, own, operate and maintain an efficient, coordinated and economical inter-state transmission system ("**ISTS**"). POWERGRID operates and functions within the regulatory control of this Hon'ble Central Electricity Regulatory Commission (hereinafter referred to as "**Hon'ble Commission**"). Tariff for the transmission system established by POWERGRID is required to be determined by



this Hon'ble Commission in accordance with the Tariff Regulations as notified by this Hon'ble Commission in exercise of its powers under Section 178 of the Electricity Act, 2003.

(ii) Brief background of the Respondent(s):

POWERGRID has impleaded distribution licensees and Government departments of the respective states which are engaged in distribution of electricity in Northern Region of India. The respondents are also 'Designated Inter State Transmission Customer' (hereinafter referred to as 'DICs') from Northern region in terms of the 2020 Sharing Regulations.

(iii) Background of Transmission Assets:

2. POWERGRID has filed the present petition for truing up of transmission tariff for 2019-24 and determination of transmission tariff for 2024-29 tariff block for below asset under "Northern Region System Strengthening Scheme-V" in Northern Region:

Asset No.	Asset Name	DOCO
Combined Assets *	LILO of 400 kV Hissar-Bassi transmission line at Bhiwadi along with associated bays	01.04.2009
	400 kV D/C Agra-Bhiwadi transmission line along with associated bays	01.09.2009
	400 kV D/C Bhiwadi-Moga transmission line along with associated bays at Moga and Bhiwadi end including 02 numbers 63 MVAR line reactors at Moga end	01.04.2010
	80 MVAR Bus Reactor at Bhiwadi Sub-station	01.01.2011

*Effective date of commercial operation of the combined assets has been considered as 10.12.2009.

(iv) Summary of Claims:

3. A. POWERGRID is seeking truing up of transmission tariff for 2019-24 and determination of transmission tariff for 2024-29 tariff block for aforesaid transmission asset on capital cost comprising of expenditure incurred/Admitted upto 31.03.2019/DOCO and additional capital expenditure during 2019-24 & 2024-29 in accordance with provisions of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 ("Tariff Regulations, 2019") and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 ("Tariff Regulations, 2024").



4. The details of FR/RCE apportioned approved cost vis-a-vis claimed capital cost as on 31.03.2019 and additional capital expenditure during 2019-24 and 2024-29 tariff block are as under:

Rs in lakhs

Asset No.	Apportioned Approved Cost as per FR	Expenditure Up to 31.03.2019	Expenditure during 2019-24 tariff block	Actual Cost as on 31.03.2024
Combined Asset	72125.00	67004.14	No add cap	67004.14

Rs in lakhs

Asset No.	Apportioned Approved Cost as per FR	Expenditure Up to 31.03.2024	Expenditure during 2024-29 tariff block	Actual Cost as on 31.03.2029
Combined Asset	72125.00	67004.14	No add cap	67004.14

5. Details of tariff claimed are as under:

True up annual transmission tariff for 2019-24 tariff block:

Rs in Lakhs

Name of the asset	Particular	2019-20	2020-21	2021-22	2022-23	2023-24
Combined Asset	AFC approved	8880.19	8734.92	8591.10	5701.37	5702.11
	Revised AFC based on trueing up	8810.33	8532.40	8425.69	5691.49	5804.85

Tariff claimed for 2024-29 tariff block:

Rs in Lakhs

Name of the asset	2024-25	2025-26	2026-27	2027-28	2028-29
Combined Asset	5636.96	5624.47	5620.92	5625.58	5662.61

6. It is prayed to hon'ble commission to reimburse expenditure of petition filing fee, license fee, newspaper publication expenses and RLDC fee & charges etc.

B. Detailed Petition:

MOST RESPECTFULLY SHOWETH:

Issue wise submission(s):



7. The Petitioner herein, Power Grid Corporation of India Ltd/ POWERGRID. is a Government Company within the meaning of the Companies Act, 1956. POWERGRID is a deemed transmission licensee under Section 14 of the Electricity Act 2003.
8. POWERGRID being transmission licensee is required to inter-alia build, own, operate and maintain an efficient, coordinated and economical inter-state transmission system (ISTS). The tariff for the said transmission systems shall be determined by the Hon'ble Commission in accordance with the provisions of Tariff Regulations, 2019 and 2024.
9. That the subject project/petition covers approval of transmission tariff for following Asset:

Asset No	Asset Name	DOCO	Remarks
Combined Assets*	LILO of 400 kV Hissar-Bassi transmission line at Bhiwadi along with associated bays	01.04.2009	Earlier covered under petition no. 696/TT/2020 now covered under instant petition
	400 kV D/C Agra-Bhiwadi transmission line along with associated bays	01.09.2009	
	400 kV D/C Bhiwadi-Moga transmission line along with associated bays at Moga and Bhiwadi end including 02 numbers 63 MVAR line reactors at Moga end	01.04.2010	
	80 MVAR Bus Reactor at Bhiwadi Sub-station	01.01.2011	

*Notional date of commercial operation of the combined assets has been considered as 10.12.2009.

10. Cost details:

The capital cost of Rs. 67004.14 Lakhs for subject Asset has been admitted by Hon'ble Commission vide order dated 12.09.2021 in petition no. 696/TT/2020. Copy of order is enclosed as **Encl-1**. In the current petition, no additional capital expenditure was incurred during the 2019-24 tariff block, and no additional capital expenditures are proposed during the 2024-29 tariff block.



11. Transmission tariff:

The truing up exercise for the period 2019-2024 is to be done at the time of filing tariff petition for next block, i.e. 2024-29 period as per Regulation 13 of Tariff Regulation, 2019.

Regulation 13 of Tariff Regulation, 2019:

Quote

“The Commission shall carry out truing up exercise for the period 2019-24 along with the tariff petition filed for the next tariff period, for the following:

-----”

Unquote

That the Petitioner is required to adjust the yearly impact of MAT as per Regulation 31 (3) of the Tariff Regulations, 2019 dated 07.03.2019 in the truing up petition for 2019-24 tariff block.

Regulation 31 (3) of the tariff Regulation, 2019:

Quote

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 customers, as the case may be, on year to year basis.

Unquote

It is submitted that the Income Tax assessment of the Petitioner has been completed and Assessment Orders have been issued by the Income Tax Department for FY 2019-20 and 2020-21; and that the Income Tax returns have been filed with the Income Tax Department for FY 2021-22 & 2022-23. Further, it is submitted that the Income Tax Return for 2023-24 will be filed in due course.



As such, basis of year wise effective tax rate and Grossed up ROE to be trued up accordingly for the block period 2019-24 is summarized as under:-

Financial Year	Basis considered	Total Tax & Interest paid (Rs)	Assessed MAT Income under Sec 115 JB (Rs)	Effective Tax percentage	Grossed up ROE (Base rate/(1-t))
2019-20	Assessment Order	24,52,62,76,991	1,40,37,47,53,855	17.472%	18.782%
2020-21	Assessment Order	26,08,93,59,008	1,49,32,09,65,036	17.472%	18.782%
2021-22	Actual Tax paid	31,81,46,40,406	1,82,08,92,88,030	17.472%	18.782%
2022-23	Actual Tax paid	30,42,88,20,993	1,74,15,76,29,306	17.472%	18.782%
2023-24	Applicable Rate #		#	17.472%	18.782%

Based on the applicable rate of MAT @ 15 %, Surcharge @ 12% & Cess @ 4%

The above Effective Tax percentage shall be applied by the petitioner in arriving out the Grossed up ROE rate in all cases of truing up petitions to be filed for the period 2019-24. It is submitted that effective rate of tax considered for FY 2019-20 and 2020-21 are based on Assessment Order issued by Income-Tax authorities, for the purpose of grossing up of ROE rate and that the effective rate of tax considered for F/Y 2021-22 and F/Y 2022-23 are based on the Income-tax returns filed, for the purpose of grossing up of ROE rate of respective years. Further, for F/Y 2023-24, pending filing of ITR, effective tax rate is calculated based the applicable MAT rate (i.e. MAT 15% + Surcharge 12.00% + Cess 4%), for the purpose of grossing up of ROE rate.

The Hon'ble Commission is requested to allow the petitioner to claim the differential tariff on account of the trued up ROE based on effective tax rate calculated on completion of Income-tax assessment/re-assessment for the F/Y 2019-20, 2020-21,2021-22,2022-23 and 2023-24 on receipt of the respective assessment orders, directly from the beneficiaries, on year to year basis as provided in the regulation.



In line with the above Regulation, the tariff for each year of the tariff period 2019-24 block has been trued up considering the above Effective Tax percentage to arrive at Grossed up ROE rate.

While filing Tariff petition for 2019-24 period, the petitioner had prayed for allowing the floating rate of Interest on loan adjustments. As per Hon'ble Commission order dated 18.04.2022 in petition no. 26/TT/2021, it has been stated that the weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2019 and accordingly, the floating rate of interest on actual, applicable from time to time, if any, during 2019-24 tariff shall be considered at the time of true up or next revision of tariff.

Accordingly in the present petition, truing up of transmission tariff for the tariff block 2019-24 is being carried out based on of actual additional capitalization during 2019-24 tariff block, change in MAT rate as well as actual floating rate of interest during 2019-24.

12. The trued up annual transmission tariff for the tariff period 2019-24 is summarized as below:

Rs in Lakh

Project		2019-20	2020-21	2021-22	2022-23	2023-24
Combined Asset	AFC approved	8880.19	8734.92	8591.10	5701.37	5702.11
	Revised AFC based on truing up	8810.33	8532.40	8425.69	5691.49	5804.85

Tariff filing forms along with the other relevant information and supporting documents are attached hereto as **Encl-2**.

That in the subject petition, details are provided in various Tariff Forms with respect to Capital Cost as per books / Gross Block amount as per Books. It is submitted that the petitioner has opted for deemed cost exemption as per Para D7 AA of Ind AS 101 'First-time Adoption of Indian Accounting Standards". Accordingly Carrying value i.e. Gross Block less Accumulated Depreciation is considered as deemed cost as on the date of transition i.e. 1st April 2015. As such, in case of assets commissioned before 01.04.2015, the accumulated depreciation as on 1st April 2015 is added back to the deemed Capital Cost as per books / Gross Block amount as per Books for arriving at the figures to be provided in various Tariff Forms.



13. The tariff worked out for 2024-29 tariff block is summarized below:

Rs in Lakh

Project		2024-25	2025-26	2026-27	2027-28	2028-29
Combined Asset	AFC	5636.96	5624.47	5620.92	5625.58	5662.61

Tariff filing forms along with the other relevant information and supporting documents are attached hereto as **Encl-3**.

14. The asset has completed 12 Yrs of life in 2021-22, and thus the remaining depreciable amount at end of 12 yrs have been spread over the balance useful life of the asset as per clause 33 (5) of the CERC Tariff Regulations, 2024. The details have been computed and are provided in Form- 10 A.

15. That, it is submitted that the petitioner is currently liable to pay income tax at MAT rate specified in Income-tax Act,1961. Therefore, ROE has been calculated @ 18.782% after grossing up the ROE with MAT rate of 17.472% (Base Rate 15% + Surcharge 12% + Cess 4%) based on the formula given at regulation 31 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for 2024-29 period. That as per clause 31 (3) of the above regulation, the grossed up rate of ROE at the end of every financial year shall be trued up 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 IT authorities pertaining to the tariff period 2024-29 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 ROE after truing up shall be recovered or refunded to beneficiaries or the long-term customers, as the case may be on year to year basis. It is further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of tax including interest received from IT authorities shall be recoverable /adjustable during the tariff period 2024-29 on year to year basis on receipt of Income Tax assessment order.

16. Under CGST Act, 2017 implemented w.e.f. 01.07.2017, the Govt. of India has exempted the charges of transmission of electricity vide notification no. 12/2017 – Central Tax (Rate) dated 28.06.2017 at serial no. 25 under the heading 9969



“Transmission or distribution of electricity by an electric transmission or distribution utility” by giving applicable GST rate as NIL. Hence, the Transmission Charges as indicated at para 12 and para-13 above is exclusive of GST. Further, if GST is levied at any rate and at any point of time in future on Charges of Transmission of Electricity, the same shall be borne and additionally paid by the respondent(s) to the petitioner and the same shall be charged & billed separately by the petitioner. Further additional taxes, if any, are to be paid by the petitioner on account of demand from Govt. / Statutory authorities, the same may be allowed to be recovered from the beneficiaries.

17. In the tariff calculations for 2019-24 period, Interest on Loan has been calculated on the basis of actual rate of interest of various loans deployed for each year. In the tariff calculations for 2024-29 period, Interest on Loan has been calculated on the basis of interest rates prevailing as on 01.04.2024 for respective loans. The change in Interest rate due to floating rate of interest applicable, if any, for the project needs to be claimed / adjusted over the tariff block of 05 years directly from / with the beneficiaries.

For the purpose of the supporting documents for rate of interest, a compendium of floating rate of interest of various loans during the tariff period 2019-24 will be submitted shortly with a Truing-up petition and the details of the same will be submitted through an affidavit once submitted. These documents/details will also be made available on our website www.powergrid.in.

18. The transmission charges at para-12 & 13 above is inclusive of O&M expenses derived for the subject asset based on the norms for O&M expenditure for Transmission System as specified under regulation 36 (3) (a) of the Tariff Regulations for block 2024-29.
19. That as per Regulation 36(3)(d) of CERC Tariff Regulations, 2024, the Security Expenses, Insurance and Capital Spares more than Rs. 10 Lakh for transmission system shall be allowed separately after prudence check.

Security Expenses:

In this regard, it is submitted that a separate petition shall be filed for truing up of security expenses from 01.04.2019 to 31.03.2024 under the Regulation 35 (3) (C) of Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2019 and recovery of security expenses from 01.04.2024 to 31.03.2029



under the Regulation 36 (3) (d) of Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2024.

Insurance:

In this regard, it is submitted that a separate petition shall be filed before Hon'ble Commission for claiming the overall Insurance Expenses and consequential Interest on Working Capital (IOWC) on the same considering actual Insurance Expense incurred by the Petitioner for the F/Y 2023-24 after escalating the same at 5.25% per annum for arriving at the Estimated Insurance Expense for the year 2024-25, 2025-26, 2026-27, 2027-28 and 2028-29.

Capital Spare:

With regard to Capital Spares, the Petitioner has filed a separate Petition bearing No 45/MP/2024 for claiming the capital spares under Tariff Regulation, 2019 for 2019-24 period. Further, as per Tariff Regulations, 2024, Capital spares consumed and consequential Interest on Working Capital (IOWC) on the same shall be claimed by the Petitioner for 2024-29 period as per actual through a separate petition.

Accordingly, these expenses are not claimed in the subject petition through the relevant Tariff Forms and shall be claimed separately.

20. That as per Regulation 99 of CERC Tariff Regulations, 2024, the fees and charges of Central Transmission Utility of India Limited ('CTUIL') shall be allowed separately by the Commission through a separate regulation. Further, it provides that until such regulation is issued by the Commission, the expenses of CTUIL shall be borne by POWERGRID which shall be recovered by POWERGRID as additional O&M expenses through a separate petition.

Accordingly, the expenses of CTUIL borne by POWERGRID shall be claimed through a separate petition.

21. The application filing fee, expenses incurred on publication of Notices in Newspapers and License fee may be allowed to be recovered separately from the respondents in terms of Regulation 94(1) and Regulation 94(4) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024. The fees and charges to be paid by the petitioner as ISTS licensee (deemed ISTS licensee) under



CERC (Fees and Charges of RLDC and other matters) Regulations, 2023 as amended from time to time shall also be recoverable from the DICs as provided under clause 94(3) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024.

22. The Transmission Charges and other related Charges indicated at para 12 & 13 above, is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess, filing fees, license fee, RLDC fees and charges or any other kind of imposition (s) and/ or other surcharges etc. whatsoever imposed / charged by any Government (Central/State) and / or any other local bodies/authorities/regulatory authorities in relation to transmission of electricity, environmental protection, and/or in respect of any of its installation associated with the Transmission System and the same shall be borne and additionally paid by the respondent(s) to the petitioner and the same shall be charged, billed separately by the petitioner on the respondents.

23. **Sharing of Transmission Charges**

Tariff for Transmission of Electricity (Annual Fixed Cost) for 2019-24 as per para 12 above shall be recovered on monthly basis in accordance with Regulation 57 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 and shall be shared by the beneficiaries and long-term transmission customers in terms of Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 and/or Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2020, as amended from to time for the applicable periods.

Tariff for Transmission of Electricity (Annual Fixed Cost) for 2024-29 as per para 13 above shall be recovered on monthly basis in accordance with Regulation 78 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 and shall be shared by the beneficiaries and long-term transmission customers in terms of Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2020, as amended from to time.

24. In the circumstances mentioned above, it will be just and proper that the transmission tariff for the asset covered under this petition be allowed to be charged from the beneficiaries on the basis set out above. **The Petitioner submits that Encl.-1 to Encl.-3 may please be treated as integral part of this petition.**



A. PRAYER

It is respectfully prayed that the Hon'ble Commission may be pleased to:

- a) Approve the trued-up Transmission Tariff for 2019-24 block and transmission tariff for 2024-29 block for the asset covered under this petition, as per para 12 and 13 above.
- b) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulations, 2019 and Tariff Regulations, 2024 as per para 12 and 13 above for respective block.

Further it is submitted that deferred tax liability before 01.04.2009 shall be recoverable from the beneficiaries or long term customers / DIC as the case may be, as and when the same is materialized as per Regulation 67 of Tariff regulations, 2019 and Regulation 89 of Tariff regulations, 2024. The petitioner may be allowed to recover the deferred tax liability materialized directly without making any application before the Hon'ble Commission as provided in the regulations.

- c) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 94 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, and other expenditure (if any) in relation to the filing of petition.
- d) Allow the petitioner to bill and recover RLDC fees & charges and Licensee fee, separately from the respondents in terms of Regulation 94 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024.
- e) Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2024-29 period, if any, from the respondents.



- f) Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 19 above.
- g) Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall insurance expenses and consequential IOWC on that insurance expenses as mentioned at para 19 above.
- h) Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall capital spares at the end of tariff block as per actual as mentioned at Para 19 above.
- i) Allow the petitioner to claim expenses of CTUIL borne by POWERGRID through a separate petition as mentioned at para 20 above.
- j) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.

and pass such other relief as Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice

GURGAON

DATED:- 23.09.2024

**FILED BY
POWER GRID CORPORATION OF INDIA LTD.**

REPRESENTED BY

Sr. General Manager (Regulatory Cell)



BEFORE
THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.:

IN THE MATTER OF: Petition for truing up of transmission tariff for 2019-24 and determination of transmission tariff for 2024-29 tariff block for **Combined Assets under "Northern Region System Strengthening Scheme-V" in Northern Region** under Section 62 read with Section 79 (1) (d) of the Electricity Act, 2003 and under the Regulation 15 (1) (a) and Regulation 23 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 read with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024.

Power Grid Corporation of India Ltd.

Registered office: B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi. 110 016.

Corporate Centre : 'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon-122 001 (Haryana).

--- **PETITIONER**

Uttar Pradesh Power Corporation Ltd.

Shakti Bhawan, 14, Ashok Marg

Lucknow - 226 001

Represented by Its Chairman

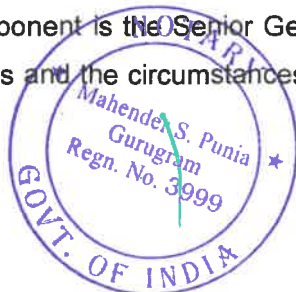
And others

----- **RESPONDENT(S)**

AFFIDAVIT VERIFYING THE PETITION

I, V.C. Sekhar, S/O Late Sh. V. Devaiah, working as Senior General Manager (Regulatory Cell) in the Power Grid Corporation of India Ltd., having its registered Office at B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110 016, do hereby solemnly affirm and state as under: -

1. That the deponent is the Senior General Manager of Petitioner and is well conversant with the facts and the circumstances of the case and therefore competent to swear this affidavit.



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2. That the accompanying Petition under Section 62 of the Electricity Act, 2003, has been filed by my authorized representative/nominated counsel under my instruction and the contents of the same are true and correct to the best of my knowledge and belief.
3. That the contents of Para 01 to 24 of the facts as mentioned in the Petition are true and correct based on my personal knowledge, belief and records maintained in the office and the contents of Para 01 to 24 of the Petition are believed to be true on the basis of the legal advice received.
4. That the annexures annexed to the Petition are correct and true copies of the respective originals.
5. That the Deponent has not filed any other Petition or Appeal before any other forum or court of law with respect to the subject matter of the dispute


(DEPONENT)

VERIFICATION

Solemnly affirmed at Gurgaon on this 23rd day of Sept' 2024 that the contents of the above affidavit are true to my knowledge and belief and no part of it is false and nothing material has been concealed there from.


(DEPONENT)





पावरग्रिड
POWERGRID

पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

Ref: CC/Commercial/2024

Date: 28.08.2024

LETTER OF AUTHORIZATION

In reference to the POWER OF ATTORNEY dated 14.08.2024 and in supersession of letter of authorization dated 13.12.2022 I hereby authorize following executives to sign Petitions, Appeals, Vakalatnama, Affidavits, etc. and to represent POWERGRID before various forums/ courts / tribunals i.e Central Electricity Regulatory Commission, State Electricity Regulatory Commission, Appellate Tribunal for Electricity, High courts and Supreme Court etc. :

1. Sh. Mohd. Mohsin, Chief General Manager
2. Sh. V. C. Sekhar, Senior General Manager
3. Sh. Zafrul Hasan, General Manager

Further, following executives are authorised to represent cases before Central Electricity Regulatory Commission and Appellate Tribunal for Electricity

1. Sh. Angaru Naresh Kumar, Deputy General Manager
2. Smt. Suchitra Gautam, Deputy General Manager
3. Sh. Vishal Sagar, Deputy General Manager
4. Sh. G. Vijay, Deputy General Manager
5. Sh. Vivek Kumar Singh, Deputy General Manager
6. Sh. Amit Kumar Chachan, Deputy General Manager
7. Smt. Supriya Singh, Chief Manager (Law)
8. Sh. Arjun Malhotra, Manager (Law)
9. Smt. Tanushree Rao, Deputy Manager (Law)


28/08/2024

Dilip Nagesh Rozekar
Executive Director (Commercial & RC)

दिलीप रोजेकर / DILIP ROZEKAR

Executive Director (Commercial & Regulatory Cell)
पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
Power Grid Corporation of India Ltd.
(भारत सरकार का उद्यम) / (A Govt. of India Enterprise)
Plot No. 2, Sector-29, Gurgaon- 122 001 (Haryana)



केन्द्रीय कार्यालय : "सौदामिनी" प्लॉट सं. 2, सेक्टर-29, गुरुग्राम-122001, (हरियाणा), दूरभाष : 0124-2571700-719
Corporate Office : "Saudamini", Plot No. 2, Sector-29, Gurugram-122001, (Haryana) Tel. : 0124-2571700-719

पंजीकृत कार्यालय : बी-9, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली-110016. Tel. : 011-26560112, 26564812, 26564812, 26564892, सीआईएन : L40101DL1989GOI038121
Registered Office : B-9, Qutab Institution Area, Katwaria Sarai, New Delhi-110016. Tel. : 011-26560112, 26564812, 26564812, 26564892, CIN : L40101DL1989GOI038121
Website : www.powergridindia.com

End-1

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 696/TT/2020

Coram:

**Shri I. S. Jha, Member
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member**

Date of Order: 12.09.2021

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, CERC (Terms and Conditions of Tariff) Regulations, 2014 and CERC (Terms and Conditions of Tariff) Regulations, 2019 for truing up of transmission tariff for 2014-19 tariff period and determination of transmission tariff for 2019-24 tariff period in respect of the **Combined Asset** consisting of **Asset-I:** LILO of 400 kV Hissar-Bassi transmission line at Bhiwadi along with associated bays; **Asset-II:** 400 kV D/C Agra-Bhiwadi transmission line along with associated bays; **Asset-III:** 400 kV D/C Bhiwadi-Moga transmission line along with associated bays at Moga and Bhiwadi end including 02 numbers of 63 MVAR line reactors at Moga end and **Asset-IV:** 80 MVAR Bus Reactor at Bhiwadi Sub-station under Northern Region System Strengthening Scheme-V in Northern Region.

And in the matter of:

Power Grid Corporation of India Limited,
"SAUDAMINI", Plot No-2,
Sector-29, Gurgaon-122 001 (Haryana).

.....Petitioner

Versus

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,
Vidyut Bhawan, Vidyut Marg,
Jaipur -302005.
2. Ajmer Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur.
3. Jaipur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur.

ATTESTED TRUE COPY
pag. 27 to 64
Authorised Signatory
Power Grid Corporation of India Ltd.
Plot No. 2, Sector-29, Gurgaon-122001 (HARYANA)



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4. Jodhpur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur.
5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building II,
Shimla-171004.
6. Punjab State Electricity Board,
Thermal Shed Tia, Near 22 Phatak,
Patiala-147001.
7. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula (Haryana)-134109.
8. Power Development Department,
Govt. of Jammu & Kashmir,
Mini Secretariat, Jammu.
9. Uttar Pradesh Power Corporation Limited,
(Formerly Uttar Pradesh State Electricity Board),
Shakti Bhawan, 14, Ashok Marg,
Lucknow-226001.
10. Delhi Transco Limited,
Shakti Sadan, Kotla Road,
New Delhi-110002.
11. BSES Yamuna Power Limited,
BSES Bhawan, Nehru Place,
New Delhi.
12. BSES Rajdhani Power Limited,
BSES Bhawan, Nehru Place,
New Delhi.
13. North Delhi Power Limited,
Cennet Building, Adjacent to 66/11 kV Pitampura-3,
Grid Building, Near PP Jewellers,
Pitampura, New Delhi-110034.
14. Chandigarh Administration,
Sector-9, Chandigarh.
15. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road,
Dehradun.



16. Northern Central Railway,
Allahabad.

17. New Delhi Municipal Council,
Palika Kendra, Sansad Marg,
New Delhi-110002.

.....Respondent(s)

For Petitioner : Shri S. S. Raju, PGCIL
Shri D. K. Biswal, PGCIL
Shri V. P. Rastogi, PGCIL
Shri Amit Yadav, PGCIL

For Respondent : None

ORDER

The Petitioner, Power Grid Corporation of India Ltd., a deemed transmission licensee, has filed the instant petition for truing up of the transmission tariff for the 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and tariff determination for the period from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of the following transmission assets forming part of the Combined Asset under Northern Region System Strengthening Scheme-V in Northern Region (hereinafter referred to as “the transmission system”):

Asset-I: LILO of 400 kV Hissar-Bassi transmission line at Bhiwadi along with associated bays;

Asset-II: 400 kV D/C Agra-Bhiwadi transmission line along with associated bays;

Asset-III: 400 kV D/C Bhiwadi-Moga transmission line along with associated bays at Moga and Bhiwadi end including 02 numbers 63 MVAR line reactors at Moga end; and

Asset-IV: 80 MVAR Bus Reactor at Bhiwadi Sub-station.



2. The Petitioner has made the following prayers in this petition:

- “1) Approve the Additional Capitalisation expenditure incurred during 2014-19 tariff block.
- 2) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 9.1 and 11.
- 3) Allow the Petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before Hon'ble Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019.
- 4) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.
- 5) Allow the Petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the beneficiaries in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.
- 6) Allow the Petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the beneficiaries.
- 7) Allow the Petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses.
- 8) Allow the Petitioner to claim the capital spares at the end of tariff block as per actual.
- 9) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the beneficiaries, if GST on transmission is withdrawn from negative list at any time in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.

and pass such other relief as Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice”

3. **Backdrop of the case**

- a. The administrative approval and expenditure sanction to the transmission system was accorded by the Ministry of Power, Government of



India vide Letter No. 12/15/2004-PG dated 9.6.2006 at an estimated cost of ₹72125.00 lakh, including an IDC of ₹3266.00 lakh (based on 4th Quarter, 2005 price level).

b. The scope of work covered under the transmission system is as follows:

Transmission Lines:

- i. 400 kV D/C Agra-Bhiwadi line (208.260 kms)
- ii. LILO of 400 kV D/C Hissar-Bassi at Bhiwadi (76.485 kms)
- iii. 400 kV S/C (Twin) at LILO Point at Bhiwadi (4.242 kms)
- iv. Moga-Bhiwadi Transmission Line (350.525 kms)

Sub-station:

- i. Extension of 400 kV Agra (PGCIL) Sub-station;
- ii. Extension of 400/220 kV Moga (PGCIL) Sub-station; and
- iii. Extension of 400/220 kV Bhiwadi (PGCIL) Sub-station.

c. The entire scope of work under the transmission system is complete and the same is covered in the instant petition.

d. The Dates of Commercial Operation (COD) of Asset-I, Asset-II, Asset-III and Asset-IV was 1.4.2009, 1.9.2009, 1.4.2010 and 1.1.2011 respectively. The Effective Date of Commercial Operation (E-COD) is determined as 10.12.2009.

e. The transmission tariff of Asset-I and Combined Asset (I & II) for the period from 1.4.2009 to 31.3.2014, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 after accounting for Additional Capital Expenditure (ACE) during 2009-10 to 2012-13, was allowed by the Commission vide order dated 25.5.2011 in Petition No. 251/2010.

f. The transmission tariff based on ACE incurred up to COD and ACE projected to be incurred from COD to 31.3.2011 and during 2011-12 for Combined Asset (I, II & III) was determined vide order dated 5.7.2011 in Petition No. 294/2010.



g. The transmission tariff of Asset-IV for the period from notional COD to 31.3.2014 was allowed vide order dated 19.5.2014 in Petition No. 112/TT/2012.

h. The transmission tariff of the Combined Asset for the 2009-14 tariff period was trued-up and the tariff for the 2014-19 tariff period was determined vide order dated 9.2.2016 in Petition No. 101/TT/2015.

4. The Respondents are distribution licensees, power departments and transmission licensees, which are procuring transmission services from the Petitioner, mainly beneficiaries of Northern Region.

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers. None of the Respondents have filed their reply in the matter .

6. The hearing in this matter was held on 6.7.2021 through video conference and the order was reserved.

7. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 9.12.2019 and Petitioner's affidavit dated 15.2.2021 filed in compliance of Technical Validation letter. Having heard the representatives of the Petitioner and after perusal of the materials on record, we proceed to dispose of the petition.

TRUING UP OF ANNUAL FIXED CHARGES FOR THE 2014-19 TARIFF PERIOD

8. The details of the trued-up transmission charges claimed by the Petitioner in respect of the Combined Asset for the 2014-19 tariff period are as follows:



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3551.25	3551.33	3551.95	3558.15	3563.81
Interest on Loan	613.46	598.25	710.77	711.45	749.99
Return on Equity	3763.89	3781.24	3780.02	3786.97	3803.50
Interest on Working Capital	244.05	246.16	250.84	253.34	256.99
O&M Expenses	1114.14	1151.45	1189.54	1229.01	1269.80
Total	9286.79	9328.43	9483.12	9538.92	9644.09

9. The details of the trued-up Interest on Working Capital (IWC) claimed by the Petitioner in respect of the Combined Asset for the 2014-19 tariff period are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	92.85	95.95	99.13	102.42	105.82
Maintenance Spares	167.12	172.72	178.43	184.35	190.47
Receivables	1547.80	1554.74	1580.52	1589.82	1607.35
Total Working Capital	1807.77	1823.41	1858.08	1876.59	1903.64
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest of Working Capital	244.05	246.16	250.84	253.34	256.99

Capital Cost

10. The Commission vide order dated 9.2.2016 in Petition No. 101/TT/2015 had allowed capital cost of ₹66766.25 lakh as on 31.3.2014 and the same has been considered as opening capital cost for truing-up of transmission tariff for the 2014-19 tariff period. The capital cost of the Combined Asset has been calculated in accordance with Regulation 9(3) of the 2014 Tariff Regulations.

Additional Capital Expenditure

11. The Commission had allowed ACE of ₹277.00 lakh during 2014-19 period for the Combined Asset vide order dated 9.2.2016 in Petition No. 101/TT/2015. The Petitioner has claimed ACE of ₹2.93 lakh, ₹20.72 lakh and ₹137.03 lakh for Asset-I during the year 2015-16, 2016-17 and 2017-18 respectively. Also, the Petitioner has

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claimed ACE of ₹77.21 lakh for Asset-IV during the year 2017-18. The Petitioner has claimed the total ACE of ₹237.89 lakh in accordance with Regulation 14(3)(v) of the 2014 Tariff Regulations on account of liability for works executed prior to the cut-off date in the instant petition.

12. The Petitioner has submitted the vendor-wise ACE details as follows:

Asset	Head/ Agency	2015-16	2016-17	2017-18	Total	Details
Asset-I	Sub-station (M/s BHEL)	2.93	20.72	137.03	160.68	Balance & Retention - Payment of Balance & Retention Payments
Asset-IV		0.00	0.00	77.21	77.21	

13. We have considered the submissions of the Petitioner. ACE claimed is towards balance and retention payments for works executed before the cut-off date and the same has been certified by the Auditor vide Certificates dated 31.7.2019. Further, the total capital expenditure during 2014-19 is within the limits of the total approved capital expenditure and the total cost as on 31.3.2019 is within the approved cost. Thus, the same is allowed in accordance with Regulation 14(3)(v) of the 2014 Tariff Regulations.

14. Accordingly, the details of the approved capital cost considered for truing up of tariff for the 2014-19 tariff period are as follows:

(₹ in lakh)					
Apportioned Approved Cost as per FR	Capital Cost as on 31.3.2014	ACE 2015-16	ACE 2016-17	ACE 2017-18	Capital Cost as on 31.3.2019
72124.70	66766.25	2.93	20.72	214.24	67004.14



15. The details of capital cost allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015, capital cost claimed by the Petitioner and trued-up in the instant order are as follows:

(₹ in lakh)			
Particulars	Capital cost as on 1.4.2014 on cash basis	ACE 2014-19	Total Capital cost including ACE as on 31.3.2019
Allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015	66766.25	277.00	21930.13
Claimed by the Petitioner in the instant petition	66766.25	237.89	21986.24
Approved after true-up in this order	66766.25	237.89	21986.24

Debt-Equity Ratio

16. The debt-equity ratio has been allowed in accordance with Regulation 19(3) of the 2014 Tariff Regulations. As per Regulation 19(3) of the 2014 Tariff Regulations, the debt-equity ratio allowed by the Commission for determination of tariff for the period ending on 31.3.2014 shall be considered. Accordingly, the details of the debt-equity ratio as on 1.4.2014 and 31.3.2019 of the Combined Asset is as follows:

Funding	Capital Cost as on 1.4.2014 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2019 (₹ in lakh)	(in %)
Debt	47587.18	71.27	47753.70	71.27
Equity	19179.07	28.73	19250.44	28.73
Total	66766.25	100.00	67004.14	100.00

Depreciation

17. The Petitioner's claim towards depreciation in this petition was found higher than the depreciation allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015. The Petitioner has neither given any justification for claiming higher depreciation as allowed earlier nor made any specific prayer for allowing higher depreciation in this petition. It is observed that vide order dated 9.2.2016 in Petition No. 101/TT/2015, the



depreciation for IT equipment was allowed @5.28%. The Petitioner, now at the time of truing-up of the tariff of the 2014-19 period, has segregated the IT equipment cost from the sub-station cost and has considered depreciation rate for IT Equipment @15% and salvage value for IT Equipment is NIL as per the 2014 Tariff Regulations. A similar issue had come up before the Commission in Petition No. 19/TT/2020 which was dealt by the Commission vide order dated 9.5.2020.

18. In terms of order dated 9.5.2020 in Petition No. 19/TT/2020, depreciation has been considered for IT Equipment @5.28% as part of the sub-station up to 31.3.2019 while truing up the capital expenditure for the 2014-19 period. However, for the 2019-24 tariff period, the IT Equipment has been considered separately and depreciation has been allowed @15% for the balance depreciable value of IT Equipment in accordance with Regulation 33 of the 2019 Tariff Regulations. The Gross Block during the 2014-19 tariff period has been depreciated at Weighted Average Rate of Depreciation (WAROD) and working of WAROD is at Annexure-I. WAROD has been worked out after considering the depreciation rates of the transmission assets as specified in the 2014 Tariff Regulations and depreciation approved during 2014-19 tariff period is as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation					
Opening Gross Block	66766.25	66766.25	66769.18	66789.90	67004.14
ACE	0.00	2.93	20.72	214.24	0.00
Closing Gross Block	66766.25	66769.18	66789.90	67004.14	67004.14
Average Gross Block	66766.25	66767.72	66779.54	66897.02	67004.14
Weighted Average Rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
Aggregate Depreciable Value	60089.63	60090.94	60101.59	60207.32	60303.73
Balance useful life of the asset (Year)	30	29	28	27	26
Lapsed life (Year)	4	5	6	7	8

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Combined Depreciation during the year	3527.55	3527.63	3528.25	3534.46	3540.11
Cumulative depreciation at the end of the year	18401.41	21929.04	25457.29	28991.75	32531.86
Remaining Depreciable Value at the end of the year	41688.21	38161.90	34644.29	31215.57	27771.87

19. The details of depreciation allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015, depreciation claimed by the Petitioner in the instant petition and as trued-up in the instant order are as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015	3534.86	3542.18	3542.18	3542.18	3542.18
Claimed by the Petitioner in the instant petition	3551.25	3551.33	3551.95	3558.15	3563.81
Approved after true-up in this order	3527.55	3527.63	3528.25	3534.46	3540.11

Interest on Loan (IoL)

20. The Petitioner has claimed IoL in terms of Regulation 26 of the 2014 Tariff Regulations. IoL has been calculated based on actual interest rate submitted by the Petitioner in accordance with Regulation 26 of the 2014 Tariff Regulations. The trued-up IoL allowed in respect of the Combined Asset is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Loan					
Gross Normative Loan	47587.18	47587.18	47589.23	47603.74	47753.70
Cumulative Repayments up to Previous Year	14873.86	18401.41	21929.04	25457.29	28991.75
Net Loan-Opening	32713.32	29185.77	25660.19	22146.44	18761.96
Additions	0.00	2.05	14.50	149.97	0.00
Repayment during the year	3527.55	3527.63	3528.25	3534.46	3540.11
Net Loan-Closing	29185.77	25660.19	22146.44	18761.96	15221.84
Average Loan	30949.54	27422.98	23903.32	20454.20	16991.90
Weighted Average Rate of Interest on Loan (in %)	1.9829	2.1844	2.9809	3.4924	4.4417
Interest on Loan	613.71	599.02	712.54	714.33	754.74



21. The details of IoL allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015, IoL claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015	614.15	546.06	475.98	405.91	335.83
Claimed by the Petitioner in the instant petition	613.46	598.25	710.77	711.45	749.99
Approved after true-up in this order	613.71	599.02	712.54	714.33	754.74

Return on Equity (RoE)

22. The Petitioner has claimed RoE for the Combined Asset in terms of Regulations 24 and 25 of the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at MAT rates and has claimed the following effective tax rates for the 2014-19 tariff period:

Year	Claimed effective tax rate (in %)	Grossed-up RoE (in %) [(Base Rate/(1-t))]
2014-15	21.018	19.624
2015-16	21.382	19.716
2016-17	21.338	19.705
2017-18	21.337	19.704
2018-19	21.549	19.758

23. We have considered the submissions of the Petitioner. The Commission vide order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate for the Petitioner based on the notified Minimum Alternate Tax (MAT) rates and the same is given in the table below:

Year	Notified MAT rates (in %) (inclusive of surcharge & cess)	Effective tax (in %)
2014-15	20.961	20.961
2015-16	21.342	21.342
2016-17	21.342	21.342
2017-18	21.342	21.342
2018-19	21.549	21.549

24. MAT rates considered in order dated 27.4.2020 for the purpose of grossing up of rate of RoE for truing up of the tariff of the 2014-19 tariff period, in terms of the provisions of the 2014 Tariff Regulations, is considered in the instant case which is as follows:

Year	Notified MAT rates (in %) (inclusive of surcharge & cess)	Base rate of RoE (in %)	Grossed-up RoE (in %) [(Base Rate/(1-t))]
2014-15	20.961	15.50	19.610
2015-16	21.342	15.50	19.705
2016-17	21.342	15.50	19.705
2017-18	21.342	15.50	19.705
2018-19	21.549	15.50	19.758

25. The Petitioner has claimed RoE for the 2014-19 period after grossing up the RoE of 15.50% with Effective Tax rates (based on MAT rates) each year as per Regulation 25(3) of the 2014 Tariff Regulations. We have considered the submission of the Petitioner. RoE is trued-up on the basis of the MAT rate applicable in the respective years and is allowed for the Combined Asset as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	19179.07	19179.07	19179.95	19186.17	19250.44
Additions	0.00	0.88	6.22	64.27	0.00
Closing Equity	19179.07	19179.95	19186.17	19250.44	19250.44
Average Equity	19179.07	19179.51	19183.06	19218.30	19250.44
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (in %)	19.610	19.705	19.705	19.705	19.758
Return on Equity	3761.02	3779.32	3780.02	3786.97	3803.50

26. The details of RoE allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015, RoE claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015	3769.25	3777.40	3777.40	3777.40	3777.40
Claimed by the Petitioner in the instant petition	3763.89	3781.24	3780.02	3786.97	3803.50
Approved after true-up in this order	3761.02	3779.32	3780.02	3786.97	3803.50

Operation & Maintenance Expenses (O&M Expenses)

27. The total O&M Expenses claimed by the Petitioner for the Combined Asset are as follows:

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Transmission line					
400 kV D/C Agra-Bhiwadi Line D/C Bundled (Two and three conductors) (km)	208.260	208.260	208.260	208.260	208.260
LILO of 400 kV D/C Hissar-Bassi at Bhiwadi D/C Bundled (Two and three conductors) (km)	76.485	76.485	76.485	76.485	76.485
Moga- Bhiwadi D/C Bundled (Two and three conductors) (km)	350.525	350.525	350.525	350.525	350.525
Norms (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806
400 kV S/C Twin at LILO Point Bhiwadi S/C Bundled (Twin and three conductors) (km)	4.242	4.242	4.242	4.242	4.242
Norms (₹ lakh/km)	0.404	0.418	0.432	0.446	0.461
Sub-station Bays 400 kV (Conventional)					
Bhiwadi: 400 kV Bus Reactor bay	1 number	1 number	1 number	1 number	1 number
Agra: 400 kV Line bays	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Bhiwadi: 400 kV line bays	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Bhiwadi: Line bays at Bhiwadi (Hissar and Bassi)	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Moga: Moga-I Bay	1 number	1 number	1 number	1 number	1 number
Moga: Moga-II Bay	1 number	1 number	1 number	1 number	1 number
Bhiwadi: Bhiwadi I Bay	1 number	1 number	1 number	1 number	1 number
Bhiwadi: Bhiwadi II Bay	1 number	1 number	1 number	1 number	1 number
Norms (₹ lakh/bays)	60.30	62.30	64.37	66.51	68.71
Total O&M Expenses (₹ in lakh)	1114.14	1151.45	1189.54	1229.01	1269.80

28. Regulation 29(3) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The norms specified in respect of the elements covered in the Combined Asset are as follows:

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Element	Norms for 2014-15	Norms for 2015-16	Norms for 2016-17	Norms for 2017-18	Norms for 2018-19
Single Circuit (Two and Three Conductor) (₹ lakh/km)	0.404	0.418	0.432	0.446	0.461
Double Circuit (Two and Three Conductor) (₹ lakh/km)	0.707	0.731	0.755	0.780	0.806
400 kV Sub-station (₹ lakh/ bay)	60.30	62.30	64.37	66.51	68.71

29. The O&M Expenses are allowed for the Combined Asset as per the norms specified in Regulation 29(3) of the 2014 Tariff Regulations and are as follows:

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Transmission line					
400 kV D/C Agra-Bhiwadi Line D/C Bundled (Two and Three Conductor) (km)	208.260	208.260	208.260	208.260	208.260
LILO of 400 kV D/C Hissar-Bassi at Bhiwadi D/C Bundled (Two and Three Conductor) (km)	76.485	76.485	76.485	76.485	76.485
Moga-Bhiwadi D/C Bundled (Two and Three Conductor) (km)	350.525	350.525	350.525	350.525	350.525
Norms (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806
400 kV S/C Twin at LILO Point Bhiwadi S/C Bundled (Two and Three Conductor) (km)	4.242	4.242	4.242	4.242	4.242
Norms (₹ lakh/km)	0.404	0.418	0.432	0.446	0.461
Sub-station Bays 400 kV (Conventional)					
Bhiwadi: 400 kV Bus Reactor bay at Bhiwadi	1 number	1 number	1 number	1 number	1 number
Agra: 400 kV Line bays at Agra	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Bhiwadi: 400 kV line bays at Bhiwadi	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Bhiwadi: Line days at Bhiwadi (Hissar and Bassi)	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Moga: Moga-I Bay	1 number	1 number	1 number	1 number	1 number
Moga: Moga-II Bay	1 number	1 number	1 number	1 number	1 number
Bhiwadi: Bhiwadi I Bay	1 number	1 number	1 number	1 number	1 number
Bhiwadi: Bhiwadi II Bay	1 number	1 number	1 number	1 number	1 number
Norms (₹ lakh/bays)	60.30	62.30	64.37	66.51	68.71
Total O&M Expenses (₹ in lakh)	1114.15	1151.46	1189.53	1229.01	1269.79



30. The details of O&M Expenses allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015	1114.15	1151.46	1189.53	1229.01	1269.79
Claimed by the Petitioner in the instant petition	1114.14	1151.45	1189.54	1229.01	1269.80
Approved after true-up in this order	1114.15	1151.46	1189.53	1229.01	1269.79

Interest on Working Capital

31. The Petitioner has claimed IWC in terms of Regulation 28 of the 2014 Tariff Regulations. We have considered the submission of the Petitioner. IWC has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and the trued-up IWC allowed for the Combined Asset for the 2014-19 tariff period are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital					
Working capital for O&M Expenses (O&M Expenses for 1 month)	92.85	95.95	99.13	102.42	105.82
Working capital for Maintenance Spares (15% of O&M Expenses)	167.12	172.72	178.43	184.35	190.47
Working capital for Receivables (Equivalent to 2 months of annual fixed cost)	1543.31	1550.50	1576.78	1586.27	1604.12
Total Working Capital	1803.28	1819.18	1854.34	1873.04	1900.40
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	243.44	245.59	250.34	252.86	256.55

32. The details of IWC allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015, IWC claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015	243.81	244.66	245.15	245.72	246.36
Claimed by the Petitioner in the instant petition	244.05	246.16	250.84	253.34	256.99
Approved after true-up in this order	243.44	245.59	250.34	252.86	256.55

Approved Annual Fixed Charges for the 2014-19 Tariff Period

33. The trued-up Annual Fixed Charges (AFC) for the Combined Asset for the 2014-19 tariff period are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3527.55	3527.63	3528.25	3534.46	3540.11
Interest on Loan	613.71	599.02	712.54	714.33	754.74
Return on Equity	3761.02	3779.32	3780.02	3786.97	3803.50
O&M Expenses	1114.15	1151.46	1189.53	1229.01	1269.79
Interest on Working Capital	243.44	245.59	250.34	252.86	256.55
Total	9259.87	9303.01	9460.68	9517.63	9624.70

34. Accordingly, the Annual Transmission Charges allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015, claimed by the Petitioner in the instant petition and approved after truing up in the instant order is as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed vide order dated 9.2.2016 in Petition No. 101/TT/2015	9276.23	9261.76	9230.24	9200.21	9171.56
Claimed by the Petitioner in the instant petition	9286.79	9328.43	9483.12	9538.92	9644.09
Approved after true-up in this order	9259.87	9303.01	9460.68	9517.63	9624.70

DETERMINATION OF ANNUAL FIXED CHARGES FOR THE 2019-24 TARIFF PERIOD

35. The Petitioner has claimed the following transmission charges for the Combined Asset for the 2019-24 tariff period:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	3529.21	3527.22	3527.22	777.02	777.02
Interest on Loan	623.25	458.73	294.12	193.81	158.45
Return on Equity	3615.62	3615.62	3615.62	3615.62	3615.62
Interest on Working Capital	157.02	156.27	155.24	113.76	114.53
O&M Expenses	922.39	954.59	987.88	1022.23	1057.66
Total	8847.49	8712.43	8580.08	5722.44	5723.28

36. The details of IWC claimed by the Petitioner for the 2019-24 period are as follows:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	76.87	79.55	82.32	85.19	88.14
Maintenance Spares	138.36	143.19	148.18	153.33	158.65
Receivables	1087.81	1074.14	1057.82	705.51	703.68
Total Working Capital	1303.04	1296.88	1288.32	944.03	950.47
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest of Working Capital	157.02	156.27	155.24	113.76	114.53

Effective Date of Commercial Operation (E-COD)

37. The Petitioner has claimed E-COD of the Combined Asset as 1.4.2010. Based on the trued-up admitted capital cost and actual COD of all the transmission assets, E-COD has been worked out as follows:

Asset	Admitted Capital Cost as on 31.3.2014 (₹ in lakh)	Actual COD	Number of Days from last COD	Weight of cost (in %)	Weighted Days	Effective COD (Latest COD - total Weighted Days)
Asset-I	7914.42	1.4.2009	640	11.85%	75.87	
Asset-II	22863.76	1.9.2009	487	34.24%	166.77	
Asset-III	34985.67	1.4.2010	275	52.40%	144.10	
Asset-IV	1002.39	1.1.2011	-	1.50%	0.00	
Total	66766.25			100%	386.74	10.12.2009



Weighted Average Life (WAL)

38. WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2014 and their respective life as stipulated in the 2014 Tariff Regulations. Accordingly, WAL of the Combined Asset has been worked out as 34 years as follows:

Particulars	Useful Life (in years) (A)	Capital Cost as on 31.3.2014 (₹ in lakh) (B)	Weighted Cost (₹ in lakh) (C=A x B)	Weighted Avg. Life of Asset (in years) (D=C / B)
Building & Civil Works	25	69.53	1,738.25	33.78 years (rounded off to 34 years)
Transmission Line	35	58,944.22	20,63,047.70	
Sub-station	25	7405.67	1,85,141.75	
PLCC	15	346.83	5,202.45	
Total		66,766.25	22,55,130.15	

Capital Cost

39. Regulation 19 of the 2019 Tariff Regulations provides as follows:

"19 Capital Cost: (1) *The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.*

(2) *The Capital Cost of a new project shall include the following:*

- (a) *The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
- (b) *Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
- (c) *Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) *Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) *Capitalised Initial Spares subject to the ceiling rates in accordance with these regulations;*
- (f) *Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) *Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*



- (h) Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;*
- (i) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (j) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
- (k) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
- (l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*
- (m) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
- (n) Expenditure on account of change in law and force majeure events; and*
- (o) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*

(3) The Capital cost of an existing project shall include the following:

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*
- (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;*
- (c) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and*
- (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*

(4) The capital cost in case of existing or new hydro generating station shall also include:

- (a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and*
- (b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.*

(5) The following shall be excluded from the capital cost of the existing and new projects:



- (a) The assets forming part of the project, but not in use, as declared in the tariff petition;
- (b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:

Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be decapitalised only after its redeployment;

Provided further that unless shifting of an asset from one project to another is of permanent nature, there shall be no de-capitalization of the concerned assets.

- (c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;
- (d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and
- (e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”

40. The Petitioner has claimed capital cost of ₹67004.14 lakh as on 31.3.2019 for the Combined Asset. The same has been worked out by the Commission as on 31.3.2019 and considered as the opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations.

41. The Petitioner has not projected any ACE during the 2019-24 tariff period for the Combined Asset. Accordingly, the capital cost considered for the 2019-24 tariff period is as follows:

(₹ in lakh)		
Capital Cost (as on 1.4.2019)	ACE (2019-24)	Capital Cost (as on 31.3.2024)
67004.14	0.00	67004.14

Debt-Equity Ratio

42. Regulation 18 of the 2019 Tariff Regulations provides as follows:

"18. Debt-Equity Ratio: (1) For new projects, 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 a 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 modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.”

43. The debt-equity considered for the purpose of computation of tariff for the 2019-24 tariff period is as follows:

Funding	Capital Cost (as on 1.4.2019) (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2024) (₹ in lakh)	(in %)
Debt	47753.70	71.27	47753.70	71.27
Equity	19250.44	28.73	19250.44	28.73
Total	67004.14	100.00	67004.14	100.00

Depreciation

44. Regulations 33(1), 33(2) and 33(5) of the 2019 Tariff Regulations provide as follows:

“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”

*“(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.”

45. The Gross Block during the 2019-24 tariff period has been depreciated at WAROD. WAROD at Annexure-II till 2021-22 has been worked out after considering the depreciation rates of assets as prescribed in the 2019 Tariff Regulations. As the Combined Asset shall complete 12 years of useful life on 31.3.2023, the remaining depreciable value is spread over the balance useful life as mentioned in Regulation 33(5) of the 2019 Tariff Regulations. The depreciation allowed for the Combined Asset for the 2019-24 period is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation					
Opening Gross Block	67004.14	67004.14	67004.14	67004.14	67004.14
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	0.00	0.00	0.00	0.00	0.00
Average Gross Block	67004.14	67004.14	67004.14	67004.14	67004.14
Weighted Average Rate of Depreciation (in %)	5.32	5.32	5.32	1.16	1.16
Aggregate Depreciable Value	60328.12	60328.12	60328.12	60328.12	60328.12
Balance useful life of the asset (Year)	25	24	23	22	21
Lapsed life (Year)	9	10	11	12	13
Depreciation during the year	3563.82	3563.82	3563.82	777.49	777.49
Cumulative depreciation at the end of the year	36095.68	39659.50	43223.33	44000.82	44778.31
Remaining Depreciable Value at the end of the year	24232.44	20668.62	17104.79	16327.30	15549.81

Interest on Loan

46. Regulation 32 of the 2019 Tariff Regulations provides as follows:

“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 de-capitalization 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-capitalisation 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.

(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 loans shall be reflected from the date of such re-financing."

47. The weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during the 2019-24 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true up. Therefore, IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed for the Combined Asset for the 2019-24 tariff period is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	47753.70	47753.70	47753.70	47753.70	47753.70



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Cumulative Repayments up to Previous Year	32531.86	36095.68	39659.50	43223.33	44000.82
Net Loan-Opening	15221.84	11658.02	8094.20	4530.38	3752.89
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	3563.82	3563.82	3563.82	777.49	777.49
Net Loan-Closing	11658.02	8094.20	4530.38	3752.89	2975.40
Average Loan	13439.93	9876.11	6312.29	4141.63	3364.14
Weighted Average Rate of Interest on Loan (in %)	4.6725	4.6759	4.6810	4.6914	4.7242
Interest on Loan	627.99	461.80	295.48	194.30	158.93

Return on Equity

48. Regulations 30 and 31 of the 2019 Tariff Regulations provides as follows:

“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 station, 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 due to Change in Law, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;

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.”

“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 a generating company or a 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 a 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 1,000 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 = $15.50/(1-0.24) = 20.395\%$.

(3) 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 customers, as the case may be, on year to year basis.”

49. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company.

50. We have considered the submission of the Petitioner. Accordingly, MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which shall be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed for the Combined Asset for the 2019-24 tariff period is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	19250.44	19250.44	19250.44	19250.44	19250.44
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	19250.44	19250.44	19250.44	19250.44	19250.44
Average Equity	19250.44	19250.44	19250.44	19250.44	19250.44
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	3615.62	3615.62	3615.62	3615.62	3615.62

Operation & Maintenance Expenses

51. The O&M Expenses claimed by the Petitioner for the various elements included in the Combined Asset for the 2019-24 tariff period are as follows:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Transmission line					
400 kV D/C Agra- Bhiwadi Line D/C Bundled (Twin/Triple conductors) (km)	208.260	208.260	208.260	208.260	208.260
LILO of 400 kV D/C Hissar- Bassi at Bhiwadi D/C Bundled (Twin/Triple conductors) (km)	76.485	76.485	76.485	76.485	76.485

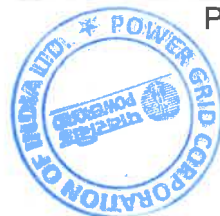


Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Moga- Bhiwadi D/C Bundled (Twin/Triple conductors) (km)	350.525	350.525	350.525	350.525	350.525
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
400 kV S/C Twin at LILO Point Bhiwadi S/C Bundled (Twin/Triple conductors) (km)	4.242	4.242	4.242	4.242	4.242
Norms (₹ lakh/km)	0.252	0.26	0.27	0.279	0.289
Sub-station Bays 400 kV(Conventional)					
Bhiwadi:400 kV Bus Reactor bay at Bhiwadi	1 number	1 number	1 number	1 number	1 number
Agra:400 kV Line bays at Agra	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Bhiwadi:400 kV line bays at Bhiwadi	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Bhiwadi: Line days at Bhiwadi (Hissar and Bassi)	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Moga: Moga-I Bay	1 number	1 number	1 number	1 number	1 number
Moga: Moga-II Bay	1 number	1 number	1 number	1 number	1 number
Bhiwadi: Bhiwadi I Bay	1 number	1 number	1 number	1 number	1 number
Bhiwadi: Bhiwadi II Bay	1 number	1 number	1 number	1 number	1 number
Norms (₹ lakh/bays)	32.15	33.28	34.45	35.66	36.91
PLCC	2% of the PLCC Project Cost				
PLCC related project cost (₹ in lakh)	346.83	346.83	346.83	346.83	346.83
Total O&M Expenses (₹ in lakh)	922.39	954.59	987.88	1022.23	1057.66

52. Regulations 35(3)(a) and 35(4) of the 2019 Tariff Regulations provide as follows:

“35 Operation and Maintenance Expenses (3) Transmission system: (a) The following normative operation and maintenance expenses shall be admissible for the transmission system:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for sub-station Bays (₹ Lakh per bay)					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
Norms for Transformers (₹ Lakh per MVA)					
765 kV	0.491	0.508	0.526	0.545	0.564



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (₹ Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

Provided that the O&M expenses for the GIS bays shall be allowed as worked out by multiplying 0.70 of the O&M expenses of the normative O&M expenses for bays;

Provided further that:

i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;

ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;

iii. the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);

iv. the O&M expenses of ±800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme;

v. the O&M expenses of ±800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme; and

vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three year

(b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of sub-station bays, transformer capacity of the transformer (in MVA) and km of line length with the applicable norms for the operation and maintenance expenses per bay, per MVA and per km respectively.



(c) The Security Expenses and Capital Spares for transmission system shall be allowed separately after prudence check:

Provided that the transmission licensee shall submit the assessment of the security requirement and estimated security expenses, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification.”

“(4) **Communication system:** The operation and maintenance expenses for the communication system shall be worked out at 2.0% of the original project cost related to such communication system. The transmission licensee shall submit the actual operation and maintenance expenses for truing up.”

53. We have considered the submissions of the Petitioner. The Petitioner has claimed O&M Expenses separately for PLCC under Regulation 35(4) of the 2019 Tariff Regulations @2% of its original project cost in the instant petition. The Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of the sub-station in the 2014 Tariff Regulations and 2019 Tariff Regulations and the norms for sub-station has been specified accordingly. Accordingly, the Commission vide order dated 24.1.2021 in Petition No. 126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019 Tariff Regulations. Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed.

54. The O&M Expenses allowed for the Combined Asset is as follows:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Transmission line					
400 KV D/C Agra- Bhiwadi Line D/C Bundled (Twin/Triple conductors) (km)	208.260	208.260	208.260	208.260	208.260
LILO of 400 KV D/C Hissar-Bassi at Bhiwadi D/C Bundled (Twin/Triple conductors) (km)	76.485	76.485	76.485	76.485	76.485
Moga- Bhiwadi D/C Bundled (Twin/Triple conductors) (km)	350.525	350.525	350.525	350.525	350.525
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
400 kv S/C Twin at LILO Point Bhiwadi S/C Bundled (Twin/Triple conductors) (km)	4.242	4.242	4.242	4.242	4.242



Norms (₹ lakh/km)	0.252	0.26	0.27	0.279	0.289
Sub-station Bays 400 kV (Conventional)					
Bhiwadi:400 kV Bus Reactor bay at Bhiwadi	1 number	1 number	1 number	1 number	1 number
Agra:400 kV Line bays at Agra	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Bhiwadi:400 kV line bays at Bhiwadi	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Bhiwadi: Line days at Bhiwadi (Hissar and Bassi)	2 numbers	2 numbers	2 numbers	2 numbers	2 numbers
Moga: Moga-I Bay	1 number	1 number	1 number	1 number	1 number
Moga: Moga-II Bay	1 number	1 number	1 number	1 number	1 number
Bhiwadi: Bhiwadi I Bay	1 number	1 number	1 number	1 number	1 number
Bhiwadi: Bhiwadi II Bay	1 number	1 number	1 number	1 number	1 number
Norms (₹ lakh/bays)	32.15	33.28	34.45	35.66	36.91
Total O&M Expenses (₹ in lakh)	915.46	947.66	980.93	1015.29	1050.72

Interest on Working Capital

55. Regulations 34(1)(c), 34(3), 34(4) and Regulation 3(7) of the 2019 Tariff Regulations specify as follows:

“34. Interest on Working Capital

(1)...

(c) For Hydro Generating Station (including Pumped Storage Hydro Generating Station) and Transmission System:

- i. Receivables equivalent to 45 days of fixed cost;*
- ii. Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and*
- iii. Operation and maintenance expenses, including security expenses for one month”*

“(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:

Provided that in case of truing-up, the rate of interest on working capital shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24.”

“(4) Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency.”

“3. Definitions ...

(7) 'Bank Rate' means the one-year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 350 basis points;"

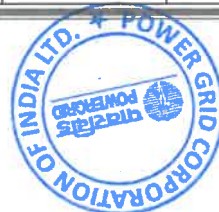
56. The Petitioner has submitted that it has computed IWC for the 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest (RoI) considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, RoI for 2020-21 onwards has been considered as 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) and for 2021-22 onwards, RoI has been considered as 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points). The components of the working capital and interest allowed thereon is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for 1 month)	76.29	78.97	81.74	84.61	87.56
Working Capital for Maintenance Spares (15% of O&M Expenses)	137.32	142.15	147.14	152.29	157.61
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	1091.83	1076.91	1059.18	702.91	701.08
Total Working Capital	1305.43	1298.03	1288.06	939.81	946.25
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	157.30	146.03	135.25	98.68	99.36

Annual Fixed Charges for the 2019-24 Tariff Period

57. The transmission charges allowed for the Combined Asset for the 2019-24 tariff period are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	3563.82	3563.82	3563.82	777.49	777.49
Interest on Loan	627.99	461.80	295.48	194.30	158.93
Return on Equity	3615.62	3615.62	3615.62	3615.62	3615.62



O&M Expenses	915.46	947.66	980.93	1015.29	1050.72
Interest on Working Capital	157.30	146.03	135.25	98.68	99.36
Total	8880.19	8734.92	8591.10	5701.37	5702.11

Filing Fee and Publication Expenses

58. The Petitioner has claimed reimbursement of filing fee and publication expenses. The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

License Fee & RLDC Fees and Charges

59. The Petitioner has claimed reimbursement of license fee and recovery of RLDC fees and charges. The Petitioner shall be entitled for reimbursement of license fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for the 2019-24 tariff period. The Petitioner shall also be entitled for recovery of RLDC fee and charges in accordance with Regulation 70(3) of the 2019 Tariff Regulations for the 2019-24 tariff period.

Goods and Services Tax

60. The Petitioner has submitted that if GST is levied at any rate and at any point of time in future on charges of transmission of electricity, the same shall be borne and additionally paid by the Respondent(s) to the Petitioner and the same shall be charged and billed separately by the Petitioner. Further additional taxes, if any, are to be paid by the Petitioner on account of demand from Government/ Statutory authorities, the same may be allowed to be recovered from the beneficiaries.



61. We have considered the submissions of the Petitioner. Since GST is not levied on transmission service at present, we are of the view that the Petitioner's prayer is premature.

Security Expenses

62. The Petitioner has submitted that security expenses in respect of the transmission assets are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential IWC.

63. We have considered the submissions of the Petitioner. The Petitioner has claimed consolidated security expenses on projected basis for the 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19 in Petition No. 260/MP/2020. The said petition has already been disposed of by the Commission *vide* order dated 3.8.2021. Therefore, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.

Capital Spares

64. The Petitioner has sought reimbursement of capital spares at the end of tariff period. The Petitioner's claim, if any, shall be dealt with in accordance with the provisions of the 2019 Tariff Regulations.

Sharing of Transmission Charges

65. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission system was governed by the 2010 Sharing Regulations. With effect from 1.11.2020, sharing of transmission charges is governed by the 2020 Sharing Regulations. Accordingly, the liabilities of DICs for arrears of transmission charges



determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and shall be recovered from the concerned DICs through Bills under Regulation 15(2)(b) of the 2020 Sharing Regulations. For subsequent period, the billing, collection and disbursement of the transmission charges approved in this order shall be governed by the provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

66. To summarise:

- a) The trued-up AFC approved for the Combined Asset for the 2014-19 tariff period are:

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
9259.87	9303.01	9460.68	9517.63	9624.70

- b) AFC allowed for the Combined Asset for the 2019-24 tariff period in the instant order are:

(₹ in lakh)				
2019-20	2020-21	2021-22	2022-23	2023-24
8880.19	8734.92	8591.10	5701.37	5702.11

67. Annexure-I and Annexure-II given hereinafter shall form part of this order.

68. This order disposes of Petition No. 696/TT/2020 in terms of the above discussions and findings.

sd/-
(Pravas Kumar Singh)
Member

sd/-
(Arun Goyal)
Member


sd/-
(I. S. Jha)
Member



Annexure-I

2014-19 Capital Expenditure	Admitted Capital Cost as on 1.4.2014/COD (₹ in lakh)	ACE (₹ in lakh)					Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)				
		2015-16	2016-17	2017-18	2018-19	Total			2014-15	2015-16	2016-17	2017-18	2018-19
Land - Freehold	0.00	0.00	0.00	0.00	0.00	0.00	-	-	0.00	0.00	0.00	0.00	0.00
Land - Leasehold	0.00	0.00	0.00	0.00	0.00	0.00	-	3.34%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	69.53	0.00	0.00	0.00	0.00	0.00	69.53	3.34%	2.32	2.32	2.32	2.32	2.32
Transmission Line	58944.22	0.00	0.00	0.00	0.00	0.00	58944.22	5.28%	3112.25	3112.25	3112.25	3112.25	3112.25
Sub Station	7161.73	2.93	20.72	214.24	0.00	237.89	7399.62	5.28%	378.14	378.22	378.84	385.04	390.70
PLCC	346.83	0.00	0.00	0.00	0.00	0.00	346.83	6.33%	21.95	21.95	21.95	21.95	21.95
IT Equipment (Incl. Software)	243.94	0.00	0.00	0.00	0.00	0.00	243.94	5.28%	12.88	12.88	12.88	12.88	12.88
Total	66766.25	2.93	20.72	214.24	0.00	237.89	67004.14		3627.55	3627.63	3628.25	3534.45	3540.11
Average Gross Block (₹ in lakh)									66766.25	66767.72	66779.54	66897.02	67004.14
Weighted Average Rate of Depreciation									5.28%	5.28%	5.28%	5.28%	5.28%

Annexure-II

2019-24 Capital Expenditure	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Projected ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)				
					2019-20	2020-21	2021-22	2022-23	2023-24
Land - Freehold	0.00	0.00	0.00	-	0.00	0.00	0.00		
Land - Leasehold	0.00	0.00	0.00	3.34%	0.00	0.00	0.00		
Building Civil Works & Colony	69.53	0.00	69.53	3.34%	2.32	2.32	2.32		
Transmission Line	58944.22	0.00	58944.22	5.28%	3112.25	3112.25	3112.25		
Sub Station	7399.62	0.00	7399.62	5.28%	390.70	390.70	390.70		
PLCC	346.83	0.00	346.83	6.33%	21.95	21.95	21.95		
IT Equipment (Incl. Software)	243.94	0.00	243.94	15.00%	36.59	36.59	36.59		
Total	67004.14	0.00	67004.14		3563.82	3563.82	3563.82	777.49	777.49
Average Gross Block (₹ in lakh)					67004.14	67004.14	67004.14	67004.14	67004.14
Weighted Average Rate of Depreciation					5.32%	5.32%	5.32%	1.16%	1.16%



End-2

Summary of Tariff

Form No. - 1

Name of the Transmission Licensee:	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Year Days	366.00	365.00	365.00	365.00	366.00
Tariff Days	366.00	365.00	365.00	365.00	366.00
Depreciation-Form No. 10A	3,563.81	3,563.81	3,563.81	777.50	777.50
Interest on Loan-Form No. 9E	559.18	262.10	132.21	184.53	245.94
Return on Equity-Form No. 8	3,615.62	3,615.62	3,615.62	3,615.62	3,615.62
Int. on Working capital-Form No.11	156.27	143.22	133.11	98.55	115.07
Op. and maintenance-Form No.2	915.45	947.65	980.94	1,015.29	1,050.72
Total AFC	8,810.33	8,532.40	8,425.69	5,691.49	5,804.85

(Petitioner)



Name of the Transmission Licensee		Power Grid Corporation of India Limited	
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010, 112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

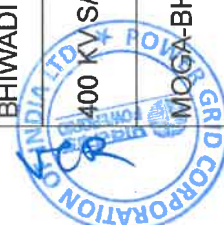
1. Transmission Lines

(Amount in Rs. Lakh)

Name of Line	Type of Line AC/HVDC	S/C or D/C	No of Sub-Conductors	Voltage Level KV	Line Bays	Line Reactor (Including Switchable Reactor)	Line Length Km	Date of Commercial operation	Covered in the present petition	
									Yes/No	If No, Petition No.
400 KV D/C AGRA-BHIWADI LINE	AC	DC	2	400 KV	0.000	0.000	208.260	Dec 10, 2009	Y	
LIL OF 400 KV D/C HISSAR-BASSI AT BHIWADI	AC	DC	2	400 KV	0.000	0.000	76.485	Dec 10, 2009	Y	
400 KV S/C (TWIN) TL (AT LILO POINT)	AC	SC	2	400 KV	0.000	0.000	4.242	Dec 10, 2009	Y	
MOGA-BHIWADI TL	AC	DC	2	400 KV	0.000	0.000	350.525	Dec 10, 2009	Y	

Summary:

O&M Expenses For the Transmission Lines Covered in the instant petition	2019-20	2020-21	2021-22	2022-23	2023-24
DOUBLE CIRCUIT (TWIN CONDUCTOR)					



Normative Rate of O&M as per Regulation	0.881	0.912	0.944	0.977	1.011
No. of Units - (Length in KM)	635.27	635.27	635.27	635.27	635.27
O&M Claimed	559.67	579.36	599.70	620.66	642.26
SINGLE CIRCUIT (TWIN CONDUCTOR)					
Normative Rate of O&M as per Regulation	0.503	0.521	0.539	0.558	0.578
No. of Units - (Length in KM)	4.242	4.242	4.242	4.242	4.242
O&M Claimed	2.13	2.21	2.29	2.37	2.45



2. Sub Station

Name of Sub-station	Type of Substation	Voltage Level KV	No. of Transfor ms/ Reactor/ SVC etc. (with capacity)	No. of Bays				MVA/MVAR Capacity				Date of Comm. operation	Covered in the present petition
				765 KV	400 KV	220 KV	132 KV	765 KV	400 KV	220 KV	132 KV		
Bhiwadi:400 KV BUS REACTOR BAY AT BHIWADI		400 KV		1.000								Dec 10, 2009	Y
Agra:400 KV LINE BAYS AT AGRA		400 KV		2.000								Dec 10, 2009	Y
Bhiwadi:400 KV LINE BAYS AT BHIWADI		400 KV		2.000								Dec 10, 2009	Y
Bhiwadi:LINE BAYS AT BHIWADI (HISSAR AND BASSI)		400 KV		2.000								Dec 10, 2009	Y
Moga:MOGA-I BAY		400 KV		1.000								Dec 10, 2009	Y
Moga:MOGA-II BAY		400 KV		1.000								Dec 10, 2009	Y
Bhiwadi:BHIWADI-I BAY	Conventio nal	400 KV		1.000								Dec 10, 2009	Y
Bhiwadi:BHIWADI-II BAY	Conventio nal	400 KV		1.000								Dec 10, 2009	Y
Bhiwadi:BUS REACTOR AT BHIWADI	Conventio nal	400 KV	1.000							80.000		Dec 10, 2009	Y



3. Communication System

Summary:



Summary of O&M Expenses claim

(Amount in Rs. Lakh)

Particular	2019-20	2020-21	2021-22	2022-23	2023-24
A) Normative O&M					
Transmission Line	561.80	581.57	601.99	623.03	644.71
Substation	353.65	366.08	378.95	392.26	406.01
Communication System	0.00	0.00	0.00	0.00	0.00
Total Normative O&M	915.45	947.65	980.94	1,015.29	1,050.72
B) O&M Claimed under Regulation 35 (3)(C) (* The same is not being claimed and will be claimed through separate Petition)					
*Security Expenses	0.00	0.00	0.00	0.00	0.00
*Actual Capital Spare consumed	0.00	0.00	0.00	0.00	0.00
*Insurance Premium Paid	0.00	0.00	0.00	0.00	0.00
Total O&M	915.45	947.65	980.94	1,015.29	1,050.72



(Petitioner)

Normative parameters considered for tariff computations

Form No. - 3

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010, 112/TT/2012 Effective DOCO		
Region	Northern Region	DOCOC Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Base Rate of Return of Equity (in %)						
Tax Rate (in %)	21.55	17.472	17.472	17.472	17.472	17.472
Effective tax rate (in %)						
Grossed up Rate of ROE (in %)	19.758	18.782	18.782	18.782	18.782	18.782
Target availability - AC System (in %)	98.00	98.00	98.00	98.00	98.00	98.00
Target availability - HVDC System (in %)	96.00	96.00	96.00	96.00	96.00	96.00
Norms for sub-station Bays (Rs Lakh per bay)						
765 kV	96.20	45.01	46.60	48.23	49.93	51.68
400 kV	68.71	32.15	33.28	34.45	35.66	36.91
220 kV	48.10	22.51	23.30	24.12	24.96	25.84
132 kV and below	34.36	16.08	16.64	17.23	17.83	18.46
Norms for Transformers (Rs Lakh per MVA)						
765 kV	0.00	0.491	0.508	0.526	0.545	0.564
400 kV	0.00	0.358	0.371	0.384	0.398	0.411
220 kV	0.00	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.00	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (Rs Lakh per km)						
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.806	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.691	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.461	0.503	0.521	0.539	0.558	0.578



Single Circuit (Single Conductor)	0.23	0.252	0.26	0.27	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.21	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.806	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.346	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.123	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.413	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations						
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	0.00	834.00	864.00	894.00	925.00	958.00
Gazuwaka HVDC Back-to-Back station (Rs. Lakh per 500 MW)	0.00	1,666.00	1,725.00	1,785.00	1,848.00	1,913.00
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	0.00	2,252.00	2,331.00	2,413.00	2,498.00	2,586.00
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	0.00	2,468.00	2,555.00	2,645.00	2,738.00	2,834.00
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	0.00	1,696.00	1,756.00	1,817.00	1,881.00	1,947.00
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	0.00	2,563.00	2,653.00	2,746.00	2,842.00	2,942.00

(Petitioner)



Calculation of ROE

Form No. - 8

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
No. of Days in the year	366.00	365.00	365.00	365.00	366.00
No. of days for which tariff claimed	366.00	365.00	365.00	365.00	366.00
Opening Normative Equity	19,250.44	19,250.44	19,250.44	19,250.44	19,250.44
Less: Adjustment in Equity*	0.00	0.00	0.00	0.00	0.00
Adjustment during the year	0.00	0.00	0.00	0.00	0.00
Net opening equity (Normal)	19,250.44	19,250.44	19,250.44	19,250.44	19,250.44
Add: Increase in Equity due to addition during the year / period	0.00	0.00	0.00	0.00	0.00
Less: Decrease due to de-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
Add: Increase due to discharge during the year / period	0.00	0.00	0.00	0.00	0.00
Closing Normative Equity	19,250.44	19,250.44	19,250.44	19,250.44	19,250.44
Average Normative Equity	19,250.44	19,250.44	19,250.44	19,250.44	19,250.44
Rate of return on Equity (%)	18.782	18.782	18.782	18.782	18.782
Reduced rate of 1% decided by commission under Regulation 30(2) (if any)	0.00	0.00	0.00	0.00	0.00
Effective rate of ROE	15.50	15.50	15.50	15.50	15.50
MAT/Corporate Rate	17.472	17.472	17.472	17.472	17.472
Grossed up rate of ROE	18.782	18.782	18.782	18.782	18.782
Return on Equity	3,615.62	3,615.62	3,615.62	3,615.62	3,615.62
Pro rata return on Equity	3,615.62	3,615.62	3,615.62	3,615.62	3,615.62



(Petitioner)

Calculation of WAR of interest on actual loan

Form No. - 9C

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
ADB III -1.DOCO Loan 1					
Gross Loan- Opening	656.63	656.63	656.63	656.63	656.63
Cumulative repayments of Loans upto previous year	298.73	350.33	407.22	469.93	539.14
Net loan-Opening	357.90	306.30	249.41	186.70	117.49
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	51.59	56.89	62.72	69.21	76.29
Net Loan-Closing	306.31	249.41	186.69	117.49	41.20
Average Net Loan	332.11	277.86	218.05	152.10	79.35
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	13.7466	7.2686	4.4514	6.7157	5.8021

ADB III -10.6.1.DOCO					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Loan- Opening	14,594.77	14,594.77	14,594.77	14,594.77	14,594.77
Cumulative repayments of Loans upto previous year	6,639.86	7,786.58	9,051.06	10,445.08	11,983.37
Net loan-Opening	7,954.91	6,808.19	5,543.71	4,149.69	2,611.40
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	1,146.72	1,264.49	1,394.02	1,538.28	1,695.79
Net Loan-Closing	6,808.19	5,543.70	4,149.69	2,611.41	915.61



Average Net Loan	7,381.55	6,175.95	4,846.70	3,380.55	1,763.51
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	305.5359	161.5582	98.9442	149.2619	128.9493

ADB III -11.7.2.ADDCAP FOR 20

Gross Loan- Opening	208.89	208.89	208.89	208.89	208.89
Cumulative repayments of Loans upto previous year	95.03	111.45	129.55	149.50	171.52
Net loan-Opening	113.86	97.44	79.34	59.39	37.37
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	16.41	18.10	19.95	22.02	24.27
Net Loan-Closing	97.45	79.34	59.39	37.37	13.10
Average Net Loan	105.66	88.39	69.37	48.38	25.24
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	4.3735	2.3122	1.4162	2.1361	1.8456

ADB III -12.8.3.ADDCAP FOR 20

Gross Loan- Opening	160.68	160.68	160.68	160.68	160.68
Cumulative repayments of Loans upto previous year	73.10	85.72	99.64	114.99	131.92
Net loan-Opening	87.58	74.96	61.04	45.69	28.76
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	12.62	13.92	15.35	16.93	18.67
Net Loan-Closing	74.96	61.04	45.69	28.76	10.09
Average Net Loan	81.27	68.00	53.37	37.23	19.43
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	3.3639	1.7788	1.0895	1.6438	1.4207



ADB III -13.9.4.DOCO					
Gross Loan- Opening	4,992.62	4,992.62	4,992.62	4,992.62	4,992.62
Cumulative repayments of Loans upto previous year	2,271.38	2,663.66	3,096.21	3,573.08	4,099.30
Net loan-Opening	2,721.24	2,328.96	1,896.41	1,419.54	893.32
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	392.27	432.56	476.87	526.22	580.10
Net Loan-Closing	2,328.97	1,896.40	1,419.54	893.32	313.22
Average Net Loan	2,525.11	2,112.68	1,657.98	1,156.43	603.27
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	104.5189	55.2661	33.8473	51.06	44.1116

ADB III -14.10.5.DOCO..					
Gross Loan- Opening	224.95	224.95	224.95	224.95	224.95
Cumulative repayments of Loans upto previous year	102.34	120.01	139.51	160.99	184.70
Net loan-Opening	122.61	104.94	85.44	63.96	40.25
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	17.67	19.49	21.49	23.71	26.14
Net Loan-Closing	104.94	85.45	63.95	40.25	14.11
Average Net Loan	113.78	95.20	74.70	52.11	27.18
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	4.7096	2.4904	1.525	2.3008	1.9874

ADB III -2.ADDCAP FOR 2010-20					
Gross Loan- Opening	12.30	12.30	12.30	12.30	12.30
Cumulative repayments of Loans upto previous year	5.60	6.57	7.63	8.81	10.10
Net loan-Opening	6.70	5.73	4.67	3.49	2.20



Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.97	1.07	1.18	1.30	1.43
Net Loan-Closing	5.73	4.66	3.49	2.19	0.77
Average Net Loan	6.22	5.20	4.08	2.84	1.49
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.2575	0.136	0.0833	0.1254	0.109

ADB III -3.ADDCAP FOR 2011-20

Gross Loan- Opening	41.75	41.75	41.75	41.75	41.75
Cumulative repayments of Loans upto previous year	19.00	22.27	25.89	29.88	34.28
Net loan-Opening	22.75	19.48	15.86	11.87	7.47
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	3.28	3.62	3.99	4.40	4.85
Net Loan-Closing	19.47	15.86	11.87	7.47	2.62
Average Net Loan	21.11	17.67	13.87	9.67	5.05
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.8738	0.4622	0.2832	0.427	0.3693

ADB III -4.ADDCAP FOR 2012-20

Gross Loan- Opening	10.31	10.31	10.31	10.31	10.31
Cumulative repayments of Loans upto previous year	4.69	5.50	6.39	7.38	8.47
Net loan-Opening	5.62	4.81	3.92	2.93	1.84
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.81	0.89	0.99	1.09	1.20
Net Loan-Closing	4.81	3.92	2.93	1.84	0.64
Average Net Loan	5.22	4.37	3.43	2.39	1.24



Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.2161	0.1143	0.07	0.1055	0.0907

ADB III -5.1.DOCO Loan 1					
Gross Loan- Opening	23,310.42	23,310.42	23,310.42	23,310.42	23,310.42
Cumulative repayments of Loans upto previous year	10,605.03	12,436.54	14,456.14	16,682.64	19,139.56
Net loan-Opening	12,705.39	10,873.88	8,854.28	6,627.78	4,170.86
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	1,831.51	2,019.61	2,226.50	2,456.91	2,708.48
Net Loan-Closing	10,873.88	8,854.27	6,627.78	4,170.87	1,462.38
Average Net Loan	11,789.64	9,864.08	7,741.03	5,399.33	2,816.62
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	487.9948	258.0369	158.0313	238.3974	205.9536

ADB III -6.2.ADDCAP FOR 2010-					
Gross Loan- Opening	1,104.25	1,104.25	1,104.25	1,104.25	1,104.25
Cumulative repayments of Loans upto previous year	502.37	589.14	684.81	790.28	906.67
Net loan-Opening	601.88	515.11	419.44	313.97	197.58
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	86.76	95.67	105.47	116.39	128.30
Net Loan-Closing	515.12	419.44	313.97	197.58	69.28
Average Net Loan	558.50	467.28	366.71	255.78	133.43
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	23.1173	12.2237	7.4863	11.2935	9.7565

ADB III -7.3.ADDCAP FOR 2011-					
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Gross Loan- Opening	2,003.11	2,003.11	2,003.11	2,003.11	2,003.11
Cumulative repayments of Loans upto previous year	911.31	1,068.70	1,242.25	1,433.58	1,644.71
Net loan-Opening	1,091.80	934.41	760.86	569.53	358.40
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	157.39	173.55	191.33	211.13	232.74
Net Loan-Closing	934.41	760.86	569.53	358.40	125.66
Average Net Loan	1,013.11	847.64	665.20	463.97	242.03
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	41.9345	22.1736	13.5799	20.4857	17.6974

ADB III -8.4.ADDCAP FOR 2012-

Gross Loan- Opening	133.44	133.44	133.44	133.44	133.44
Cumulative repayments of Loans upto previous year	60.71	71.19	82.76	95.50	109.56
Net loan-Opening	72.73	62.25	50.68	37.94	23.88
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	10.49	11.56	12.75	14.06	15.51
Net Loan-Closing	62.24	50.69	37.93	23.88	8.37
Average Net Loan	67.49	56.47	44.31	30.91	16.13
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	2.7935	1.4772	0.9046	1.3648	1.1794

ADB III -9.5.ADDCAP FOR 2013-

Gross Loan- Opening	131.18	131.18	131.18	131.18	131.18
Cumulative repayments of Loans upto previous year	59.68	69.98	81.35	93.88	107.71
Net loan-Opening	71.50	61.20	49.83	37.30	23.47
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00



Less: Repayment(s) of loan during the year	10.31	11.37	12.53	13.83	15.24
Net Loan-Closing	61.19	49.83	37.30	23.47	8.23
Average Net Loan	66.35	55.52	43.57	30.39	15.85
Rate of Interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	2.7463	1.4524	0.8895	1.3418	1.159

BOND XLVI -ADD CAP 2015-16					
Gross Loan- Opening	2.06	2.06	2.06	2.06	2.06
Cumulative repayments of Loans upto previous year	0.00	0.69	0.69	0.69	0.69
Net loan-Opening	2.06	1.37	1.37	1.37	1.37
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.69	0.00	0.00	0.00	0.00
Net Loan-Closing	1.37	1.37	1.37	1.37	1.37
Average Net Loan	1.72	1.37	1.37	1.37	1.37
Rate of Interest on Loan on Annual Basis	9.30	9.30	9.30	9.30	9.30
Interest on loan`	0.16	0.1274	0.1274	0.1274	0.1274

BOND LIV -ADD CAP 2016-17					
Gross Loan- Opening	10.26	10.26	10.26	10.26	10.26
Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	3.42	3.42
Net loan-Opening	10.26	10.26	10.26	6.84	6.84
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	0.00	3.42	0.00	0.00
Net Loan-Closing	10.26	10.26	6.84	6.84	6.84
Average Net Loan	10.26	10.26	8.55	6.84	6.84
Rate of Interest on Loan on Annual Basis	7.97	7.97	7.97	7.97	7.97



Interest on loan	0.8177	0.8177	0.6814	0.5451	0.5451
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BOND LVII (57) -ADD CAP 2016-17					
Gross Loan- Opening	4.24	4.24	4.24	4.24	4.24
Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	4.24	4.24
Net loan-Opening	4.24	4.24	4.24	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	0.00	4.24	0.00	0.00
Net Loan-Closing	4.24	4.24	0.00	0.00	0.00
Average Net Loan	4.24	4.24	2.12	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.20	7.20	7.20	7.20	7.20
Interest on loan	0.3053	0.3053	0.1526	0.00	0.00

BOND60 (LX) -ADD CAP 2017-18					
Gross Loan- Opening	149.97	149.97	149.97	149.97	149.97
Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	0.00	0.00
Net loan-Opening	149.97	149.97	149.97	149.97	149.97
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	0.00	0.00	0.00	0.00
Net Loan-Closing	149.97	149.97	149.97	149.97	149.97
Average Net Loan	149.97	149.97	149.97	149.97	149.97
Rate of Interest on Loan on Annual Basis	7.20	7.20	7.20	7.20	7.20
Interest on loan	10.7978	10.7978	10.7978	10.7978	10.7978

Summary



Gross Loan- Opening	47,751.83	47,751.83	47,751.83	47,751.83	47,751.83
Cumulative repayments of Loans upto previous year	21,648.83	25,388.33	29,511.10	34,063.87	39,079.36
Net loan-Opening	26,103.00	22,363.50	18,240.73	13,687.96	8,672.47
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	3,739.49	4,122.79	4,552.80	5,015.48	5,529.01
Net Loan-Closing	22,363.51	18,240.71	13,687.93	8,672.48	3,143.46
Average Net Loan	24,233.31	20,302.15	15,964.38	11,180.26	5,908.00
Rate of Interest on Loan on Annual Basis	4.1606	2.6539	2.0944	4.4554	7.3105
Interest on loan	1,008.263	538.7988	334.3609	498.1297	431.9019

(Petitioner)



Loans in Foreign Currency

Form No. - 9D

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
ADB III -1.DOCO Loan 1 -USD					
Gross Loan-Opening	14.508	14.508	14.508	14.508	14.508
Cumulative repayments of loans upto previous year	6.6004	7.7403	8.9973	10.383	11.9121
Net Loans-Opening	7.9076	6.7677	5.5107	4.125	2.5959
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	1.1399	1.257	1.3857	1.5291	1.6857
Net Loan-Closing	6.7677	5.5107	4.125	2.5959	0.9102
Average Net Loan	7.33765	6.1392	4.81785	3.36045	1.75305
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.303719	0.160597	0.098355	0.148374	0.128184

ADB III -10.6.1.DOCO -USD					
Gross Loan-Opening	296.10	296.10	296.10	296.10	296.10
Cumulative repayments of loans upto previous year	134.71	157.9748	183.6288	211.9108	243.1197
Net Loans-Opening	161.39	138.1252	112.4712	84.1892	52.9803
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	23.2648	25.654	28.2821	31.2088	34.4044
Net Loan-Closing	138.1252	112.4712	84.1891	52.9804	18.5759



Average Net Loan	149.7576	125.2982	98.33015	68.5848	35.7781
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	6.198741	3.277707	2.007386	3.028234	2.616125

ADB III -11.7.2.ADDCAP FOR 20 -USD

Gross Loan-Opening	4.4089	4.4089	4.4089	4.4089	4.4089
Cumulative repayments of loans upto previous year	2.0058	2.3522	2.7342	3.1553	3.62
Net Loans-Opening	2.4031	2.0567	1.6747	1.2536	0.7889
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.3464	0.382	0.4211	0.4647	0.5123
Net Loan-Closing	2.0567	1.6747	1.2536	0.7889	0.2766
Average Net Loan	2.2299	1.8657	1.46415	1.02125	0.53275
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.0923	0.048805	0.02989	0.045091	0.038955

ADB III -12.8.3.ADDCAP FOR 20 -USD

Gross Loan-Opening	3.3912	3.3912	3.3912	3.3912	3.3912
Cumulative repayments of loans upto previous year	1.5428	1.8093	2.1031	2.427	2.7844
Net Loans-Opening	1.8484	1.5819	1.2881	0.9642	0.6068
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.2664	0.2938	0.3239	0.3574	0.394
Net Loan-Closing	1.582	1.2881	0.9642	0.6068	0.2128
Average Net Loan	1.7152	1.435	1.12615	0.7855	0.4098
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.070995	0.037539	0.02299	0.034682	0.029965



ADB III -13.9.4.DOCO -USD					
Gross Loan-Opening	96.85	96.85	96.85	96.85	96.85
Cumulative repayments of loans upto previous year	44.0617	51.6713	60.0623	69.3129	79.5209
Net Loans-Opening	52.7883	45.1787	36.7877	27.5371	17.3291
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	7.6096	8.391	9.2507	10.208	11.2532
Net Loan-Closing	45.1787	36.7877	27.537	17.3291	6.0759
Average Net Loan	48.9835	40.9832	32.16235	22.4331	11.7025
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	2.027517	1.07209	0.656587	0.990492	0.855697

ADB III -14.10.5.DOCO.. -USD					
Gross Loan-Opening	4.7478	4.7478	4.7478	4.7478	4.7478
Cumulative repayments of loans upto previous year	2.16	2.533	2.9444	3.3979	3.8983
Net Loans-Opening	2.5878	2.2148	1.8034	1.3499	0.8495
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.373	0.4113	0.4535	0.5004	0.5517
Net Loan-Closing	2.2148	1.8035	1.3499	0.8495	0.2978
Average Net Loan	2.4013	2.00915	1.57665	1.0997	0.57365
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.099394	0.052558	0.032187	0.048555	0.041946

ADB III -2.ADDCAP FOR 2010-20 -USD					
Gross Loan-Opening	0.2597	0.2597	0.2597	0.2597	0.2597
Cumulative repayments of loans upto previous year	0.1181	0.1386	0.1611	0.1859	0.2132
Net Loans-Opening	0.1416	0.1211	0.0986	0.0738	0.0465



Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.0204	0.0225	0.0248	0.0274	0.0302
Net Loan-Closing	0.1212	0.0986	0.0738	0.0464	0.0163
Average Net Loan	0.1314	0.10985	0.0862	0.0601	0.0314
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.005439	0.002874	0.00176	0.002654	0.002296

ADB III -3.ADDCAP FOR 2011-20 -USD

Gross Loan-Opening	0.8517	0.8517	0.8517	0.8517	0.8517
Cumulative repayments of loans upto previous year	0.3875	0.4544	0.5282	0.6095	0.6993
Net Loans-Opening	0.4642	0.3973	0.3235	0.2422	0.1524
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.0669	0.0738	0.0814	0.0898	0.099
Net Loan-Closing	0.3973	0.3235	0.2421	0.1524	0.0534
Average Net Loan	0.43075	0.3604	0.2828	0.1973	0.1029
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.01783	0.009428	0.005773	0.008711	0.007524

ADB III -4.ADDCAP FOR 2012-20 -USD

Gross Loan-Opening	0.2103	0.2103	0.2103	0.2103	0.2103
Cumulative repayments of loans upto previous year	0.0957	0.1122	0.1304	0.1505	0.1727
Net Loans-Opening	0.1146	0.0981	0.0799	0.0598	0.0376
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.0165	0.0182	0.0201	0.0222	0.0244
Net Loan-Closing	0.0981	0.0799	0.0598	0.0376	0.0132
Average Net Loan	0.10635	0.089	0.06985	0.0487	0.0254



Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.004402	0.002328	0.001426	0.00215	0.001857

ADB III -5.1.DOCO Loan 1 -USD

Gross Loan-Opening	510.41	510.41	510.41	510.41	510.41
Cumulative repayments of loans upto previous year	232.2099	272.3131	316.5348	365.2867	419.0838
Net Loans-Opening	278.2001	238.0969	193.8752	145.1233	91.3262
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	40.1032	44.2217	48.7519	53.797	59.3054
Net Loan-Closing	238.0969	193.8752	145.1233	91.3263	32.0208
Average Net Loan	258.1485	215.98605	169.49925	118.2248	61.6735
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	10.685239	5.650033	3.460287	5.219996	4.509618

ADB III -6.2.ADDCAP FOR 2010- -USD

Gross Loan-Opening	23.2816	23.2816	23.2816	23.2816	23.2816
Cumulative repayments of loans upto previous year	10.5919	12.4212	14.4383	16.662	19.1159
Net Loans-Opening	12.6897	10.8604	8.8433	6.6196	4.1657
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	1.8292	2.0171	2.2237	2.4539	2.7051
Net Loan-Closing	10.8605	8.8433	6.6196	4.1657	1.4606
Average Net Loan	11.7751	9.85185	7.73145	5.39265	2.81315
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.487393	0.257717	0.157836	0.238102	0.2057

ADB III -7.3.ADDCAP FOR 2011- -USD



Gross Loan-Opening	42.8199	42.8199	42.8199	42.8199	42.8199
Cumulative repayments of loans upto previous year	19.4808	22.8452	26.5551	30.6451	35.1583
Net Loans-Opening	23.3391	19.9747	16.2648	12.1748	7.6616
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	3.3644	3.7099	4.09	4.5132	4.9753
Net Loan-Closing	19.9747	16.2648	12.1748	7.6616	2.6863
Average Net Loan	21.6569	18.11975	14.2198	9.9182	5.17395
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.896419	0.473999	0.290294	0.43792	0.378324

ADB III -8.4.ADDCAP FOR 2012- -USD

Gross Loan-Opening	2.7222	2.7222	2.7222	2.7222	2.7222
Cumulative repayments of loans upto previous year	1.2385	1.4523	1.6882	1.9482	2.2351
Net Loans-Opening	1.4837	1.2699	1.034	0.774	0.4871
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.2139	0.2359	0.26	0.2869	0.3163
Net Loan-Closing	1.2698	1.034	0.774	0.4871	0.1708
Average Net Loan	1.37675	1.15195	0.904	0.63055	0.32895
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.056986	0.030134	0.018455	0.027841	0.024053

ADB III -9.5.ADDCAP FOR 2013- -USD

Gross Loan-Opening	2.4487	2.4487	2.4487	2.4487	2.4487
Cumulative repayments of loans upto previous year	1.114	1.3064	1.5186	1.7525	2.0106
Net Loans-Opening	1.3347	1.1423	0.9301	0.6962	0.4381
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00



Less: Repayment(s) of Loan during the year	0.1924	0.2122	0.2339	0.2581	0.2845
Net Loan-Closing	1.1423	0.9301	0.6962	0.4381	0.1536
Average Net Loan	1.2385	1.0362	0.81315	0.56715	0.29585
Rate of interest on Loan on Annual Basis	4.139183	2.615925	2.041476	4.415314	7.312084
Interest on loan	0.051264	0.027106	0.0166	0.025041	0.021633

(Petitioner)



Calculation of interest on Normative loan

Form No. - 9E

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
No. of Days in the Year	366.00	365.00	365.00	365.00	366.00
No. of days for which Tariff claimed	366.00	365.00	365.00	365.00	366.00
Gross normative loan-Opening	47,753.70	47,753.70	47,753.70	47,753.70	47,753.70
Cumulative repayments of Normative loan upto previous year	32,531.86	36,095.67	39,659.48	43,223.29	44,000.79
Net normative loan-Opening	15,221.84	11,658.03	8,094.22	4,530.41	3,752.91
Addition in normative loan towards the ACE	0.00	0.00	0.00	0.00	0.00
Adjustment of normative gross loan pertaining to the decapitalised asset	0.00	0.00	0.00	0.00	0.00
Normative repayments of normative loan during the year	3,563.81	3,563.81	3,563.81	777.50	777.50
Adjustment of cumulative repayment pertaining to the decapitalised asset	0.00	0.00	0.00	0.00	0.00
Net normative loan - closing	11,658.03	8,094.22	4,530.41	3,752.91	2,975.41
Average normative loan	13,439.94	9,876.13	6,312.32	4,141.66	3,364.16
Weighted Average Rate of interest on actual loan	4.1606	2.6539	2.0944	4.4554	7.3105
Interest on normative loan	559.18	262.10	132.21	184.53	245.94
Pro rata interest on normative loan	559.18	262.10	132.21	184.53	245.94

(Petitioner)



Calculation of Depreciation Rate on Original Project Cost

Form No. - 10

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Name of Assets	Gross block at the beginning of the year	Add Cap during the year	Gross block at the end of the year	Average Gross Block	Depreciation Rate as per CERC's Depreciation Rate Schedule	Depreciation Amount for each year upto 31.03.2024
2019-20						
Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
Civil & Building	69.54	0.00	69.54	69.54	3.34	2.32
Transmission Line	58,944.21	0.00	58,944.21	58,944.21	5.28	3,112.25
Sub Station	7,399.62	0.00	7,399.62	7,399.62	5.28	390.70
Comm. Sys. excluding Fiber Optic	346.83	0.00	346.83	346.83	6.33	21.95
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	243.94	0.00	243.94	243.94	15.00	36.59
Batteries	0.00	0.00	0.00	0.00	5.28	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	67,004.14	0.00	67,004.14	67,004.14	0.00	3,563.81
Weighted Average Rate of Depreciation(%)					5.318791	

2020-21						
Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00



Civil & Building	69.54	0.00	69.54	69.54	3.34	2.32
Transmission Line	58,944.21	0.00	58,944.21	58,944.21	5.28	3,112.25
Sub Station	7,399.62	0.00	7,399.62	7,399.62	5.28	390.70
Comm. Sys. excluding Fiber Optic	346.83	0.00	346.83	346.83	6.33	21.95
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	243.94	0.00	243.94	243.94	15.00	36.59
Batteries	0.00	0.00	0.00	0.00	5.28	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	67,004.14	0.00	67,004.14	67,004.14	0.00	3,563.81
Weighted Average Rate of Depreciation(%)					5.318791	

2021-22						
Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
Civil & Building	69.54	0.00	69.54	69.54	3.34	2.32
Transmission Line	58,944.21	0.00	58,944.21	58,944.21	5.28	3,112.25
Sub Station	7,399.62	0.00	7,399.62	7,399.62	5.28	390.70
Comm. Sys. excluding Fiber Optic	346.83	0.00	346.83	346.83	6.33	21.95
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	243.94	0.00	243.94	243.94	15.00	36.59
Batteries	0.00	0.00	0.00	0.00	5.28	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	67,004.14	0.00	67,004.14	67,004.14	0.00	3,563.81
Weighted Average Rate of Depreciation(%)					5.318791	



2022-23						
Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
Civil & Building	69.54	0.00	69.54	69.54	3.34	1.30
Transmission Line	58,944.21	0.00	58,944.21	58,944.21	5.28	682.94
Sub Station	7,399.62	0.00	7,399.62	7,399.62	5.28	90.08
Comm. Sys. excluding Fiber Optic	346.83	0.00	346.83	346.83	6.33	2.69
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	243.94	0.00	243.94	243.94	15.00	0.49
Batteries	0.00	0.00	0.00	0.00	5.28	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	67,004.14	0.00	67,004.14	67,004.14	0.00	777.50
Weighted Average Rate of Depreciation(%)					1.160376	

2023-24						
Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
Civil & Building	69.54	0.00	69.54	69.54	3.34	1.30
Transmission Line	58,944.21	0.00	58,944.21	58,944.21	5.28	682.94
Sub Station	7,399.62	0.00	7,399.62	7,399.62	5.28	90.08
Comm. Sys. excluding Fiber Optic	346.83	0.00	346.83	346.83	6.33	2.69
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	243.94	0.00	243.94	243.94	15.00	0.49
Batteries	0.00	0.00	0.00	0.00	5.28	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	67,004.14	0.00	67,004.14	67,004.14	0.00	777.50



Weighted Average Rate of Depreciation(%)					1.160376	
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(Petitioner)



Statement of Depreciation

Form No. - 10A

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
No of Days in the year	366.00	365.00	365.00	365.00	366.00
No of days for which tariff claimed	366.00	365.00	365.00	365.00	366.00
Life at the beginning of the year					
1.1 Weighted Average useful life of the Asset/ Project	34.00	34.00	34.00	34.00	34.00
1.2 Lapsed Weighted Average useful life of the Asset/Project(in completed no. of year)	9.00	10.00	11.00	12.00	13.00
1.3 Balance Weighted Average useful life of the Asset/Project(in completed no. of year)	25.00	24.00	23.00	22.00	21.00
Capital Base					
1.4 Opening capital cost	67,004.14	67,004.14	67,004.14	67,004.14	67,004.14
1.5 Additional Capital Expenditure dr. the year	0.00	0.00	0.00	0.00	0.00
1.6 De-Capitalisation During the year	0.00	0.00	0.00	0.00	0.00
1.7 Closing capital cost	67,004.14	67,004.14	67,004.14	67,004.14	67,004.14
1.8 Average capital cost	67,004.14	67,004.14	67,004.14	67,004.14	67,004.14
1.9 Freehold land included in 1.8	0.00	0.00	0.00	0.00	0.00
1.10 Asset having NIL salvage value included in 1.8	243.94	243.94	243.94	243.94	243.94
1.11 Asset having 10% salvage value included in 1.8	66,760.20	66,760.20	66,760.20	66,760.20	66,760.20
1.12 Depreciable Value(1.10+90% of 1.11)	60,328.13	60,328.13	60,328.13	60,328.13	60,328.13
Depreciation for the period and Cum. Depreciation					
1.13 Weighted Average Rate of depreciation	5.318791	5.318791	5.318791	1.160376	1.160376



1.14 Depreciation(for the period)	3,563.81	3,563.81	3,563.81	777.50	777.50
1.15 Depreciation(Annualised)	3,563.81	3,563.81	3,563.81	777.50	777.50
Unrecovered Depreciation for DECAP	0.00	0.00	0.00	0.00	0.00
1.16 Cumulative depreciation at the beginning of the period	32,531.86	36,095.67	39,659.48	43,223.29	44,000.79
1.17 Less:Adj of Cum. Dep pertaining to decapitalised Asset	0.00	0.00	0.00	0.00	0.00
1.18 Cumulative depreciation at the end of the period	36,095.67	39,659.48	43,223.29	44,000.79	44,778.29

(Petitioner)



Calculation of interest on working Capital

Form No. - 11

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
No of Days in the year	366.00	365.00	365.00	365.00	366.00
No of days for which tariff claimed	366.00	365.00	365.00	365.00	366.00
O&M Expenses-one month	76.29	78.97	81.75	84.61	87.56
Maintenance spares 15% of O&M Expenses	137.32	142.15	147.14	152.29	157.61
Receivables equivalent to 45 days of AFC	1,083.24	1,051.94	1,038.78	701.69	713.71
Total Working capital	1,296.85	1,273.06	1,267.67	938.59	958.88
Bank Rate as on 01.04.2019 or as on 01st April of the COD year, whichever is later.	12.05	11.25	10.50	10.50	12.00
Interest on working capital	156.27	143.22	133.11	98.55	115.07
Pro rata interest on working capital	156.27	143.22	133.11	98.55	115.07

(Petitioner)



End-3

Summary of Tariff

Form No. - 1

Name of the Transmission Licensee:	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010, 112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Year Days	365.00	365.00	365.00	366.00	365.00
Tariff Days	365.00	365.00	365.00	366.00	365.00
Depreciation-Form No. 10A	777.50	777.50	777.50	777.49	777.50
Interest on Loan-Form No. 9E	194.06	131.03	74.64	23.31	0.00
Return on Equity-Form No. 8	3,615.62	3,615.62	3,615.62	3,615.62	3,615.62
Int. on Working capital-Form No. 11	108.83	110.02	111.39	112.75	115.13
Op. and maintenance-Form No.2	940.95	990.30	1,041.77	1,096.41	1,154.36
Total AFC	5,636.96	5,624.47	5,620.92	5,625.58	5,662.61

(Petitioner)



Name of the Transmission Licensee	Power Grid Corporation of India Limited	
Project	NORTHERN REGION STRENGTHENING SCHEME-V	
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010, 112/TT/2012 Effective DOCO	
Region	Northern Region	DOCO Date Dec 10, 2009

1. Transmission Lines

(Amount in Rs. Lakh)

Name of Line	Type of Line AC/ HVDC	S/C or D/C	No of Sub-Conductors	Voltage Level KV	Line Bays	Line Reactor (Including Switchable Reactor)	Line Length Km	Date of Commercial operation	Covered in the present petition	
									Yes/No	If No, Petition No.
400 KV D/C AGRA-BHIWADI LINE	AC	DC	2	400 KV	0.000	0.000	208.260	Dec 10, 2009	Y	
LILO OF 400 KV D/C HISSAR-BASSI AT BHIWADI	AC	DC	2	400 KV	0.000	0.000	76.485	Dec 10, 2009	Y	
400 KV S/C (TWIN) TL (AT LILO POINT	AC	SC	2	400 KV	0.000	0.000	4.242	Dec 10, 2009	Y	
MOGA-BHIWADI TL	AC	DC	2	400 KV	0.000	0.000	350.525	Dec 10, 2009	Y	

Summary:

O&M Expenses For the Transmission Lines Covered in the instant petition	2024-25	2025-26	2026-27	2027-28	2028-29
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DOUBLE CIRCUIT (TWIN CONDUCTOR)



Normative Rate of O&M as per Regulation	0.861	0.906	0.953	1.003	1.056
No. of Units - (Length in KM)	635.27	635.27	635.27	635.27	635.27
O&M Claimed	546.96	575.56	605.41	637.17	670.84
SINGLE CIRCUIT (TWIN CONDUCTOR)					
Normative Rate of O&M as per Regulation	0.492	0.518	0.545	0.573	0.603
No. of Units - (Length in KM)	4.242	4.242	4.242	4.242	4.242
O&M Claimed	2.09	2.20	2.31	2.43	2.56



2. Sub Station

Name of Sub-station	Type of Substation	Voltage Level KV	No. of Transfomers/ Reactor/ SVC etc. (with capacity)	No. of Bays				MVA/MVAR Capacity				Date of Comm. operation	Covered in the present petition
				765 KV	400 KV	220 KV	132 KV	765 KV	400 KV	220 KV	132 KV		
Bhiwadi:400 KV BUS REACTOR BAY AT BHIWADI		400 KV		1.000								Dec 10, 2009	Y
Agra:400 KV LINE BAYS AT AGRA		400 KV		2.000								Dec 10, 2009	Y
Bhiwadi:400 KV LINE BAYS AT BHIWADI		400 KV		2.000								Dec 10, 2009	Y
Bhiwadi:LINE BAYS AT BHIWADI (HISSAR AND BASSI)		400 KV		2.000								Dec 10, 2009	Y
Moga:MOGA-I BAY		400 KV		1.000								Dec 10, 2009	Y
Moga:MOGA-II BAY		400 KV		1.000								Dec 10, 2009	Y
Bhiwadi:BHIWADI-I BAY	Conventional	400 KV		1.000								Dec 10, 2009	Y
Bhiwadi:BHIWADI-II BAY	Conventional	400 KV		1.000								Dec 10, 2009	Y
Bhiwadi:BUS REACTOR AT BHIWADI	Conventional	400 KV	1.000							80.000		Dec 10, 2009	Y



Agra:LR OF BHIWADI-1 AT AGRA	Conventional	400 KV	1.000							50.000			Dec 10, 2009	Y
Bhiwadi:BHIWADI HISSAR D/C LINE_REACTOR	Conventional	400 KV	2.000							63.000			Dec 10, 2009	Y

Summary:

O&M Expenses For Substations Covered in the instant petition		2024-25	2025-26	2026-27	2027-28	2028-29
400KV SUB-STATION						
Normative Rate of O&M as per Regulation						
No. of Units		29.53	31.08	32.71	34.43	36.23
O&M Claimed		11.00	11.00	11.00	11.00	11.00
400KV Sub-station Reactor						
Normative Rate of O&M as per Regulation						
No. of Units		0.262	0.276	0.29	0.305	0.322
O&M Claimed		4.00	4.00	4.00	4.00	4.00
		67.07	70.66	74.24	78.08	82.43



3. Communication System

Summary:



Summary of O&M Expenses claim

(Amount in Rs. Lakh)

Particular	2024-25	2025-26	2026-27	2027-28	2028-29
A) Normative O&M					
Transmission Line	549.05	577.76	607.72	639.60	673.40
Substation	391.90	412.54	434.05	456.81	480.96
Communication System	0.00	0.00	0.00	0.00	0.00
Total Normative O&M	940.95	990.30	1,041.77	1,096.41	1,154.36
B) O&M Claimed under Regulation 35 (3)(C) (* The same is not being claimed and will be claimed through separate Petition)					
*Security Expenses	0.00	0.00	0.00	0.00	0.00
*Actual Capital Spare consumed	0.00	0.00	0.00	0.00	0.00
*Insurance Premium Paid	0.00	0.00	0.00	0.00	0.00
Total O&M	940.95	990.30	1,041.77	1,096.41	1,154.36

(Petitioner)



Normative parameters considered for tariff computations

Form No. - 3

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Base Rate of Return of Equity (in %)						
Tax Rate (in %)	17.472	17.472	17.472	17.472	17.472	17.472
Effective tax rate (in %)						
Grossed up Rate for ROE of 15.5% (in %)	18.782	18.782	18.782	18.782	18.782	18.782
Grossed up Rate for ROE of 15.0% (in %)	18.176	18.176	18.176	18.176	18.176	18.176
Target availability - AC System (in %)	98.00	98.00	98.00	98.00	98.00	98.00
Target availability - HVDC System (in %)	96.00	96.00	96.00	96.00	96.00	96.00
Norms for sub-station Bays (Rs Lakh per bay)						
765 kV	51.68	41.34	43.51	45.79	48.20	50.73
400 kV	36.91	29.53	31.08	32.71	34.43	36.23
220 kV	25.84	20.67	21.75	22.90	24.10	25.36
132 kV and below	18.46	15.78	16.61	17.48	18.40	19.35
Norms for Transformers (Rs Lakh per MVA)						
765 kV	0.564	0.262	0.276	0.29	0.305	0.322
400 kV	0.411	0.262	0.276	0.29	0.305	0.322
220 kV	0.282	0.262	0.276	0.29	0.305	0.322
132 kV and below	0.282	0.262	0.276	0.29	0.305	0.322
Norms for Reactor (Rs Lakh per MVAR)						
765 kV	0.00	0.262	0.276	0.29	0.305	0.322
400 kV	0.00	0.262	0.276	0.29	0.305	0.322



220 kV	0.00	0.262	0.276	0.29	0.305	0.322
132 kV and below	0.00	0.262	0.276	0.29	0.305	0.322
Norms for AC and HVDC lines (Rs Lakh per km)						
Single Circuit (Bundled Conductor with six or more sub-conductors)	1.011	0.861	0.906	0.953	1.003	1.056
Single Circuit (Bundled conductor with four sub-conductors)	0.867	0.738	0.776	0.817	0.86	0.905
Single Circuit (Twin & Triple Conductor)	0.578	0.492	0.518	0.545	0.573	0.603
Single Circuit (Single Conductor)	0.289	0.246	0.259	0.272	0.287	0.302
Double Circuit (Bundled conductor with four or more sub-conductors)	1.517	1.291	1.359	1.43	1.506	1.585
Double Circuit (Twin & Triple Conductor)	1.011	0.861	0.906	0.953	1.003	1.056
Double Circuit (Single Conductor)	0.433	0.369	0.388	0.409	0.43	0.453
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.662	2.266	2.385	2.51	2.642	2.781
Multi Circuit (Twin & Triple Conductor)	1.773	1.509	1.588	1.671	1.759	1.851
Norms for HVDC stations (Rs Lakh/MW)						
HVDC bipole scheme (Rs Lakh/MW)	0.00	1.04	1.10	1.16	1.22	1.28
HVDC Back-to-Back stations (Rs Lakh/MW) (Except Gazuwaka BTB)	0.00	2.07	2.18	2.30	2.42	2.55
Gazuwaka HVDC Back-to-Back station (Rs Lakh/MW)	0.00	1.83	1.92	2.03	2.13	2.24

(Petitioner)



Calculation of ROE

Form No. - 8

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
No. of Days in the year	365.00	365.00	365.00	366.00	365.00
No. of days for which tariff claimed	365.00	365.00	365.00	366.00	365.00
Opening Normative Equity	19,250.44	19,250.44	19,250.44	19,250.44	19,250.44
Less: Adjustment in Equity*	0.00	0.00	0.00	0.00	0.00
Adjustment during the year	0.00	0.00	0.00	0.00	0.00
Net opening equity (Normal)	19,250.44	19,250.44	19,250.44	19,250.44	19,250.44
Add: Increase in Equity due to addition during the year / period	0.00	0.00	0.00	0.00	0.00
Less: Decrease due to de-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
Add: Increase due to discharge during the year / period	0.00	0.00	0.00	0.00	0.00
Closing Normative Equity	19,250.44	19,250.44	19,250.44	19,250.44	19,250.44
Average Normative Equity	19,250.44	19,250.44	19,250.44	19,250.44	19,250.44
Rate of return on Equity (%)	18.782	18.782	18.782	18.782	18.782
Reduced rate of 1% decided by commission under Regulation 30(2) (if any)	0.00	0.00	0.00	0.00	0.00
Effective rate of ROE	15.50	15.50	15.50	15.50	15.50
MAT/Corporate Rate	17.472	17.472	17.472	17.472	17.472
Grossed up rate of ROE	18.782	18.782	18.782	18.782	18.782
Return on Equity	3,615.62	3,615.62	3,615.62	3,615.62	3,615.62
Pro rata return on Equity	3,615.62	3,615.62	3,615.62	3,615.62	3,615.62



Calculation of WAR of interest on actual loan

Form No. - 9C

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
ADB III -1.DOCO Loan 1					
Gross Loan- Opening	656.63	656.63	656.63	656.63	656.63
Cumulative repayments of Loans upto previous year	615.44	656.63	656.63	656.63	656.63
Net loan-Opening	41.19	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	41.20	0.00	0.00	0.00	0.00
Net Loan-Closing	-0.01	0.00	0.00	0.00	0.00
Average Net Loan	20.59	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	1.5503	0.00	0.00	0.00	0.00

ADB III -10.6.1.DOCO					
Gross Loan- Opening	14,594.77	14,594.77	14,594.77	14,594.77	14,594.77
Cumulative repayments of Loans upto previous year	13,679.16	14,594.77	14,594.77	14,594.77	14,594.77
Net loan-Opening	915.61	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	915.61	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00



Average Net Loan	457.81	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	34.4694	0.00	0.00	0.00	0.00

ADB III -11.7.2.ADDCAP FOR 20

Gross Loan- Opening	208.89	208.89	208.89	208.89	208.89
Cumulative repayments of Loans upto previous year	195.79	208.89	208.89	208.89	208.89
Net loan-Opening	13.10	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	13.11	0.00	0.00	0.00	0.00
Net Loan-Closing	-0.01	0.00	0.00	0.00	0.00
Average Net Loan	6.55	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.4932	0.00	0.00	0.00	0.00

ADB III -12.8.3.ADDCAP FOR 20

Gross Loan- Opening	160.68	160.68	160.68	160.68	160.68
Cumulative repayments of Loans upto previous year	150.60	160.68	160.68	160.68	160.68
Net loan-Opening	10.08	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	10.08	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	5.04	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.3795	0.00	0.00	0.00	0.00



ADB III -13.9.4.DOCO					
Gross Loan- Opening	4,992.62	4,992.62	4,992.62	4,992.62	4,992.62
Cumulative repayments of Loans upto previous year	4,679.40	4,992.62	4,992.62	4,992.62	4,992.62
Net loan-Opening	313.22	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	313.21	0.00	0.00	0.00	0.00
Net Loan-Closing	0.01	0.00	0.00	0.00	0.00
Average Net Loan	156.62	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	11.7922	0.00	0.00	0.00	0.00

ADB III -14.10.5.DOCO..					
Gross Loan- Opening	224.95	224.95	224.95	224.95	224.95
Cumulative repayments of Loans upto previous year	210.84	224.95	224.95	224.95	224.95
Net loan-Opening	14.11	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	14.11	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	7.06	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.5316	0.00	0.00	0.00	0.00

ADB III -2.ADDCAP FOR 2010-20					
Gross Loan- Opening	12.30	12.30	12.30	12.30	12.30
Cumulative repayments of Loans upto previous year	11.53	12.30	12.30	12.30	12.30
Net loan-Opening	0.77	0.00	0.00	0.00	0.00



Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.77	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.39	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.0294	0.00	0.00	0.00	0.00

ADB III -3.ADDCAP FOR 2011-20

Gross Loan- Opening	41.75	41.75	41.75	41.75	41.75
Cumulative repayments of Loans upto previous year	39.13	41.75	41.75	41.75	41.75
Net loan-Opening	2.62	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	2.62	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	1.31	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.0986	0.00	0.00	0.00	0.00

ADB III -4.ADDCAP FOR 2012-20

Gross Loan- Opening	10.31	10.31	10.31	10.31	10.31
Cumulative repayments of Loans upto previous year	9.66	10.31	10.31	10.31	10.31
Net loan-Opening	0.65	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.65	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.33	0.00	0.00	0.00	0.00



Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.0248	0.00	0.00	0.00	0.00

ADB III -5.1.DOCO Loan 1					
Gross Loan- Opening	23,310.42	23,310.42	23,310.42	23,310.42	23,310.42
Cumulative repayments of Loans upto previous year	21,848.03	23,310.42	23,310.42	23,310.42	23,310.42
Net loan-Opening	1,462.39	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	1,462.39	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	731.20	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	55.0535	0.00	0.00	0.00	0.00

ADB III -6.2.ADDCAP FOR 2010-					
Gross Loan- Opening	1,104.25	1,104.25	1,104.25	1,104.25	1,104.25
Cumulative repayments of Loans upto previous year	1,034.97	1,104.25	1,104.25	1,104.25	1,104.25
Net loan-Opening	69.28	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	69.28	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	34.64	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	2.6081	0.00	0.00	0.00	0.00

ADB III -7.3.ADDCAP FOR 2011-					
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Gross Loan- Opening	2,003.11	2,003.11	2,003.11	2,003.11	2,003.11
Cumulative repayments of Loans upto previous year	1,877.45	2,003.11	2,003.11	2,003.11	2,003.11
Net loan-Opening	125.66	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	125.67	0.00	0.00	0.00	0.00
Net Loan-Closing	-0.01	0.00	0.00	0.00	0.00
Average Net Loan	62.83	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	4.7306	0.00	0.00	0.00	0.00

ADB III -8.4.ADDCAP FOR 2012-

Gross Loan- Opening	133.44	133.44	133.44	133.44	133.44
Cumulative repayments of Loans upto previous year	125.07	133.44	133.44	133.44	133.44
Net loan-Opening	8.37	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	8.37	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	4.19	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.3155	0.00	0.00	0.00	0.00

ADB III -9.5.ADDCAP FOR 2013-

Gross Loan- Opening	131.18	131.18	131.18	131.18	131.18
Cumulative repayments of Loans upto previous year	122.95	131.18	131.18	131.18	131.18
Net loan-Opening	8.23	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00



Less: Repayment(s) of loan during the year	8.23	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	4.12	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.3102	0.00	0.00	0.00	0.00

BOND XLVI -ADD CAP 2015-16					
Gross Loan- Opening	2.06	2.06	2.06	2.06	2.06
Cumulative repayments of Loans upto previous year	0.69	1.37	1.37	1.37	1.37
Net loan-Opening	1.37	0.69	0.69	0.69	0.69
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.69	0.00	0.00	0.00	0.00
Net Loan-Closing	0.68	0.69	0.69	0.69	0.69
Average Net Loan	1.03	0.69	0.69	0.69	0.69
Rate of Interest on Loan on Annual Basis	9.30	9.30	9.30	9.30	9.30
Interest on loan	0.0958	0.0642	0.0642	0.0642	0.0642

BOND LIV -ADD CAP 2016-17					
Gross Loan- Opening	10.26	10.26	10.26	10.26	10.26
Cumulative repayments of Loans upto previous year	3.42	3.42	3.42	6.84	6.84
Net loan-Opening	6.84	6.84	6.84	3.42	3.42
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	0.00	3.42	0.00	0.00
Net Loan-Closing	6.84	6.84	3.42	3.42	3.42
Average Net Loan	6.84	6.84	5.13	3.42	3.42
Rate of Interest on Loan on Annual Basis	7.97	7.97	7.97	7.97	7.97



Interest on loan	0.5451	0.5451	0.4089	0.2726	0.2726
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BOND LVII (57) -ADD CAP 2016-17					
Gross Loan- Opening	4.24	4.24	4.24	4.24	4.24
Cumulative repayments of Loans upto previous year	4.24	4.24	4.24	4.24	4.24
Net loan-Opening	0.00	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.00	0.00	0.00	0.00	0.00
Rate of Interest on Loan on Annual Basis	7.20	7.20	7.20	7.20	7.20
Interest on loan	0.00	0.00	0.00	0.00	0.00

BOND60 (LX) -ADD CAP 2017-18					
Gross Loan- Opening	149.97	149.97	149.97	149.97	149.97
Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	0.00	149.97
Net loan-Opening	149.97	149.97	149.97	149.97	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	0.00	0.00	149.97	0.00
Net Loan-Closing	149.97	149.97	149.97	0.00	0.00
Average Net Loan	149.97	149.97	149.97	74.99	0.00
Rate of Interest on Loan on Annual Basis	7.20	7.20	7.20	7.20	7.20
Interest on loan	10.7978	10.7978	10.7978	5.3993	0.00

Summary



Gross Loan- Opening	47,751.83	47,751.83	47,751.83	47,751.83	47,751.83
Cumulative repayments of Loans upto previous year	44,608.37	47,594.33	47,594.33	47,597.75	47,747.72
Net loan-Opening	3,143.46	157.50	157.50	154.08	4.11
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	2,985.99	0.00	3.42	149.97	0.00
Net Loan-Closing	157.47	157.50	154.08	4.11	4.11
Average Net Loan	1,650.52	157.50	155.79	79.10	4.11
Rate of Interest on Loan on Annual Basis	7.5022	7.2426	7.2347	7.2517	8.1946
Interest on loan	123.8256	11.4071	11.2709	5.7361	0.3368

(Petitioner)



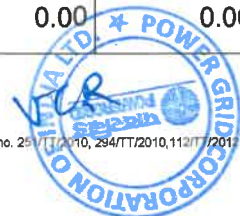
Loans in Foreign Currency

Form No. - 9D

Name of the Transmission Licensee	Power Grid Corporation of India Limited				
Project	NORTHERN REGION STRENGTHENING SCHEME-V				
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO				
Region	Northern Region	DOCOC Date	Dec 10, 2009		

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
ADB III -1.DOCO Loan 1 -USD					
Gross Loan-Opening	14.508	14.508	14.508	14.508	14.508
Cumulative repayments of loans upto previous year	13.5978	14.508	14.508	14.508	14.508
Net Loans-Opening	0.9102	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.9102	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.4551	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.034265	0.00	0.00	0.00	0.00

ADB III -10.6.1.DOCO -USD					
Gross Loan-Opening	296.10	296.10	296.10	296.10	296.10
Cumulative repayments of loans upto previous year	277.524	296.10	296.10	296.10	296.10
Net Loans-Opening	18.576	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	18.576	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00



Average Net Loan	9.288	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.699312	0.00	0.00	0.00	0.00

ADB III -11.7.2.ADDCAP FOR 20 -USD

Gross Loan-Opening	4.4089	4.4089	4.4089	4.4089	4.4089
Cumulative repayments of loans upto previous year	4.1323	4.4089	4.4089	4.4089	4.4089
Net Loans-Opening	0.2766	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.2766	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.1383	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.010413	0.00	0.00	0.00	0.00

ADB III -12.8.3.ADDCAP FOR 20 -USD

Gross Loan-Opening	3.3912	3.3912	3.3912	3.3912	3.3912
Cumulative repayments of loans upto previous year	3.1785	3.3912	3.3912	3.3912	3.3912
Net Loans-Opening	0.2127	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.2127	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.10635	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.008007	0.00	0.00	0.00	0.00



ADB III -13.9.4.DOCO -USD					
Gross Loan-Opening	96.85	96.85	96.85	96.85	96.85
Cumulative repayments of loans upto previous year	90.7741	96.85	96.85	96.85	96.85
Net Loans-Opening	6.0759	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	6.0759	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	3.03795	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.228733	0.00	0.00	0.00	0.00

ADB III -14.10.5.DOCO.. -USD					
Gross Loan-Opening	4.7478	4.7478	4.7478	4.7478	4.7478
Cumulative repayments of loans upto previous year	4.4499	4.7478	4.7478	4.7478	4.7478
Net Loans-Opening	0.2979	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.2979	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.14895	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.011215	0.00	0.00	0.00	0.00

ADB III -2.ADDCAP FOR 2010-20 -USD					
Gross Loan-Opening	0.2597	0.2597	0.2597	0.2597	0.2597
Cumulative repayments of loans upto previous year	0.2434	0.2597	0.2597	0.2597	0.2597
Net Loans-Opening	0.0163	0.00	0.00	0.00	0.00



Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.0163	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.00815	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.000614	0.00	0.00	0.00	0.00

ADB III -3.ADDCAP FOR 2011-20 -USD

Gross Loan-Opening	0.8517	0.8517	0.8517	0.8517	0.8517
Cumulative repayments of loans upto previous year	0.7983	0.8517	0.8517	0.8517	0.8517
Net Loans-Opening	0.0534	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.0534	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.0267	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.00201	0.00	0.00	0.00	0.00

ADB III -4.ADDCAP FOR 2012-20 -USD

Gross Loan-Opening	0.2103	0.2103	0.2103	0.2103	0.2103
Cumulative repayments of loans upto previous year	0.1971	0.2103	0.2103	0.2103	0.2103
Net Loans-Opening	0.0132	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.0132	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.0066	0.00	0.00	0.00	0.00



Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.000497	0.00	0.00	0.00	0.00

ADB III -5.1.DOCO Loan 1 -USD

Gross Loan-Opening	510.41	510.41	510.41	510.41	510.41
Cumulative repayments of loans upto previous year	478.3892	510.41	510.41	510.41	510.41
Net Loans-Opening	32.0208	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	32.0208	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	16.0104	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	1.205455	0.00	0.00	0.00	0.00

ADB III -6.2.ADDCAP FOR 2010- -USD

Gross Loan-Opening	23.2816	23.2816	23.2816	23.2816	23.2816
Cumulative repayments of loans upto previous year	21.821	23.2816	23.2816	23.2816	23.2816
Net Loans-Opening	1.4606	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	1.4606	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.7303	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.054986	0.00	0.00	0.00	0.00

ADB III -7.3.ADDCAP FOR 2011- -USD



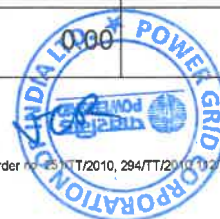
Gross Loan-Opening	42.8199	42.8199	42.8199	42.8199	42.8199
Cumulative repayments of loans upto previous year	40.1336	42.8199	42.8199	42.8199	42.8199
Net Loans-Opening	2.6863	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	2.6863	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	1.34315	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.101128	0.00	0.00	0.00	0.00

ADB III -8.4.ADDCAP FOR 2012- -USD

Gross Loan-Opening	2.7222	2.7222	2.7222	2.7222	2.7222
Cumulative repayments of loans upto previous year	2.5514	2.7222	2.7222	2.7222	2.7222
Net Loans-Opening	0.1708	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.1708	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.0854	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.00643	0.00	0.00	0.00	0.00

ADB III -9.5.ADDCAP FOR 2013- -USD

Gross Loan-Opening	2.4487	2.4487	2.4487	2.4487	2.4487
Cumulative repayments of loans upto previous year	2.2951	2.4487	2.4487	2.4487	2.4487
Net Loans-Opening	0.1536	0.00	0.00	0.00	0.00
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00



Less: Repayment(s) of Loan during the year	0.1536	0.00	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.0768	0.00	0.00	0.00	0.00
Rate of interest on Loan on Annual Basis	7.5292	7.5292	7.5292	7.5292	7.5292
Interest on loan	0.005782	0.00	0.00	0.00	0.00

(Petitioner)



Calculation of interest on Normative loan

Form No. - 9E

Name of the Transmission Licensee	Power Grid Corporation of India Limited			
Project	NORTHERN REGION STRENGTHENING SCHEME-V			
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO			
Region	Northern Region	DOCOC Date	Dec 10, 2009	

(Amount in Rs. Lakh)

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
No. of Days in the Year	365.00	365.00	365.00	366.00	365.00
No. of days for which Tariff claimed	365.00	365.00	365.00	366.00	365.00
Gross normative loan-Opening	47,753.70	47,753.70	47,753.70	47,753.70	47,753.70
Cumulative repayments of Normative loan upto previous year	44,778.29	45,555.79	46,333.29	47,110.79	47,753.70
Net normative loan-Opening	2,975.41	2,197.91	1,420.41	642.91	0.00
Addition in normative loan towards the ACE	0.00	0.00	0.00	0.00	0.00
Adjustment of normative gross loan pertaining to the decapitalised asset	0.00	0.00	0.00	0.00	0.00
Normative repayments of normative loan during the year	777.50	777.50	777.50	642.91	0.00
Adjustment of cumulative repayment pertaining to the decapitalised asset	0.00	0.00	0.00	0.00	0.00
Net normative loan - closing	2,197.91	1,420.41	642.91	0.00	0.00
Average normative loan	2,586.66	1,809.16	1,031.66	321.46	0.00
Weighted Average Rate of interest on actual loan	7.5022	7.2426	7.2347	7.2517	8.1946
Interest on normative loan	194.06	131.03	74.64	23.31	0.00
Pro rata interest on normative loan	194.06	131.03	74.64	23.31	0.00

(Petitioner)



Calculation of Depreciation Rate on Original Project Cost

Form No. - 10

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Name of Assets	Gross block at the beginning of the year	Add Cap during the year	Gross block at the end of the year	Average Gross Block	Depreciation Rate as per CERC's Depreciation Rate Schedule	Depreciation Amount for each year upto 31.03.2029
2024-25						
Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
Civil & Building	69.54	0.00	69.54	69.54	3.34	1.30
Transmission Line	58,944.21	0.00	58,944.21	58,944.21	5.28	682.94
Sub Station	7,399.62	0.00	7,399.62	7,399.62	5.28	90.08
Comm. Sys. excluding Fiber Optic	346.83	0.00	346.83	346.83	15.00	2.69
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	243.94	0.00	243.94	243.94	15.00	0.49
Batteries	0.00	0.00	0.00	0.00	9.50	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	67,004.14	0.00	67,004.14	67,004.14	0.00	777.50
Weighted Average Rate of Depreciation(%)					1.160376	

2025-26						
Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00



Civil & Building	69.54	0.00	69.54	69.54	3.34	1.30
Transmission Line	58,944.21	0.00	58,944.21	58,944.21	5.28	682.94
Sub Station	7,399.62	0.00	7,399.62	7,399.62	5.28	90.08
Comm. Sys. excluding Fiber Optic	346.83	0.00	346.83	346.83	15.00	2.69
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	243.94	0.00	243.94	243.94	15.00	0.49
Batteries	0.00	0.00	0.00	0.00	9.50	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	67,004.14	0.00	67,004.14	67,004.14	0.00	777.50
Weighted Average Rate of Depreciation(%)					1.160376	

2026-27						
Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
Civil & Building	69.54	0.00	69.54	69.54	3.34	1.30
Transmission Line	58,944.21	0.00	58,944.21	58,944.21	5.28	682.94
Sub Station	7,399.62	0.00	7,399.62	7,399.62	5.28	90.08
Comm. Sys. excluding Fiber Optic	346.83	0.00	346.83	346.83	15.00	2.69
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	243.94	0.00	243.94	243.94	15.00	0.49
Batteries	0.00	0.00	0.00	0.00	9.50	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	67,004.14	0.00	67,004.14	67,004.14	0.00	777.50
Weighted Average Rate of Depreciation(%)					1.160376	



2027-28						
Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
Civil & Building	69.54	0.00	69.54	69.54	3.34	1.30
Transmission Line	58,944.21	0.00	58,944.21	58,944.21	5.28	682.94
Sub Station	7,399.62	0.00	7,399.62	7,399.62	5.28	90.07
Comm. Sys. excluding Fiber Optic	346.83	0.00	346.83	346.83	15.00	2.69
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	243.94	0.00	243.94	243.94	15.00	0.49
Batteries	0.00	0.00	0.00	0.00	9.50	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	67,004.14	0.00	67,004.14	67,004.14	0.00	777.49
Weighted Average Rate of Depreciation(%)					1.160361	

2028-29						
Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
Civil & Building	69.54	0.00	69.54	69.54	3.34	1.30
Transmission Line	58,944.21	0.00	58,944.21	58,944.21	5.28	682.94
Sub Station	7,399.62	0.00	7,399.62	7,399.62	5.28	90.08
Comm. Sys. excluding Fiber Optic	346.83	0.00	346.83	346.83	15.00	2.69
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	243.94	0.00	243.94	243.94	15.00	0.49
Batteries	0.00	0.00	0.00	0.00	9.50	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	67,004.14	0.00	67,004.14	67,004.14	0.00	777.50



Weighted Average Rate of Depreciation(%)					1.160376	
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(Petitioner)



Statement of Depreciation

Form No. - 10A

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
No of Days in the year	365.00	365.00	365.00	366.00	365.00
No of days for which tariff claimed	365.00	365.00	365.00	366.00	365.00
Life at the beginning of the year					
1.1 Weighted Average useful life of the Asset/ Project	34.00	34.00	34.00	34.00	34.00
1.2 Lapsed Weighted Average useful life of the Asset/Project(in completed no. of year)	14.00	15.00	16.00	17.00	18.00
1.3 Balance Weighted Average useful life of the Asset/Project(in completed no. of year)	20.00	19.00	18.00	17.00	16.00
Capital Base					
1.4 Opening capital cost	67,004.14	67,004.14	67,004.14	67,004.14	67,004.14
1.5 Additional Capital Expenditure dr. the year	0.00	0.00	0.00	0.00	0.00
1.6 De-Capitalisation During the year	0.00	0.00	0.00	0.00	0.00
1.7 Closing capital cost	67,004.14	67,004.14	67,004.14	67,004.14	67,004.14
1.8 Average capital cost	67,004.14	67,004.14	67,004.14	67,004.14	67,004.14
1.9 Freehold land included in 1.8	0.00	0.00	0.00	0.00	0.00
1.10 Asset having NIL salvage value included in 1.8	243.94	243.94	243.94	243.94	243.94
1.11 Asset having 10% salvage value included in 1.8	66,760.20	66,760.20	66,760.20	66,760.20	66,760.20
1.12 Depreciable Value(1.10+90% of 1.11)	60,328.13	60,328.13	60,328.13	60,328.13	60,328.13
Depreciation for the period and Cum. Depreciation					
1.13 Weighted Average Rate of depreciation	1.160376	1.160376	1.160376	1.160361	1.160376

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1.14 Depreciation(for the period)	777.50	777.50	777.50	777.49	777.50
1.15 Depreciation(Annualised)	777.50	777.50	777.50	777.49	777.50
Unrecovered Depreciation for DECAP	0.00	0.00	0.00	0.00	0.00
1.16 Cumulative depreciation at the beginning of the period	44,778.29	45,555.79	46,333.29	47,110.79	47,888.28
1.17 Less:Adj of Cum. Dep pertaining to decapitalised Asset	0.00	0.00	0.00	0.00	0.00
1.18 Cumulative depreciation at the end of the period	45,555.79	46,333.29	47,110.79	47,888.28	48,665.78

(Petitioner)



Calculation of interest on working Capital

Form No. - 11

Name of the Transmission Licensee	Power Grid Corporation of India Limited		
Project	NORTHERN REGION STRENGTHENING SCHEME-V		
Element Description	Combined Element of order no. 251/TT/2010, 294/TT/2010,112/TT/2012 Effective DOCO		
Region	Northern Region	DOCO Date	Dec 10, 2009

(Amount in Rs. Lakh)

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
No of Days in the year	365.00	365.00	365.00	366.00	365.00
No of days for which tariff claimed	365.00	365.00	365.00	366.00	365.00
O&M Expenses-one month	78.41	82.53	86.81	91.37	96.20
Maintenance spares 15% of O&M Expenses	141.14	148.55	156.27	164.46	173.15
Receivables equivalent to 45 days of AFC	694.97	693.43	692.99	691.67	698.13
Total Working capital	914.52	924.51	936.07	947.50	967.48
Bank Rate as on 01.04.2024 or as on 01st April of the COD year, whichever is later.	11.90	11.90	11.90	11.90	11.90
Interest on working capital	108.83	110.02	111.39	112.75	115.13
Pro rata interest on working capital	108.83	110.02	111.39	112.75	115.13

(Petitioner)



Summary of issue involved in the petition

**PART-III
FORM- 15**

1. Name of the Petitioner	Powergrid Corporation of India Ltd
2. Petition Category	Transmission
3. Tariff Period	2024-29
4. Name of the Project	Northern Region System Strengthening Scheme-V
5. Investment Approval date	
6. SCOD of the Project	
7. Actual COD of the project	10.12.2009 (E-COD)
8. Whether entire scope is covered in the present petition.	Yes
9. No. of Assets covered in instant petition	1
10. No. of Assets having time over run	
11. Estimated Project Cost as per IA	Rs. 72125.00 Lakhs
12. Is there any REC? if so, provide the date	
13. Revised Estimated Project Cost (if any)	
14. Completion cost for all the assets covered in the instant petition.	Rs.67004.14 Lakhs
15. No. of Assets covered in instant petition and having cost overrun.	NIL
16	Prayer in brief
17	Key details and any Specific issue involved: 1) There is No add-cap in 2019-24 and 2024-29
18	Respondents
	Name of Respondents
1	AJMER VIDYUT VITRAN NIGAM LTD
2	JAIPUR VIDYUT VITRAN NIGAM LTD
3	JODHPUR VIDYUT VITRAN NIGAM LTD
4	HIMACHAL PRADESH STATE ELECTRICITY BOARD
5	PUNJAB STATE POWER CORPORATION LIMITED
6	HARYANA POWER PURCHASE CENTRE
7	POWER DEVELOPMENT DEPTT
8	UTTAR PRADESH POWER CORPORATION LTD.
9	BSES YAMUNA POWER Ltd
10	BSES RAJDHANI POWER Ltd
11	TATA POWER DELHI DISTRIBUTION LTD
12	CHANDIGARH ADMINISTRATION
13	UTTARAKHAND POWER CORPORATION LTD
14	NORTH CENTRAL RAILWAY
15	NEW DELHI MUNICIPAL COUNCIL

(Petitioner)



PART-III

Summary of Capital Cost & Annual Fixed Cost (AFC) Claimed for ALL the assets covered in the present petition.	
Name of the Petitioner	Powergrid Corporation of India Ltd
Tariff Period	2024-29
Name of the Transmission Project	Northern Region System Strengthening Scheme-V
COD of the Project (if entire scope of project is completed)	10.12.2009 (E-COD)

Rupees in lakh

A) Summary of Capital Cost as on COD and Additional Capital Expenditure claimed for all the assets Covered in the instant petition.		ii) Summary of Actual / Projected Capital Cost												
S. No.	Asset No.	COD	Cut-off Date	i) Apportioned Approved Cost										
				As per Investment approval	As per RCE	As on COD/ 31.03.2024	2024-25	2025-26	2026-27	2027-28	2028-29	Capital Cost as on 31.03.2029	Capital Cost as on cutoff date	
1	Asset-1	1	2	72125	4	5	6	7	8	9	10	11=(5+6+7+8+9+10)	67004.14	67004.14
Total Capital Cost Claimed				72125		67004.14	0	0	0	0	0	67004.14	67004.14	

B) Summary of Annual Fixed Cost (AFC) claimed for all the assets covered in the instant petition.		Asset Name and its location					
S. No.	Asset No.	2024-25	2025-26	2026-27	2027-28	2028-29	
1	Asset-1	5636.96	5624.47	5620.92	5625.58	5662.61	
Total AFC for all the Assets		5636.96	5624.47	5620.92	5625.58	5662.61	

Note: 1) The purpose of this form is to summarise the Capital cost & AFC claimed for all the assets covered in the instant petition.



(Petitioner)

End-4

INDEX
Checklist of Forms and other information/ documents for tariff filing for
Transmission System & Communication System

PART-III

Form No.	Title of Tariff Filing Forms (Transmission & Communication System)	Tick
FORM- 1	Summary of Tariff	✓
FORM- 1A	Summary of Asset level cost	NA
FORM- 2	Details of Transmission Lines and Substations and Communication System covered in the project scope and O&M for instant asset	✓
FORM- 3	Normative parameters considered for tariff computations	✓
FORM- 4	Abstract of existing transmission assets/ elements under project, Determination of Effective COD and Weighted Average Life for single AFC for the project as whole.	NA
FORM- 4A	Statement of Capital cost	NA
FORM- 4B	Statement of Capital Works in Progress	NA
FORM- 4C	Abstract of Capital Cost Estimates and Schedule of Commissioning for the New Project/ Element	NA
FORM- 5	Element wise Break-up of Project/ Asset/ Element Cost for Transmission System or Communication System	NA
FORM- 5A	Break-up of Construction/Supply/Service packages	NA
FORM- 5B	Details of all the assets covered in the project	NA
FORM- 6	Actual Cash Expenditure and Financial Package up to COD	NA
FORM- 7	Statement of Additional Capitalisation after COD	NA
FORM- 7A	Financing of Additional Capitalisation	NA
FORM- 7B	Statement of Additional Capitalisation during five year before the end of the useful life of the project.	NA
FORM- 8	Calculation of Return on Equity	✓
FORM- 8A	Details of Foreign Equity	NA
FORM- 9	Details of Allocation of corporate loans to various transmission elements	NA
FORM- 9A	Details of Project Specific Loans	NA
FORM- 9B	Details of Foreign loans	NA
FORM- 9C	Calculation of Weighted Average Rate of Interest on Actual Loans	✓
FORM- 9D	Loans in Foreign Currency	✓
FORM- 9E	Calculation of Interest on Normative Loan	✓
FORM- 10	Calculation of Depreciation Rate on original project cost	✓
FORM- 10A	Statement of Depreciation	✓
FORM- 10B	Statement of De-capitalisation	NA
FORM- 11	Calculation of Interest on Working Capital	NA
FORM- 12	Details of time over run	NA
FORM- 12A	Incidental Expenditure during Construction	NA
FORM- 12B	Calculation of IDC & Financing Charges	NA
FORM- 13	Details of Initial spares	NA
FORM- 14	Non-Tariff Income	NA
FORM- 15	Summary of issue involved in the petition	✓
FORM A	Summary of Capital Cost & Annual Fixed Cost (AFC) Claimed for ALL.	✓
Other Information/ Documents		



S. No.	Information/Document	Tick
1	Certificate of incorporation, Certificate for Commencement of Business, Memorandum of Association, & Articles of Association (For New Project(s) setup by a company making tariff application for the first time to CERC)	NA
2	Region wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & Annexure for the new Transmission System & Communication System for the relevant years.	NA
3	Copies of relevant loan Agreements	NA
4	Copies of the approval of Competent Authority for the Capital Cost and Financial package.	Yes
5	Copies of the Equity participation agreements and necessary approval for the foreign equity.	NA
6	Copies of the BPTA/TSA/PPA with the beneficiaries, if any	NA
7	Detailed note giving reasons of cost and time over run, if applicable. 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	Yes
8	Transmission Licensee shall submit copy of Cost Audit Report along with cost accounting records, cost details, statements, schedules etc. for the transmission system 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.	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 formats suitably as per available information to them for submission of required information for tariff purpose.	NA
10.	Any other relevant information, (Please specify)	NA

Note 1: Electronic copy of the petition (in words format) and detailed calculation as per these formats (in excel format) and any other information submitted has to be uploaded in the e-filing website and shall also be furnished in pen drive/flash drive.

