

APPEAL FOR TRUE-UP FOR THE FY 2022-23
&
ANNUAL PERFORMANCE REVIEW FOR THE FY 2023-24
&
REVISED AGGREGATE REVENUE REQUIREMENT FOR FY 2024-
25
&
DETERMINATION OF TARIFF FOR FY 2024-25
TO
ASSAM ELECTRICITY REGULATORY COMMISSION



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3	Statutory Audit Report	Annexure-3
4	SLDC certificates for plant performance certificate in 2022-23	Annexure-4
5	KLHEP letter to AERC on Major Overhauling	Annexure-5
6	APGCL letter to AERC intimating fire incident affecting 36.15 MW ST of NRPP dated 25.03.2022	Annexure-6
7	AERC letter to APGCL w.r.t restoration work of the ST Unit of NRPP dated 12.08.2022	Annexure-7
8	APGC Petition to allow open cycle operation for NRPP dated 19.10.2022	Annexure-8
9	AERC STG Order dated 2.11.2022	Annexure-9
10	APGCL letter to AERC on intimation of STG restoration dated 31.03.2023	Annexure-10
11	GoA Financial Sanctions for conversion of grant to equity for APGCL	Annexure-11
12	PFC loan details and applicable rates for FY 2022-23	Annexure-12
13	Income Tax Return Acknowledgement (ITR-6) for FY 2022-23 (AY 2023-24)	Annexure-13
14	DPR with cost benefit analysis and details with respect to Combustion Inspection of the GT Unit of NRPP	Annexure-14
15	CAG comments on Financial Statement for FY 2022-23 of APGCL	Annexure-15
16	Proposal for Emergency Capital spares with DPR, cost benefit analysis and relevant details	Annexure-16
17	SLDC certificates for plant performance certificate in 2023-24	Annexure-17
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21	Status of compliance of directive by Commission w.r.t 2nd quarter for FY 2023-24	Annexure-21
22	Regulatory Formats	Annexure-22



1. Legal and Regulatory Framework

1.1. Background

- 1.1.1. Under the provisions of Electricity Act 2003 (hereinafter referred to as "Electricity Act") the Assam Electricity Reforms First Transfer Scheme, 2004 (hereinafter referred to as "Transfer Scheme") was notified by Government of Assam on 10th December 2004. Under Section 5 (2) of the transfer scheme the functions and undertakings as set out in Schedule-A of the transfer scheme stands transferred to Assam Power Generation Corporation Limited (APGCL). The final transfer scheme was notified by Govt. of Assam vide notification No: PEL/151/2003/Pt.349 dated 16th Aug' 2005 w.e.f 1st April'05.
- 1.1.2. Section 131 (2) of the Electricity Act provides "...Any property, interest in property, rights and liabilities vested in the State Government under sub-section (1) shall be re-vested by the State Government in a Government company or in a company or companies, in accordance with the transfer scheme so published along with such other property, interest in property, rights and liabilities of the State Government as may be stipulated in such scheme, on such terms and conditions as may be agreed between the State Government and such company or companies being State Transmission Utility or generating company or transmission licensee or distribution licensee,..."
- 1.1.3. Section 62 of the Electricity Act 2003 requires the generating company to furnish details as may be specified by the Commission for determination of tariff.
- 1.1.4. As per AERC Tariff Regulation, 2021, APGCL is now filing the Petition for Truing-up for FY 2022-23, Annual Performance Review for FY 2023-24 and Revised Aggregate Revenue Requirement and Determination of Tariff for the FY 2024-25 for the following plants.
 - i. Namrup Thermal Power Station
 - ii. Lakwa Thermal Power Station
 - iii. Karbi Langpi Hydro Electric Project
 - iv. Lakwa Replacement Power Plant
 - v. Namrup Replacement Power Plant
- 1.1.5. The various data formats and forms, as required by the Hon'ble Commission, are furnished in **Annexure-22**.

APPEAL FOR TRUE-UP FOR THE FY 2022-23
TO
ASSAM ELECTRICITY REGULATORY COMMISSION



Prepared by
ASSAM POWER GENERATION CORPORATION LTD
Bijulee Bhawan, Paltanbazar
Guwahati – 781 001

AFFIDAVIT – TRUE-UP

BEFORE THE ASSAM STATE ELECTRICITY REGULATORY
COMMISSION, GUWAHATI.

Petition No. –

Case No.
(to be filed by the Office)

IN THE MATTER OF

Filing of Petition for True-up of the FY 2022-23.

AND

IN THE MATTER OF

Assam Power Generation Corporation Limited
Bijulee Bhawan, Paltanbazar,
Guwahati-781 001.

Petitioner

I, Sri Janardan Das, Son of Late Bishnu Ram Das, age 45 years, residing at Beltola Tinali, Guwahati - 781028, do solemnly affirm and say as follows:

I am the General Manager (HQ) i/c of Assam Power Generation Corporation Limited, the petitioner in the above matter and am duly authorized by the said Petitioner to make this affidavit for and on behalf of the Assam Power Generation Corporation Limited.

The Statement made in the Petition based on information received from official records and I believe them to reflect truly and no material has been concealed from the statements so made or documents or supporting data etc. attached.

Solemnly affirm at Guwahati on 23rd November' 2023 that the contents of this affidavit are true to my knowledge, no part of it is false or no material has been concealed therefore and misleading material included therein.

Deponent

Place: Guwahati

Date: 23/11/2023



(Janardan Das)
General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.



PRAYER FOR TRUE-UP

BEFORE THE HON'BLE ASSAM ELECTRICITY REGULATORY COMMISSION

FILINGNO

CASENO.....

IN THE MATTER OF:

Petition for Truing-up for FY 2022-23

AND IN THE MATTER OF:

Assam Power Generation Corporation Limited incorporated under the provisions of the Companies Act, 1956 and having its registered office in the State of Assam

THE HUMBLE APPLICANT ABOVE NAMED MOST RESPECTFULLY SHEWETH:

- i. That the Assam Power Generation Corporation Limited, hereinafter named as APGCL, is a successor corporate entity, formed in pursuant to the notification of the Government of Assam, notified under sub-sections (1), (2), (5), (6) and (7) of Section 131 and Section 133 of the Electricity Act 2003(Central Act 36 of 2003), for the purpose of transfer and vesting of functions, properties, interests, rights, obligations and liabilities, along with the transfer of Personnel of the Board to the successor corporate entities.
- ii. That the APGCL is a company incorporated with the main object of generation of electricity in the state of Assam.
- iii. That APGCL submitted petitions for ARR and Determination of tariff for the FY 2022-23 to the AERC on 30/11/2021.
- iv. That the AERC declared tariff for FY 2022-23 on 21/03/2022 with effectuation date from 01/04/2022.
- v. That APGCL is now filing the Petition for Truing-up for FY 2022-23 as per relevant regulation.

Place: Guwahati

Date: 23/11/2023

Deponent



(Janardan Das)
General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.



2. Background

2.1. Introduction

2.1.1. Assam State Electricity Board (ASEB) was constituted under section 5 of the Electricity (supply) Act 1948. The announcement of Indian Electricity Act 2003 has made a compulsion to restructure State Electricity Boards. With a view to implementing the reorganization of ASEB, the Govt. had adopted the following sector structure:

- a. One Generating Company to take over the generating functions of the State Electricity Board,
- b. One Transmission Company to take over transmission functions along with the functions of the State Transmission Utility and State Load Dispatch Centre: and
- c. Three Distribution Companies later amalgated to one for the areas in the State of Assam (later merged into one distribution company).

2.1.2. The Assam Power Generation Corporation Limited (APGCL), registered under the Companies Act (1956) on 23rd October 2003, is a successor Company of erstwhile Assam State Electricity Board (ASEB). APGCL was formed as per the Electricity Act, 2003 for the purpose of running the already installed generating capacity of ASEB and utilising the resources available in the State of Assam to add more generating capacity by constructing new power projects to cater to the energy need of the people of Assam.

2.2. APGCL Project Summary

- 2.2.1. NTPS: All the units of NTPS were derated in FY 2022-23. GT Unit-2 was derated from 21 MW to 17 MW, GT Unit-3 was derated from 21 MW to 15 MW and ST Unit-6 was derated from 22.5 MW to 9 MW. Letter on the same received from CEA is enclosed at **Annexure-1**. NTPS managed to generate 192.85 MUs in FY 2022-23 against the Hon'ble Commission's approved generation target of 195.09 MU. The plant's availability was better than the target set by Hon'ble Commission for FY 2022-23.
- 2.2.2. LTPS: LTPS was able to generate 540.52 MUs in FY 2022-23 against the Hon'ble Commission's approved generation target of 425.74 MU. The plant's availability was better than the target set by Hon'ble Commission for FY 2022-23.
- 2.2.3. KLHEP: KLHEP overachieved the gross generation target for the FY 2022-23 by 85.78 MU. However, the overall actual availability of the plant was 81.81% including 78 days of Major Overhauling of Unit-2 in FY 2022-23 against the approved availability of 85.00% in FY 2022-23.
- 2.2.4. LRPP: LRPP managed to generate 505.41 MUs in FY 2022-23 against the Hon'ble Commission's approved generation target of 519.4 MU. The plant's availability, auxiliary power consumption and Gross Station heat Rate were better than the targets set by Hon'ble Commission for FY 2022-23.
- 2.2.5. NRPP: NRPP was able to generate 442.23 MU in FY 2022-23 against approved target of 732.69 MU. Availability of 52.99% was achieved against approved target of 85%. The Station Heat Rate and Auxiliary Power Consumption of the plant were in accordance with the Regulatory Norms.

2.3. Annual accounts

- 2.3.1. The audited Annual accounts of APGCL for FY 2022-23, and Statutory Audit Report are attached at **Annexure-2 & Annexure-3** respectively as required under AERC Tariff Regulations, 2021.

2.4. True-up of FY 2022-23

2.5. Regulatory provisions

2.5.1. The Hon'ble Commission in its regulation has stated the provisions on true-up of various costs under the regulations of Assam Electricity Regulatory Commission (Terms and Conditions for determination of Multi Year Tariff) Regulations, 2021 which has been followed while preparing this True Up Petition.

2.6. Installed/Effective Capacity in FY 2022-23

2.6.1. APGCL submits the following Installed/Effective Capacity for FY 2022-23.

Table 1: Installed/Effective Capacity for FY 2022-23

Station	Installed Capacity (MW)	Installed/Effective Capacity (MW)	No. of Units	Units Available for Generation & Capacity in MW	Actual Effective Capacity
NTPS	119.5	36.91	3	GT U#2 (17MW), GT U#3 (15 MW) & WHRU U#6 (9 MW)	36.91
LTPS	142.2	97.20	4	5,6,7(20 MW Each),8 (37.20 MW-WHRU)	97.2
KLHEP	100	100	2	1 (50), 2(50)	100
LRPP	69.755	69.755	7	1-7 (9.965 each)	69.755
NRPP	98.40	98.40	2	1(62.25, 2(36.15)	98.40

3. Norms of operations

3.1. Regulatory provisions

3.1.1. The Hon'ble Commission had set norms of operations under Tariff Regulations 2021 Section 48 and 50 for Thermal Generating Stations and Hydro Generating Stations respectively which has been followed for preparing this petition.

3.1.2. The actual performance vis-a-vis norms of operations set is discussed below:

3.2. Snapshot of plant wise performance for FY 2022-23

3.2.1. The following table shows the operating performance parameters of Namrup thermal power station for FY 2022-23.

Table 2: Operating Performance of NTPS for FY 2022-23

NTPS	Approved as per order of March 2022	Based on Normative	Claim for FY 2022-23	Remarks
Gross Energy in MU	195.09	192.85	192.85	Actual
Aux. Power Cons. (%)	4.50%	4.50%	5.68%	It has lost 2.28 MU on net generation due to higher auxiliary consumption
Net Energy in MU	186.31	184.18	181.90	
Availability (%)	50.00%	50.00%	50.00%	Normative was achieved



NTPS	Approved as per order of March 2022	Based on Normative	Claim for FY 2022-23	Remarks
PLF (%) for incentive	50.00%	50.00%	58.91%	
Gross Station Heat Rate on GCV (kcal/ kWh)	3900	4300 (OC) 3900 (CC)	4020.76	Claimed weighted average normative value

3.2.2. The following table shows the operating performance parameters of gas based Lakwa thermal power station for FY 2022-23.

Table 3: Operating Performance of LTPS for FY 2022-23

LTPS	Approved as per order of March 2022	Based on Normative	Claim for FY 2022-23	Remarks
Gross Energy in MU	425.74	540.52	540.52	Actual
Aux. Power Cons. (%)	5.50%	5.50%	7.72%	It has lost 11.98 MU on net generation due to higher auxiliary consumption.
Net Energy in MU	402.32	510.79	498.82	
Availability (%)	50.00%	50.00%	50.00%	Achieved normative value
PLF (%) for incentive	66.00%	66.00%	61.99%	Actual was lower than normative value
Gross Station Heat Rate on GCV (kcal/ kWh)	3900 (OC) 3200 (CC)	3200.00	3200.00	Claimed at normative SHR at Combined cycle

3.2.3. The following table shows the operating performance parameters of Karbi Langpi hydroelectric power station for FY 2022-23.

Table 4: Operating Performance of KLHEP for FY 2022-23

KLHEP	Approved as per order of March 2022	Based on Normative	Claim for FY 2022-23	Remarks
Gross Energy in MU	390.00	475.78	475.78	Actual
Aux. Power Cons. (%)	0.50%	0.5%	0.50%	Actual auxiliary consumption was within normative value.
Net Energy in MU	388.05	473.40	473.40	
Availability (%)	85.00%	85.00%	81.81%	Actual was lower than normative value
PLF (%)	44.50%	44.50%	44.50%	Achieved Normative

3.2.4. The following table shows the operating performance parameters of Lakwa Replacement Power Project for FY 2022-23.

Table 5: Operating Performance of LRPP for FY 2022-23

LRPP	Approved as per order of March 2022	Based on Normative	Claim for FY 2022-23	Remarks
Gross Energy in MU	519.4	505.41	505.41	Actual
Aux. Power Cons. (%)	3.50%	3.50%	3.50%	



LRPP	Approved as per order of March 2022	Based on Normative	Claim for FY 2022-23	Remarks
Net Energy in MU	501.22	487.72	487.72	Actual auxiliary consumption was within normative value.
Availability (%)	85.00%	85.00%	85.00%	Achieved normative value
PLF (%) for incentive	90.00%	90.00%	84.35%	Actual was lower than normative value
Gross Station Heat Rate on GCV (kcal/kWh)	2150.00	2150.00	2150.00	Claimed normative value

3.2.5. The following table shows the operating performance parameters of Namrup Replacement Power Project for FY 2022-23.

Table 6: Operating Performance of NRPP for FY 2022-23

NRPP	Approved as per order of March 2022	Based on Normative	Claim for FY 2022-23	Remarks
Gross Energy in MU	732.69	442.23	442.23	Actual
Aux. Power Cons. (%)	5.00%	5.00%	5.00%	Actual auxiliary consumption was within normative value.
Net Energy in MU	696.05	420.11	420.11	
Availability (%)	85.00%	85.00%	85.00%	Claiming normative value due to open cycle operation for uncontrollable event. Details may be referred in Para 3.3.8
PLF (%) for incentive	85.00%	85.00%	52.19%	Actual was lower than normative value
Gross Station Heat Rate on GCV (kcal/kWh)	2927 (OC) 1951 (CC)	2927 (OC) 1988 (CC)	2927.00	Claiming normative value at Open Cycle

3.2.6. The performance parameter certificate showing plant wise availability, generation, auxiliary consumption etc. issued by SLDC is attached as **Annexure-4**.

3.3. Normative Annual Plant Availability Factor (NAPAF)

3.3.1. NAPAF for NTPS: As per Regulation 48.1 of the MYT Regulations, 2021 the Normative Plant Availability factor for recovery of full fixed charges, is 50%. It has achieved actual availability higher than the normative value. The approved and claimed numbers are shown in the table below.

Table 7: Availability of NTPS for FY 2022-23

NTPS	Approved as per order of March 2022	Claim for FY 2022-23
Plant Availability Factor (%)	50.00%	50.00%

3.3.2. NAPAF for LTPS: As per Regulation 48.1 of the MYT Regulations, 2021 the Normative Plant Availability factor for recovery of full fixed charges, is 50%. It has achieved actual availability higher than the normative value. The approved and claimed numbers are shown in the table below.

Table 8: Availability of LTPS for FY 2022-23

LTPS	Approved as per order of March 2022	Claim for FY 2022-23
Plant Availability Factor (%)	50.00%	50.00%

3.3.3. NAPAF for KLHEP: Regulation 50 of the MYT Regulations, 2021 specifies normative PAF for KLHEP as 85%. But it has achieved lower availability than the NAPAF.

3.3.4. The low Plant Availability of KLHEP in FY 2022-23 is mainly due to the Major Overhauling of Unit-2 of KLHEP. In this regard, APGCL has already submitted the details vide letter no. APGCL/CGM (G)/AERC/2022/115/Pt-XII/71 dated 06.11.2023 (**Annexure-5**) to the Hon'ble Commission. In view of this, APGCL most humbly submits to the Hon'ble Commission to consider the Major Overhauling period of 78 days for Unit-2 of KLHEP in FY 2022-23 and allow the Availability for KLHEP as per the calculation of the Table below for the True-up of the station:

Sl No.	Particulars	Value
A	Plant affected due to Major Overhauling of KLHEP U-2 in FY 2022-23 (Days)	78
B	Actual Availability of KLHEP in FY 2022-23	71.07%
C	Declared Capacity (MW)	50
D	Normative Auxiliary Consumption	0.50%
E	Availability Loss due to Major Overhauling of KLHEP U-2 [A*C*100/(100*365*(100-0.5))]	10.74%
F	Revised Plant Availability (B+E)	81.81%

3.3.5. Thus, revised Plant Availability Factor of 81.81% has been claimed in FY 2022-23 by the Petitioner for KLHEP. The approved and claimed numbers are shown in the table below.

Table 9: Availability of KLHEP for FY 2022-23

KLHEP	Approved as per order of March 2022	Claim for FY 2022-23
Plant Availability Factor (%)	85.00%	81.81%

- 3.3.6. NAPAF for LRPP: As per Regulation 48.1 of the Tariff Regulations, 2021 the Normative Plant Availability factor for recovery of full fixed charges, is 85% for new plants. It has achieved the actual availability higher than the normative value. The approved and claimed numbers are shown in the table below.

Table 10: Availability of LRPP for FY 2022-23

LRPP	Approved as per order of March 2022	Claim for FY 2022-23
Plant Availability Factor (%)	85.00%	85.00%

- 3.3.7. NAPAF for NRPP: As per Regulation 48.1 of the Tariff Regulations, 2021 the Normative Plant Availability factor for recovery of full fixed charges, is 85% for new plants. It has achieved the actual availability of 52.99% which is lower than the normative value.
- 3.3.8. However, it is to bring to the Hon'ble Commission's kind attention that the 36.15 MW ST Unit of NRPP got damaged due to a fire incident in the STG building on 22.03.2022. The matter was intimated to the Hon'ble Commission vide letter no. APGCL/CGM(G)/AERC/2018/115/Pt-XI/70 dated 25th March 2022 (**Annexure-6**). The Hon'ble Commission vide letter No. AERC.686/2018/16 dated 12.08.2022 directed APGCL to complete the restoration work of the ST Unit of NRPP by 30.11.2022 (**Annexure-7**). The work for restoration of the STG unit was awarded to the OEM M/s BHEL on 13.09.2022 with a completion period of 6 months. In view of this, APGCL submitted a Petition to the Hon'ble Commission vide letter No. APGCL/CGM(G)/AERC/2022/115/Pt-XII/40 dated 19.10.2022 to allow the open cycle operation of NRPP up to 22.03.2023 (**Annexure-8**). Thereafter, the Hon'ble Commission vide its Order dated 2.11.2022 (**Annexure-9**) allowed time up to 22.03.2023 to complete the restoration work of the STU of NRPP. Further, on APGCL's prayer in the Petition to allow open cycle Heat Rate for NRPP up to 22.03.2023, the Hon'ble Commission sated that APGCL is at the liberty to place this claim at the time of True-up with proper documentary evidence. Accordingly, APGCL vide its letter No. APGCL/CGM(G)/AERC/2022/115/Pt-XII/53 dated 31.03.2023 intimated the Hon'ble Commission that the STU of NRPP resumed its operation from 31.03.2023 after completion of the restoration work (**Annexure-10**). Now, APGCL most humbly submits to the Hon'ble Commission to allow Open Cycle Heat Rate for NRPP for FY 2022-23. Further, APGCL also submits to the Hon'ble Commission to consider the fire incident in the STG building as "Force Majeure Event" as per the Regulation 2 (35) under the provision of the Regulation 114- "Power to Relax" of the AERC (Terms and Conditions for Determination of MYT) Regulations, 2021 and allow full fixed cost for NRPP for FY 2022-23.
- 3.3.9. With regards to above, APGCL thus humbly requests the Hon'ble Commission to consider normative claimed availability of 85% for NRPP and accordingly allow full fixed cost recovery in FY 2022-23. The approved and claimed numbers are shown in the table below.

Table 11: Availability of NRPP for FY 2022-23

NRPP	Approved as per order of March 2022	Claim for FY 2022-23
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Plant Availability Factor (%)	85.00%	85.00%
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3.4. Normative Annual Plant Load Factor (NAPLF)

3.4.1. NAPLF for NTPS: As per Regulation 48.2 of the MYT Regulations, 2021 the Normative Plant Load factor, is 50% for NTPS. It has achieved more than the normative value in FY 2022-23. The approved and claimed numbers are accordingly shown in the table below.

Table 12: Plant Load Factor of NTPS for FY 2022-23

NTPS	Approved as per order of March 2022	Claim for FY 2022-23
Plant Load Factor (%)	50.00%	58.91%

3.4.2. NAPLF for LTPS: As per Regulation 48.2 of the MYT Regulations, 2021 the Normative Plant Load factor was 66% for LTPS. It has achieved the actual PLF lower than the normative value. The approved and claimed numbers are shown in the table below.

Table 13: Plant Load Factor of LTPS for FY 2022-23

LTPS	Approved as per order of March 2022	Claim for FY 2022-23
Plant Load Factor (%)	66.00%	61.99%

3.4.3. NAPLF for KLHEP: Further, Regulation 50 of the MYT Regulations, 2021 specifies normative PLF for KLHEP as 44.5% for FY 2022-23. It has achieved more than the normative value in FY 2022-23. The approved and claimed numbers are shown in the table below.

Table 14: Plant Load Factor of KLHEP for FY 2022-23

KLHEP	Approved as per order of March 2022	Claim for FY 2022-23
Plant Load Factor (%)	44.50%	54.31%

3.4.4. NAPLF for LRPP: As per Regulation 48.2 of the Tariff Regulations, 2021 the Normative Plant Load factor, is 90% for new plants commissioned. It has achieved actual PLF lower than the normative value in FY 2022-23. The approved and claimed numbers are shown in the table below.

Table 15: Plant Load Factor of LRPP for FY 2022-23

LRPP	Approved as per order of March 2022	Claim for FY 2022-23
Plant Load Factor (%)	90.00%	84.35%

3.4.5. NAPLF for NRPP: As per Regulation 48.2 of the Tariff Regulations, 2021 the Normative Plant Load Factor is 85% for newly commissioned gas based generating station. It has achieved the lower PLF than normative value. The approved and claimed numbers are shown in the table below.

Table 16: Plant Load Factor of NRPP for FY 2022-23

NRPP	Approved as per order of March 2022	Claim for FY 2022-23
Plant Load Factor (%)	85%	52.19%

3.5. Gross Station Heat Rate (SHR)

3.5.1. SHR for NTPS: As per Regulation 48.4 of the MYT Regulations, 2021 the Normative Station Heat Rate, is 3900 kCal/kWh for FY 2022-23 for NTPS in combined cycle and 4300 kCal/kWh in open cycle modes of operation.

3.5.2. We submit that the actual SHR of NTPS is 4914.93 KCal/KWh, which is higher than the approved SHR in FY 2022-23 due to part loading of units resulting due to lower gas supply and old nature of the plant equipment and machinery.

3.5.3. APGCL has claimed the normative SHR for FY 2022-23 as shown in the table below.

Table 17: SHR of NTPS for FY 2022-23

NTPS	Approved as per order of March 2022	Claim for FY 2022-23
Station Heat Rate (kCal/kWh)	3900.00	4020.76

3.5.4. The computation of actual weighted normative is shown in table below.

FY 2022-23	GSHR	Running Hours in	Normative Weighted Average SHR
NTPS	Approved	Open Cycle Mode	
Open Cycle	4300	2425.18	4020.76
Combined Cycle	3900	5608.02	
Total		8033.20	

3.5.5. SHR for LTPS: As per Regulation 48.4 of the MYT Regulations, 2021 the Normative Station Heat Rate for FY 2022-23 of LTPS, is 3200 kCal/kWh in combined and 3900 Kcal/KWh in open cycle modes of operation.

3.5.6. APGCL has claimed the normative SHR for FY 2022-23 as shown in the table below.

Table 18: SHR of LTPS for FY 2022-23

LTPS	Approved as per order of March 2022	Claim for FY 2022-23
Station Heat Rate (kCal/kWh)	3200 for Combined cycle 3900 for Open cycle	3200

3.5.7. SHR for LRPP: The Hon'ble Commission had approved the Gross Station Heat Rate for LRPP at 2,150 kCal/kWh in the Tariff Order dated March 2022 for LRPP.

3.5.8. APGCL has claimed the normative SHR for FY 2022-23 as shown in the table below.

Table 19: SHR of LRPP for 2022-23

LRPP	Approved as per Order of March 2022	Claim for FY 2022-23
Station Heat Rate (kCal/kWh)	2150	2150

3.5.9. SHR for NRPP: As per Regulation 48.4 of the MYT Regulations, 2021 the Normative Station Heat Rate for FY 2022-23 of NRPP, is 1951 kCal/kWh in combined and 2927 Kcal/KWh in open cycle modes of operation.

3.5.10. With respect to fire incident in the STG unit damaging the 36.15 MW ST unit of NRPP, and the resultant open cycle operation in FY 2022-23 as mentioned already in details vide para 3.3.8, APGCL accordingly has claimed the normative SHR for FY 2022-23 as shown in the table below.

Table 20: SHR of NRPP for FY 2022-23

NRPP	Approved as per Order of March 2022	Claim for FY 2022-23
Station Heat Rate (kCal/kWh)	2927 (OC) 1951 (CC)	2927

3.5.11. APGCL humbly submits to the Hon'ble Commission to kindly approve the gross station heat rate claimed by APGCL.

3.6. Auxiliary Energy Consumption

3.6.1. Auxiliary consumption for NTPS: As per Regulation 48.3 of the MYT Regulations, 2021 the Normative Auxiliary energy consumption, is 4.50% for FY 2022-23 for NTPS. It has achieved the actual auxiliary consumption of 5.68% which is higher than normative value. Hence, it has lost 2.28 MU on net generation due to higher auxiliary consumption than normative value.

3.6.2. APGCL has claimed the actual auxiliary consumption as shown in the table below.

Table 21: Auxiliary energy consumption of NTPS for FY 2022-23

NTPS	Approved as per order of March 2022	Claim for FY 2022-23
Auxiliary energy consumption (%)	4.50%	5.68%

3.6.3. Auxiliary consumption for LTPS: As per Regulation 48.3 of the MYT Regulations, 2021 the Normative Auxiliary energy consumption, is 5.50% for FY 2022-23 of LTPS. It has achieved the actual auxiliary consumption of 7.72% which is higher than normative value. Hence, it has lost 11.98 MU on net generation due to higher auxiliary consumption than normative value.

3.6.4. APGCL has claimed the actual auxiliary consumption as shown in the table below.

Table 22: Auxiliary energy consumption of LTPS for FY 2022-23

LTPS	Approved as per order of March 2022	Claim for FY 2022-23
Auxiliary energy consumption (%)	5.50%	7.72%

3.6.5. Auxiliary consumption for KLHEP: As per Regulation 50.1 of the MYT Regulations, 2021 the Normative Auxiliary energy consumption, is 0.5% for FY 2022-23 for KLHEP. It has achieved the actual auxiliary consumption within normative value.

3.6.6. APGCL has claimed the normative auxiliary consumption as shown in the table below.

Table 23: Auxiliary energy consumption of KLHEP for FY 2022-23

KLHEP	Approved as per order of March 2022	Claim for FY 2022-23
Auxiliary energy consumption (%)	0.50%	0.50%

3.6.7. Auxiliary consumption for LRPP: As per Regulation 48.3 of the Tariff Regulations, 2021 the Normative Auxiliary energy consumption, is 3.50% for gas engine-based generating station with gas booster compressor. It has achieved the actual auxiliary consumption within normative value.

3.6.8. APGCL has claimed the normative auxiliary consumption as shown in the table below.

Table 24: Auxiliary energy consumption of LRPP for FY 2022-23

LRPP	Approved as per order of March 2022	Claim for FY 2022-23
Auxiliary energy consumption (%)	3.50%	3.50%

3.6.9. Auxiliary consumption for NRPP: The Hon'ble Commission had approved the auxiliary consumption for NRPP at 5% in the Tariff Order dated March 2022. It has achieved the actual auxiliary consumption within normative value.

3.6.10. APGCL has claimed the normative auxiliary consumption as shown in the table below.

Table 25: Auxiliary energy consumption of NRPP for FY 2022-23

NRPP	Approved as per order of March 2022	Claim for FY 2022-23
Auxiliary energy consumption (%)	5.00%	5.00%

3.6.11. APGCL humbly to Hon'ble Commission to kindly approve the actual auxiliary consumption claimed by APGCL.

4. Fixed Cost of the Plant

4.1. Annual fixed cost for FY 2022-23

4.1.1. The fixed cost of APGCL's power plants has been approved by AERC via Revised ARR order in Case No. 09/2021 dated 21st March 2022, Tariff Order for NRPP in Case No. 10/2021 dated 21st March 2022, and subsequently via APR Order in Case No. 16/2022 dated 29th March 2023.

4.1.2. As per regulation 43.1 of the AERC Tariff regulations, 2021 the following components of fixed cost have been considered for True-up of the tariff for the power plant:

(a) Return on Equity



- (b) Interest on Long Term Loan
- (c) Depreciation
- (d) Operation and Maintenance Expenses
- (e) Interest on Working Capital
- (f) Less: Non-Tariff Income

4.1.3. For the computation of the fixed components, the Petitioner has considered the principles provided in the AERC Regulations, 2021. These components have been discussed plant wise in detail in the following sections of the petition

4.2. Additional Capital Expenditure incurred in FY 2022-23 for Post COD for NRPP

4.2.1. The petitioner had incurred the following additional capital expenditure for NRPP in FY 2022-23 for post COD of the plant.

Table 26: Additional Capital Expenditure incurred in FY 2022-23 Post COD for NRPP

Rs. Cr

Particulars	Approved additional capital expenditure in order dated March 2022	Actual expenditure incurred in FY 2022-23
Additional Expenditure (Rs. Crore)	0.00	0.00
Equity (Rs. Crore)	0.00	0.13
Loan (Rs. Crore)	0.00	0.00
Grant (Rs. Crore)	0.00	0.00

4.2.2. Out of Rs 0.13 Cr, which was accounted in the Annual Financial Statement of FY 2022-23, Rs 0.01 Cr was originally part of the scope of work. Hence, APGCL prays to the Hon'ble Commission to approve the additional capitalization planned in FY 2022-23.

4.3. Return on Equity (ROE)

4.3.1. The Hon'ble Commission in its regulation 34 of the AERC Regulations, 2021 has considered the pre-tax return on equity at 15.50% of equity capital.

4.3.2. The Plant wise Return in Equity has been shown below:

Table 27: Computation of Plant wise Return in Equity for FY 2022-23

Rs. Cr

Station	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
NTPS	Opening Equity	55.00	57.42
	Addition during year	0.00	0.87
	Closing Equity	55.00	58.29
	Rate of Return	15.50%	15.50%
	Return on Equity	8.53	8.97
	Return on Equity for Effective Capacity	3.10	2.77



Station	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
LTPS	Opening Equity	143.08	148.69
	Addition during year	0.00	1.95
	Closing Equity	143.08	150.64
	Rate of Return	15.50%	15.50%
	Return on Equity	22.18	23.20
	Return on Equity for Effective Capacity	15.16	15.86
KLHEP	Opening Equity	68.65	154.42
	Addition during year	0.00	2.01
	Closing Equity	68.65	156.43
	Rate of Return	15.50%	15.50%
	Return on Equity	10.64	24.09
LRPP	Opening Equity	15.74	80.63
	Addition during year	0.00	1.40
	Closing Equity	15.74	82.03
	Rate of Return	15.50%	15.50%
	Return on Equity	2.44	12.61
NRPP **	Opening Equity	218.69	218.69
	Addition during year	0.00	0.00
	Closing Equity	218.69	218.69
	Rate of Return	15.50%	15.50%
	Return on Equity	33.90	33.90

** For NRPP, the approved numbers are as per NRPP tariff order dated 21st March 2022

4.3.3. Expenditure for ERP implementation and consultancy has been based on grants in FY 2022-23, FY 2023-24, and FY 2024-25. Govt. of Assam vide Financial Sanction No: FS/42_2021-22(I)_06 dated 31.12.2021 and Financial Sanction No: FS/pe_2023-24(I)_33 dated 12.10.2023 (attached at **Annexure-11**) had already approved conversion of all cumulative grant given to APGCL into equity as on 31.03.2021 and 31.03.2023 respectively. Hence, the expense amount of Rs 6.242 Cr incurred (previously grant) for ERP implementation and consultancy in FY 2022-23 has been converted to equity and accordingly, plant-wise return on equity on the same for NTPS, LTPS, KLHEP and LRPP have been claimed in FY 2022-23 True-Up petition.

4.3.4. APGCL prays to the Hon'ble Commission to kindly approve the plant wise Return on Equity (on effective capacity in the case of NTPS and LTPS) as shown above.

4.4. Interest on Loan Capital

- 4.4.1. As per Regulation 35 of the Tariff Regulations, 2021, the Hon'ble Commission will consider interest on Loan capital on normative basis with repayment equal to depreciation allowed for that year and rate of interest will be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year.
- 4.4.2. In view of the above, the Petitioner has computed the Interest on long term Loan on normative basis for FY 2022-23. The Petitioner has considered normative loan portfolio and the repayment shown is considered equal to the depreciation for FY 2022-23. The interest rate has been considered as the weighted average rate of actual interest rate applicable to APGCL at the beginning of FY 2022-23.
- 4.4.3. The finance charges are shown separately plant wise for FY 2022-23. The table below summarizes the interest on loan and finance charges considered (at effective capacity for NTPS and LTPS) for True-up of FY 2022-23.

Table 28: Computation of Plant wise Interest and finance charges for FY 2022-23

Rs. Cr

Station	Particulars	Approved per March 2022	as order of 2022-23	Claim for FY 2022-23
NTPS	Net Normative Opening Loan	0.00		0.00
	Addition of normative loan during the year	0.66		3.09
	Normative Repayment during the year	1.28		2.05
	Net Normative Closing Loan	0.00		1.04
	Avg. Normative Loan	0.00		0.52
	Interest Rate	10.93%		10.18%
	Interest on Loan Capital	0.00		0.05
	Add: Bank Charges	0.00		0.02
	Net Interest on Loan Capital	0.00		0.07
	Net Interest on Loan Capital for Effective Capacity	0.00		0.02
LTPS	Net Normative Opening Loan	0		0.00
	Addition of normative loan during the year	13.67		19.59
	Normative Repayment during the year	16.47		14.26
	Net Normative Closing Loan	0.00		5.32
	Avg. Normative Loan	0.00		2.66
	Interest Rate	10.93%		10.18%
	Interest on Loan Capital	0.00		0.27
	Add: Bank Charges	0.00		0.05
	Net Interest on Loan Capital	0.00		0.32
	Net Interest on Loan Capital for Effective Capacity	0.00		0.22
KLHEP	Net Normative Opening Loan	153.46		123.72
	Addition of normative loan during the year	19.40		6.02
	Normative Repayment during the year	21.56		22.14
	Net Normative Closing Loan	151.30		107.60
	Avg. Normative Loan	152.38		115.66

Station	Particulars	Approved per order March 2022	as Claim for FY 2022-23
	Interest Rate	10.93%	10.18%
	Interest on Loan Capital	16.66	11.78
	Add: Bank Charges	0.00	0.05
	Net Interest on Loan Capital	16.66	11.82
LRPP	Net Normative Opening Loan	24.43	26.83
	Addition of normative loan during the year	0.65	5.64
	Normative Repayment during the year	2.68	13.67
	Net Normative Closing Loan	22.40	18.80
	Avg. Normative Loan	23.42	22.82
	Interest Rate	10.93%	10.18%
	Interest on Loan Capital	2.56	2.32
	Add: Bank Charges	0.00	0.00
	Net Interest on Loan Capital	2.56	2.32
NRPP **	Net Normative Opening Loan	476.05	491.52
	Addition of normative loan during the year	0.00	0.13
	Normative Repayment during the year	36.27	42.08
	Net Normative Closing Loan	439.79	449.56
	Avg. Normative Loan	457.92	470.54
	Interest Rate	10.93%	10.18%
	Interest on Loan Capital	50.05	47.91
	Add: Bank Charges	0.00	0.00
	Net Interest on Loan Capital	50.05	47.91

** For NRPP, the approved numbers as per NRPP tariff order dated 21st March 2022

4.4.4. APGCL submits that the loan details and interest rates applicable on PFC loans is submitted as part of **Annexure-12** of this document.

4.4.5. APGCL prays to the Hon'ble Commission to kindly approve the total interest and finance charges as shown above.

4.5. Depreciation

4.5.1. The Hon'ble Commission in its Tariff Regulations, 2021 has considered the principle as laid out in Regulation 33.

4.5.2. In view of the above, the Petitioner has computed the Depreciation considering Capital Cost of the asset admitted by the Commission with 10% salvage value. The table below summarizes the plant wise Depreciation considered for True-up of FY 2022-23.

Table 29: Depreciation of NTPS for FY 2022-23

Particulars	FY 2022-23
Opening GFA	190.90
Addition during the year	3.09

Rs. Cr



Adjustment in GFA	0.00
Closing	193.98
Average GFA	192.44
Rate of Depreciation	1.07%
Total Depreciation	2.05
Grant	0.00
Additions during the year	0.00
Closing grant	0.00
Average grant	0.00
Rate of Depreciation	1.07%
Depreciation on grants	0.00
Net Depreciation	2.05

Table 30: Depreciation of LTPS for FY 2022-23

Rs. Cr

Particulars	FY 2022-23
Opening GFA	503.08
Addition during the year	19.59
Adjustment in GFA	0.00
Closing	522.67
Average GFA	512.88
Rate of Depreciation	2.78%
Total Depreciation	14.26
Grant	0.00
Additions during the year	0.00
Closing grant	0.00
Average grant	0.00
Rate of Depreciation	2.78%
Depreciation on grants	0.00
Net Depreciation	14.26

Table 31: Depreciation of KLHEP for FY 2022-23

Rs. Cr

Particulars	FY 2022-23
Opening GFA	505.47
Addition during the year	6.02
Adjustment in GFA	0.00
Closing	511.49
Average GFA	508.48
Rate of Depreciation	4.35%
Total Depreciation	22.14
Grant	0.00
Additions during the year	0.00
Closing grant	0.00

Particulars	FY 2022-23
Average grant	0.00
Rate of Depreciation	4.35%
Depreciation on grants	0.00
Net Depreciation	22.14

Table 32: Depreciation of LRPP for FY 2022-23

Rs. Cr

Particulars	FY 2022-23
Opening GFA	267.57
Addition during the year	5.64
Adjustment in GFA	0.00
Closing	273.22
Average GFA	270.40
Rate of Depreciation	5.06%
Total Depreciation	13.67
Grant	0.00
Additions during the year	0.00
Closing grant	0.00
Average grant	0.00
Rate of Depreciation	5.06%
Depreciation on grants	0.00
Net Depreciation	13.67

Table 33: Depreciation of NRPP for FY 2022-23

Rs. Cr

Particulars	FY 2022-23
Opening GFA	728.96
Addition during the year	0.13
Adjustment in GFA	0.00
Closing	729.09
Average GFA	729.02
Rate of Depreciation	5.77%
Total Depreciation	42.08
Grant	0.00
Additions during the year	0.00
Closing grant	0.00
Average grant	0.00
Rate of Depreciation	5.77%
Depreciation on grants	0.00
Net Depreciation	42.08

Table 34: Summary of Depreciation claimed for FY 2022-23

Rs. Cr



Station	Particulars	Approved as per order March 2022	Claim for FY 2022-23
NTPS	Depreciation	1.37	2.05
	Less: Depreciation on assets funded by Grants	0.10	0.00
	Net Depreciation	1.28	2.05
	Net Depreciation for Effective Capacity	0.47	
LTPS	Depreciation	18.97	14.26
	Less: Depreciation on assets funded by Grants	2.50	0.00
	Net Depreciation	16.47	14.26
	Net Depreciation for Effective Capacity	11.26	
KLHEP	Depreciation	24.10	22.14
	Less: Depreciation on assets funded by Grants	2.53	0.00
	Net Depreciation	21.56	22.14
LRPP	Depreciation	13.73	13.67
	Less: Depreciation on assets funded by Grants	11.04	0.00
	Net Depreciation	2.69	13.67
NRPP **	Depreciation	36.27	42.08
	Less: Depreciation on assets funded by Grants	0	0.00
	Net Depreciation	36.27	42.08

** For NRPP, the approved numbers as per NRPP tariff order dated 21st March 2022

- 4.5.3. Further, APGCL humbly submits that entire depreciation claimed in True Up is at par with the depreciation charged in the Annual Accounts and any depreciation on decommissioned / retired units does not form part of the depreciation charged in the Annual Accounts. Hence, the depreciation claimed is already at the effective capacity and further reduction of depreciation citing effective capacity is not justifiable. We humbly pray to the Hon'ble Commission to consider the same while approving True Up claim for depreciation and allow full recovery of the depreciation charged after reduction of depreciation on grants only and not further reduce the depreciation citing effective capacity.
- 4.5.4. Govt. of Assam vide Financial Sanction No: FS/42_2021-22(I)_06 dated 31.12.2021 and Financial Sanction No: FS/pe_2023-24(I)_33 dated 12.10.2023 (attached at **Annexure-11**) had already approved conversion of all cumulative grant given to APGCL into equity as on 31.03.2021 and 31.03.2023 respectively. The impact of such conversion has already been reflected in the Equity base admitted by the Commission. With regards to this, the Hon'ble Commission is thus requested that benefit of grants being converted to equity on similar lines also be given to Depreciation calculation and accordingly, any deductions to depreciation on account of assets funded by Grants may be considered to be revised to Nil with respect to approved figures in the Tariff Order.
- 4.5.5. APGCL prays to the Hon'ble Commission to kindly approve the plant wise Depreciation for FY 2022-23 as shown above.

4.6. Interest on Working Capital

4.6.1. As per Regulation 37 of the Tariff Regulations, 2021, the interest on working capital will be considered on normative basis.

4.6.2. As per the above regulations, the Petitioner has claimed normative interest on working capital. However, as APGCL does not have liquid fuel stock facility, it has not considered working capital on storage of liquid fuel. The rate of interest has been considered as interest rate equivalent to the normative interest rate of three hundred (300) basis points above the average State Bank of India MCLR (One Year Tenor) prevalent during the last available six months i.e., 8.53% + 3.00 % = 11.53%. The plant wise interest on working capital considered is shown in the table below:

Table 35: Summary of Interest on working capital claimed for FY 2022-23

Rs. Cr

Station	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
NTPS	Fuel Cost for one month	3.78	11.32
	O&M Expenses for one month	3.52	1.60
	Maintenance Spares-30% of O&M	12.67	5.78
	Receivables for two months	16.09	27.13
	Total Working Capital Requirement	36.06	45.83
	Rate of interest	10.00%	11.53%
	Interest on Working capital	3.61	5.28
	Interest on Working capital at Effective Capacity	1.31	
LTPS	Fuel Cost for one month	9.64	32.65
	O&M Expenses for one month	3.57	3.88
	Maintenance Spares-30% of O&M	12.86	13.96
	Receivables for two months	34.87	79.42
	Total Working Capital Requirement	60.96	129.91
	Rate of interest	10.00%	11.53%
	Interest on Working capital	6.10	14.97
	Interest on Working capital at Effective Capacity	4.17	
KLHEP	O&M Expenses for one month	2.78	2.86
	Maintenance Spares-30% of O&M	5.00	10.28
	Receivables for two months	16.47	19.91
	Total Working Capital Requirement	24.25	33.05
	Rate of interest	10.00%	11.53%
	Interest on Working capital	2.42	3.81



Station	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
LRPP	Fuel Cost for one month	7.91	24.80
	O&M Expenses for one month	2.52	2.52
	Maintenance Spares-30% of O&M	9.08	9.08
	Receivables for two months	28.41	63.73
	Total Working Capital Requirement	47.92	100.13
	Rate of interest	10.00%	11.53%
	Interest on Working capital	4.79	11.54
NRPP**	Fuel Cost for one month	7.27	18.89
	O&M Expenses for one month	1.91	3.47
	Maintenance Spares-30% of O&M	6.87	12.50
	Receivables for two months	39.31	70.23
	Total Working Capital Requirement	55.36	105.08
	Rate of interest	10.00%	11.53%
	Interest on Working capital	5.54	12.11

** For NRPP, the approved numbers as per NRPP tariff order dated 21st March 2022

4.6.3. APGCL prays to the Hon'ble Commission to kindly approve the plant wise interest on Working capital for FY 2022-23 as shown above.

4.7. Operation and Maintenance Expenses

4.7.1. As per Regulation 51 of the Tariff Regulations, 2021 does not provide for separate approval of Employee expenses, A&G expenses, and R&M expenses.

4.7.2. APGCL submitted that the Commission in the Tariff Order of dated March 21, 2022, had approved normative O&M expenses of Rs. 42.24 Crore for NTPS, Rs 42.88 Crore for LTPS, Rs. 33.31 Crore for KLHEP and Rs. 30.27 Crore for LRPP for FY 2022-23, which works out to total of Rs. 148.70 Crore.

4.7.3. APGCL had submitted to the Commission to amend Regulation 51.2 (a) in AERC MYT Regulations, 2021 to allow the actual O&M cost of NRPP at the time of True up after prudence check for FY 2021-22 and FY 2022-23. Further, APGCL requested the Commission to consider the Trued-up O&M Cost of FY 2021-22 and FY 2022-23 for arriving at normative O&M Cost for FY 2023-24 after escalation.

4.7.4. Based on the above submission, The Hon'ble Commission vide Order No. 03/2022 dated 20th August 2022 had given their judgement as reproduced below:

" 7. After scrutinizing the Petition and related information submitted by APGCL, the Commission noted that the figures submitted by APGCL are estimations only. The Commission is of the view that in absence of actual O & M cost (Audited), it may not be prudent to revise the norms only on the basis of submissions of APGCL.

8. However, APGCL is at liberty to place their claim at the time of true up with proper documentary evidence during the control period from FY 2022-23 to FY 2024-25 based on the audited data of O&M expenses and the Commission shall decide on the basis of the actual audited data. "



4.7.5. Based on the above Order of the Hon'ble Commission, APGCL had already submitted the actual O&M cost in the True-up of FY 2021-22 for NRPP for approval and accordingly the Hon'ble Commission approved the same after prudence check. APGCL is now submitting the actual O&M Cost of NRPP for approval for FY 2022-23 in the True-up and humbly prays to the Commission to approve the same in continuation of the precedence of the True-up of FY 2021-22 for NRPP.

4.7.6. Based on above Submission, APGCL has claimed the actual O&M cost of Rs. 41.66 Crore with respect to NRPP for FY 2022-23.

4.7.7. As per Tariff Order dated March 2023, wherein as per Para 5.11.5, the Hon'ble Commission had mentioned that it had escalated approved True Up figures of FY 2021-22 to arrive at normative figures for APR of FY 2022-23 (escalation factor of 6.3% considered). However, for NTPS, LTPS and KLHEP, the calculation of approved figure with respect to approach as taken by Hon'ble Commission as mentioned in Para 5.11.5 of Tariff Order dated 29th March 2023 is not aligned. Same is showcased below:

Station	Approved in True-Up for FY 2021-22 as per Order dated March 2023	Normative Figure for APR for FY 2022-23 calculated considering escalation of 6.3% from True-Up (Para 5.11.5 of Order dated March 2023)	Amount actually approved by Hon'ble Commission for APR for FY 2022-23
	A	B = A*(1+6.3%)	C
NTPS	58.44	62.12	54.82
LTPS	63.83	67.85	62.62
KLHEP	32.14	34.16	33.43

Hon'ble Commission is thus requested to relook/ kindly clarify with respect to the approved APR figure of O&M expense for FY 2022-23 as it is clearly mentioned in para 5.11.5 of Tariff Order dated March 2023, that Hon'ble Commission has calculated the same escalating the approved True-Up figure of FY 2021-22 by 6.3%.

4.7.8 As per Para 4.10.3 of Tariff Order dated March 2022, Commission had computed normative O&M expenses for FY 2020-21 True Up by applying escalation factor of 6.30%, on normative O&M Expenses for FY 2019-20 approved in the APR. Further, as per Table 18 and Para 4.10.7 of Tariff Order dated March 2023, similar approach was taken by Commission (except for NRPP wherein Commission approved on Actuals) wherein approved O&M figures for NTPS, LTPS, KLHEP and LRPP for True Up for FY 2021-22 were calculated by escalating approved APR figure w.r.t FY 2020-21 by 6.3%.

4.7.8 With regards to above, approved APR figures of FY 2021-22 have been escalated by the Commission determined escalation factor of 6.3% with respect to NTPS, KLHEP and LTPS to arrive at figures being claimed for True Up for FY 2022-23 for NTPS, LTPS and KLHEP. For LRPP, as per para 5.11.6 of Tariff Order dated March 2023,

"5.11.6 The O&M expenses for LRPP have been estimated based on the O&M norm of Rs. 43.40 Lakh/MW, which has been derived after escalating O&M norm of Rs. 32.46 Lakh/MW

considered in Truing-up of FY 2021-22 by 6.30% as specified in the MYT Regulations, 2021. The total O&M expenses for LRPP works out to Rs 30.27 Crore for FY 2021-22.”

Thus, for LRPP, O&M expense of Rs 30.27 Cr has been claimed in True-Up for FY 2022-23. For NRPP, as mentioned above in para 4.7.5 of this petition, O&M expenses at actuals excluding Special R&M expenses have been claimed in FY 2022-23 True Up.

4.7.8. APGCL prays to the hon'ble commission to approve the O&M expenses for FY 2022-23 as shown in the table below.

Table 36: Operation and Maintenance claimed for FY 2022-23

Station	Normative O&M cost approved in order dated March 2022	Approved O&M at effective capacity in order March 2022	Normative O&M cost approved in order dated March 2023*	Normative O&M calculated for FY 22-23 at full capacity	Amount Claim at actual effective capacity for FY 2022-23
NTPS	42.24	15.38	54.82	62.34	19.26
LTPS	42.88	29.31	62.62	68.10	46.55
KLHEP	33.31	33.31	33.43	34.28	34.28
LRPP	30.27	30.27	30.27	30.27	30.27
NRPP**	22.90	22.90	22.90	41.66	41.66
Total	171.60	131.17	204.04	236.65	172.01

*Please refer para 4.7.7

** For NRPP, the approved numbers as per NRPP tariff order dated 21st March 2022

4.7.9. Further, APGCL has separately claimed Rs. 0.22 crore against capacity building and Rs. 41.64 crore against special R&M for FY 2022-23.

4.7.10. APGCL prays to the Hon'ble Commission to kindly approve the plant wise O&M expenses for FY 2022-23 as shown above.

4.8. Impact of AERC (Payment of Fees etc.) Regulation, 2020

4.8.1. The Hon'ble Commission has notified the new AERC (Payment of Fees etc.) Regulations, 2020 which has led to a substantial increase in the Filing Fees of APGCL payable to AERC.

4.8.2. The tentative impact of the increase in the filing fees has been shown below:

Table 37: Impact of increase in AERC Fees claimed for FY 2022-23

Station	Approved in Tariff Order dated March 2022	Actual claim for FY 2022-23
NTPS	0.10	0.10
LTPS	0.10	0.10
KLHEP	0.0	0.0
LRPP	0.10	0.10
NRPP	0.0	0.00
Total	0.30	0.30

4.9. Actual Tax Claim

4.9.1. As per regulation 36 of the Tariff Regulations 2021, income tax as will be reimbursed per actual income tax paid, based on the documentary evidence submitted at the time of truing up.

4.9.2. APGCL has determined that total amount of Rs. 19.48 Crores to be payable to Income Tax Department.

Table 38: Plant wise Tax on income claimed for FY 2022-23

Rs. Cr	
Station	Tax on income claimed for FY 2022-23
NTPS	2.09
LTPS	6.38
KLHEP	1.51
LRPP	5.26
NRPP	4.24
Total	19.48

4.9.3. Income Tax Return Acknowledgement (ITR-6) for FY 2022-23 (AY 2023-24) annexed at **Annexure-13** with regards to above.

4.9.4. The Petitioner prays to the Hon'ble Commission to kindly approve the plant wise tax on income for FY 2022-23 as shown in the table above.

4.10. Special R&M

4.10.1. As per regulation 29.5 (iii) of the Tariff Regulations 2018, special R&M expenditure is allowed for efficient operation of the stations.

4.10.2. APGCL's expenditure under Special R&M was done for the following.

Table 39: Details of Special R&M claimed for FY 2022-23

Rs. Cr				
Work Name	Approved as per Tariff Order dated March 2022	Approved as per Tariff Order dated March 2023	Claim in FY 2022-23	Remarks
Procurement of Overseas spares for major overhauling of 2 nos. W301 Gas Turbine unit proposed to be carried out in 2023-24 used in GT #2 & #3 for NTPS	1.68	1.68	0	Work is under process. Delay is due to long procurement lead time.
Procurement of spares for major overhauling of	0.90	0.90	0	PO to be placed. Delay is due to extension in tendering process.



Work Name	Approved as per Tariff Order dated March 2022	Approved as per Tariff Order dated March 2023	Claim in FY 2022-23	Remarks
WHT#6 proposed to be carried out in 2023-24 for NTPS				
Overhauling of LTPS Unit -7 in FY 2020-21	15	15	0.98	Part amount claimed. Balance amount will be claimed in FY 2023-24
Capital Overhauling of 50 MW Francis type Fuji make Generator Turbine Unit-II -KLHEP	0	0	11.14	The work was proposed in two FYs. Procurement of spares was proposed in one FY and execution of the work was proposed in the other FY. Accordingly, work was approved in the FY 2020-21 for ₹ 15.10 Cr for procurement of spares and in the FY 2022-23 for ₹ 12.00 Cr for execution of the work.
	12	12	0	Major Overhauling of Unit-2 was delayed due to a delay in the execution of Major Overhauling of Unit-1 of KLHEP (due to Covid-19 outbreak) and the issue of replacement of the runner of Unit-2. Major Overhauling Work of Unit-2 started on 13.01.2023 and completed on 05.08.2023. With respect to Procurement and execution works, balance amounts will be claimed in FY 2023-24
Replacement of Runner of U#2 for KLHEP	8	8	3.03	The replacement was done with refurbished runner as the delivery period of a new runner was very high. The refurbished runner for Unit-2 was received at site on 27.12.2022. Major Overhauling Work of Unit-2 started on 13.01.2023 and completed on 05.08.2023 including the work of replacement of the runner.
Additional Capital Investment for Renovation work of	12	8.08	4.83	The landslide related works of KLHEP is ongoing from FY 2021-22. The Hon'ble

Work Name	Approved as per Tariff Order dated March 2022	Approved as per Tariff Order dated March 2023	Claim in FY 2022-23	Remarks
damaged assets due to Landslide for KLHEP Plant				Commission has already approved ₹ 3.92 Cr for part completion of this work in the True-up of FY 2021-22 as Special R&M. Now, APGCL is claiming ₹ 4.83 Cr for this work in the True-up of FY 2022-23 as Special R&M. Balance amount of ₹ 3.25 Cr will be claimed in the next True-up of FY 2023-24. Total Estimate for the work was ₹ 12.00 Cr and was submitted in the APR of FY 2021-22 due to emergency nature of the work as Special R&M for KLHEP and was also Considered by the Hon'ble Commission in the APR Order for FY 2021-22
Overhauling of Gas Engine units and Turbocharger of LRPP	32.72	32.72	8.90	Some work shifted to FY 2023-24. Balance amount of ₹ 23.82 Cr will be claimed in FY 2023-24 True Up
Combustion Inspection of the GT Unit of NRPP	0	0	12.76	<p>The work is already complete in FY 2022-23.</p> <p>APGCL proposed the work in the Tariff Petition for FY 2022-23 and APR for FY 2022-23. Hon'ble Commission in the APR Order for FY 2022-23 directed APGCL to submit detailed DPR for the work. APGCL submitted the same in the Review Petition and the Hon'ble Commission in the Review Order dated 25/07/2023 stated that the Commission shall consider this expense during the True-up of FY 2022-23 based on actual expenditure and submissions to be made by APGCL in the separate Petition.</p> <p>As such, APGCL is submitting the details along with the DPR and cost benefit analysis for</p>

Work Name	Approved as per Tariff Order dated March 2022	Approved as per Tariff Order dated March 2023	Claim in FY 2022-23	Remarks
				the work, as attached in Annexure-14. , APGCL is claiming 12.76 Cr in this regard in the True-up Petition of FY 2022-23. Balance amount to be claimed for FY 2023-24.

4.10.3. In view of the above regulations, the approved and actual number for Special R&M for FY 2022-23 are shown in the table below.

Table 40: Plant wise Special R&M for FY 2022-23

Rs. Cr

Station	Approved as per order of March 2022	Approved as per order of March 2023	Actual claim for FY 2022-23
NTPS	2.58	2.58	0
LTPS	15	15	0.98
KLHEP	20	28.08	19.00
LRPP	32.72	32.72	8.90
NRPP	0	0	12.76
Total	70.30	78.38	41.64

4.10.4. APGCL prays to the Hon'ble Commission to kindly approve the plant wise Special R&M for FY 2022-23 as shown in the table above.

4.11. Capacity building

4.11.1. The Hon'ble Commission had approved expenses pertaining to Capacity Building of APGCL employees.

4.11.2. The list of capacity building activities undertaken in FY 2022-23 is shown below:

Sl. No.	Name of Training Programme	Organizing Institute	Period of Training		No. of Participants
			From	To	
1	Dam Safety Act 2021 for Dam Safety Governance in India	Dept. of Water Resources, River Development and Ganga Rejuvenation	6/16/2022	6/16/2022	2
2	Seminar on National Hydrogen	AERC	7/25/2022	7/25/2022	3



Sl. No	Name of Training Programme	Organizing Institute	Period of Training		No. of Participants
			From	To	
	Mission (NHM)-2030				
3	Webinar on FIDIC Contract Management		8/29/2022	8/6/2022	2
4	Webinar on ADB Gender Policy and Practices- Capturing Gender Equality Results and documentation for Project Completion Report	Capacity Development Resource Center, ADB	8/2/2022	8/2/2022	2
5	Capacity Building on Bridges		8/30/2022	8/31/2022	2
6	Upgraded Software of CAA&A for all externally aided PIAs and Eas and other budget related information	O/o the Controller of Aid, Accounts & Audit Department of Economic Affairs, Ministry of Finance, Government of India	not mentioned	not mentioned	8
7	9th International Symposium on Hydraulic Structures (ISHS 2022)	IIT Roorkee	10/25/2022	10/27/2022	2
8	On FinAssam portal	ASPIRe, Finance department, Dispur, Guwahati	November		1
9	National Workshop on ESCerts Trading Process PAT Cycle II DCs	Price Waterhouse on Escerts Trading Process PAT Cycle II DCs	11/25/2022	11/25/2022	1

Sl. No.	Name of Training Programme	Organizing Institute	Period of Training		No. of Participants
			From	To	
10	Latest Investigations, Repair & Rehabilitation Technologies for Dams	AF Academy	3/2/2023	3/3/2023	3
11	Webinar on Wealth Awareness Program	Advisors Organization	2/9/2023	2/10/2023	Open for all employees of APGCL
12	Strengthening Project Performance through Evaluation	Capacity Development Resource Center, ADB	3/1/2023	3/3/2023	5
13	Domestic Buyer Seller Meet	ELECRAMA-2023	2/18/2023	2/22/2023	3
14	ESG for Industry Transformation in NER States	National Productivity Council (NPC), under DPIIT, Ministry of Commerce and Industry, GOI	1/30/2023	1/30/2023	3
15	One day Workshop on Budget Preparation	Centre for Financial Management under the Assam Administrative Staff College (AASC)	12/22/2022	12/22/2022	3
16	Government e-Marketplace (GeM)	ASPIRe, Finance department, Dispur, Guwahati	11/30/2022	11/30/2022	2
17	One Week Capacity Building Program on Open Access, Power Trading, Tariff,	NPTI-NER	11/21/2022	11/25/2022	8

Sl. No	Name of Training Programme	Organizing Institute	Period of Training		No. of Participants
			From	To	
	ABT & Forecasting				
18	Procurement, reverse auctioning through GeM Portal	Bharat Heavy Electricals Limited (BHEL)	11/18/2022	11/18/2022	1
19	Change Management	Assam Administrative Staff College	11/28/2022	11/30/2022	5
20	5G Deployment in NE States-Issues and Challenges	Telecom Regulatory Authority of India (TRAI)	11/4/2022	11/4/2022	1
21	Webinar on Role of Energy Storage in the Clean Energy Transition	Capacity Building Resource Center, Asian Development Bank (ADB)	11/10/2022	11/10/2022	2
22	3rd WePower Conference of the South Asia Women in Power Sector Professional Network	Asian Development Bank	12/6/2022	12/8/2022	1
23	Solar PV Power Plant (O&M, Design, DPR Preparation & Tariff Calculation)	NPTI-NER	9/19/2022	9/23/2022	5
24	Public Procurement Act 2017 & Rules, 2020 and Government e-Marketplace	Assam Administrative Staff College	5/7/2022	5/7/2022	4
25	Webinar on ADB Financial Management Reporting Requirements	Centre for Financial Management under the Assam	4/28/2022	4/28/2022	1

Sl. No.	Name of Training Programme	Organizing Institute	Period of Training		No. of Participants
			From	To	
		Administrative Staff College (AASC)			
26	Webinar on Grievance Redress Mechanism for ADB assisted Projects (Batch B)	Capacity Development Resource Center, ADB	7/14/2022	7/16/2022	2
27	Webinar on Grievance Redress Mechanism for ADB assisted Projects (Batch A)	Capacity Development Resource Center, ADB	6/20/2022	6/24/2022	2
28	Webinar on Transitioning from the FIDIC Pink Book (2010) to FIDIC Red Book	Capacity Development Resource Center, ADB	6/28/2022	6/28/2022	2
29	Cloud Computing on Physical Delivery	Ministry of Electronics and Information Technology (MeitY), Govt. of India	4/4/2022	4/5/2022	2
30	Cloud Computing on Online Delivery	Ministry of Electronics and Information Technology (MeitY), Govt. of India	4/6/2022	4/8/2022	2
31	Webinar on FAQs on Procurement of Works and Goods and Consultancy Services	Capacity Development Resource Center, ADB	4/20/2022	4/20/2022	2

Sl. No.	Name of Training Programme	Organizing Institute	Period of Training		No. of Participants
			From	To	
32	Webinar on ADB Disbursement Procedures and CPD		4/25/2022	4/27/2022	2
33	Webinar on ADB Gender Policy and Practices- GESI/Gender Action Plan implementation, monitoring and reporting		4/29/2022	4/29/2022	2
34	Webinar on ADB Safeguards Procedures		5/9/2022	5/12/2022	2
35	Claims Management	Salasar Services (Insurance Brokers) Pvt. Ltd.	4/5/2022	4/8/2022	Open for all employees of APGCL

4.11.3. The approved and claimed expenses have been shown in the table below:

Table 41: Expenses under Capacity building for FY 2022-23

Station	Approved as per order of March 2022	Claim for FY 2022-23
NTPS	0	0.02
LTPS	0	0.05
KLHEP	0	0.05
LRPP	0	0.04
NRPP	0	0.05
Total	0	0.22

4.11.4. APGCL prays to the Hon'ble Commission to kindly approve the above-mentioned capacity building expenses for FY 2022-23.

4.12. Non-Tariff income

4.12.1. As per Regulation 46 of the Tariff Regulations, 2021, the non-tariff income shall be deducted from the Annual Fixed Cost in determining the Annual Fixed Cost of the Generation Company.

4.12.2. In view of the above regulations, the details of non-tariff income for FY 2022-23 are shown in the table below.

Table 42: Station-wise details of non-tariff income for FY 2022-23

Station	Approved as per order of March 2022	Approved as per APR Order of March 2023	Actual claim for FY 2022-23
NTPS	7.13	6.58	5.96
LTPS	9.22	26.97	14.61
KLHEP	5.75	11.84	13.86
LRPP	0.00	0.00	0.00
NRPP	0.00	0.00	0.00
Total	22.09	45.39	34.43

Rs. Cr

4.12.3. As per audited accounts for FY 2022-23, total other income appeared as Rs. 35.79 Crore. However, as per CAG report, same is overstated by Rs 1.36 Cr through wrong inclusion of advance received against 'Land Lease charges' and 'Local Area Development Fund Charges' pertaining to FY 2023-24 and hence same has been deducted from above claim. Non-tariff income, thus considered and claimed totals to Rs 34.43 Cr. Copy of CAG report with respect to above is provided at **Annexure-15**.

4.12.4. APGCL prays to the Hon'ble Commission to approve the plant wise non-tariff income for FY 2022-23 as shown above.

5. Energy Charges

5.1. Fuel Price and Calorific Value

5.1.1. As per Regulation 10 of the Tariff Regulations 2021, 'Fuel Price' and 'Calorific Value of Fuel' are uncontrollable items. The actual values of 'Fuel Price' and 'Calorific Value of Fuel' are shown in the table below.

Table 43: Actual Plant wise GCV and Price of Gas for FY 2022-23

Station	Wt. Avg. Gross Calorific Value of Gas (kcal/SCM)	Wt. Avg. Price of Gas (Rs. /1000 SCM)
NTPS	9220.72	16146.25
LTPS	9853.02	22317.28
LRPP	9217.11	25247.21
NRPP	9220.72	16146.25



5.1.2. The Petitioner prays to the Hon'ble Commission to kindly approve the actual Price of Gas and GCV for NTPS, LTPS, LRPP and NRPP for FY 2022-23 as shown in the table above.

5.2. Fuel cost

5.2.1. The table below shows the plant wise approved fuel cost and the claimed fuel cost for FY 2022-23.

Table 44: Fuel cost of NTPS for FY 2022-23

Rs. Cr

Particulars	Unit	Approved as per order of March 2022	Claim for FY 2022-23
Gross Generation	MU	195.09	192.85
Heat Rate	kCal/kWh	3900.00	4020.76
GCV of gas	kCal/kWh	9204.80	9220.72
Overall Heat	G. cal.	760856.22	775422.08
Gas consumption	M. SCM	82.66	84.10
Price of Gas	Rs. /1000 SCM	5617.39	16146.25
Total cost of Gas	Rs. Crore	46.43	135.78

Table 45: Fuel cost of LTPS for FY 2022-23

Rs. Cr

Particulars	Unit	Approved as per order of March 2022	Claim for FY 2022-23
Gross Generation	MU	425.74	540.52
Heat Rate	kCal/kWh	3200.00	3200.00
GCV of gas	kCal/kWh	9337.66	9853.02
Overall Heat	G. cal.	1362355.20	1729670.40
Gas consumption	M. SCM	145.90	175.55
Price of Gas	Rs. /1000 SCM	7932.73	22317.28
Total cost of Gas	Rs. Crore	115.74	391.77

Table 46: Fuel cost of LRPP for FY 2022-23

Rs. Cr

Particulars	Unit	Approved as per order of March 2022	Claim for FY 2022-23
Gross Generation	MU	519.40	505.41
Heat Rate	kCal/kWh	2150.00	2150.00
GCV of gas	kCal/kWh	9337.66	9217.11
Overall Heat	G. cal.	1116700.82	1086622.47
Gas consumption	M. SCM	119.59	117.89
Price of Gas	Rs./1000 SCM	7932.73	25247.21
Total cost of Gas	Rs. Crore	94.87	297.64

Table 47: Fuel cost of NRPP of FY 2023-23

Rs. Cr



Particulars	Unit	Approved as per order of March 2022	Claim for FY 2022-23
Gross Generation	MU	732.69	442.23
Heat Rate	kCal/kWh	1951.05	2927.00
GCV of gas	kCal/kWh	9204.80	9220.72
Overall Heat	G. cal.	1429505.60	1294392.93
Gas consumption	M. SCM	155.30	140.38
Price of Gas	Rs./1000 SCM	5617.39	16146.25
Total cost of Gas	Rs. Crore	87.24	226.66

5.2.2. The Petitioner prays to the Hon'ble Commission to kindly approve the actual fuel cost Price for NTPS, LTPS, LRPP and NRPP for FY 2022-23 as shown in the table above.

5.3. Incentives

5.3.1. Incentive for NTPS: As per regulation 53 of the Tariff Regulations 2021, incentive is payable for actual energy generation in excess of ex-bus energy corresponding to target PLF.

5.3.2. The target PLF of NTPS was 50% for claiming incentive as per the Tariff Regulations 2021. Actual PLF achieved considering effective installed capacity of 36.91 MW was 58.91% for FY 2022-23.

5.3.3. In view of the above, the Petitioner claims the incentive at a rate of 50 paise for NTPS as shown in the table below.

Table 48: Incentive claim for NTPS for FY 2022-23

Sl. No.	Station	Installed Capacity (MW)	Target PLF for allowing incentive (%)	Gross Generation with target PLF (MU)	Approved aux. consumption (%)	Net generation with target PLF (MU)	Actual PLF	Gross Generation (Actual) (MU)	Actual aux. consumption (%)	Net Generation (Actual) (MU)	Ex-bus energy eligible for incentive	Incentive Rs Crore
	1	2	3	4	5	6	7	8	9	10	12= (10+11-6)	13= 12 x 50 paise
1	NTPS	36.91	50%	161.67	4.50%	154.40	58.91%	192.85	5.68%	181.90	27.50	1.375

5.3.4. Secondary charge for KLHEP: As per regulation 54.6 of the Tariff Regulations 2021, for a hydro power station if the actual saleable energy in a year exceeds Design energy the Energy Charge for such energy is billed equal to the lowest variable charges of the central sector thermal power generating stations in the northeast region.

5.3.5. For the FY 2022-23, APGCL has claimed towards secondary charge for KLHEP as mentioned in below table.

Table 49: Secondary Charge of KLHEP for FY 2022-23

Rs. Cr

Sl. No	Month	Cumulative Design Energy (net of Aux. Consumption) in FY 2022-23	Cumulative Actual Energy Sent out in FY 2022-23	Excess over Design Energy eligible for incentive	Secondary Charge Rate (Rs/kWh)	Secondary charge (Rs. Cr)
		A	B	C	D	E= C x D/10
1	Nov-22	351.24	401.18	13.13	1.951	2.56
2	Dec-22	366.16	427.56	26.38	1.951	5.14
3	Jan-23	377.11	445.96	18.40	1.943	3.57
4	Feb-23	382.08	459.33	13.37	1.943	2.60
5	Mar-23	388.05	473.40	14.07	1.943	2.73
TOTAL				85.35		16.61

5.4. Revenue from sale of power

5.4.1. The plant wise Revenue from Sale of Power for FY 2022-23 are as shown in the tables below.

Table 50: Plant wise Revenue from Sale of Power for FY 2022-23

Rs. Cr

Particular	Fixed/Capacity charges	Variable charges	Incentive	Total Revenue appeared in Accounts FY 23	Approved as per order of March 2022	Actual claim for FY 2022-23
NTPS	15.84	131.65	1.38	148.87	62.23	148.87
LTPS	65.76	388.18	0	453.94	181.52	453.94
KLHEP	41.28	49.28	16.61	107.16	98.85	107.16
LRPP	75.60	298.75	0	374.35	170.45	374.35
NRPP	148.68	152.55	0	301.23	235.88**	301.23
Total	347.16	1020.42	17.98	1385.55	748.93	1385.55

**Net ARR approved for NRPP in tariff order dated 21st March 2022.

5.4.2. The Petitioner prays to the Hon'ble Commission to approve the plant wise Sale of Power for FY 2022-23 as discussed in the table above.

6. Summary of submissions for True-up of FY 2022-23

6.1. Net Annual Revenue Requirement

6.1.1. The plant wise Net Annual Revenue Requirements for FY 2022-23 are as shown in the tables below.

Table 51: Net Annual Revenue Requirements of NTPS for FY 2022-23

Rs. Cr

Sl. No	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
I	POWER GENERATION (MU)		
	Gross Generation	195.09	192.85
	Net Generation	186.31	181.90
	Auxiliary Consumption Loss %	4.50%	5.68%
I	Fixed Charges		
	Operation & Maintenance Expenditure	15.38	19.26
	Increase in AERC Filing Fees	0.10	0.10
	Interest & Finance Charges	0.00	0.02
	Interest on working Capital	1.31	5.28
	Depreciation	0.47	2.05
	Return on Equity	3.10	2.77
	Income taxes	0	2.09
	Special R&M	2.58	0.00
	Capacity Building	0.00	0.02
	Less: Other Income	-7.13	-5.96
II	Total Fixed Charges	15.81	25.64
III	Fuel Cost	46.43	135.78
IV	Total Revenue Requirement	62.24	161.42
V	Incentive for generation for FY 23		1.37
VI	Total Cost	62.24	162.80
VII	Revenue from Sale of Power	62.24	148.87
VIII	Revenue Gap (+) / Surplus (-)		13.93

Table 52: Net Annual Revenue Requirements of LTPS for FY 2022-23

Rs. Cr

Sl. No	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
I	POWER GENERATION (MU)		
	Gross Generation	425.74	540.52
	Net Generation	402.32	498.82
	Auxiliary Consumption Loss %	5.50%	7.72%
I	Fixed Charges		
	Operation & Maintenance Expenditure	29.31	46.55
	Increase in AERC Filing Fees	0.10	0.10



Sl. No	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
	Interest & Finance Charges	0.00	0.22
	Interest on working Capital	4.17	14.97
	Depreciation	11.26	14.26
	Return on Equity	15.16	15.86
	Income taxes	0	6.38
	Special R&M	15.00	0.98
	Capacity Building	0.00	0.05
	<u>Less: Other Income</u>	-9.22	-14.61
II	Total Fixed Charges	65.78	84.76
III	Fuel Cost	115.74	391.77
IV	Total Revenue Requirement	181.52	476.53
V	Incentive for generation for FY 22		
VI	Total Cost	181.52	476.53
VII	Revenue from Sale of Power	181.52	453.94
VIII	Revenue Gap (+) / Surplus (-)		22.60

Table 53: Net Annual Revenue Requirements of KLHEP for FY 2022-23

Rs. Cr

Sl. No	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
I	POWER GENERATION (MU)		
	Gross Generation	390.00	475.78
	Net Generation	388.05	473.40
	Auxiliary Consumption Loss %	0.50%	0.50%
I	Fixed Charges		
	Operation & Maintenance Expenditure	33.31	34.28
	Increase in AERC Filing Fees	0.00	0.00
	Interest & Finance Charges	16.66	11.82
	Interest on working Capital	2.42	3.81
	Depreciation	21.56	22.14
	Return on Equity	10.64	24.09
	Income taxes	0	1.51
	Special R&M	20.00	19.00
	Capacity Building	0.00	0.05
	<u>Less: Other Income</u>	-5.75	-13.86
II	Total Fixed Charges	98.85	102.85
III	Fuel Cost	0.00	0.00
IV	Total Revenue Requirement	98.85	102.85
V	Incentive for generation & Secondary energy generation		16.61
VI	Total Cost	98.85	119.45
VII	Revenue from Sale of Power	98.85	107.16



Sl. No	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
VIII	Revenue Gap (+) / Surplus (-)		12.29

Table 54: Net Annual Revenue Requirements for LRPP for FY 2022-23

Rs. Cr

Sl. No	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
I	POWER GENERATION (MU)		
	Gross Generation	519.40	505.41
	Net Generation	501.22	487.72
	Auxiliary Consumption Loss %	3.50%	3.50%
I	Fixed Charges		
	Operation & Maintenance Expenditure	30.27	30.27
	Increase in AERC Filing Fees	0.10	0.10
	Interest & Finance Charges	2.56	2.32
	Interest on working Capital	4.79	11.54
	Depreciation	2.69	13.67
	Return on Equity	2.44	12.61
	Income taxes	0	5.26
	Special R&M	32.72	8.90
	Capacity Building	0.00	0.04
	<u>Less:</u> Other Income	0.00	0.00
II	Total Fixed Charges	75.58	84.71
III	Fuel Cost	94.87	297.64
IV	Total Revenue Requirement	170.45	382.35
V	Incentive for generation for FY 22		
VI	Total Cost	170.45	382.35
VII	Revenue from Sale of Power	170.45	374.35
VIII	Revenue Gap (+) / Surplus (-)		8.00

Table 55: Net Annual Revenue Requirements of NRPP for FY 2022-23

Rs. Cr

Sl. No	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
I	POWER GENERATION (MU)		
	Gross Generation	732.69	442.23
	Net Generation	696.05	420.11
	Auxiliary Consumption Loss %	5.00%	5.00%
I	Fixed Charges		
	Operation & Maintenance Expenditure	22.90	41.66
	Increase in AERC Filing Fees	0.00	0.00
	Interest & Finance Charges	50.05	47.91



Sl. No	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
	Interest on working Capital	5.54	12.11
	Depreciation	36.27	42.08
	Return on Equity	33.90	33.90
	Income taxes	0	4.24
	Special R&M	0.00	12.76
	Capacity Building	0.00	0.05
	<u>Less: Other Income</u>	0.00	0.00
II	Total Fixed Charges	148.65	194.70
III	Fuel Cost	87.24	226.66
IV	Total Revenue Requirement	235.89	421.36
V	Incentive for generation for FY 2021-22		
VI	Total Cost	235.89	421.36
VII	Revenue from Sale of Power	235.89	301.23
VIII	Revenue Gap (+) / Surplus (-)		120.13

6.1.2. For NRPP, with reference to issues faced mentioned in para 3.5.10, the Hon'ble Commission is requested to allow full fixed cost recovery for FY 2022-23.

6.2. Summary

6.2.1. The summary of the True-up for FY 2022-23 For APGCL is as shown below.

Table 56: True-up of APGCL as Whole for FY 2022-23

Rs. Cr

Sl. No	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
I	POWER GENERATION (MU)		
	Gross Generation	2262.92	2156.79
	Net Generation	2173.96	2061.95
	Auxiliary Consumption Loss %	3.9%	4.4%
I	Fixed Charges		
	Operation & Maintenance Expenditure	131.17	172.01
	Increase in AERC Filing Fees	0.30	0.30
	Interest & Finance Charges	69.27	62.29
	Interest on working Capital	18.22	47.71
	Depreciation	72.24	94.21
	Return on Equity	65.24	89.22
	Income taxes	0.00	19.48
	Special R&M	70.30	41.64
	Capacity Building	0.00	0.22
	<u>Less: Other Income</u>	-22.10	-34.43
II	Total Fixed Charges	404.67	492.65



Sl. No	Particulars	Approved as per order of March 2022	Claim for FY 2022-23
III	Fuel Cost	344.28	1051.86
IV	Total Revenue Requirement	748.95	1544.51
V	Incentive for generation and Secondary Energy generation	0.00	17.98
VII	Total Cost	748.95	1562.50
VIII	Revenue from Sale of Power	748.95	1385.55
X	Revenue Gap (+) / Surplus (-)	0.00	176.94

6.2.2. The Petitioner prays to the Hon'ble Commission to kindly approve the plant wise Net Annual Revenue Requirement for FY 2022-23 as discussed in the tables above.

6.3. Adjustment of Revenue Gap / Surplus

6.3.1. The plant wise Revenue Gap / Surplus and for APGCL as a whole are shown in the table below.

Table 57: Revenue Gap / Surplus amount of APGCL for FY 2022-23

Rs. Cr

Particulars	NTPS	LTPS	KLHEP	LRPP	NRPP	APGCL as a whole
	Amount claimed for True-Up					
Total Cost	162.80	476.53	119.45	382.35	421.36	1562.50
Revenue from Sale of Power	148.87	453.94	107.16	374.35	301.23	1385.55
Revenue Gap (+) / Surplus (-)	13.93	22.60	12.29	8.00	120.13	176.94

6.3.2. In view of the above, APGCL has not claimed the carrying cost for APGCL as a whole. The Total True-up Claim is shown in the table below.

Table 58: Total True-up Claim of APGCL for FY 2022-23

Rs. Cr

True-up Claim	FY 2022-23
Revenue Gap for 2022-23	176.94
Carrying /(holding) cost for FY 2022-23 @ 11.53% (half Year)	10.20
Carrying /(holding) cost for FY 2023-24 @ 11.53% (Full Year)	20.39
Carrying /(holding) cost for FY 2024-25 @ 11.53% (half Year)	10.20
Cumulative Revenue Gap	217.73

6.3.3. The Petitioner prays to the Hon'ble Commission to approve the total True-up Claim including carrying cost for FY 2022-23 as discussed in the table above.

6.4. Mechanism of recovery of Surplus/Gap of FY 2022-23

- 6.4.1. APGCL humbly submits that the revenue gap obtained for FY 2022-23 may be allowed to be recovered from APDCL in 12 equal monthly instalments in FY 2024-25, over and above the tariff for FY 2024-25.



REVISED CAPITAL INVESTMENT PLAN FOR FY 2023-24
TO
FY 2024-25 for NTPS, LTPS, KLHEP, LRPP and NRPP
TO
ASSAM ELECTRICITY REGULATORY COMMISSION



Prepared by
ASSAM POWER GENERATION CORPORATION LTD
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Guwahati – 781 001

7. Revised Capital Investment Plan of NTPS, LTPS, KLHEP, LRPP and NRPP for FY 2023-24 to FY 2024-25

7.1. Regulatory provisions

7.1.1. The Hon'ble Commission in its Tariff regulations 2021 has stated the following on Capital Investment Plan for generating companies for the control period from FY 2022-23 to FY 2024-25. The same is reproduced below for ready reference:

"6 Capital Investment Plan

6.1 The Generating Company, Transmission Licensee, SLDC Business and Distribution Licensee shall submit a Capital Investment Plan for the entire Control Period, as part of the MYT Petition as per the timeline specified in this Regulation and accompanied by the Fee required for processing of Investment plan, as specified in AERC (Payment of Fee) Regulations, 2020 as amended from time to time.

6.2 The Capital Investment Plan for a generating company shall be based on planned generation capacity growth and shall contain among other things the following (i) generation forecasts; (ii) future performance targets; (iii) proposed efficiency improvement measures; (iv) saving in operating costs; (v) plan for reduction in per unit/per MW cost of generation (vi) financial statements (which include balance sheet, profit and loss statement and cash flow statement) - current and projected (at least for the control period duration) along with basis of projections; (vii) any other new measure to be initiated by the Generating Company e.g. IT initiatives, third party energy audit, safety initiatives etc."

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6.15 In case the capital expenditure is required for emergency work which has not been approved in the Capital Investment Plan, the licensee shall submit an application, containing all relevant information along with reasons justifying emergency nature of the proposed work, seeking approval by the Commission. The licensee shall take up the work prior to the approval of the Commission provided that the emergency nature of the scheme has been certified by its Board of Directors.

6.16 The generation company and the licensee shall submit all information / data as required by the Commission for necessary approval of the Capital Investment plan.

7.1.2. In accordance with the regulatory requirements, APGCL is submitting a revised Capital Expenditure Plan for APGCL for the Control Period FY 2023-24 to FY 2024-25 for approval from the Hon'ble Commission.

8. Revised Capital Expenditure Plan – Existing Projects

8.1. Revised Capital Expenditure Plan of Existing Projects

8.1.1. In continuation of successful execution of earlier Renovation and Modernisation (R&M) schemes, it has been proposed for implementation of a comprehensive R&M schemes for LTPS, NTPS, KLHEP, LRPP and NRPP covering the period 2023-24 to 2024-25. These R&M schemes have been necessitated in order to ensure maximum reliability and availability of the existing units of NTPS, LTPS, KLHEP, LRPP & NRPP to maximize generation. The R&M of power stations has been considered to be the most attractive economic option for the Company. R&M schemes are aimed at improving generation, reliability and availability of generating units.

8.1.2. APGCL hereby petitions for a revised Capital Expenditure Plan for its Existing Plants to the Hon'ble Commission.

8.2. Revised Capital Expenditure Plan of NTPS

8.2.1. The following capital expenditure Plan is proposed for Namrup Thermal Power Station for the Period FY 2023-24 to 2024-25.

Table 59: Revised CAPEX plan proposed for NTPS in FY 2023-24 and FY 2024-25

Rs. Lakhs

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
A	Electro-mechanical Work of NTPS					
1	100W LED Street Light/bay light (complete set) with separate clamps & pipe bend fitting etc.	10	-	10	-	50 Nos street lights procured. Procurement complete
2	30 M high Mast Lighting System (complete set)	12	12	-	17	Dropped due to fund constraint in FY 2023-24. Proposed to revise the amount for FY 2024-25. Revised as per revised estimate.
3	Renovation of damaged sludge removing system of water clariflocculation system at Dillighat water Intake for the purpose of better water treatment	12	-	16.15	-	Rs 12 lakhs approved in FY 2022-23 and FY 2023-24 each. Total amount claimed in FY 2023-24. Order placed, to be completed by March'24
4	Construction of dedicated 2 (two) nos. of 33 KV APGCL Bay at 220 KV GSS, AEGCL, Namrup	-	-	160	-	Rs 1.6 Cr approved by Commission in FY 2022-23. The work got delayed due to Fund Constraint. Order placed, to be completed by March'24. Amount hence claimed in FY 2023-24

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
5	Supply, installation & commissioning of sulphuric Acid dilution tank at DM Plant	-	-	9.5	-	Rs. 9.5 Lakhs was approved by Commission for FY 2022-23. The work got delayed due to Fund Constraint. Order placed, to be completed by March'24. Amount hence claimed in FY 2023-24
6	Renovation of damaged drinking water supply pipeline from D.M. plant to WHP residential colony & officers' colony at pahar line	-	-	12	-	Rs 12 lakhs was approved in FY 2022-23. Work got delayed due to Fund Constraint. Order placed, to be completed by March'24. Amount hence claimed in FY 2023-24
Total Amount (Rs. Lakhs)		34.00	12.00	207.65	17.00	

8.3. Revised Capital Expenditure Plan of LTPS

8.3.1. The following capital expenditure Plan is proposed for Lakwa Thermal Power Station for the Period FY 2023-24 to 2024-25:

Table 60: Revised CAPEX plan proposed of LTPS for FY 2023-24 to FY 2024-25

Rs. Lakhs

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
A	Electro-mechanical Work of LTPS					
1	Replacement of Fill Packs of 03 cells of Cooling Tower		-	170		Amount approved by Commission in FY 2022-23. Work is Completed. Same is extended to FY 2023-24 due to mismatch of one butterfly valve. Hence, amount claimed in FY 2023-24.
2	Overhauling of HPBFP with mandatory spares	140	-	140	-	Same
3	Overhauling of Cooling Water Pumps (CWP) along with supply of spares.	-	-	100		Supply part complete. Service part to be completed by March'24. Commission via Order dated March 2023 had mentioned to approve the amount based on actuals.
4	Replacement of Battery Bank, Charger Panel and DCDB Panel for GT unit #5, #6 and #7	-	150	-	150	Same

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
5	Condensate Extractor Pump Overhauling	-	-	50	-	Amount was approved in FY 2022-23. Work is completed in FY 2023-24 and hence amount claimed in FY 2023-24. Was delayed due to delay in necessary approvals
6	Replacement of critical MOVs with new & servicing of the remaining MOVs & servicing of Mechanical Valves	-	-	100	-	Amount was approved in FY 2022-23. Work is completed in FY 2023-24 and hence amount claimed in FY 2023-24. Was delayed due to delay in necessary approvals
7	Up-gradation of Generators control & protection panel of 3 X 20MW, Ph-II units (1 unit in first phase) For unit # 5	150	-	-	-	Dropped due to Funds Constraint
8	Procurement and installation and commissioning of 132 KV SF6 Breaker (05 nos.), spring charge mechanism along with up gradation of Control Panel.	350	-	-	-	Dropped due to Funds Constraint
9	Procurement of auxiliaries motors and field instruments for 4RDS2 Dresser-Rand Gas Compressor units #6, # 7 and #8	-	-	73	-	Amount was approved in FY 2022-23. Work was delayed due to modification of scope of work. PO has been Placed. To be completed by March'24
10	Procurement of spares for 4RDS2 Dresser-Rand Gas Compressor # 6,7 & 8.	-	-	78	-	Amount was approved in FY 2022-23. Work was delayed due to procurement through Tendering process rather than OEM procurement for better price discovery. PO has been placed. To be completed by March'24
11	Diversion of 11 KV Colony Feeder	-	-	35	-	Amount was approved in FY 2022-23. Work was delayed due to modification in scope of work. Tendering is under process
12	Servicing of Diverter Damper (DD) Complete & its actuator gearbox along with supply of spares	40	-	-	40	Deferred due to funds constraint
13	Procurement of a new Silica analyzer for SWAS.	12	-	-	12	Deferred due to funds constraint
14	Replacement of Motor Control Centre Panel for	25	-	-	-	Dropped due to funds constraint

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
	Raw Water Intake Pump House.					
15	Major overhauling of Generator transformer ,30 MVA 11/132KV of GT unit #5 and #6 along with oil filtration	25	-	-	25	Deferred due to funds constraint
16	Procurement of 05 sets of 132KV isolators for replacing the old existing isolators in phase II power house switchyard	50	-	-	-	Dropped due to funds constraint
17	Testing and commissioning of transfer Bus of 132kV PH#II switchyard including switchyard auxiliaries.	40	-	-	-	Dropped due to funds constraint
18	Major Overhauling of 7.5MVA 132/3.3kv Station transformer 1 &2.	20	-	-	20	Overhauling of ST-1 had to be done on emergency basis with O&M fund due to breakdown. Overhauling of ST-2 could not be done in FY 2023-24 due to fund constraints. Now, the work for ST-2 is proposed in FY 2024-25.
19	Renovation of Air Conditioning system of Phase-II Power Control room	50	-	50	-	Same
20	Procurement of Inlet Air filter for 20 MW frave-V Gas Turbine # 6 & 7- 01 set	15	-	15	-	Tendering is under process. Work to be completed within FY 2023-24
21	Modification of Hydran Point Pipe line of Fire Fighting system at PH-II power House	50	-	-	-	Dropped due to funds constraint
22	Procurement of 33kV Current transformers.	21	-	-	-	Dropped due to funds constraint
23	Procurement of Transformer 132kV Isolators.	36	-	-	-	Dropped due to funds constraint
24	Procurement of 33kV Isolators.	28	-	-	-	Dropped due to funds constraint
25	Procurement of 145kV Circuit Breaker	9	-	-	-	Dropped due to funds constraint
26	Field Instruments of C&I	-	10	-	10	Same
27	Procurement of Intake Pump	-	25	-	25	Same

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
28	Up-gradation of illumination system of WHRP.	-	10	-	10	Same
29	Procurement, erection, testing and commissioning of High Mast Tower for illumination in the entire Ph-II Power House and Switchyard area. 4 (Four) No.s	-	60	-	60	Same
30	Procurement of spares for Ingersoll rand Instrument Air Compressor # 1, 2 & 3	-	5	-	5	Same
31	Procurement of fan blade Assembly for 4DRS2 Dresser -Rand Heat exchanger of Gas Compressor #6, 7 or 8.(02 set)	-	35	-	35	Same
32	Inspection servicing and maintenance of 4RDS2 Gas compressor #8 by OEM Dresser-Rand	-	10	-	10	Same
33	Procurement of one 500KVA 33/0.4kV transformer.	-	7.7	-	7.7	Same
34	Procurement of Transformer oil filtration machine	-	35.2	-	35.2	Same
35	Procurement of one 2.5 MVA 33/11 KV Transformer.	-	35	-	35	Same
36	Procurement of Switchyard and Colony equipment for renovation and upgradation of existing old system	-	30	-	30	Same
B	Civil Work of LTPS					
37	Layout of LTPS Plant with supply of all proper drawings	-	-	6	-	Amount approved by Commission for FY 2022-23. Work is deferred to FY 2023-24 due to fund constraints. PO is already placed. Work to be completed by March24
38	Deep tube well water supply system inside the power plant at LTPS,	-	-	55	-	Amount approved by Commission for FY 2022-23. Work is deferred to FY 2023-24 due to fund constraints. PO is

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
	Maibella (Including boring, supplying, and fitting of pump set up with all pipeline and fittings, construction of filter chamber and supply of all filter materials.)					already placed. Work to be completed by March24
39	Construction of paver block road from main road in front of army canteen to newly constructed multi storied building inside LTPS residential colony.	-	-	35		Amount approved by Commission for FY 2022-23. Work is deferred to FY 2023-24 due to fund constraints. PO is already placed. Revised estimate is due to price escalation
40	Roof treatment of cooling water pump house panel room of WHRP at power plant of LTPS	-	-	0.78	-	Rs 2 Lakhs was approved for FY 2022-23. Work complete. Same was delayed due to fund constraints.
41	Repairing of Switchyard stored at power plant at LTPS	-	-	8.8	-	Rs 8 Lakhs was approved by Commission for FY 2022-23. Work complete. Same was delayed due to fund constraints
42	Renovation of children park and construction of surrounding drain along with cover slabs at LTPS, Maibella	-	-	20	-	Amount approved by Commission for FY 2022-23. Work is deferred to FY 2023-24 due to fund constraints. PO is already placed. Work to be completed by March25
43	Development and repairing of roads inside LTPS residential colony.	15	15	-	15	Work is deferred to FY 2024-25 due to fund constraint.
44	Repairing of quarters at LTPS residential colony.	30	30	23.7	30	Work Complete for FY 2023-24.
45	Renovation of water supply pipelines and all fittings at LTPS residential colony and Power Plant	10	-	10	-	PO is already placed. Work to be completed by March24
46	Repairing of water pump house building, development of surrounding areas of water supply system of LTPS	7	-	7	-	PO is already placed. Work to be completed by March24
47	Supplying of filter chamber material of LTPS	8	-	7.24	-	Work completed.
48	Development of boundary walls around LTPS Colony	20	-	20	-	PO is already placed. Work to be completed by March24
49	Renovation of Erector's Hostel at LTPS	15	15	-	15	To be executed in FY 2024-25 with the approved amount for that year.

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
50	Providing of boundary fencing for the residential quarters of LTPS	20	20	17.88	20	Work Complete for FY 2023-24.
51	Repairing of Administrative office building of LTPS	15	15	15	-	PO is already placed. Work to be completed by March24
Total Amount (Rs. Lakhs)		1201	507.9	1037.4	589.9	

8.4. Revised Capital Expenditure Plan of KLHEP

8.4.1. The following Revised Capital Expenditure Plan is proposed for Karbi Langpi Hydro Electric Power Station for the Period 2023-24 to 2024-25.

Table 61: Revised CAPEX plan proposed of KLHEP for FY 2023-24 to FY 2024-25

Rs. Lakhs

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
A	Electro-mechanical Work of KLHEP					
1	Spare for Inspection & Repairing of KLHEP units	40	40	40	40	Work complete for FY 2022-23 & 2023-24.
2	Replacement of Broken Cable Tray in 220 KV Switchyard area.	20	20	0	60	Work for FY 2022-23 & 2023-24 not done. The whole work is proposed to be done in FY 2024-25
3	Renovation of Runner for 51MW Francis type vertical shaft Turbine of KLHEP	-	500			The amount is approved by Commission for FY 2024-25. The work of refurbishment of the runner had to prepone with own fund of APGCL to FY 2022-23 to replace the existing runner of unit-2 during the overhauling of the unit to avoid delay of the overhauling work as the delivery period of a new runner was very long. The amount for refurbishment of the runner will be claimed in the true-up as Special R&M.
4	Marshalling Panel for 21MVA Generator Transformer	-	-	61.4	-	Rs 65 Lakhs was approved by Commission for FY 2022-23. Work got delayed due to funds constraint. Work Order has been issued. Execution is under progress. To be completed within FY 2023-24

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
5	3-Phase, 750KVA, 11/0.43KV Transformer used as Unit Auxiliary Transformer (UAT)	-	-	20.5	-	Rs 25 Lakhs was approved by Commission for FY 2022-23. Work got delayed due to funds constraint. Work Order has been issued. Execution is under progress.
6	Design, Supply and installation & Commissioning of extension in the existing 33 KV outdoor Switchyard for Station auxiliary power supply to 2X50 MW KLHEP Power house and Project Area	-	-	-	250	Amount has already been approved by Commission for FY 2022-23. Work got delayed due to funds constraint. Tender evaluation is under process
7	Silent 500KVA DG set for Power House	65	-	90	-	Work is under progress. To be completed by FY 2023-24. Amount has been revised after tendering
8	Mobile crane with 360 base rotation and lifting capacity of 20 Ton	180	-	180	-	Tendering is under process.
9	Renovation and Refurbishment of 130T EOT Crane with redesigned control system.	60	-	-	60	Work partially completed in FY 2022-23 with O&M fund due to emergency as the crane brokedown during the overhauling of U-2. Now the overall overhauling of the crane is proposed in FY 2024-25.
10	Replacement of all 2X50 Mw Generator Control and Relay Panel	350	-	-	350	Work deferred due to fund constraint
11	Cooling water supply system for Generator Turbine and Transformer	150	-	-	150	Deferred due to exploring new technology
12	Design, Supply and installation & Commissioning Bay Extension in the existing 220KV KLHEP Switchyard for ideal Charging of 16 MVA Bharat Bijlee make 220/33KV transformer.	-	100	-	100	Work will be done in FY 2024-25
13	Roof Top Solar Power For KLHEP	-	95	95	-	Work has been preponed to FY 2023-24. Work is under process and will be completed by Mar'24
14	Upgradation of Transformer capacity and	-	75	-	75	Same

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
	substation at KLHEP Lengery					
	Civil Work of KLHEP					
15	TOE wall for all benches at excavated area, drains for all benches, riverbank, protection at upstream left bank, site clearance at Dam gallery etc	-	-			This work is being executed as Special R&M as proposed by APGCL and considered by the Hon'ble Commission in the APR of FY 2021-22 as part of the landslides related works. The work was also proposed in the CAPEX with funds proposed to be obtained from GOA as it was an emergency work and APGCL was not certain whether the same would be considered by the Hon'ble Commission or not. Thereafter, the Hon'ble Commission considered the work in the APR of FY 2021-22 and part expenditure of ₹ 3.92 Cr for landslides related works was also approved as Special R&M in the True-up of FY 2021-22. Further, APGCL has not received any fund from GOA for this work.
16	Roof leakage treatment, Boundary wall and fencing, painting of penstock pipes, checking of penstock welding joints etc	40	-	40		Tender for the work is under process. Work to be completed before 31st March 2024
17	Chain link fencing around the premises, repairing of old civil store at Amtreng etc	20	-		20	Work could not be carried out in FY 2023-24 due to fund constraint. Deferred for FY 2024-25
18	Colony road, quarter repairing, construction of new multi storey residential building etc	170	-		170	Deferred due to fund constraint
19	Renovation of tunnel for spalling areas at various locations of tunnel during impounding or machine over hauling	20	-			This work is being executed as Special R&M as proposed by APGCL and considered by the Hon'ble Commission in the APR of FY 2021-22 as part of the landslides related works. The work was also proposed in the CAPEX with funds proposed to be obtained from GOA as it was an emergency work and APGCL was not certain whether the same would be considered by the Hon'ble Commission or not. Thereafter, the Hon'ble Commission considered the work in the

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
						APR of FY 2021-22 and part expenditure of ₹ 3.92 Cr for landslides related works was also approved as Special R&M in the True-up of FY 2021-22. Further, APGCL has not received any fund from GOA for this work.
20	Security barrack, staircase or permanent foot bridge, hydraulic oil for powerpack, painting of radial gates, drain at quarry no. 1&2 etc	150	-		150	Deferred due to fund constraint
21	Painting of powerhouse, maintenance of anchor blocks and saddles etc	35	-	35		Tender for the work has been floated for an amount of Rs. 18.19 lakhs as per the estimate and site conditions. Works to be completed before 31st March 2024
22	Repairing of security rest room, chain link fencing, around the premise etc	25	-			Dropped due to fund constraint.
23	Side drain along with Bitumeneous roads from zero point to Hatidubi Dam, cattle bridge, retaining walls etc	300	-	-	-	Dropped due to ongoing talks with KAAC to hand over the road to PWD
24	Boundary wall around the premises, repairing of old electromechanical store etc	50	-		50	Deferred due to fund constraint
25	New water supply system, water treatment plant etc	50	-	50	-	Tender for the work has been floated. Works to be completed before 31st March 2024
26	Construction of new bitumeneous road at 3- new stretches, bamboo palasiding for slope protection, plantation along the newly excavated areas etc	-	200	-	-	This work is being executed as Special R&M as proposed by APGCL and considered by the Hon'ble Commission in the APR of FY 2021-22 as part of the landslides related works. The work was also proposed in the CAPEX with funds proposed to be obtained from GOA as it was an emergency work and APGCL was not certain whether the same would be considered by the Hon'ble Commission or not. Thereafter, the Hon'ble Commission considered the work in the APR of FY 2021-22 and part expenditure of ₹ 3.92 Cr for landslides related works

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25	
						was also approved as Special R&M in the True-up of FY 2021-22. Further, APGCL has not received any fund from GOA for this work.
27	Repairing and construction of new drain where required along the penstock pipelines etc	-	60	-	-	Dropped as the work is no more required
28	Water supply system for valve house, beautification valve house etc	-	15		15	Work will be executed on FY 2024-25
29	Cattle bridges, box culverts, retaining walls for hill slope protection at required locations etc	-	40	-	-	This work is being executed as Special R&M as proposed by APGCL and considered by the Hon'ble Commission in the APR of FY 2021-22 as part of the landslides related works. The work was also proposed in the CAPEX with funds proposed to be obtained from GOA as it was an emergency work and APGCL was not certain whether the same would be considered by the Hon'ble Commission or not. Thereafter, the Hon'ble Commission considered the work in the APR of FY 2021-22 and part expenditure of ₹ 3.92 Cr for landslides related works was also approved as Special R&M in the True-up of FY 2021-22. Further, APGCL has not received any fund from GOA for this work.
30	Construction of new watch tower at electromechanical store etc	-	10		10	Work will be executed on FY 2024-25
Total Amount (Rs. Lakhs)		1725	1155	611.9	1500	

8.5. Revised Capital Expenditure Plan of LRPP

8.5.1. The following Revised Capital Expenditure Plan is proposed for Lakwa Replacement Power Project for the Period 2023-24 to 2024-25.

Table 62: Revised CAPEX plan proposed of LRPP for FY 2023-24 to FY 2024-25

Rs. Lakhs

S. No	Approved Schemes	Approved by Commission		Revised Capital Expenditure		Remarks
		In Rs. Lakhs				
		FY 24	FY 25	FY 24	FY 25	
A	Electro-mechanical Work of LRPP					
1	Procurement of 11 KV and 3.3 KV VCB Breaker	25	-	-	-	Dropped due to fund constraint.
B	Civil Work of LRPP					
2	Deep tube well water supply system for to support the river water supply system at LTPS, Maibella. (Including boring, supplying and fitting of pump set up with all pipeline and fittings)	35	-	-	35	Deferred due to fund constraint.
3	Water supply pipeline and reservoir for the newly constructed multistorey building at LTPS.	-	20	-	-	Work completed in FY 2022-23.
4	Development and repairing of roads inside LTPS residential colony.	10	10	-	10	Deferred due to fund constraint.
Total Amount (Rs. Lakhs)		70	30	0	45	

9. Additional New Capital Expenditure Plan Proposed – Existing Projects

9.1. Procurement of Emergency Capital Spares – Existing Projects

9.1.1. In power generating stations, Maintenance and upgradation has paramount importance for several reasons. Firstly, it ensures optimal performance and efficiency of the machinery, preventing breakdowns and minimizing downtime. Secondly, it prolongs the lifespan of the equipment, reducing the need for costly replacements. Thirdly, it enhances safety, reducing the risk of accidents and ensuring a safe working environment. Lastly, regular maintenance ensures compliance with regulatory standards and can help in identifying potential issues before they escalate, allowing for timely intervention and problem resolution. Thus, maintenance and upgradation are critical aspect of operations in power generating stations.

9.1.2. Also, Spare parts availability is an important aspect of power plant operation and management. Spare parts are essential for maintaining the reliability and performance of the power plant equipment, as well as preventing costly downtime and emergency situations. Therefore, to maintain efficient running of power stations and to develop a strategic and effective spare parts management APGCL is proposing new proposals under CAPEX plan, that can balance low breakdown time with efficient running of power stations of APGCL and optimize the spare parts supply chain.

9.1.3. Plant-wise new capex proposals in this regard are thus presented subsequently for the consideration of the Hon'ble Commission.

9.2. New Capital Expenditure Plan proposed for LTPS

9.2.1. The following new Capital Expenditure Plan is proposed for Lakwa Thermal Power Station for the Period 2023-24 to 2024-25.

Table 63: New CAPEX plan proposed of LTPS for FY 2023-24 to FY 2024-25

Rs. Lakhs

S. No	Schemes	New Capital Expenditure proposed		Remarks
		FY 2023-24	FY 2024-25	
1	Procurement of upgraded lubricating system for gas compressors (Xperlube System)	-	125	<p>The present lube oil consumption for the Dresser Rand Gas Compressors, namely GC 6,7 and 8 LTPS is more than the OEM recommendation and is not efficient. Currently these Gas compressors have Point-to-Point lubrication system which consists of 12 nos. of Force Feed Lubricator Pumps. To overcome the above issues, APGCL has decided to replace the old lubrication system of these Gas Compressors with the New Generation Lubricating System (Xperlube) Lubrication system. The New Generation Lubricating System (Xperlube) is a more advanced and efficient solution for lubrication of gas compressors.</p> <p>This proposed work is approved in SOPD for FY 2023-24. Order issued. Work to be completed within FY 2024-25. As directed by the Commission, APGCL is submitting the details along with the DPR and cost benefit analysis for the work, as attached at Annexure-16.</p>
2	Revamping of Existing Natural Gas & water coolers of GC-6, 7, 8	100	200	<p>Currently, there are three Natural Gas and Water Coolers (Air-Cooled Heat Exchangers (ACHE) - Make Mannesmann, London) installed for three Dresser-Rand Gas Compressors in the Phase II powerhouse. However, due to aging, the ACHE's cooling efficiency has significantly decreased. Over</p>

S. No	Schemes	New Capital Expenditure proposed		Remarks
		FY 2023-24	FY 2024-25	
				<p>10% of the tubes have already been plugged in due to leakage. As a result of the ACHE's poor performance, continuous water pouring is required on the finned surface, even at an ambient temperature of 27 °C. This continuous water pouring leads to the following issues:</p> <ol style="list-style-type: none"> 1. Accumulation of dust, dirt, and clay on the fins, which blocks the air path. 2. Rusting of steel parts. 3. Increased risk of the fan motors failing due to continuous water exposure. <p>To overcome the above issues, APGCL has decided to replace the old Air-Cooled Heat Exchangers (ACHE).</p> <p>Upgrading to a new Air-Cooled Heat Exchangers (ACHE) system is crucial to restore the cooling efficiency required for the gas compressors, ensuring optimal operational performance in the Phase II powerhouse. This replacement would mitigate the need for continuous water pouring, reducing the risk of tube blockages, rusting, and potential damage to the fan motor, thereby improving overall reliability.</p> <p>Approved in SOPD for FY 2023-24 for 1 GC. Rest 2 units are proposed in FY 2024-25. As directed by the Commission, APGCL is submitting the details along with the DPR and cost benefit analysis for the work, as attached at Annexure-16.</p>
3	Control & Instrumentation related capital spares	-	198.67	
4	Gas compressor #6,7, 8 & 9 related capital spares	-	473.05	
5	Starting Diesel Engine for GT 5, 6 & 7 related capital spares	-	34.19	
6	Instrument Air Compressor related capital spares	-	20.24	
7	High pressure BFP related capital spares	-	155.60	
8	Raw Water Pump related capital spares	-	5.37	
9	Intake Water Pump related capital spares	-	71.58	
Total Amount (Rs. Lakhs)		100	1283.7	

9.3. New Capital Expenditure Plan proposed for KLHEP

9.3.1. The following new Capital Expenditure Plan is proposed for Karbi Langpi Hydro Electric Project for the Period 2023-24 to 2024-25.

Table 64: New CAPEX plan proposed of KLHEP for FY 2023-24 to FY 2024-25

Rs. Lakhs

S. No	Schemes	New Capital Expenditure proposed		Remarks
		FY 2023-24	FY 2024-25	
1	Procurement of 3 Nos of Generator Transformers		1000	<p>The 7 nos of CGL make 21MVA Generator Transformers of KLHEP were manufactured in the year 1982 and commissioned in the year 2007. Due to sitting without charging for more than 22 years and continuously in service period for 16 Years, the service life of the transformer has been completed and condition of the Transformers has started to deteriorate. The tan-delta & other recommended tests conducted by MRT & CPRI for 21MVA Generator Transformer were not satisfactory due to ageing. Also, spares required for keeping these transformers in healthy condition are not available with the vendor due to upgradation and modernization in the OEM workshop thereby affecting the efficiency of power generation. Failure of any transformer will cause huge generation loss. So, for the smooth functioning, renovation & modernization, it is proposed to procure the 3 nos of Single phase 21 MVA 220KV/11KV Generator Transformers.</p> <p>As directed by Commission, APGCL is submitting the details along with the DPR and cost benefit analysis for the work, as attached at Annexure-16.</p>
2	Emergency Capital Spares		1000	<p>All the equipments of the units of 2X50 MW KLHEP were supplied during the year 1980. After in service for long time these components have now started to malfunction due to ageing. Also, most of the spares that were there during the commissioning stage either got consumed or are not good to use. Hence, it is very vital to keep these emergency spares handy for smooth operation of the machines and in the greater interest of APGCL as it will reduce the downtime of the machines as well as help in</p>

S. No	Schemes	New Capital Expenditure proposed		Remarks
		FY 2023-24	FY 2024-25	
				maintaining reliability of the machines and optimum power generation from the plant. As such, the procurement of these emergency capital spares are proposed. As directed by Commission,, APGCL is submitting the details along with the DPR and cost benefit analysis for the work, as attached at Annexure-16 .
Total Amount (Rs. Lakhs)		-	2000	

9.4. New Capital Expenditure Plan proposed for LRPP

9.4.1. The following new Capital Expenditure Plan is proposed for Lakwa Replacement Power Project for the Period 2023-24 to 2024-25.

Table 65: New CAPEX plan proposed of LRPP for FY 2023-24 to FY 2024-25

Rs. Lakhs

S. No	Schemes	New Capital Expenditure proposed		Remarks
		FY 2023-24	FY 2024-25	
1	Electrical related capital spares	-	65.95	To reduce the downtime of the machines as well as to maintain its reliability and optimum power generation from the plant, the procurement of the capital spares are proposed
2	Gas Engine related capital spares	-	443.37	
3	Capital spares Black Start Diesel Engine Generator	-	1.34	
4	Other capital mandatory spares	-	214.40	As directed by Commission, APGCL is submitting the details along with the DPR and cost benefit analysis for the work, as attached at Annexure-16 .
Total Amount (Rs. Lakhs)		-	725.07	

9.5. New Capital Expenditure Plan proposed for NRPP

9.5.1. The following new Capital Expenditure Plan is proposed for Namrup Replacement Power Project for the Period 2023-24 to 2024-25.

Table 66: New CAPEX plan proposed of NRPP for FY 2023-24 to FY 2024-25

Rs. Lakhs

S. No	Schemes	New Capital Expenditure proposed		Remarks
		FY 2023-24	FY 2024-25	
1	55 MVA 230/11.5 kV Transformer related capital spares	-	13.83	<p>To reduce the downtime of the machines as well as to maintain its reliability and optimum power generation from the plant, the procurement of the capital spares are proposed.</p> <p>As directed by Commission, APGCL is submitting the details along with the DPR and cost benefit analysis for the work, as attached at Annexure-16.</p>
2	15 MVA, 11/6.9kV Transformer related capital spares	-	4.89	
3	VCB and VCB panel related capital spares	-	16.58	
4	SF6 breaker related capital spares	-	22.72	
5	Control & Instrumentation related capital spares	-	6.22	
6	220V Battery Charger related capital spares	-	4.65	
7	11/0.370 KV, 500 KVA Dry Type Excitation Transformer related capital spares	-	11.98	
8	5 MVA, 33/6.6 KV, 3-phase, Oil Filled, ONAN, Outdoor type Auxiliary Power Transformer related capital spares	-	74.18	
9	Gas Turbine related capital spares	-	16.21	
10	Gas Booster Compressor related capital spares	-	30.47	
11	Condensate extraction pump related capital spares	-	6.20	
12	High pressure BFP related capital spares	-	2.63	
13	Instrument and plant air compressor related capital spares	-	10.46	
14	Horizontal Split Case Pump (Cooling Tower Make Up Pump 2) related capital spares	-	43.53	
15	STG AC/DC jack oil pump related capital spares	-	4.54	
16	CWP related capital spares	-	10.40	
17	CCW, CT makeup pump related capital spares	-	9.19	
18	Cooling Tower Gear Box related capital spares	-	0.66	
19	Cooling Tower related capital spares	-	0.38	

S. No	Schemes	New Capital Expenditure proposed		Remarks
		FY 2023-24	FY 2024-25	
20	Cooling Water Treatment Plant Pump related capital spares	-	0.42	
Total Amount (Rs. Lakhs)		-	290.14	

10. ERP implementation and Consultancy

10.1. Capital investment

10.1.1. Enterprise Resource Planning(ERP) Project is part of ADB Loan 4029, financed under Assam Power Sector Investment Program (APSIP) - Tranche 3.

10.1.2. Current Status of ERP implementation is shown in below table.

Package	Status
Lot 1: Supply, Configuration, Integration, Installation, Implementation & Support of ERP Application Software for APGCL	<ul style="list-style-type: none"> ✓ The work has been awarded to M/s Accenture Solutions Pvt. Ltd. ✓ Contract signed on 31st July 2019. ✓ Effective date of Contract: 24th September,2019. • ERP was declared Go-Live on 1st Dec'2022. Transactions started from 5th Dec'2022. • Presently, Project is in Application Maintenance Support(AMS) phase.
Lot 2: Managing and Hosting APGCL SAP ERP on Cloud	<ul style="list-style-type: none"> ✓ APGCL has awarded the contract to M/s CtrlS Datacentres Ltd., India. ✓ Contract Signed date: 18th January 2022. ✓ Effective date: 25th January 2022. • AMC started on 1st November 2022. At present the project is in AMC phase (Year-1 Qtr-4).
Lot 3: Supply, Installation, Commissioning and Warranty for desktop computers/ peripheral/ accessories/ local area networking equipment along with related systems software and cabling	<ul style="list-style-type: none"> • Contract awarded to M/s Interlace India Pvt. Ltd.. • Contract Signed on: 24th August 2022. • Effective date of Contract: 15th September 2022. • Contract Amendment Date: 29th September, 2022. • At present, acceptance testing work is ongoing.
Lot 4: Installation and establishing Network connectivity between Data Centre and APGCL Location	<ul style="list-style-type: none"> • Contract awarded to M/s Bharti Airtel Limited • Contract Signed on: 11th January 2023. • Effective date of Contract: 12th January 2023. • AMC of ERP Lot-4 started on 1st June 2023. At present AMC phase is ongoing (Year-1 Qtr-2).

10.1.3. The total financial impact is shown in the table below:

Table 67: Financial impact of ERP implementation and Consultancy

Rs. Cr

Particulars	Actual Expenditure		Revised Projection	
	FY 2022-23	FY 2023-24 H1	FY 2023-24 H2	FY 2024-25
	Equity	Grant	Grant	Grant
ERP Implementation	5.992	5.59	11.9	4.63
ERP Consultancy	0.25	0	0	0
Total	6.242	5.59	11.9	4.63

10.1.4. The financial impact of ERP implementation and consultancy services is shown in the table below.

Table 68: Revised financial impact of ERP implementation and Consultancy plant wise

Rs. Cr

Particulars	Approved By Commission		Revised Projection	
	FY 2023-24	FY 2024-25	FY 2023-24	FY 2024-25
	Grant	Grant	Grant	Grant
NTPS	0.62	0.63	2.48	0.65
LTPS	1.39	1.40	5.55	1.45
KLHEP	1.43	1.44	5.71	1.49
LRPP	0.94	1.01	3.75	1.04
NRPP	0	0	0	0
Total	4.38	4.48	17.49	4.63

10.1.5. The financial impact of ERP implementation and Asset valuation services are capitalized station wise in the FY 2023-24 and FY 2024-25 as shown above.

11. SUMMARY OF THE REVISED CAPITAL EXPENDITURE PLAN

11.1. Proposed Capex

11.1.1. As per the proposals given in the above sections for existing projects, total proposed year wise revised capital expenditure during the period from 2023-24 to 2024-25 of APGCL is as given below:

Table 69: Summary of revised capital expenditure plan for FY 2023-24 to FY 2024-25

Existing Projects	FY 2023-24 (in Crores)			FY 2024-25 (in Crores)		
	Equity	Loan	Grant	Equity	Loan	Grant
R&M Cost including Emergency Capital Spares – A						
NTPS		2.08			0.17	
LTPS		11.37			18.74	
KLHEP	0.25	5.87			35.00	
LRPP		0.00			7.70	
NRPP		0.00			2.90	
Sub Total – A	0.25	19.32			64.51	
ERP Implementation – B			17.49			4.63
Grand Total (A+B)	0.25	19.32	17.49		64.51	4.63

APPEAL FOR ANNUAL PERFORMANCE REVIEW FOR
FY 2023-24
TO
ASSAM ELECTRICITY REGULATORY COMMISSION



Prepared by
ASSAM POWER GENERATION CORPORATION LTD
Bijulee Bhawan, Paltanbazar
Guwahati – 781 001

AFFIDAVIT – ANNUAL PERFORMANCE REVIEW

BEFORE THE ASSAM STATE ELECTRICITY REGULATORY
COMMISSION, GUWAHATI.

Petition No. –

Case No.
(to be filed by the Office)

IN THE MATTER OF

Filing of Annual Performance Review of the FY 2023-24.

AND

IN THE MATTER OF

Assam Power Generation Corporation Limited
Bijulee Bhawan, Paltanbazar,
Guwahati-781 001.

Petitioner

I, Sri Janardan Das, Son of Late Bishnu Ram Das, age 45 years, residing at Beltola Tiniali, Guwahati - 781028, do solemnly affirm and say as follows:

I am the General Manager (HQ) i/c of Assam Power Generation Corporation Limited, the petitioner in the above matter and am duly authorized by the said Petitioner to make this affidavit for and on behalf of the Assam Power Generation Corporation Limited.

The Statement made in the Petition based on information received from official records and I believe them to reflect truly and no material has been concealed from the statements so made or documents or supporting data etc. attached.

Solemnly affirm at Guwahati on 23rd November' 2023 that the contents of this affidavit are true to my knowledge, no part of it is false or no material has been concealed therefore and misleading material included therein.

Place: Guwahati

Date: 23/11/2023

Deponent



(Janardan Das)
General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.

PRAYER – ANNUAL PERFORMANCE REVIEW

BEFORE THE HON'BLE ASSAM ELECTRICITY REGULATORY COMMISSION

FILINGNO

CASENO.....

IN THE MATTER OF:

Petition for Annual Performance Review of the FY 2023-24

AND IN THE MATTER OF:

Assam Power Generation Corporation Limited incorporated under the provisions of the Companies Act, 1956 and having its registered office in the State of Assam

THE HUMBLE APPLICANT ABOVE NAMED MOST RESPECTFULLY SHEWETH:

- i. That the Assam Power Generation Corporation Limited, hereinafter named as APGCL, is a successor corporate entity, formed in pursuant to the notification of the Government of Assam, notified under sub-sections (1), (2), (5), (6) and (7) of Section 131 and Section 133 of the Electricity Act 2003(Central Act 36 of 2003), for the purpose of transfer and vesting of functions, properties, interests, rights, obligations and liabilities, along with the transfer of Personnel of the Board to the successor corporate entities.
- ii. That the APGCL is a company incorporated with the main object of generation of electricity in the state of Assam.
- iii. That the APGCL submitted petitions for ARR and tariff for the FY 2023-24 to the AERC on 28/11/2022.
- iv. That the AERC declared tariff for FY 2023-24 on 29/03/2023 with effectuation date from 01/04/2023.
- v. That the licensee is filing the Petition for Annual Performance Review for FY 2023-24 as per relevant regulation.

Place: Guwahati

Date: 23/11/2023

Deponent



(Janardan Das)
General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.



12. Present status of NTPS, LTPS, KLHEP, LRPP and NRPP

Table 70: Present Status of NTPS Units

Unit No.	Installed/Effective capacity (MW)	Present Status
2 (GT)	17	Under S/D by GTMD as flexible coupling found to be damage. Expected return is March'24
3 (GT)	15	Unit is available and generating power as per availability of gas and load demand
6 (WHRU with GTs 2 & 3)	9	
Total	41	

Table 71: Present Status of LTPS Units

Unit No.	Installed capacity (MW)	Present Status
5 (GT)	20	Units are available and generating power as per availability of gas and load demand
6 (GT)	20	
7 (GT)	20	Maintenance work is going on. Expected return date us 2 nd week of Dec'23.
8 (STG)	37.2	Unit is available and generating power as per availability of mother units
Total	97.20	

Table 72: Present Status of KLHEP Units

Unit No.	Installed Capacity (MW)	Present Status
1	50	Units are available and generating power as per availability of water and load demand
2	50	
Total	100	100

Table 73: Present Status of LRPP Unit

Unit No.	Installed Capacity (MW)	Present Status
1	9.965	All units are available and generating power as per availability of gas and load demand
2	9.965	
3	9.965	
4	9.965	
5	9.965	
6	9.965	
7	9.965	
Total	69.755	

Table 74: Present Status of NRPP Units

Unit No.	Installed Capacity (MW)	Present Status
1 (GT)	62.25	

Unit No.	Installed Capacity (MW)	Present Status
2 (STG)	36.15	All units are available and generating power as per availability of gas and load demand
Total	98.40	

13. Annual Performance Review of FY 2023-24

13.1. Regulatory provisions

13.1.1. The Hon'ble Commission in its regulation has stated the following on Annual Performance Review of various costs under the Assam Electricity Regulatory Commission (Terms and Conditions for determination of Multi Year Tariff) Regulations, 2021. The same is reproduced below for ready reference:

"9 Annual Performance Review and True Up

9.1 Where the aggregate revenue requirement and expected revenue from tariff and charges of a Generating Company or Transmission Licensee or Distribution Licensee or SLDC is covered under a Multi-Year Tariff framework, then such Generating Company or Transmission Licensee or Distribution Licensee or SLDC, as the case may be, shall be subject to an annual performance review and true up during the Control Period in accordance with this Regulation.

9.2 The Generating company, Transmission Licensee, SLDC and the Distribution Licensee shall file an application for annual performance review of current year, true-up of previous year and tariff for the ensuing year not less than 120 days before the close of each year of the control period.

Provided that the Generating Company or Transmission Licensee or Distribution Licensee or SLDC, as the case may be, submit to the Commission information in such form as may be stipulated by the Commission, together with the Accounting Statements, extracts of books of account and such other details as the Commission may require to assess the reasons for and extent of any variation in financial performance from the approved forecast of Aggregate Revenue Requirement and actual revenue from tariff and charges.

9.3 The scope of the Annual Performance review and True up shall be a comparison of the actual performance of the Generating Company or Transmission Licensee or SLDC or Distribution Licensee with the approved forecast of Aggregate Revenue Requirement and expected revenue from tariff and charges and shall comprise the following:

a) True Up: a comparison of the audited performance of the applicant for the previous financial year with the approved forecast for that financial year and truing up of expenses and revenue in line with Regulation 10 of this regulation including pass through of gain/loss pertaining to controllable and uncontrollable items;

b) Annual Performance Review: a comparison of the performance targets estimated to be achieved for the current financial year (based on 6 months actual data) with the approved forecast for that financial year including adjusting trajectories of uncontrollable if needed.

c) Categorisation of variations in performance with reference to approved forecast into factors within the control of the applicant (controllable items) and those caused by factors beyond the control of the applicant (un-controllable items):

Provided such categorization of the controllable and uncontrollable items shall be done in accordance with Regulation 10 of this regulation.

....."

14. Norms of operations

14.1. Regulatory provisions

14.1.1. The Hon'ble Commission had set norms of operations under Regulation 47 of Tariff Regulations 2021.

14.1.2. The 6 months actual and 6 months estimated performance vis-a-vis norms of operations set is discussed below:

14.2. Installed and Effective Capacity in FY 2023-24

14.2.1. APGCL submits the following Installed & Effective Capacity for FY 2023-24

Table 75: Installed & Effective Capacity for FY 2023-24

Station	Installed Capacity (MW)	Revised Installed Capacity (MW)	No. of Units	Units Available for Generation & Capacity in MW	Effective Capacity
NTPS	119.5	41	3	GT U#2 (17MW), GT U#3 (15 MW) & WHRU U#6 (9 MW)	27.74
LTPS	142.2	97.20	4	5,6,7(20 MW Each),8 (37.20 MW-WHRU)	97.2
KLHEP	100	100	2	1 (50), 2(50)	100
LRPP	69.755	69.755	7	1-7 (9.965 each)	69.755
NRPP	98.40	98.40	2	1(62.25, 2(36.15)	98.40

14.3. Snapshot of plant wise performance for FY 2023-24

14.3.1. The following table shows the operating performance parameters of Namrup thermal power station for FY 2023-24.

Table 76: Operating Performance of NTPS for FY 2023-24

NTPS	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Based on Normative	Claim for FY 2023-24	Remarks
Gross Energy in MU	179.58	77.49	60.74	138.23	138.23	Estimated based on 6 months actual
Aux. Power Cons. (%)	4.50%	8.49%	4.50%	4.50%	6.74%	It is expected that APGCL may lose 3.09 MU on net generation due to higher auxiliary consumption
Net Energy in MU	171.50	70.91	58.01	132.01	128.92	
Availability (%)	50.00%	66.44%	50.00%	50.00%	50.00%	Expected to achieve normative
PLF (%) for incentive	50.00%	60.95%	50.00%	50.00%	55.48%	Expected to achieve normative
Gross Station Heat Rate on	3900	4668.19	3900.00	4300 (OC) 3900 (CC)	3900.00	Claimed at normative for

NTPS	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Based on Normative	Claim for FY 2023-24	Remarks
GCV (kcal/kWh)						Combined Cycle operation

14.3.2. The following table shows the operating performance parameters of Lakwa thermal power station for FY 2023-24.

Table 77: Operating Performance of LTPS for FY 2023-24

LTPS + WHRU	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Based on Normative	Claim for FY 2023-24	Remarks
Gross Energy in MU	425.74	240.46	212.87	453.33	453.33	Estimated based on 6 months actual
Aux. Power Cons. (%)	5.50%	7.51%	5.50%	5.50%	6.57%	APGCL has loss 4.83 MU on net generation due to higher auxiliary consumption
Net Energy in MU	402.32	222.41	201.16	428.40	423.57	
Availability (%)	50.00%	61.45%	50.00%	50.00%	50.00%	Expected to achieve normative value
PLF (%) for incentive	66.00%	55.13%	66.00%	66.00%	60.57%	Expected to achieve lower than normative value
Gross Station Heat Rate on GCV (kcal/kWh)	3200	2535.57	3200	3200.00	3200	Claimed normative value

14.3.3. The following table shows the operating performance parameters of Karbi Langpi hydroelectric power station for FY 2023-24.

Table 78: Operating Performance of KLHEP for FY 2023-24

KLHEP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Based on Normative	Claim for FY 2023-24	Remarks
Gross Energy in MU	390.00	208.90	103.00	311.90	311.90	Estimated based on 6 months actual
Aux. Power Cons. (%)	0.50%	1.25%	0.50%	0.50%	0.5%	Expected to achieve auxiliary consumption within normative
Net Energy in MU	388.05	206.29	102.49	310.34	310.34	
Availability (%)	85.00%	63.69%	85.00%	85.00%	74.35%	Impact of ~17.37% in Availability due to Major

KLHEP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Based on Normative	Claim for FY 2023-24	Remarks
						Overhauling of KLHEP U-2 as per scheduled and unscheduled works.
PLF (%)	44.50%	47.21%	44.50%	44.50%	45.85%	Expected to achieve normative value

14.3.4. The following table shows the operating performance parameters of LRPP power station for FY 2023-24.

Table 79: Operating Performance of LRPP for FY 2023-24

LRPP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Based on Normative	Claim for FY 2023-24	Remarks
Gross Energy in MU	519.40	250.24	259.70	509.94	509.94	Estimated based on 6 months actual
Aux. Power Cons. (%)	3.50%	3.25%	3.50%	3.50%	3.5%	Expected to achieve auxiliary consumption within normative
Net Energy in MU	501.22	242.09	250.61	492.09	492.09	
Availability (%)	85.00%	91.70%	85.00%	85%	85.00%	Expected to achieve normative value
PLF (%)	90.00%	81.89%	90.00%	90%	85.94%	Expected to achieve lower than normative value
Gross Station Heat Rate on GCV (kcal/kWh)	2150	2146	2150	2150	2150	Claimed normative value

14.3.5. The following table shows the operating performance parameters of NRPP power station for FY 2023-24.

Table 80: Operating Performance of NRPP for FY 2023-24

NRPP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Based on Normative	Claim for FY 2023-24	Remarks
Gross Energy in MU	732.69	304.24	231.76	536.00	536.00	Estimated based on 6 months actual

NRPP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Based on Normative	Claim for FY 2023-24	Remarks
Aux. Power Cons. (%)	5.00%	4.17%	5.00%	5.00%	5.0%	Expected to achieve auxiliary consumption within normative
Net Energy in MU	696.05	291.56	220.17	509.20	509.20	
Availability (%)	85.00%	71.72%	85.00%	85.00%	78.36%	Expected to achieve lower than normative
PLF (%)	85.00%	71.01%	85.00%	85.00%	78.01%	Expected to achieve lower than normative
Gross Station Heat Rate on GCV (kcal/ kWh)	1951	2403	1988	2927 (OC) 1951 (CC)	1988	Claimed value as was sought in Review Petition No. 05/2022 for Review of NRPP's Tariff Order dated March 21, 2022 regarding Tariff Order for FY 2021-22 and MYT Order for Control Period from FY 2022-23 to FY 2024-25

14.3.6. Further, it is to bring to the kind attention of the Hon'ble Commission that the Assam Power Generation Corporation Limited (APGCL) as a whole is facing frequent load restrictions imposed by the State Load Dispatch Centre (SLDC) from April 2023 onwards for the financial year 2023-24, which has brought the operation of the thermal power plants down to its technical minimum. This situation could potentially lead to significant financial losses for APGCL. APGCL thus humbly submits to the Hon'ble Commission to consider the loss at the time of True Up for FY2023-24 in fuel cost , if any.

14.4. Normative Annual Plant Availability Factor (NAPAF)

14.4.1. As per Regulation 48.1 of the MYT Regulations, 2021 the Normative Plant Availability factor for recovery of full fixed charges, is 50% for FY 2023-24 for NTPS. It is expected that NTPS will achieve the normative plant availability factor based on 6 months actual number.

14.4.2. In view of the above, APGCL prays to the Hon'ble Commission to approve the revised estimated availability for FY 2023-24 as shown in the table below.

Table 81: Availability of NTPS for FY 2023-24

NTPS	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Plant Availability Factor (%)	50.00%	66.44%	50.00%	50.00%

14.4.3. As per Regulation 48.1 of the MYT Regulations, 2021 the Normative Plant Availability factor for recovery of full fixed charges, is 50% for FY 2023-24 of LTPS. It is expected that LTPS will achieve the normative plant availability factor based on 6 months actual number.

14.4.4. The approved and estimated numbers are shown in the table below.

Table 82: Availability of LTPS for FY 2023-24

LTPS	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Plant Availability Factor (%)	50.00%	61.45%	50.00%	50.00%

14.4.5. Further, Regulation 50, of MYT Regulations, 2021 specifies normative PAF for KLHEP as 85% for FY 2023-24. It is expected that KLHEP will not be able to achieve the normative plant availability factor based on 6 months actual number.

14.4.6. With regards to above, it is brought to the kind attention of the Hon'ble Commission that due to Scheduled and Unscheduled works related to major overhauling of KLHEP Unit-2, (as already communicated to the Commission vide letter no. APGCL/CGM (G)/AERC/2022/115/Pt-XII/71 dated 06.11.2023 (**Annexuer-5**)), significant availability was impacted. The same is showcased below for kind reference and consideration of the Hon'ble Commission.

Table 83: Impact on Availability due to Scheduled and Unscheduled works related to Major Overhauling of KLHEP Unit-2

SI No	Particulars	Value
A	Plant affected due to Major Overhauling of KLHEP U-2 in FY 2023-24 as per OEM Schedule (Days)	51
B	Plant affected due to Major Overhauling of KLHEP U-2 in FY 2023-24 with unscheduled days (Days)	77
C	Declared Capacity (MW)	49
D	Normative Auxiliary Consumption %	0.50
E	Availability Loss due to Major Overhauling of KLHEP U-2 as per schedule $[A * C * 100 / (100 * 365 * (100 - 0.5))]$	6.92%
F	Availability Loss due to Major Overhauling of KLHEP U-2 for unscheduled works $[B * C * 100 / (100 * 365 * (100 - 0.5))]$	10.45%

14.4.7. The approved and estimated numbers are shown in the table below.

Table 84: Availability of KLHEP for FY 2023-24

KLHEP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Plant Availability Factor (%)	85.00%	63.69%	85.00%	74.35%

14.4.8. With respect to above, the Hon'ble Commission is thus requested to allow full Fixed Cost recovery in FY 2023-24 for KLHEP.

14.4.9. The Hon'ble Commission had approved NAPAF of 85% for LRPP for FY 2023-24 in its order of March 2023. It is expected that LRPP will be able to achieve the normative plant availability factor based on 6 months actual number.

14.4.10. The approved and estimated numbers are shown in the table below.

Table 85: Availability of LRPP for FY 2023-24

LRPP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Plant Availability Factor (%)	85.00%	91.70%	85.00%	85%

14.4.11. The Hon'ble Commission had approved NAPAF of 85% for NRPP for FY 2023-24 in its order of March 2023. It is expected that NRPP will not be able to achieve the normative plant availability factor based on 6 months actual number.

14.4.12. The approved and estimated numbers are shown in the table below.

Table 86: Availability of NRPP for FY 2023-24

NRPP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Plant Availability Factor (%)	85.00%	71.72%	85.00%	78.36%

14.4.13. APGCL prays to Hon'ble Commission to kindly approve the estimated NAPAF for the plants shown above for recovery of fixed charges for FY 2023-24.

14.5. Normative Annual Plant Load Factor (NAPLF)

14.5.1. As per Regulation 48.2 of the Tariff Regulations, 2021 the Normative Plant Load factor for NTPS is 50% for FY 2023-24. The Hon'ble Commission had approved the same for NTPS in its order dated March 2023. It is expected that NTPS will be able to achieve the normative plant load factor based on 6 months actual number. The approved and estimated numbers are shown in the table below.

Table 87: Plant Load Factor of NTPS for FY 2023-24

NTPS	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Plant Load Factor (%)	50.00%	60.95%	50.00%	55.48%

14.5.2. As per Regulation 48.2 of the Tariff Regulations, 2021 the Normative Plant Load factor for LTPS is 66% for FY 2023-24 The Hon’ble Commission had approved the same of LTPS in its order dated March 2023. It is expected that LTPS will not be able to achieve the normative plant load factor based on 6 months actual number. The approved and estimated numbers are shown in the table below.

Table 88: Plant Load Factor of LTPS for FY 2023-24

LTPS	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Plant Load Factor (%)	66.00%	55.13%	66.00%	60.57%

14.5.3. As per Regulation 50.1 of the Tariff Regulations, 2021, normative PLF for KLHEP as 44.5%. The Hon’ble Commission had approved the same for FY 2023-24 in its order dated March 2023. It is expected that KLHEP will be able to achieve the normative plant load factor based on 6 months actual number. The approved and estimated numbers are shown in the table below.

Table 89: Plant Load Factor of KLHEP for FY 2023-24

KLHEP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Plant Load Factor (%)	44.50%	47.21%	44.50%	44.50%

14.5.4. The Hon’ble Commission had approved 90% as PLF for incentive for LRPP for FY 2023-24 in its order dated March 2023. It is expected that LRPP will not be able to achieve the normative plant load factor based on 6 months actual number. The approved and estimated numbers are shown in the table below.

Table 90: Plant Load Factor of LRPP for FY 2023-24

LRPP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Plant Load Factor (%)	90.00%	81.89%	90.00%	85.94%

14.5.5. As per regulation 48.2(b) of tariff regulation 2021, the normative plant load factor for incentive of gas based generating station is 85%. It is expected that NRPP will not be able to achieve normative PLF based on 6 months actual number. The approved and estimated numbers are shown in the table below.

Table 91: Plant Load Factor of NRPP for FY 2023-24

NRPP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Plant Load Factor (%)	85.00%	71.01%	85.00%	78.01%

14.6. Gross Station Heat Rate (SHR)

14.6.1. As per Regulation 48.4, of the Tariff Regulations, 2021 the Normative Station Heat Rate, is 3900 kCal/kWh for FY 2023-24 for NTPS in combined cycle mode of operation.

14.6.2. The approved and estimated numbers are shown in the table below.

Table 92: SHR of NTPS for FY 2023-24

NTPS	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Station Heat Rate (kCal/kWh)	3900	4668	3900	3900

14.6.3. As per Regulation 48.4, of the Tariff Regulations, 2021 the Normative Station Heat Rate, is 3200 kCal/kWh for FY 2023-24 of LTPS in combined cycle mode of operation. APGCL has considered the SHR at actuals for the first 6 months and normative for rest of the year. The approved and estimated numbers are shown in the table below.

Table 93: SHR of LTPS for FY 2023-24

LTPS	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Station Heat Rate (kCal/kWh)	3200	2536	3200	3200

14.6.4. The Hon'ble Commission had approved SHR of 2,150 kCal/kWh for LRPP for FY 2023-24 in its order dated March 2022. The approved and estimated numbers are shown below:

Table 94: SHR of LRPP for FY 2023-24

LRPP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Station Heat Rate (kCal/kWh)	2150	2146	2150	2150

14.6.5. SHR for NRPP: Since, NRPP was commissioned on 16th July 2021. Hence, as per Regulation 47.4 (ii) (b) of MYT Regulation 2018, the GSHR of new plants commissioned on or after 1st April 2019 for Gas-based plant

= “1.05 X Design Heat Rate of the unit/block for Natural Gas and RLNG (kCal/kWh

Where, the **Design Heat Rate of a unit shall mean the guaranteed heat rate for a unit at 100% MCR and at site ambient conditions....**

- ✓ The Guaranteed Heat Rate of NRPP at 98.4 MW combined cycle operation by OEM at NCV is 1705.8 kCal/kWh.
- ✓ The Guaranteed Heat Rate of NRPP at 98.4 MW combined cycle operation by OEM at GCV is (1705.8X1.11 KCal/kWh) = 1893.4 kCal/kWh
- ✓ As such combined cycle GSHR of NRPP as per Regulation= 1893.4X1.05 kCal/kWh=1988 kCal/kWh
- ✓ Further, the normative open cycle GSHR of NRPP is 2927 kCal/kWh

14.6.6. The normative and estimated numbers for NRPP are shown below:

Table 95: SHR of NRPP for FY 2023-24

NRPP	As per Regulation	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Station Heat Rate (kCal/kWh)	1988 (CC) 2927 (OC)	2403	1988	1988

14.6.7. APGCL prays Hon’ble Commission to kindly approve the normative SHR of 1988 Kcal/KWh for FY 2023-24 for NRPP.

14.7. Auxiliary Energy Consumption

14.7.1. As per Regulation 48.3 of the Tariff Regulations, 2021 the Normative Auxiliary energy consumption is 4.50% for FY 2023-24 for NTPS. We submit that the auxiliary consumption of NTPS is estimated to be higher than the approved auxiliary consumption in FY 2023-24 due to part loading of units and old nature of plant and machinery. The approved and estimated numbers are shown in the table below.

14.7.2. The approved and estimated numbers are shown in the table below.

Table 96: Auxiliary energy consumption of NTPS for FY 2023-24

NTPS	Approved as per Order of March 2022	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2022-23
Aux. consumption (%)	4.50%	8.49%	4.50%	6.74%

14.7.3. As per Regulation 48.3 of the Tariff Regulations, 2021 the Normative Auxiliary energy consumption, is 5.50% for FY 2023-24 of LTPS. The same has been approved by the Hon'ble Commission in its order dated March 2023. It is expected that LTPS will achieve the auxiliary consumption higher than normative value. The approved and estimated numbers are shown in the table below.

Table 97: Auxiliary energy consumption of LTPS for FY 2023-24

LTPS	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Aux. consumption (%)	5.50%	7.51%	5.50%	6.57%

14.7.4. As per Regulation 50.1 of the Tariff Regulations, 2021 the Normative Auxiliary energy consumption, is 0.50% for KLHEP. The same has been approved by the Hon'ble Commission in its order dated March 2023. The approved and claimed numbers are shown in the table below.

Table 98: Auxiliary energy consumption of KLHEP for FY 2023-24

KLHEP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Aux. consumption (%)	0.50%	1.25%	0.50%	0.50%

14.7.5. The Hon'ble Commission had approved Auxiliary Consumption of 3.5% for LRPP for FY 2023-24 in its order dated March 2023. It is expected that LRPP will achieve the auxiliary consumption lower than normative value. The approved and estimated numbers are shown in the table below:

Table 99: Auxiliary energy consumption of LRPP for FY 2023-24

LRPP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Aux. consumption (%)	3.50%	3.25%	3.50%	3.50%

14.7.6. The Hon'ble Commission had approved Auxiliary Consumption of 5% for NRPP for FY 2023-24 in its order dated March 2023. It is expected that NRPP will achieve the auxiliary consumption higher within normative value. The approved and estimated numbers are shown in the table below:

Table 100: Auxiliary energy consumption of NRPP for FY 2023-24

NRPP	Approved as per Order of March 2023	April - Sep (actual)	Oct - March (estimated)	Claim for FY 2023-24
Aux. consumption (%)	5%	4.17%	5%	5%

14.7.7. The performance parameter certificate showing plant wise availability, generation, auxiliary consumption etc. issued by SLDC is attached at **Annexure-17**.

15. Fixed Cost of the Plant

15.1. Annual fixed cost for FY 2023-24

15.1.1. The fixed cost of APGCL's power plants has been approved by AERC via order in case no. 16/2022 dated 29th March 2023 for NTPS, LTPS, KLHEP, LRPP and NRPP.

15.1.2. As per regulation 43.1 of the AERC Tariff regulations, 2021 the following components have been considered for projecting of fixed cost for the power plants:

- (a) Return on Equity Capital
- (b) Interest on Loan capital
- (c) Depreciation
- (d) Operation and Maintenance Expenses
- (e) Interest on Working Capital
- (f) Less: Non-Tariff Income

15.1.3. For the computation of the fixed components, the Petitioner has considered the principles provided in the Tariff Regulations, 2021. These components have been discussed in detail in the following sections of the petition.

15.2. Return on Equity (ROE)

15.2.1. The Hon'ble Commission in its regulation 34 of Tariff Regulations 2021 has considered the pre-tax return on equity at 15.5% of equity capital.

15.2.2. The Petitioner has determined the Return on Equity (RoE) at a rate of 15.5% in accordance with the AERC Regulations, 2021. The Petitioner submits that there has been no addition in Equity in FY 2023-24 for NTPS, LTPS, LRPP and NRPP. For KLHEP, there has been some equity addition as claimed below.

15.2.3. The plant wise Return on Equity approved and claimed (at effective capacity for NTPS and LTPS) for FY 2023-24 has been shown in the table below:

Table 101: Computation of Plant wise Return in Equity for FY 2023-24

Rs. Cr

Station	Particulars	Approved as per order of March 2023	Claim for FY 2023-24
NTPS	Opening Equity	57.42	58.29
	Addition during year	0.00	0.00
	Closing Equity	57.42	58.29
	Rate of Return	15.50%	15.50%
	Return on Equity	8.90	9.04
	Return on Equity for Effective Capacity	3.05	2.10
LTPS	Opening Equity	148.69	150.64
	Addition during year	0.00	0.00
	Closing Equity	148.69	150.64



Station	Particulars	Approved as per order of March 2023	Claim for FY 2023-24
	Rate of Return	15.50%	15.50%
	Return on Equity	23.05	23.35
	Return on Equity for Effective Capacity	15.75	15.96
KLHEP	Opening Equity	154.42	156.43
	Addition during year	0.00	0.25
	Closing Equity	154.42	156.68
	Rate of Return	15.50%	15.50%
	Return on Equity	23.94	24.27
LRPP	Opening Equity	80.63	82.03
	Addition during year	0.00	0.00
	Closing Equity	80.63	82.03
	Rate of Return	15.50%	15.50%
	Return on Equity	12.50	12.71
NRPP	Opening Equity	218.69	218.69
	Addition during year	0.00	0.00
	Closing Equity	218.69	218.69
	Rate of Return	15.50%	15.50%
	Return on Equity	33.90	33.90

15.2.4. APGCL prays to the Hon'ble Commission to kindly approve the plant wise Return on Equity as shown above.

15.3. Interest on Loan Capital

15.3.1. As per Regulation 35 of the Tariff Regulations, 2021, the Commission will consider interest on Loan capital on normative basis with repayment equal to depreciation allowed for that year and rate of interest will be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year.

15.3.2. In view of the above, the Petitioner has computed the Interest on long term Loan on normative basis for FY 2023-24. The Petitioner has considered normative loan portfolio and the repayment shown is considered equal to the depreciation for FY 2023-24. The interest rate has been considered as the expected weighted average rate of interest for FY 2023-24.

15.3.3. The finance charges are shown separately plant wise for FY 2023-24. The table below summarizes the interest on loan and finance charges considered (at effective capacity for NTPS and LTPS) for Annual Performance Review of FY 2023-24.

Table 102: Computation of Plant wise Interest and finance charges for FY 2023-24

Rs. Cr

Station	Particulars	Approved as per order of March 2023	Claim for FY 2023-24
NTPS	Net Normative Opening Loan	0.84	1.04
	Addition of normative loan during the year	0.94	4.56
	Normative Repayment during the year	1.43	2.19
	Net Normative Closing Loan	0.35	3.41
	Avg. Normative Loan	0.60	2.22
	Interest Rate	11.64%	10.35%
	Interest on Loan Capital	0.07	0.23
	Add: Bank Charges	0.00	0.00
	Net Interest on Loan Capital	0.07	0.23
	Net Interest on Loan Capital for Effective Capacity	0.02	0.05
LTPS	Net Normative Opening Loan	0	5.32
	Addition of normative loan during the year	12.31	16.92
	Normative Repayment during the year	19.64	14.72
	Net Normative Closing Loan	0.00	7.53
	Avg. Normative Loan	0.00	6.42
	Interest Rate	11.64%	10.35%
	Interest on Loan Capital	0.00	0.66
	Add: Bank Charges	0.00	0.00
	Net Interest on Loan Capital	0.00	0.66
	Net Interest on Loan Capital for Effective Capacity	0.00	0.45
KLHEP	Net Normative Opening Loan	113.94	107.60
	Addition of normative loan during the year	17.25	11.58
	Normative Repayment during the year	23.79	22.48
	Net Normative Closing Loan	107.40	96.69
	Avg. Normative Loan	110.67	102.14
	Interest Rate	11.64%	10.35%
	Interest on Loan Capital	12.88	10.57
	Add: Bank Charges	0.00	0.00
Net Interest on Loan Capital	12.87	10.57	
	Net Normative Opening Loan	24.28	18.80
	Addition of normative loan during the year	0.7	3.75
	Normative Repayment during the year	2.67	13.79
	Net Normative Closing Loan	22.31	8.76

Station	Particulars	Approved as per order of March 2023	Claim for FY 2023-24
LRPP	Avg. Normative Loan	23.30	13.78
	Interest Rate	11.64%	10.35%
	Interest on Loan Capital	2.71	1.43
	Add: Bank Charges	0.00	0.00
	Net Interest on Loan Capital	2.71	1.43
NRPP	Net Normative Opening Loan	454.03	449.56
	Addition of normative loan during the year	0.00	0.00
	Normative Repayment during the year	37.50	42.08
	Net Normative Closing Loan	416.53	407.48
	Avg. Normative Loan	435.28	428.52
	Interest Rate	11.64%	10.35%
	Interest on Loan Capital	50.67	44.34
	Add: Bank Charges	0.00	0.00
	Net Interest on Loan Capital	50.67	44.34

15.3.4. APGCL submits that the loan details and interest rates applicable for the first 6 months on PFC loans is submitted as part of **Annexure-18** of this document.

15.3.5. APGCL further submits that the document specifying the interest rates applicable on Assam govt. loans @ 10% is attached at **Annexure-19** of this document.

15.3.6. APGCL prays to the Hon'ble Commission to kindly approve the Total interest and finance charges as shown above.

15.4. Depreciation

15.4.1. The Hon'ble Commission in its Tariff Regulations, 2021 has provided the principles for determination of depreciation.

15.4.2. In view of the above, the Petitioner has computed the Depreciation considering Capital Cost of the asset admitted by the Commission with 10% salvage value. The table below summarizes the plant wise Depreciation considered for Annual Performance Review of FY 2023-24.

Table 103: Depreciation of FY NTPS for 2023-24

Rs. Cr

Particulars	FY 2023-24
Opening GFA	193.98
Addition during the year	4.56
Closing	198.54
Average GFA	196.26
Rate of Depreciation	1.11%
Total Depreciation	2.19
Grant	0.00
Additions during the year	0.00



Particulars	FY 2023-24
Closing grant	0.00
Average grant	0.00
Rate of Depreciation	1.11%
Depreciation on grants	0.00
Net Depreciation	2.19

Table 104: Depreciation of LTPS for FY 2023-24

Rs. Cr

Particulars	FY 2023-24
Opening GFA	522.67
Addition during the year	16.92
Closing	539.59
Average GFA	531.13
Rate of Depreciation	2.77%
Total Depreciation	14.72
Grant	0.00
Additions during the year	0.00
Closing grant	0.00
Average grant	0.00
Rate of Depreciation	2.77%
Depreciation on grants	0.00
Net Depreciation	14.72

Table 105: Depreciation of KLHEP for FY 2023-24

Rs. Cr

Particulars	FY 2023-24
Opening GFA	511.49
Addition during the year	11.83
Closing	523.32
Average GFA	517.40
Rate of Depreciation	4.35%
Total Depreciation	22.48
Grant	0.00
Additions during the year	0.00
Closing grant	0.00
Average grant	0.00
Rate of Depreciation	4.35%
Depreciation on grants	0.00
Net Depreciation	22.48

Table 106: Depreciation of LRPP for FY 2023-24

Rs. Cr

Particulars	FY 2023-24
Opening GFA	273.22



Addition during the year	3.75
Closing	276.97
Average GFA	275.09
Rate of Depreciation	5.01%
Total Depreciation	13.79
Grant	0.00
Additions during the year	0.00
Closing grant	0.00
Average grant	0.00
Rate of Depreciation	5.01%
Depreciation on grants	0.00
Net Depreciation	13.79

Table 107: Depreciation of NRPP for FY 2023-24

Rs. Cr

Particulars	FY 2023-24
Opening GFA	729.09
Addition during the year	0.00
Closing	729.09
Average GFA	729.09
Rate of Depreciation	5.77%
Total Depreciation	42.08
Grant	0.00
Additions during the year	0.00
Closing grant	0.00
Average grant	0.00
Rate of Depreciation	5.77%
Depreciation on grants	0.00
Net Depreciation	42.08

Table 108: Summary of Depreciation claimed for FY 2023-24

Rs. Cr

Station	Particulars	Approved as per Order of March 2023	Estimation for FY 2023-24
NTPS	Depreciation	1.45	2.19
	Less: Depreciation on assets funded by Grants	0.02	0.00
	Net Depreciation	1.43	
	Net Depreciation for Effective Capacity	0.49	2.19
LTPS	Depreciation	20.22	14.72
	Less: Depreciation on assets funded by Grants	0.58	0.00
	Net Depreciation	19.64	14.72

Station	Particulars	Approved as per Order of March 2023	Estimation for FY 2023-24
	Net Depreciation for Effective Capacity	13.42	
KLHEP	Depreciation	24.36	22.48
	Less: Depreciation on assets funded by Grants	0.57	0.00
	Net Depreciation	23.79	22.48
LRPP	Depreciation	13.75	13.79
	Less: Depreciation on assets funded by Grants	11.08	0.00
	Net Depreciation	2.67	13.79
NRPP	Depreciation	37.5	42.08
	Less: Depreciation on assets funded by Grants	0	0.00
	Net Depreciation	37.50	42.08

15.4.3. Further, APGCL humbly submits that entire depreciation claimed in True Up is at par with the depreciation charged in the Annual Accounts and any depreciation on decommissioned / retired units does not form part of the depreciation charged in the Annual Accounts. Hence, the depreciation claimed is already at the effective capacity and further reduction of depreciation citing effective capacity is not justifiable. We humbly pray to the Hon'ble Commission to consider the same while approving APR claim for depreciation and allow full recovery of the depreciation charged after reduction of depreciation on grants only and not further reduce the depreciation citing effective capacity.

15.4.4. GoA vide Financial Sanction No: FS/42_2021-22(I)_06 dated 31.12.2021 and Financial Sanction No: FS/pe_2023-24(I)_33 dated 12.10.2023 (attached at **Annexure-11**) had already approved conversion of all cumulative grant given to APGCL into equity as on 31.03.2021 and 31.03.2023 respectively. The impact of such conversion has already been reflected in the Equity base admitted by the Commission. With regards to this, the Hon'ble Commission is thus requested that benefit of grants being converted to equity on similar lines also be given to Depreciation calculation and accordingly, any deductions to depreciation on account of assets funded by Grants may be considered to be revised to Nil with respect to approved figures in the Tariff Order.

15.4.5. APGCL prays to the Hon'ble Commission to kindly approve the plant wise Depreciation for FY 2023-24 as shown above.

15.5. Interest on Working Capital

15.5.1. As per Regulation 37 of the Tariff Regulations, 2021, the interest on working capital will be considered on normative basis.

15.5.2. As per the above regulations, the Petitioner has projected normative interest on working capital. However, as APGCL does not have liquid fuel stock facility, it has not considered working capital on storage of liquid fuel. The rate of interest has been considered equal to the normative interest rate of three hundred (300) basis points above the average State Bank of India MCLR (One Year Tenor) prevalent during the last available six months, which $8.53\% + 3.00\% = 11.53\%$.

Table 109: Summary of Interest on working capital claimed for FY 2023-24

Station	Particulars	Approved as per order of March 2023	Claim for FY 2023-24
NTPS	Fuel Cost for one month	3.83	6.88
	O&M Expenses for one month	4.86	1.28
	Maintenance Spares-30% of O&M	17.48	4.61
	Receivables for two months	18.96	16.87
	Total Working Capital Requirement	45.13	29.65
	Rate of interest	10.58%	11.53%
	Interest on Working capital	4.77	
	Interest on Working capital on effective Capacity	1.64	3.42
LTPS	Fuel Cost for one month	9.21	24.85
	O&M Expenses for one month	5.55	4.12
	Maintenance Spares-30% of O&M	19.97	14.84
	Receivables for two months	37.77	70.49
	Total Working Capital Requirement	72.50	114.30
	Rate of interest	10.58%	11.53%
	Interest on Working capital	7.67	
	Interest on Working capital on effective Capacity	5.24	13.17
KLHEP	O&M Expenses for one month	2.96	3.04
	Maintenance Spares-30% of O&M	5.33	10.93
	Receivables for two months	14.45	18.49
	Total Working Capital Requirement	22.74	32.46
	Rate of interest	10.58%	11.53%
	Interest on Working capital	2.41	3.74
LRPP	Fuel Cost for one month	10.02	22.95
	O&M Expenses for one month	2.68	2.68
	Maintenance Spares-30% of O&M	9.66	9.66
	Receivables for two months	30.90	63.37

Station	Particulars	Approved as per order of March 2023	Claim for FY 2023-24
	Total Working Capital Requirement	53.26	98.66
	Rate of interest	10.58%	11.53%
	Interest on Working capital	5.63	11.37
NRPP	Fuel Cost for one month	7.82	13.60
	O&M Expenses for one month	2.03	3.69
	Maintenance Spares-30% of O&M	7.30	13.28
	Receivables for two months	41.06	57.27
	Total Working Capital Requirement	58.21	87.85
	Rate of interest	10.58%	11.53%
	Interest on Working capital	6.16	10.12

15.5.3. APGCL prays to the Hon'ble Commission to kindly approve the plant wise Interest on Working capital for FY 2023-24 as shown above.

15.6. Operation and Maintenance Expenses (O&M Expenses)

15.6.1. As per Regulation 51 of the Tariff Regulations, 2021, Operation and Maintenance expenses will be considered on normative basis.

15.6.2. With respect to Tariff Order dated March 2023, wherein as per Para 5.11.5, the Hon'ble Commission had escalated approved True Up figures of FY 2021-22 to arrive at normative figures for APR of FY 2022-23 by escalation factor of 6.3% as considered by the Hon'ble Commission. In line with above, the Petitioner for APR of FY 2023-24, has claimed normative figures which have been arrived at by escalating the True Up claimed figures of FY 2022-23 by 6.3% escalation factor as determined by the Hon'ble Commission. With respect to NRPP, as already mentioned in True Up petition of FY 2022-23, O&M expenses of Rs 41.66 Cr (at actuals excluding Spl. R&M) was claimed in True Up for FY 2022-23 which has been escalated by 6.3% in line with above submission to arrive at claimed figure for APR of FY 2023-24.

15.6.3. APGCL humbly prays to the hon'ble commission to kindly approve the O&M expenses for FY 2023-24 as shown in the table below.

Rs. Cr

Table 110: Revised O&M Cost for FY 2023-24

Station	Approved in order of March 2023	Approved O&M Cost at effective Capacity	Revised normative O&M Cost at Installed Capacity	Amount Claim at the actual effective capacity for FY 2023-24
NTPS	58.28	20.00	66.27	15.38
LTPS	66.57	45.50	72.39	49.48
KLHEP	35.54	35.54	36.44	36.44
LRPP	32.19	32.19	32.18	32.19
NRPP	24.34	24.34	44.28	44.28
Total	216.92	157.57	251.56	177.77

15.7. Impact of AERC (Payment of Fees etc.) Regulation, 2020

15.7.1. The Hon'ble Commission has notified the new AERC (Payment of Fees etc.) Regulations, 2020 which has led to a substantial increase in the Filing Fees of APGCL payable to AERC.

15.7.2. The tentative impact of the increase in the filing fees has been shown below:

Rs. Cr

Table 111: Impact of increase in AERC Fees claimed for FY 2023-24

Station	Approved in Tariff Order dated March 2023	Actual claim for FY 2023-24
NTPS	0.10	0.10
LTPS	0.10	0.10
KLHEP	0.0	0.0
LRPP	0.10	0.10
NRPP	0.0	0.00
Total	0.30	0.30

15.8. Incentives

15.8.1. Incentives will be claimed during True-up of FY 2023-24.

15.9. Special R&M

15.9.1. The Hon'ble Commission in its order dated 29th March 2023 had approved Special R&M for NTPS, LTPS, KLHEP and LRPP. The status of the approved and actual special R&M being conducted in FY 2023-24 has been shown in the table below:

Rs. Lakhs

Work Name	Approved as per Tariff Order March 2023	Claim in FY 2023-24	Remarks
For NTPS			
Procurement of Overseas spares for major overhauling of 2 nos. W301 Gas Turbine unit proposed to be carried out in 2023-24 used in GT #2 & #3	0	167.5	Amount was approved by Commission in FY 2022-23. Delay is due to long procurement lead time. Work is under process.
Procurement of spares for major overhauling of	90	90	PO to be placed shortly. Delay is due to extension in tendering process.



Work Name	Approved as per Tariff Order March 2023	Claim in FY 2023-24	Remarks
WHT#6 proposed to be carried out in 2023-24			
Overhauling of Gas turbine Unit 2 (Execution Part) excluding procurement of spares	80	0	Tender is under process. Execution delayed due to delay in procurement of spares
For LTPS			
Overhauling of LTPS Unit - 7 in FY 2020-21		1402	Rs 15 Cr was approved in FY 2022-23. Rs 0.98 Cr has been claimed in FY 2022-23 and balance Rs 14.02 Cr is being claimed in FY 2023-24
Major Inspection works of Gas Turbine unit # 5	145	145	Tender under process
Overhauling of Generator and Exciter of GT unit # 5	100	100	Tender under process
Procurement of spares for Major inspection of Gas Turbine unit # 5.	2360	2360	Tender under process
For KLHEP			
	0	396	The work was proposed in two FYs. Procurement of spares was proposed in one FY and execution of the work was proposed in the other FY. Accordingly, work was approved in the FY 2020-21 for ₹ 15.10 Cr for procurement of spares and in the FY 2022-23 for ₹ 12.00 Cr for execution of the work.
Capital Overhauling of 50MW Francis type Fuji make Generator Turbine Unit-II – KLHEP	0	1200	Major Overhauling of Unit-2 was delayed due to a delay in the execution of Major Overhauling of Unit-1 of KLHEP (due to Covid-19 outbreak) and the issue of replacement of the runner of Unit-2. Major Overhauling Work of Unit-2 started on 13.01.2023 and completed on 05.08.2023
Additional Capital Investment for Renovation work of damaged assets due to Landslide for KLHEP Plant		325	An amount of Rs. 12 crore was approved for FY 2021-22 in the tariff order dated 21st March 2022. The landslide related works of KLHEP is ongoing from FY 2021-22. The Hon'ble Commission has already approved ₹ 3.92 Cr for part completion of this work in the True-up of FY 2021-22 as Special R&M. For True-Up of FY 2022-

Work Name	Approved as per Tariff Order March 2023	Claim in FY 2023-24	Remarks
			23, APGCL is claiming ₹ 4.83 Cr and balance amount is claimed for FY 2023-24 (also to be claimed for FY 2023-24 in the next True-up)
For LRPP			
Overhauling of Gas Engine units and Turbocharger of LRPP		2382	Rs 32.72 Cr in total was approved in FY 2022-23 as per Tariff Order dated March 2023. Rs 8.9 Cr already claimed in True Up for FY 2022-23 and balance amount is claimed in FY 2023-24
48,000 Running Hours Turbocharger Maintenance	777	777	PO has been issued to Wartsilla on 17.08.2023. Expected time of completion is March'24
Procurement of Special measuring instruments for Electrical Maintenance Works	160	160	Tender already floated.
For NRPP			
Special R&M for Combustion Inspection of the GT Unit of NRPP	0	574	<p>The work is already complete in FY 2022-23.</p> <p>APGCL proposed the work in the Tariff Petition for FY 2022-23 and APR for FY 2022-23. Hon'ble Commission in the The APR Order for FY 2022-23 directed APGCL to submit detailed DPR for the work. APGCL submitted the same in the Review Petition and the Hon'ble Commission in the Review Order dated 25/07/2023 stated that the Commission shall consider this expense during the True-up of FY 2022-23 based on actual expenditure and submissions to be made by APGCL in the separate Petition.</p> <p>Out of total expense, Rs 12.76 Cr is claimed in True Up of FY 2022-23 and remaining Rs 5.74 Cr will be claimed in True Up of FY 2023-24 (and accordingly claimed in APR)</p> <p>As such, in line with directions of the Commission, APGCL is submitting the details along with the DPR and cost benefit analysis for the work, as attached at Annexure-14.</p>

Table 112: Plant wise Special R&M for FY 2023-24

Rs. Cr

Station	Approved as per order of March 2023	Amount claimed for APR
NTPS	0	2.58
LTPS	26.05	40.07
KLHEP	0	19.21
LRPP	9.37	33.19
NRPP	0	5.74
Total	35.42	100.79

15.9.2. APGCL prays to the Hon'ble Commission to kindly approve the revised estimated Special R&M activities as mentioned above for FY 2023-24.

15.10. Non-Tariff Income

15.10.1. As per Regulation 46 of the Tariff Regulations, 2021, the non-tariff income shall be deducted from the Annual Fixed Cost in determining the Annual Fixed Cost of the Generation Company.

15.10.2. The Non-tariff income has been estimated at normatively approved numbers by Hon'ble Commission in its order dated March 2022. The same will be claimed at actuals during truing up for FY 2023-24.

15.10.3. The details of non-tariff income for FY 2023-24 are shown in the table below:

Table 113: Station-wise details of non-tariff income for FY 2023-24

Rs. Cr

Station	Approved as per order of March 2022	Claim for FY 2023-24
NTPS	7.13	7.13
LTPS	9.22	9.22
KLHEP	5.75	5.75
LRPP	0.00	0.00
NRPP	0.00	0.00
Total	22.09	22.09

15.10.4. APGCL prays to the Hon'ble Commission to kindly approve the plant wise Non-tariff income for FY 2023-24 as shown above.

16. Energy Charges

16.1. Fuel Price and Calorific Value

16.1.1. As per Regulation 10 of the Tariff Regulations 2021, 'Fuel Price' and 'Calorific Value of Fuel' are uncontrollable items. The actual values of 'Fuel Price' and 'Calorific Value of Fuel' are shown in the table below:

Table 114: Actual Plant wise GCV and Price for FY 2023-24

Station	Wt. Avg. Gross Calorific Value of Gas (kcal/SCM)	Wt. Avg. Price of Gas (Rs. /1000 SCM)	Wt. Avg. Price of Gas (Rs. /1000 SCM)	Wt. Avg. Price of Gas (Rs. /1000 SCM)
		April – Sept (Actual)	Oct -March (Estimated)	
NTPS	9251.70	14496.79	13838.27	14167.53
LTPS	9854.15	20527.80	19982.85	20255.32
LRPP	9246.32	23586.66	22872.58	23229.62
NRPP	9251.70	14496.79	13838.27	14167.53

16.1.2. The Petitioner prays to the Hon'ble Commission to kindly approve the Price of Gas and GCV for NTPS, LTPS, LRPP and NRPP for FY 2023-24 as shown in the table above.

16.2. Fuel cost

16.2.1. The Commission, in the Tariff Orders dated March 2023 had approved the Fuel Cost for FY 2023-24 for NTPS, LTPS, LRPP and NRPP. The table below shows the plant wise approved fuel cost, the actual total fuel cost incurred and the fuel cost on normative parameters for FY 2023-24. The average price of fuel and GSHR for April to September has been considered for the month of October – March.

Table 115: Fuel cost of NTPS for FY 2023-24

Particulars	Unit	Approved as per order of March 2023	April - Sep (actual)	Oct -March (estimated)	FY 2023-24 (Claim)
Gross Generation	MU	179.58	77.49	60.74	138.23
Heat Rate	kcal/kWh	3900	4668.19	3900.00	3900.00
GCV of gas	kcal/SCM	9251.93	9251.70	9251.70	9251.70
Overall Heat	G. cal.	700362	361732.58	236889.82	539096.26
Gas consumption	M. SCM	75.70	39.10	25.61	58.27
Price of Gas	Rs. /1000 SCM	6072.89	14496.79	13838.27	14167.53
Total cost of Gas	Rs. Crore	45.97	56.68	35.43	82.55

Table 116: Fuel cost of LTPS for FY 2023-24

Particulars	Unit	Approved as per order of March 2023	April - Sep (actual)	Oct -March (estimated)	FY 2023-24 (Claim)
Gross Generation	MU	425.74	240.46	212.87	453.33
Heat Rate	kcal/kWh	3200	2535.57	3200.00	3200.00
GCV of gas	kcal/SCM	9959.34	9854.15	9854.15	9854.15

Overall Heat	G. cal.	1362368	609706.25	681177.60	1450652.80
Gas consumption	M. SCM	136.79	61.87	69.13	147.21
Price of Gas	Rs. /1000 SCM	8078.42	20527.80	19982.85	20255.32
Total cost of Gas	Rs. Crore	110.51	127.01	138.13	298.18

Table 117: Fuel cost of LRPP for FY 2023-24

Particulars	Unit	Approved as per order of March 2023	April - Sep (actual)	Oct -March (estimated)	FY 2023-24 (Claim)
Gross Generation	MU	519.40	250.24	259.70	509.94
Heat Rate	kcal/kWh	2150	2146.40	2150.00	2150.00
GCV of gas	kcal/SCM	9235.46	9246.32	9246.32	9246.32
Overall Heat	G. cal.	1116710	537110.97	558350.41	1096362.97
Gas consumption	M. SCM	120.92	58.09	60.39	118.57
Price of Gas	Rs./1000 SCM	9944.57	23586.66	22872.58	23229.62
Total cost of Gas	Rs. Crore	120.25	137.01	138.12	275.44

Table 118: Fuel cost of NRPP for FY 2023-24

Particulars	Unit	Approved as per order of March 2023	April - Sep (actual)	Oct -March (estimated)	FY 2023-24 (Claim)
Gross Generation	MU	732.69	304.24	231.76	536.00
Heat Rate	kcal/kWh	1951	2403.33	1988.00	1988.00
GCV of gas	kcal/SCM	9251.93	9251.70	9251.70	9251.70
Overall Heat	G. cal.	1429478.19	731195.00	460732.42	1065566.21
Gas consumption	M. SCM	154.51	79.03	49.80	115.18
Price of Gas	Rs./1000 SCM	6072.89	14496.79	13838.27	14167.53
Total cost of Gas	Rs. Crore	93.83	114.57	68.91	163.17

16.2.2. The Petitioner prays to the Hon'ble Commission to kindly approve the estimated Fuel cost Price for NTPS, LTPS, LRPP and NRPP for FY 2023-24 as shown in the table above.

17. Summary of submissions for Annual Performance Review of FY 2023-24

17.1. Net Annual Revenue Requirement

17.1.1. The plant wise Net Annual Revenue Requirements for FY 2023-24 are as shown in the tables below.

Table 119: Net Annual Revenue Requirements of NTPS for FY 2023-24

Sl. No	Particulars	Approved	Claim for FY 2023-24
I	POWER GENERATION (MU)		
	Gross Generation	179.58	138.23
	Net Generation	171.50	128.92

Rs. Cr



Sl. No	Particulars	Approved	Claim for FY 2023-24
	Auxiliary Consumption, Loss %	4.50%	6.74%
I	Fixed Charges		
	Operation & Maintenance Expenditure	20.00	15.38
	Increase in AERC Tariff Filing Fees	0.1	0.10
	Interest & Finance Charges	0.02	0.05
	Interest on working Capital	1.64	3.42
	Depreciation	0.49	2.19
	Return on Equity	3.05	2.10
	Income taxes	0	0
	Special R&M	0.00	2.58
	Capacity Building	0.00	0.00
	<u>Less: Other Income</u>	-7.13	-7.13
II	Total Fixed Charges	18.17	18.68
III	Fuel Cost	45.97	82.55
IV	Total Revenue Requirement	64.14	101.24
VII	Total Cost	64.14	101.24
VIII	Revenue from Sale of Power	64.14	85.15
IX	Revenue Gap (+) / Surplus (-)	0.00	16.09

Table 120: Net Annual Revenue Requirements of LTPS for FY 2023-24

Rs. Cr

Sl. No	Particulars	Approved	Claim for FY 2023-24
I	POWER GENERATION (MU)		
	Gross Generation	425.74	453.33
	Net Generation	402.32	423.57
	Auxiliary Consumption, Loss %	5.50%	6.57%
I	Fixed Charges		
	Operation & Maintenance Expenditure	45.50	49.48
	Increase in AERC Tariff Filing Fees	0.1	0.10
	Interest & Finance Charges	0.00	0.45
	Interest on working Capital	5.24	13.17
	Depreciation	13.42	14.72
	Return on Equity	15.75	15.96
	Income taxes	0	0
	Special R&M	26.05	40.07
	Capacity Building	0.00	0.00
	<u>Less: Other Income</u>	-9.22	-9.22
II	Total Fixed Charges	96.86	124.74

Sl. No	Particulars	Approved	Claim for FY 2023-24
III	Fuel Cost	110.51	298.18
IV	Total Revenue Requirement	207.4	422.92
VII	Total Cost	207.36	422.92
VIII	Revenue from Sale of Power	207.36	291.66
IX	Revenue Gap (+) / Surplus(-)	0.00	131.26

Table 121: Net Annual Revenue Requirements of KLHEP for FY 2023-24

Rs. Cr

Sl. No	Particulars	Approved	Claim for FY 2023-24
I	POWER GENERATION (MU)		
	Gross Generation	390.00	311.90
	Net Generation	388.05	310.34
	Auxiliary Consumption, Loss %	0.50%	0.50%
I	Fixed Charges		
	Operation & Maintenance Expenditure	35.54	36.44
	Increase in AERC Tariff Filing Fees	0	0.00
	Interest & Finance Charges	12.87	10.57
	Interest on working Capital	2.41	3.74
	Depreciation	23.79	22.48
	Return on Equity	23.94	24.27
	Income taxes	0	0
	Special R&M	0.00	19.21
	Capacity Building	0.00	0.00
	Less: Other Income	-5.75	-5.75
II	Total Fixed Charges	92.81	110.96
III	Fuel Cost		
IV	Total Revenue Requirement	92.81	110.96
VII	Total Cost	92.81	110.96
VIII	Revenue from Sale of Power	92.81	72.51
IX	Revenue Gap (+) / Surplus (-)	0.00	38.45

Table 122: Net Annual Revenue Requirements of LRPP for FY 2023-24

Rs. Cr

Sl. No	Particulars	Approved	Claim for FY 2023-24
I	POWER GENERATION (MU)		
	Gross Generation	519.40	509.94
	Net Generation	501.22	492.09
	Auxiliary Consumption, Loss %	3.50%	3.50%



Sl. No	Particulars	Approved	Claim for FY 2023-24
I	Fixed Charges		
	Operation & Maintenance Expenditure	32.19	32.19
	Increase in AERC Tariff Filing Fees	0.1	0.10
	Interest & Finance Charges	2.71	1.43
	Interest on working Capital	5.63	11.37
	Depreciation	2.67	13.79
	Return on Equity	12.50	12.71
	Income taxes	0	0
	Special R&M	9.37	33.19
	Capacity Building	0.00	0.00
	<u>Less:</u> Other Income	0.00	0.00
II	Total Fixed Charges	65.18	104.78
III	Fuel Cost	120.25	275.44
IV	Total Revenue Requirement	185.43	380.22
VII	Total Cost	185.43	380.22
VIII	Revenue from Sale of Power	185.43	262.57
IX	Revenue Gap (+) / Surplus (-)	0.00	117.65

Table 123: Net Annual Revenue Requirements of NRPP for FY 2023-24

Rs. Cr

Sl. No	Particulars	Approved	Claim for FY 2023-24
I	POWER GENERATION (MU)		
	Gross Generation	732.69	536.00
	Net Generation	696.05	509.20
	Auxiliary Consumption, Loss %	5.0%	5.0%
I	Fixed Charges		
	Operation & Maintenance Expenditure	24.34	44.28
	Increase in AERC Tariff Filing Fees	0	0.00
	Interest & Finance Charges	50.67	44.34
	Interest on working Capital	6.16	10.12
	Depreciation	37.50	42.08
	Return on Equity	33.90	33.90
	Income taxes	0	0
	Special R&M	0.00	5.74
	Capacity Building	0.00	0.00
	<u>Less:</u> Other Income	0.00	0.00
II	Total Fixed Charges	152.55	180.46
III	Fuel Cost	93.83	163.17
IV	Total Revenue Requirement	246.37	343.64

Sl. No	Particulars	Approved	Claim for FY 2023-24
VII	Total Cost	246.37	343.64
VIII	Revenue from Sale of Power	246.37	285.16
IX	Revenue Gap (+) / Surplus (-)	0.00	58.48

17.2. Summary

17.2.1. The summary of the APR for FY 2023-24 For APGCL is as shown below.

Table 124: APR of APGCL as whole for FY 2023-24

			Rs. Cr
Sl. No	Particulars	Approved	Claim for FY 2023-24
I	POWER GENERATION (MU)		
	Gross Generation	2247.41	1949.39
	Net Generation	2159.14	1864.11
	Auxiliary Consumption, Loss %	3.9%	4.4%
I	Fixed Charges		
	Operation & Maintenance Expenditure	157.57	177.77
	Increase in AERC Tariff Filing Fees	0.30	0.30
	Interest & Finance Charges	66.27	56.84
	Interest on working Capital	21.08	41.83
	Depreciation	77.88	95.26
	Return on Equity	89.14	88.94
	Income taxes	0.00	0.00
	Special R&M	35.42	100.79
	Capacity Building	0.00	0.00
	Less: Other Income	-22.09	-22.09
II	Total Fixed Charges	425.58	539.64
III	Fuel Cost	370.55	819.35
IV	Total Revenue Requirement	796.13	1358.99
VII	Total Cost	796.13	1358.99
VIII	Revenue from Sale of Power	796.13	997.06
IX	Revenue Gap (+) / Surplus (-)	0.00	361.94

Table 125: Net Annual Revenue Requirements of APGCL for FY 2023-24

			Rs. Cr
Particulars	Approved as per order of March 2023	Amount estimated for Annual Performance Review	
Total Fixed Charges	425.58	539.64	
Fuel Cost	370.55	819.35	
Total Revenue Requirement	796.13	1358.99	



17.2.2. We submit that since the figures for the FY 2023-24 are estimated and are subject to True-up, APGCL has not considered gap in the tariff for FY 2023-24. The same shall be considered at the time of True-up petition of FY 2023-24.

17.2.3. The Petitioner prays to the Hon'ble Commission to approve the plant wise Net Annual Revenue Requirement and for APGCL as a whole for FY 2023-24 as discussed in the tables above.



APPEAL FOR AGGREGATE REVENUE REQUIREMENT FOR FY
2024-25 for NTPS
&
DETERMINATION OF TARIFF FOR FY 2024-25
TO
ASSAM ELECTRICITY REGULATORY COMMISSION



Prepared by
ASSAM POWER GENERATION CORPORATION LTD
Bijulee Bhawan, Paltanbazar
Guwahati – 781 001

AFFIDAVIT – NTPS

BEFORE THE ASSAM STATE ELECTRICITY REGULATORY
COMMISSION, GUWAHATI.

Petition No. –

Case No.
(to be filed by the Office)

IN THE MATTER OF

Filing of Petition for Revised Aggregate Revenue Requirement for the FY 2024-25.

AND

Petition for Determination of Tariff for the FY 2024-25

AND

IN THE MATTER OF

Namrup Thermal Power Station,
Assam Power Generation Corporation Limited,
Namrup-786622

Petitioner

I, Sri Janardan Das, Son of Late Bishnu Ram Das, age 45 years, residing at Beltola Tiniali, Guwahati - 781028, do solemnly affirm and say as follows:

I am the General Manager (HQ) i/c of Assam Power Generation Corporation Limited, the petitioner in the above matter and am duly authorized by the said Petitioner to make this affidavit for and on behalf of the Assam Power Generation Corporation Limited.

The Statement made in the Petition based on information received from official records and I believe them to reflect truly and no material has been concealed from the statements so made or documents or supporting data etc. attached.

Solemnly affirm at Guwahati on 23rd November' 2023 that the contents of this affidavit are true to my knowledge, no part of it is false or no material has been concealed therefore and misleading material included therein.

Deponent



(Janardan Das)
General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.

Place: Guwahati

Date: 23/11/2023



PRAYER – NTPS

BEFORE THE HON'BLE ASSAM ELECTRICITY REGULATORY COMMISSION

FILINGNO

CASENO.....

IN THE MATTER OF:

Petition for Submission of Revised Aggregate Revenue Requirement for the FY 2024-25 and Determination of Tariff for the FY 2024-25

AND IN THE MATTER OF:

Namrup Thermal Power Station (hereinafter referred to as "NTPS") of Assam Power Generation Corporation Limited (hereinafter referred to as "APGCL") incorporated under the provisions of the Companies Act, 1956 and having its registered office in the State of Assam

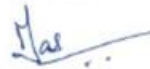
THE HUMBLE APPLICANT ABOVE NAMED MOST RESPECTFULLY SHEWETH:

- I. That the APGCL is a successor corporate entity of former ASEB, formed in pursuant to the notification of the Government of Assam, notified under sub-sections (1), (2), (5), (6) and (7) of Section 131 and Section 133 of the Electricity Act 2003(Central Act 36 of 2003), for the purpose of transfer and vesting of functions, properties, interests, rights, obligations and liabilities, along with the transfer of Personnel of the Board to the successor corporate entities.
- II. That the APGCL is a company incorporated with the main object of generation of electricity in the state of Assam.
- III. That the NTPS, with its first of the six units commissioned in April'1965 and the last of the six units commissioned in March'1985, is an operating gas based thermal Power Station under the APGCL in the district of Dibrugarh, Assam.
- IV. That the Hon'ble Commission notified the AERC (Terms and Conditions for determination of Multi Year Tariff) Regulations, 2021 on 18th September, 2021.
- V. That as per the Hon'ble Commission's this new MYT Regulations of 2021 the licensee is filing for approval of the for Revised Aggregate Revenue Requirement of NTPS for the FY 2024-25 and Determination of Tariff for the FY 2024-25.

Place: Guwahati

Date: 23/11/2023

Deponent



(Janardan Das)
General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.



18. Revised ARR of NTPS for FY 2024-25

18.1. Regulatory provisions for Revised ARR

18.1.1. The Hon'ble Commission in its Tariff regulations, 2021 has stated the following on Revised ARR for the control period from FY 2022-23 to FY 2024-25. The same is reproduced below for ready reference:

"4 Multi-Year Tariff Framework

4.1 The Commission shall determine the tariff for matters covered under Regulation 3.3 above under a Multi-Year Tariff framework with effect from 1st April 2022.

4.2 The Multi-Year Tariff framework shall be based on the following elements, for calculation of

Aggregate Revenue Requirement and expected revenue from tariff and charges for Generating Companies, Transmission Licensee, SLDC, Distribution Wheeling Business and Retail Supply Business:

- (i) Before commencement of Control Period, a forecast of the Aggregate Revenue Requirement and expected revenue from existing tariff and charges shall be submitted by the applicant and approved by the Commission.*
- (ii) A detailed Capital Investment Plan for each year of the Control Period, shall be submitted by the applicant for the Commission's approval.*
- (iii) The applicant shall submit operating norms and trajectories of performance parameters for each year of the Control Period, for the Commission's approval.*
- (iv) The applicant shall submit the forecast of Aggregate Revenue Requirement and expected revenue from existing tariff for each year of the Control Period, and the Commission shall approve the tariff for Generating Companies, SLDC, Transmission Licensee, Distribution Wheeling Business and Retail Supply Business, for each year of the Control Period.*
- (v) In its tariff petition, a generating company shall submit information to support the determination of tariff for each generating station"*

5 Control Period and Baseline

5.1 The first Control Period under these Regulations shall be of three financial years from April 1st, 2022 to March 31st, 2025 and for every block of three years thereafter or such other period as may be decided by the Commission.

Provided that in case any generating station gets commissioned after notification of these Regulations but before commencement of the first Control Period, the Commission may determine the tariff based on the norms as specified for such generating station under these Regulations, under special case through separate Order.

5.2 The Commission shall determine baseline values for various financial and operational parameters of ARR for the Control Period taking into consideration the figures approved by the Commission in the past, actual average figures of last three years, audited accounts, estimate of the figures for the relevant year, Industry benchmarks/norms and other factors considered appropriate by the Commission. Provided that in case of substantial difference between the estimates earlier provided considered for determination of baseline values and the actual audited accounts, the Commission may re-determine the baseline values for the base year suo-moto or on an application filed by the Applicant.

19. Norms of operations

19.1. Regulatory provisions

19.1.1. The Hon'ble Commission had set norms of operations under Tariff Regulations 2021.

19.1.2. The projected performance vis-a-vis norms of operations set is discussed below:

19.2. Installed and Effective Capacity in FY 2024-25

19.2.1. APGCL submits the following Installed and Effective Capacity for FY 2024-25.

Table 126: Installed & Effective Capacity of NTPS for FY 2024-25

Station	Installed Capacity (MW)	Revised Installed Capacity (MW)	Units Available for Tariff in MW	Effective Capacity (In MW)
NTPS	119.5	41	GT U # 2 (17MW), and WHRU U # 6 (9 MW)	26

19.2.2. APGCL submits that GT U#3 (15 MW) of NTPS is proposed to be operated for the purpose of merchant sale of power in FY 2024-25.

19.3. Snapshot of performance projection for FY 2024-25

19.3.1. The Commission in its order dated 21st March 2022 had approved the NAPAF of NTPS at 50% for FY 2024-25.

19.3.2. The following table shows the projection of performance parameters of gas based Namrup thermal power station for FY 2024-25.

Table 127: Projected Operating Performance of NTPS for FY 2024-25

NTPS	FY 2024-25	FY 2024-25
	Approved	Revised Projection
Gross Energy in MU	195.09	113.88
Aux. Power Cons. (%)	4.50%	4.5%
Net Energy in MU	186.31	108.76
Plant Availability Factor (%)	50.00%	50%
Plant Load Factor (%)	50.00%	50%
Gross Station Heat Rate on GCV (kcal / kWh)	4300 (OC) 3900 (CC)	3900

19.4. Normative Annual Plant Availability Factor (NAPAF)

19.4.1. As per Regulation 48.1 of the Tariff Regulations, 2021 the Normative Plant Availability factor for recovery of full fixed charges, is 50% for FY 2024-25 for NTPS. The approved and projected numbers are shown in the table below.

Table 128: Projected Availability of NTPS for FY 2024-25

NTPS	FY 2024-25	FY 2024-25
	Approved	Revised Projection
Plant Availability Factor (%)	50%	50%

19.5. Normative Annual Plant Load Factor (NAPLF)

19.5.1. As per Regulation 48.2 of the Tariff Regulations, 2021 the Normative Plant Load factor is 50% for FY 2024-25 for NTPS. The approved and projected numbers are shown in the table below.

Table 129: Projected PLF of NTPS for FY 2024-25

NTPS	FY 2024-25	FY 2024-25
	Approved	Revised Projection
Plant Load Factor (%)	50%	50%

19.6. Gross Station Heat Rate (SHR)

19.6.1. As per Regulation 48.4, of the Tariff Regulations, 2021 the Normative Station Heat Rate, is 3900 kCal/kWh for FY 2024-25 for NTPS in combined cycle mode of operation.

19.6.2. The approved and projected numbers are shown in the table below.

Table 130: Projected SHR of NTPS for FY 2024-25

NTPS	FY 2024-25	FY 2024-25
	Approved	Revised Projection
Gross Station Heat Rate on GCV (kcal/ kWh)	4300 (OC) 3900 (CC)	3900

19.7. Auxiliary Energy Consumption

19.7.1. As per Regulation 48.3 of the Tariff Regulations, 2021 the Normative Auxiliary energy consumption is 4.50% for FY 2024-25 for NTPS. The same has been considered for projection. The approved and projected numbers are shown in the table below.

Table 131: Projected Auxiliary energy consumption of NTPS for FY 2024-25

NTPS	FY 2024-25	FY 2024-25
	Approved	Revised Projection
Auxiliary Power Consumption (%)	4.50%	4.50%

19.7.2. APGCL prays to the Hon'ble Commission to kindly approve the projection of performance parameters as shown above.

20. Fixed Cost of the Plant

20.1. Annual fixed cost for FY 2024-25

20.1.1. As per regulation 43.1 of the AERC Tariff regulations, 2021 the following components have been considered for projecting of fixed cost under the Multi Year Tariff framework for the power plants:

- (a) Return on Equity Capital
- (b) Interest on Loan capital
- (c) Depreciation
- (d) Operation and Maintenance Expenses
- (e) Interest on Working Capital
- (f) Less: Non-Tariff Income

33.1.2 For the computation of the fixed components, the Petitioner has considered the principles provided in the Tariff Regulations, 2021. These components have been discussed in detail in the following sections of the petition.

20.2. Return on Equity (ROE)

20.2.1. The Hon'ble Commission in its regulation has considered the pre-tax return on equity at 15.5% on equity capital. The Regulation 34 of the Tariff Regulations, 2021 is reproduced below for reference.

"34 Return on Equity Capital

34.1 Return on equity capital shall be computed on the equity capital determined in accordance with Regulation 32

.....

20.2.2. APGCL has projected the Return on Equity (RoE) at a rate of 15.5% in accordance with the Tariff Regulations, 2021. The Petitioner submits that there is no plan of addition in Equity in FY 2024-25 for the existing plants. The petitioner has claimed RoE at effective capacity. Further, it is submitted that the actual tax paid would be claimed separately during True up of respective years.

Table 132: Projected Return on Equity capital of NTPS for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25	
		Approved	Revised Projection
NTPS	Opening Equity	55.00	58.29
	Addition during Year	0.00	0.00



	Closing Equity	55.00	58.29
	Rate of Return	15.50%	15.50%
	Return on Equity	8.53	9.04
	Return on Equity at Effective Capacity	3.11	1.97

20.2.3. APGCL prays to the Hon'ble Commission to kindly approve the projected Return on Equity as shown above.

20.3. Interest on Loan Capital

20.3.1. As per Regulation 35 of the Tariff Regulations, 2021, the Commission will consider interest on Loan capital on normative basis with repayment equal to depreciation allowed for that year and rate of interest will be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year.

20.3.2. In view of the above, the Petitioner has projected the Interest on long term Loan on normative basis for FY 2024-25. The Petitioner has considered normative loan portfolio and the repayment shown is considered equal to the depreciation for FY 2024-25. The interest rate has been considered as the weighted average rate of interest for FY 2024-25.

20.3.3. The finance charges are shown separately for FY 2024-25. The table below summarizes the interest on loan and finance charges considered for FY 2024-25 at effective capacity.

Table 133: Projected Interest and Finance charges of NTPS for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25 Approved	FY 2024-25 Revised Projection
NTPS	Net Normative Opening Loan	0.00	3.41
	Addition of normative loan during the year	0.44	0.82
	Normative Repayment during the year	1.30	2.21
	Net Normative Closing Loan	0.00	2.02
	Avg. Normative Loan	0.00	2.71
	Interest Rate	10.79%	10.31%
	Interest on Loan Capital	0.00	0.280
	Add: Bank Charges	0.00	0.00
	Net Interest on Loan Capital	0.00	0.28
	Net Interest on Loan Capital at effective capacity	0.00	0.06

20.3.4. APGCL prays to the Hon'ble Commission to kindly approve the projected total interest and finance charges as shown above.

20.4. Depreciation

20.4.1. The Hon'ble Commission in its Tariff Regulations, 2021 has considered following principals for determination of depreciation.

"33 Depreciation

33.1 The value base for the purpose of depreciation shall be the Capital Cost of the asset admitted by the Commission.

Provided that depreciation shall not be allowed on assets funded through Consumer contribution and Capital Subsidies/Grants.

33.2 The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

....."

20.4.2. In view of the above, the Petitioner has computed the Depreciation considering the Capital Cost of the asset admitted by the Commission and projected asset addition with 10% salvage value. The table below summarizes the Depreciation projected for FY 2024-25.

Table 134: Projected Depreciation of NTPS for FY 2024-25

Rs. Cr

Particulars	FY 2024-25
	Revised Projection
Opening GFA	198.54
Addition during the year	0.82
Closing GFA	199.36
Average GFA	198.95
Rate of Depreciation	1.11%
Total Depreciation	2.21
Grant	0.00
Additions during the year	0.00
Closing grant	0.00
Average grant	0.00
Rate of Depreciation	1.11%
Depreciation on grants	0.00
Net Depreciation	2.21

Table 135: Summary of projected Depreciation of NTPS for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25	FY 2024-25
		Approved	Revised Projection
NTPS	Depreciation	1.4	2.21

Station	Particulars	FY 2024-25	FY 2024-25
		Approved	Revised Projection
	Less: Depreciation on assets funded by Grants	0.1	0.00
	Net Depreciation	1.30	2.21
	Net Depreciation at effective capacity	0.47	

20.4.3. GoA vide Financial Sanction No: FS/42_2021-22(I)_06 dated 31.12.2021 and Financial Sanction No: FS/pe_2023-24(I)_33 dated 12.10.2023 (attached at **Annexure-11**) had already approved conversion of all cumulative grant given to APGCL into equity as on 31.03.2021 and 31.03.2023 respectively. The impact of such conversion has already been reflected in the Equity base admitted by the Commission. With regards to this, the Hon'ble Commission is thus requested that benefit of grants being converted to equity on similar lines also be given to Depreciation calculation and accordingly, any deductions to depreciation on account of assets funded by Grants may be considered to be revised to Nil with respect to approved figures in the Tariff Order.

20.4.4. APGCL pray to the Hon'ble Commission to kindly approve the projected Depreciation for FY 2023-24 as shown above.

20.5. Interest on Working Capital

20.5.1. As per Regulation 37 of the Tariff Regulations, 2021, the interest on working capital will be considered on normative basis.

20.5.2. As per the above regulations, the Petitioner has projected normative interest on working capital. However, as APGCL does not have liquid fuel stock facility, it has not considered working capital on storage of liquid fuel. The rate of interest has been considered equal to the normative interest rate of three hundred (300) basis points above the average State Bank of India MCLR (One Year Tenor) prevalent during the last available six months, which $8.53\% + 3.00\% = 11.53\%$.

20.5.3. The interest on working capital considered is shown in the table below:

Table 136: Summary of Interest on working capital of NTPS for FY 2024-25

Station	Particulars	FY 2024-25	FY 2024-25
		Approved	Revised Projection
NTPS	Fuel Cost for one month	3.78	5.54
	O&M Expenses for one month	3.90	1.28
	Maintenance Spares-30% of O&M	14.04	4.60
	Receivables for two months	16.59	13.91
	Total Working Capital Requirement	38.31	25.33
	Rate of interest	10.00%	11.53%
	interest on Working capital	3.83	2.92
	interest on Working capital at effective capacity	1.39	

Rs. Cr



20.5.4. APGCL prays to the Hon'ble Commission to kindly approve the interest on Working capital for FY 2024-25 as shown above.

20.6. Operation and Maintenance Expenses

20.6.1. The operation and maintenance expense are to be projected as per Regulation 51.1 of the Tariff Regulations, 2021.

20.6.2. As per Para 7.8.2 of Tariff Order dated 29th March 2023, wherein for revised ARR, the Hon'ble Commission had escalated admitted O&M figure in APR for FY 2022-23 for arriving at normative O&M figure for revised ARR for FY 2023-24 by 6.31%; in line with MYT Regulations, 2021. APGCL also has claimed revised ARR figure of FY 2024-25 by escalating claimed O&M figure in APR petition of FY 2023-24 by 6.31% and accordingly calculating same at effective capacity.

Table 137: Revised O&M cost of NTPS for FY 2024-25

Rs. Cr					
Station	Approved in MYT order of March 2022	Approved O&M Cost at effective capacity	O&M considered for APR of FY 2023-24 at Full Capacity	O&M calculated for Revised ARR of FY 2024-25 at Full Capacity	Claimed at effective capacity
A	B	C	D	E = D *(1+6.31%)	F
NTPS	46.79	17.03	66.27	70.45	15.33

20.6.3. APGCL prays to the Hon'ble Commission to kindly approve the O&M expenses for FY 2024-25 as shown above on effective capacity.

20.7. Impact of AERC (Payment of Fees etc.) Regulation, 2020

20.7.1. The Hon'ble Commission has notified the new AERC (Payment of Fees etc.) Regulations, 2020 which has led to a substantial increase in the Filing Fees of APGCL payable to AERC.

20.7.2. The tentative impact of the increase in the filing fees has been shown below:

Table 138: Impact of increase in AERC Fees projected for FY 2024-25

Rs. Cr		
Station	FY 2024-25	
	Approved	Revised Projection
NTPS	0.10	0.10

20.8. Non-Tariff income

20.8.1. As per Regulation 46 of the Tariff Regulations, 2021, the non-tariff income shall be deducted from the Annual Fixed Cost in determining the Annual Fixed Cost of the Generation Company.

20.8.2. The non-tariff income for FY 2024-25 has been projected same as approved by Hon'ble Commission in its order dated 21st March 2022. The same is as shown in the table below:

Table 139: Station-wise non-tariff income projected for FY 2024-25

Rs. Cr

Station	FY 2024-25 Approved	FY 2024-25 Revised Projection
NTPS	7.13	7.13

20.8.3. APGCL prays to the Hon'ble Commission to kindly approve the non-tariff income for FY 2024-25 as shown above.

21. Energy Charges

21.1. Fuel Price and Calorific Value

21.1.1. As per Regulation 10 of the Tariff Regulations 2021, 'Fuel Price' and 'Calorific Value of Fuel' are uncontrollable items. The projected values of 'Fuel Price' and 'Calorific Value of Fuel' are shown in the table below:

Table 140: Projected GCV and Price for FY 2024-25

Station	Wt. Avg. Gross Calorific Value of Gas (kcal/SCM)	Wt. Avg. Price of Gas (Rs./1000 SCM)
NTPS	9251.70	13838.27

21.1.2. The Petitioner prays to the Hon'ble Commission to kindly approve the projected Price of Gas and GCV for NTPS for FY 2024-25 as shown in the table above.

21.2. Fuel cost

21.2.1. The Hon'ble Commission, in the Tariff Order dated 21st March 2022 had approved the Fuel Cost for FY 2024-25. The table below shows the revised projected fuel cost for FY 2024-25.

Table 141: Fuel cost of NTPS for FY 2024-25

Particulars	Derivation	Unit	FY 2024-25	FY 2024-25
			Approved	Revised Projection
Gross Generation	A	MU	195.09	113.88
Heat Rate	B	kcal/kWh	3900	3900.00
GCV of gas	C	kcal/SCM	9204.8	9251.70
Overall Heat	D=AxB	G. cal.	760856.22	444132.00
Gas consumption	E=D/C	M. SCM	82.66	48.01
Price of Gas	F	Rs./1000 SCM	5617.39	13838.27
Total cost of Gas	G=ExF/10000	Rs. Crore	46.43	66.43

21.2.2. The Petitioner prays to the Hon'ble Commission to kindly approve the projected Fuel cost Price of NTPS for FY 2024-25 as shown in the table above.

21.3. Incentives

21.3.1. APGCL submits that the Incentives for FY 2024-25 will be claimed in True-up as per Regulations.

22. Other expenses

22.1. Capacity building

22.1.1. The Hon'ble Commission had not approved any amount for the Capacity Building expenditure for FY2024-25 of NTPS in its order dated 21st March 2022.

22.1.2. The below table shows the approved and projected expenditure for Capacity Building.

Table 142: Expenses under capacity building

Rs. Cr

Plant Name	FY 2023-24	FY 2023-24
	Approved	Revised Projection
NTPS	0.0	0.0

22.2. Special R&M

22.2.1. APGCL's plans to undertake Special R&M for the following units, cost of which will be claimed as shown below.

Table 143: Expenses under Special R&M

Rs. Lakhs

Plant Name	FY 2024-25	FY 2024-25
	Approved	Revised Projection
NTPS	80	160

Sl. No.	Work Name	Approved (Rs. Lakhs)	Claim for FY 2024-25 (Rs. Lakhs)	Remarks
1	Overhauling of Steam Turbine Unit 6 (Execution Part) excluding procurement of spares.		80	Rs 0.8 Cr approved in FY 2023-24 Execution delayed due to delay in procurement of spares. Tender is under process.
2	Overhauling of Gas turbine Unit 2 (Execution Part) excluding procurement of spares.	80	80	Same

23. Summary of submissions for Revised ARR of FY 2024-25

23.1. Summary

23.1.1. The Summary of the Revised ARR of NTPS for FY 2024-25 is shown below.

Table 144: Revised ARR of NTPS for FY 2024-25

Rs. Cr

Sl. No	Particulars	FY 2024-25	
		Approved	Revised Projection
I	POWER GENERATION (MU)		
	Gross Generation	195.09	113.88
	Net Generation	186.31	108.76
	Auxiliary Consumption Loss %	4.50%	4.50%
I	Fixed Charges		
	Operation & Maintenance Expenditure	17.03	15.33
	Increase in AERC Tariff Filing Fees	0.1	0.10
	Interest & Finance Charges	0.00	0.06
	Interest on working Capital	1.39	2.92
	Depreciation	0.47	2.21
	Return on Equity	3.11	1.97
	Income taxes	0	0
	Special R&M	0.8	1.6
	Capacity Building	0	0
	<u>Less: Other Income</u>	-7.13	-7.13
II	Total Fixed Charges	15.78	17.06
III	Fuel Cost	46.43	66.43
IV	Total Revenue Requirement	62.21	83.49

23.2. Net Annual Revenue Requirement

23.2.1. The Net Annual Revenue Requirements for FY 2024-25 are as shown in the tables below.

Table 145: Net Annual Revenue Requirements of NTPS for FY 2024-25

Rs. Cr

Particulars	FY 2024-25	
	Approved	Revised Projection
Total Fixed Charges (Rs. Crore)	15.78	17.06
Fuel Cost (Rs. Crore)	46.43	66.43
Total Revenue Requirement (Rs. Crore)	62.21	83.49
Total Per unit cost (Rs/ KWh)	3.34	7.68



23.3. Tariff of NTPS for FY 2024-25

23.3.1. The tariff proposed of NTPS for FY 2024-25 is as shown below.

Table 146: Tariff proposed of NTPS for FY 2024-25

Particulars	NTPS
Annual fixed charges (Rs crore)	17.06
Monthly fixed charges (Rs crore)	1.42
Energy charge rate (Rs. / kWh)	6.11

23.3.2. The Petitioner prays to the Hon'ble Commission to approve the Net Annual Revenue Requirement for FY 2024-25 as discussed in the tables above.

APPEAL FOR AGGREGATE REVENUE REQUIREMENT FOR FY
2024-25 for LTPS
&
DETERMINATION OF TARIFF FOR FY 2024-25
TO
ASSAM ELECTRICITY REGULATORY COMMISSION



Prepared by
ASSAM POWER GENERATION CORPORATION LTD
Bijulee Bhawan, Paltanbazar
Guwahati – 781 001

AFFIDAVIT – LTPS

BEFORE THE ASSAM STATE ELECTRICITY REGULATORY
COMMISSION, GUWAHATI.

Petition No. –

Case No.
(to be filed by the Office)

IN THE MATTER OF

Filing of Petition for Revised Aggregate Revenue Requirement for the FY 2024-25

AND

Petition for Determination of Tariff for the FY 2024-25

AND

IN THE MATTER OF

Lakwa Thermal Power Station,
Assam Power Generation Corporation Limited,
Maibella, Charaideo,
Saffry-785689

Petitioner

I, Sri Janardan Das, Son of Late Bishnu Ram Das, age 45 years, residing at Beltola Tiniali, Guwahati - 781028, do solemnly affirm and say as follows:

I am the General Manager (HQ) i/c of Assam Power Generation Corporation Limited, the petitioner in the above matter and am duly authorized by the said Petitioner to make this affidavit for and on behalf of the Assam Power Generation Corporation Limited.


The Statement made in the Petition based on information received from official records and I believe them to reflect truly and no material has been concealed from the statements so made or documents or supporting data etc. attached.

Solemnly affirm at Guwahati on 23rd November' 2022 that the contents of this affidavit are true to my knowledge, no part of it is false or no material has been concealed therefore and misleading material included therein.

Deponent

Place: Guwahati

Date: 23/11/2023


(Janardan Das)
General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.

PRAYER – LTPS

BEFORE THE HON'BLE ASSAM ELECTRICITY REGULATORY COMMISSION

FILINGNO

CASENO

IN THE MATTER OF:

Petition for Submission of Revised Aggregate Revenue Requirement for the FY 2024-25 and Determination of Tariff for the FY 2024-25

AND IN THE MATTER OF:

Lakwa Thermal Power Station (hereinafter referred to as "LTPS") of Assam Power Generation Corporation Limited (hereinafter referred to as "APGCL") incorporated under the provisions of the Companies Act, 1956 and having its registered office in the State of Assam

THE HUMBLE APPLICANT ABOVE NAMED MOST RESPECTFULLY SHEWETH:

- I. That the APGCL is a successor corporate entity of former ASEB, formed in pursuant to the notification of the Government of Assam, notified under sub-sections (1), (2), (5), (6) and (7) of Section 131 and Section 133 of the Electricity Act 2003(Central Act 36 of 2003), for the purpose of transfer and vesting of functions, properties, interests, rights, obligations and liabilities, along with the transfer of Personnel of the Board to the successor corporate entities.
- II. That the APGCL is a company incorporated with the main object of generation of electricity in the state of Assam.
- III. That the LTPS, with its first of the eight units commissioned on 26/04/1981 and the last of the eight units commissioned on 17/01/2012, is an operating gas based thermal Power Station under the APGCL in the district of Charaideo (earlier Sivsagar), Assam.
- IV. That the Hon'ble Commission notified the AERC (Terms and Conditions for determination of Multi Year Tariff) Regulations, 2021 on 18th September, 2021.
- V. That as per the Hon'ble Commission's this new MYT Regulations of 2021 the licensee is filing for approval of the for Revised Aggregate Revenue Requirement of LTPS for the FY 2024-25 and Determination of Tariff for the FY 2024-25.

Place: Guwahati

Date: 23/11/2023

Deponent



(Janardan Das)
General Manager (HQ),
Assam Power Generation Corporation Ltd.

24. Revised ARR of LTPS for FY 2024-25

24.1. Regulatory provisions for Revised ARR

24.1.1. The Hon'ble Commission in its Tariff regulations, 2021 has stated the following on Revised ARR for the control period from FY 2022-23 to FY 2024-25. The same is reproduced below for ready reference:

"4 Multi-Year Tariff Framework

4.1 The Commission shall determine the tariff for matters covered under Regulation 3.3 above under a Multi-Year Tariff framework with effect from 1st April 2022.

4.2 The Multi-Year Tariff framework shall be based on the following elements, for calculation of Aggregate Revenue Requirement and expected revenue from tariff and charges for Generating Companies, Transmission Licensee, SLDC, Distribution Wheeling Business and Retail Supply Business:

- (vi) Before commencement of Control Period, a forecast of the Aggregate Revenue Requirement and expected revenue from existing tariff and charges shall be submitted by the applicant and approved by the Commission.*
- (vii) A detailed Capital Investment Plan for each year of the Control Period, shall be submitted by the applicant for the Commission's approval.*
- (viii) The applicant shall submit operating norms and trajectories of performance parameters for each year of the Control Period, for the Commission's approval.*
- (ix) The applicant shall submit the forecast of Aggregate Revenue Requirement and expected revenue from existing tariff for each year of the Control Period, and the Commission shall approve the tariff for Generating Companies, SLDC, Transmission Licensee, Distribution Wheeling Business and Retail Supply Business, for each year of the Control Period.*
- (x) In its tariff petition, a generating company shall submit information to support the determination of tariff for each generating station"*

5 Control Period and Baseline

5.1 The first Control Period under these Regulations shall be of three financial years from April 1st, 2022 to March 31st, 2025 and for every block of three years thereafter or such other period as may be decided by the Commission.

Provided that in case any generating station gets commissioned after notification of these Regulations but before commencement of the first Control Period, the Commission may determine the tariff based on the norms as specified for such generating station under these Regulations, under special case through separate Order.

5.2 The Commission shall determine baseline values for various financial and operational parameters of ARR for the Control Period taking into consideration the figures approved by the Commission in the past, actual average figures of last three years, audited accounts, estimate of the figures for the relevant year, Industry benchmarks/norms and other factors considered appropriate by the Commission. Provided that in case of substantial difference between the estimates earlier provided considered for determination of baseline values and the actual audited accounts, the Commission may re-determine the baseline values for the base year suo-moto or on an application filed by the Applicant.

25. Norms of operations

25.1. Regulatory provisions

25.1.1. The Hon'ble Commission had set norms of operations under Tariff Regulations 2021.

25.1.2. The projected performance vis-a-vis norms of operations set is discussed below:

25.2. Installed and Effective Capacity in FY 2024-25

25.2.1. APGCL submits the following Installed and Effective Capacity for FY 2024-25.

Table 147 : Installed & Effective Capacity of LTPS for FY 2024-25

Station	Installed Capacity (MW)	Revised Installed Capacity	Units Available for Generation & Capacity in MW	Effective Capacity
LTPS	142.2	97.20	5,6,7(20 MW Each),8 (37.20 MW-WHRU)	97.2 MW

25.3. Snapshot of performance projection for FY 2024-25

25.3.1. The following table shows the projection of performance parameters of gas based Lakwa thermal power station for FY 2024-25.

Table 148: Projected Operating Performance of LTPS for FY 2024-25

LTPS	FY 2024-25 Approved	FY 2024-25 Projected
Gross Energy in MU	425.74	425.74
Aux. Power Cons. (%)	5.50%	5.5%
Net Energy in MU	402.32	402.32
Plant Availability Factor (%)	50.00%	50.0%
Plant Load Factor (%)	66.00%	66.0%
Gross Station Heat Rate on GCV (kcal / kWh)	3900 (OC) 3200 (CC)	3200.00

25.4. Normative Annual Plant Availability Factor (NAPAF)

25.4.1. As per Regulation 48.1 of the Tariff Regulations, 2021 the Normative Plant Availability factor for recovery of full fixed charges, is 50% for FY 2024-25 for LTPS. The approved and projected numbers are shown in the table below.

Table 149: Projected Availability of LTPS for FY 2024-25

LTPS	FY 2024-25 Approved	FY 2024-25 Revised Projection
Plant Availability Factor (%)	50%	50%

25.5. Normative Annual Plant Load Factor (NAPLF)

25.5.1. As per Regulation 48.2 of the Tariff Regulations, 2021 the Normative Plant Load factor is 66% for FY 2024-25 for LTPS. The approved and projected numbers are shown in the table below.

Table 150: Projected PLF of LTPS for FY 2024-25

LTPS	FY 2024-25	
	Approved	Revised Projection
Plant Load Factor (%)	66%	66%

25.6. Gross Station Heat Rate (SHR)

25.6.1. As per Regulation 48.4, of the Tariff Regulations, 2021 the Normative Station Heat Rate, is 3200 kCal/kWh for FY 2024-25 for LTPS in combined cycle mode of operation.

25.6.2. The approved and projected numbers are shown in the table below.

Table 151: Projected SHR of LTPS for FY 2024-25

LTPS	FY 2024-25	
	Approved	Revised Projection
Gross Station Heat Rate on GCV (kcal/ kWh)	3200	3200

25.7. Auxiliary Energy Consumption

25.7.1. As per Regulation 48.3 of the Tariff Regulations, 2021 the Normative Auxiliary energy consumption is 5.50% for FY 2024-25 for LTPS. The same has been considered for projection. The approved and projected numbers are shown in the table below.

Table 152: Projected Auxiliary energy consumption of LTPS for FY 2024-25

LTPS	FY 2024-25	
	Approved	Revised Projection
Auxiliary Power Consumption (%)	5.50%	5.50%

25.7.2. APGCL prays to the Hon'ble Commission to kindly approve the projection of performance parameters as shown above.

26. Fixed Cost of the Plant

26.1. Annual fixed cost for FY 2024-25

26.1.1. As per regulation 43.1 of the AERC Tariff regulations, 2021 the following components have been considered for projecting of fixed cost under the Multi Year Tariff framework for the power plants:

- (a) Return on Equity Capital
- (b) Interest on Loan capital
- (c) Depreciation

- (d) Operation and Maintenance Expenses
- (e) Interest on Working Capital
- (f) Less: Non-Tariff Income

26.1.2. For the computation of the fixed components, the Petitioner has considered the principles provided in the Tariff Regulations, 2021. These components have been discussed in detail in the following sections of the petition.

26.2. Return on Equity (ROE)

26.2.1. The Hon'ble Commission in its regulation has considered the pre-tax return on equity at 15.5% on equity capital. The Regulation 34 of the Tariff Regulations, 2021 is reproduced below for reference.

*“34 Return on Equity Capital
34.1 Return on equity capital shall be computed on the equity capital determined in accordance with Regulation 32
.....”*

26.2.2. APGCL has projected the Return on Equity (RoE) at a rate of 15.5% in accordance with the Tariff Regulations, 2021. The Petitioner submits that there is no plan of addition in Equity in FY 2024-25 for the existing plants. The petitioner has claimed RoE at effective capacity. Further, it is submitted that the actual tax paid would be claimed separately during True up of respective years.

Table 153: Projected Return on Equity capital for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25	
		Approved	Revised Projection
LTPS	Opening Equity	143.08	150.64
	Addition during the year	0	0.00
	Closing Equity	143.08	150.64
	Rate of Return	15.50%	15.50%
	Return on Equity	22.18	23.35
	Return on Equity on effective capacity	15.16	15.96

26.2.3. APGCL prays to the Hon'ble Commission to kindly approve the projected Return on Equity as shown above.

26.3. Interest on Loan Capital

26.3.1. As per Regulation 35 of the Tariff Regulations, 2021, the Commission will consider interest on Loan capital on normative basis with repayment equal to depreciation allowed for that year and rate of interest will be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year.

26.3.2. In view of the above, the Petitioner has projected the Interest on long term Loan on normative basis for FY 2024-25. The Petitioner has considered normative loan portfolio and the repayment shown is considered equal to the depreciation for FY 2024-25. The interest rate has been considered as the weighted average rate of interest for FY 2024-25.

26.3.3. The finance charges are shown separately for FY 2024-25. The table below summarizes the interest on loan and finance charges considered for FY 2024-25 at effective capacity.

Table 154: Projected Interest and Finance charges for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25 Approved	FY 2024-25 Revised Projection
LTPS	Net Normative Opening Loan	0	7.53
	Addition of normative loan during the year	5.88	20.19
	Normative Repayment during the year	14.93	15.25
	Net Normative Closing Loan	0.00	12.46
	Avg. Normative Loan	0.00	9.99
	Interest Rate	10.79%	10.31%
	Interest on Loan Capital	0.00	1.03
	Add: Bank Charges	0.00	0.00
	Net Interest on Loan Capital	0.00	1.03
	Net Interest on Loan Capital on effective capacity	0.00	0.70

26.3.4. APGCL prays to the Hon’ble Commission to kindly approve the projected total interest and finance charges as shown above.

26.4. Depreciation

26.4.1. The Hon’ble Commission in its Tariff Regulations, 2021 has considered following principals for determination of depreciation.

“33 Depreciation

33.1 The value base for the purpose of depreciation shall be the Capital Cost of the asset admitted by the Commission.

Provided that depreciation shall not be allowed on assets funded through Consumer contribution and Capital Subsidies/Grants.

33.2 The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

.....”

26.4.2. In view of the above, the Petitioner has computed the Depreciation considering the Capital Cost of the asset admitted by the Commission and projected asset addition with 10% salvage value. The table below summarizes the Depreciation projected for FY 2024-25.

Table 155: Projected Depreciation of LTPS for FY 2024-25

Rs. Cr

Particulars	FY 2024-25
	Revised Projection
Opening GFA	539.59
Addition during the year	20.19
Closing GFA	559.78
Average GFA	549.69
Rate of Depreciation	2.77%
Total Depreciation	15.25
Grant	0.00
Additions during the year	0.00
Closing grant	0.00
Average grant	0.00
Rate of Depreciation	2.77%
Depreciation on grants	0.00
Net Depreciation	15.25

Table 156: Summary of projected Depreciation for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25	FY 2024-25
		Approved	Revised Projection
LTPS	Depreciation	17.09	15.25
	Less: Depreciation on assets funded by Grants	2.15	0.00
	Net Depreciation	14.93	15.25
	Net Depreciation at effective capacity	10.21	

26.4.3. GoA vide Financial Sanction No: FS/42_2021-22(I)_06 dated 31.12.2021 and Financial Sanction No: FS/pe_2023-24(I)_33 dated 12.10.2023 (attached at **Annexure-11**) had already approved conversion of all cumulative grant given to APGCL into equity as on 31.03.2021 and 31.03.2023 respectively. The impact of such conversion has already been reflected in the Equity base admitted by the Commission. With regards to this, the Hon'ble Commission is thus requested that benefit of grants being converted to equity on similar lines also be given to Depreciation calculation and accordingly, any deductions to depreciation on account of assets funded by Grants may be considered to be revised to Nil with respect to approved figures in the Tariff Order.

26.4.4. APGCL pray to the Hon'ble Commission to kindly approve the projected Depreciation for FY 2024-25 as shown above.

26.5. Interest on Working Capital

26.5.1. As per Regulation 37 of the Tariff Regulations, 2021, the interest on working capital will be considered on normative basis.

26.5.2. As per the above regulations, the Petitioner has projected normative interest on working capital. However, as APGCL does not have liquid fuel stock facility, it has not considered working capital on storage of liquid fuel. The rate of interest has been considered equal to the normative interest rate of three hundred (300) basis points above the average State Bank of India MCLR (One Year Tenor) prevalent during the last available six months, which $8.53\% + 3.00\% = 11.53\%$.

26.5.3. The interest on working capital considered is shown in the table below:

Table 157: Summary of Interest on working capital projected for FY 2024-25

Station	Particulars	FY 2024-25	
		Approved	Revised Projection
LTPS	Fuel Cost for one month	9.64	23.02
	O&M Expenses for one month	3.96	4.38
	Maintenance Spares-30% of O&M	14.25	15.78
	Receivables for two months	37.29	65.87
	Total Working Capital Requirement	65.14	109.06
	Rate of interest	10.00%	11.53%
	interest on Working capital	6.51	
	interest on Working capital at effective capacity	4.45	12.57

Rs. Cr

26.5.4. APGCL prays to the Hon'ble Commission to kindly approve the interest on Working capital for FY 2024-25 as shown above.

26.6. Operation and Maintenance Expenses (O&M Expenses)

26.6.1. The operation and maintenance expense are to be projected as per Regulation 51.1 of the Tariff Regulations, 2021.

26.6.2. As per Para 7.8.2 of Tariff Order dated 29th March 2023, wherein for revised ARR, the Hon'ble Commission had escalated admitted O&M figure in APR for FY 2022-23 for arriving at normative O&M figure for revised ARR for FY 2023-24 by 6.31%; in line with MYT Regulations, 2021. APGCL also has claimed revised ARR figure of FY 2024-25 by escalating claimed O&M figure in APR petition of FY 2023-24 by 6.31% and accordingly calculating same at effective capacity.

Table 158: Revised O&M cost for FY 2024-25

Station	Approved in MYT order of March 2022	Approved O&M Cost at effective capacity	O&M considered for APR of FY 2023-24 at Full Capacity	O&M calculated for Revised ARR of FY 2024-25 at Full Capacity	Claimed at effective capacity
A	B	C	D	E = D *(1+6.31%)	F
LTPS	47.50	32.47	72.39	76.95	52.60

Rs. Cr

26.6.3. APGCL prays to the Hon'ble Commission to kindly approve the O&M expenses for FY 2024-25 as shown above on effective capacity.

26.7. Impact of AERC (Payment of Fees etc.) Regulation, 2020

26.7.1. The Hon'ble Commission has notified the new AERC (Payment of Fees etc.) Regulations, 2020 which has led to a substantial increase in the Filing Fees of APGCL payable to AERC.

26.7.2. The tentative impact of the increase in the filing fees has been shown below:

Table 159: Impact of increase in AERC Fees projected for FY 2024-25

Station	FY 2024-25 Approved	FY 2024-25 Revised Projection
LTPS	0.10	0.10

Rs. Cr

26.8. Non-Tariff income

26.8.1. As per Regulation 46 of the Tariff Regulations, 2021, the non-tariff income shall be deducted from the Annual Fixed Cost in determining the Annual Fixed Cost of the Generation Company.

26.8.2. The non-tariff income for FY 2024-25 has been projected same as approved by Hon'ble Commission in its order dated 21st March 2022. The same is as shown in the table below:

Table 160: Station-wise non-tariff income projected for FY 2024-25

Station	FY 2024-25	FY 2024-25
---------	------------	------------

Rs. Cr



	Approved	Revised Projection
LTPS	9.22	9.22

26.8.3.APGCL prays to the Hon'ble Commission to kindly approve the non-tariff income for FY 2024-25 as shown above.

27. Energy Charges

27.1. Fuel Price and Calorific Value

27.1.1. As per Regulation 10 of the Tariff Regulations 2021, 'Fuel Price' and 'Calorific Value of Fuel' are uncontrollable items. The projected values of 'Fuel Price' and 'Calorific Value of Fuel' are shown in the table below.

Table 161: Projected GCV and Price for FY 2024-25

Station	Wt. Avg. Gross Calorific Value of Gas (kcal/SCM)	Wt. Avg. Price of Gas (Rs./1000 SCM)
LTPS	9854.15	19982.90

27.1.2. The Petitioner prays to the Hon'ble Commission to kindly approve the projected Price of Gas and GCV for LTPS for FY 2024-25 as shown in the table above.

27.2. Fuel cost

27.2.1. The Hon'ble Commission, in the Tariff Order dated 21st March 2022 had approved the Fuel Cost for FY 2024-25. The table below shows the revised projected fuel cost for FY 2024-25.

Table 162: Fuel cost of LTPS for FY 2024-25

Particulars	Derivation	Unit	FY 2024-25	FY 2024-25
			Approved	Revised Projection
Gross Generation	A	MU	425.74	425.74
Heat Rate	B	kcal/kWh	3200	3200.00
GCV of gas	C	kcal/SCM	9337.66	9854.15
Overall Heat	D= A x B	G. cal.	1362355.20	1362355.20
Gas consumption	E=D/C	M. SCM	145.9	138.25
Price of Gas	F	Rs./1000 SCM	7932.73	19982.90
Total cost of Gas	G= E x F/10000	Rs. Crore	115.74	276.27

27.2.2. The Petitioner prays to the Hon'ble Commission to kindly approve the projected Fuel cost Price for LTPS for FY 2024-25 as shown in the table above.

27.3. Incentives

27.3.1. APGCL submits that the Incentives for FY 2024-25 will be claimed in True-up as per Regulations.

28. Other expenses

28.1. Capacity building

28.1.1. The Hon'ble Commission had not approved any amount for the Capacity Building expenditure for FY 2024-25 for LTPS in its order dated 21st March 2022.

28.1.2. The below table shows the approved and projected expenditure for Capacity Building.

Table 163: Expenses under capacity building

Rs. Cr

Plant Name	FY 2024-25	
	Approved	Revised Projection
LTPS	0.0	0.0

28.2. Special R&M

28.2.1. APGCL's plans to undertake Special R&M for the following units, cost of which will be claimed as shown below.

Table 164: Expenses under Special R&M

Rs. Lakhs

Plant Name	FY 2024-25	
	Approved	Revised Projection
LTPS	2600	3100

Sl. No.	Work Name	Approved (Rs. Lakhs)	Claim for FY 2024-25 (Rs. Lakhs)	Remarks
1	Procurement of spares for Major inspection of Gas Turbine unit # 6	2600	2600	Same
2	Overhauling of LTPS Gas Compressor U#7		500	Spares procured in part. APGCL submitted for approval of the work through additional submission for the MYT Petition for FY 2022-25, Review Petition for the same and in the Tariff Petition for FY 2023-24. The Hon'ble Commission stated in the APR Order for FY 2022-23 that it would take a decision on final approval of this work during the

Sl. No.	Work Name	Approved (Rs. Lakhs)	Claim for FY 2024-25 (Rs. Lakhs)	Remarks
				true-up. As the work was of important nature APGCL has already procured part spares by arranging fund of ₹ 3.5 Cr. APGCL still needs to procure some additional spares for the work and execute the service part with an estimated amount of ₹ 1.50 Cr. APGCL is submitting for appraisal of the work in the ARR for FY 2024-25 for an amount of ₹ 5.00 Cr for the whole work and will submit the details of the actual expenditure at the time of True-up after completion of the work as stated by the Hon'ble Commission in the Tariff Order of FY 2023-24.

29. Summary of submissions for Revised ARR of FY 2024-25

29.1. Summary

29.1.1. The Summary of the Revised ARR for FY 2024-25 for LTPS is shown below.

Table 165: Revised ARR of LTPS for FY 2024-25

Sl. No	Particulars	Rs. Cr	
		FY 2024-25 Approved	FY 2024-25 Revised Projection
I	POWER GENERATION (MU)		
	Gross Generation	425.74	425.74
	Net Generation	402.32	402.32
	Auxiliary Consumption Loss %	5.50%	5.50%
I	Fixed Charges		
	Operation & Maintenance Expenditure	32.47	52.60
	Increase in AERC Tariff Filing Fees	0.1	0.10
	Interest & Finance Charges	0.00	0.70
	Interest on working Capital	4.45	12.57
	Depreciation	10.21	15.25
	Return on Equity	15.16	15.96
	Income Taxes	0	0

Sl. No	Particulars	FY 2024-25	FY 2024-25
		Approved	Revised Projection
	Special R&M	26	31
	Capacity Building	0	0
	<u>Less:</u> Other Income	-9.22	-9.22
II	Total Fixed Charges	79.18	118.97
III	Fuel Cost	115.74	276.27
IV	Total Revenue Requirement	194.92	395.23

29.2. Net Annual Revenue Requirement

29.2.1. The Net Annual Revenue Requirements for FY 2024-25 are as shown in the tables below.

Table 166: Net Annual Revenue Requirements of LTPS for FY 2024-25

Particulars	FY 2024-24	FY 2024-25
	Approved	Revised Projection
Total Fixed Charges (Rs. Crore)	79.18	118.97
Fuel Cost (Rs. Crore)	115.74	276.27
Total Revenue Requirement (Rs. Crore)	194.92	395.23
Total Per unit cost (Rs/ KWh)	4.84	9.82

Rs. Cr

29.3. Tariff for LTPS for FY 2024-25

29.3.1. The tariff proposed for LTPS for FY 2024-25 is as shown below.

Table 167: Tariff proposed of LTPS for FY 2024-25

Particulars	LTPS
Annual fixed charges (Rs crore)	118.97
Monthly fixed charges (Rs crore)	9.91
Energy charge rate (Rs. / kWh)	6.87

29.3.2. The Petitioner prays to the Hon'ble Commission to approve the Net Annual Revenue Requirement for FY 2024-25 as discussed in the tables above.

APPEAL FOR AGGREGATE REVENUE REQUIREMENT FOR FY
2024-25 for KLHEP
&
DETERMINATION OF TARIFF FOR FY 2024-25
TO
ASSAM ELECTRICITY REGULATORY COMMISSION



Prepared by
ASSAM POWER GENERATION CORPORATION LTD
Bijulee Bhawan, Paltanbazar
Guwahati – 781 001

AFFIDAVIT – KLHEP

BEFORE THE ASSAM STATE ELECTRICITY REGULATORY
COMMISSION, GUWAHATI.

Petition No. –

Case No.
(to be filed by the Office)

IN THE MATTER OF

Filing of Petition for Revised Aggregate Revenue Requirement for the FY 2024-25.

AND

Petition for Determination of Tariff for the FY 2024-25

AND

IN THE MATTER OF

Karbi Langpi Hydro Electric Project,
Assam Power Generation Corporation Limited,
Lengery, Dist. Karbi Anglong, Assam

Petitioner

I, Sri Janardan Das, Son of Late Bishnu Ram Das, age 45 years, residing at Beltola Tiniali, Guwahati - 781028, do solemnly affirm and say as follows:

I am the General Manager (HQ) i/c of Assam Power Generation Corporation Limited, the petitioner in the above matter and am duly authorized by the said Petitioner to make this affidavit for and on behalf of the Assam Power Generation Corporation Limited.

The Statement made in the Petition based on information received from official records and I believe them to reflect truly and no material has been concealed from the statements so made or documents or supporting data etc. attached.

Solemnly affirm at Guwahati on 23rd November' 2023 that the contents of this affidavit are true to my knowledge, no part of it is false or no material has been concealed therefore and misleading material included therein.

Place: Guwahati

Date: 23/11/2023

Deponent



(Janardan Das)
General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.

PRAYER – KLHEP

BEFORE THE HON'BLE ASSAM ELECTRICITY REGULATORY COMMISSION

FILINGNO

CASENO.....

IN THE MATTER OF:

Petition for Submission of Revised Aggregate Revenue Requirement for the FY 2024-25 and Determination of Tariff for the FY 2024-25

AND IN THE MATTER OF:

Karbi Langpi Hydro Electric Project (hereinafter referred to as "KLHEP") of Assam Power Generation Corporation Limited (hereinafter referred to as "APGCL") incorporated under the provisions of the Companies Act, 1956 and having its registered office in the State of Assam

THE HUMBLE APPLICANT ABOVE NAMED MOST RESPECTFULLY SHEWETH:

- I. That the APGCL is a successor corporate entity of former ASEB, formed in pursuant to the notification of the Government of Assam, notified under sub-sections (1), (2), (5), (6) and (7) of Section 131 and Section 133 of the Electricity Act 2003(Central Act 36 of 2003), for the purpose of transfer and vesting of functions, properties, interests, rights, obligations and liabilities, along with the transfer of Personnel of the Board to the successor corporate entities.
- II. That the APGCL is a company incorporated with the main object of generation of electricity in the state of Assam.
- III. That the KLHEP, with commercial operation of both of its units declared on 06/04/2007, is an operating hydro Power Station under the APGCL in the district of Karbi Anglong, Assam.
- IV. That the Hon'ble Commission notified the AERC (Terms and Conditions for determination of Multi Year Tariff) Regulations, 2021 on 18th September, 2021.
- V. That as per the Hon'ble Commission's this new MYT Regulations of 2021 the licensee is filing for approval of the for Revised Aggregate Revenue Requirement of KLHEP for the FY 2024-25 and Determination of Tariff for the FY 2024-25.

Place: Guwahati

Date: 23/11/2023

Deponent



(Janardan Das)
General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.

30. Revised ARR of KLHEP for FY 2024-25

30.1. Regulatory provisions for Revised ARR

30.1.1. The Hon'ble Commission in its Tariff regulations, 2021 has stated the following on Revised ARR for the control period from FY 2022-23 to FY 2024-25. The same is reproduced below for ready reference:

"4 Multi-Year Tariff Framework

4.1 The Commission shall determine the tariff for matters covered under Regulation 3.3 above under a Multi-Year Tariff framework with effect from 1st April 2022.

4.2 The Multi-Year Tariff framework shall be based on the following elements, for calculation of Aggregate Revenue Requirement and expected revenue from tariff and charges for Generating Companies, Transmission Licensee, SLDC, Distribution Wheeling Business and Retail Supply Business:

- (xi) Before commencement of Control Period, a forecast of the Aggregate Revenue Requirement and expected revenue from existing tariff and charges shall be submitted by the applicant and approved by the Commission.*
- (xii) A detailed Capital Investment Plan for each year of the Control Period, shall be submitted by the applicant for the Commission's approval.*
- (xiii) The applicant shall submit operating norms and trajectories of performance parameters for each year of the Control Period, for the Commission's approval.*
- (xiv) The applicant shall submit the forecast of Aggregate Revenue Requirement and expected revenue from existing tariff for each year of the Control Period, and the Commission shall approve the tariff for Generating Companies, SLDC, Transmission Licensee, Distribution Wheeling Business and Retail Supply Business, for each year of the Control Period.*
- (xv) In its tariff petition, a generating company shall submit information to support the determination of tariff for each generating station"*

5 Control Period and Baseline

5.1 The first Control Period under these Regulations shall be of three financial years from April 1st, 2022 to March 31st, 2025 and for every block of three years thereafter or such other period as may be decided by the Commission.

Provided that in case any generating station gets commissioned after notification of these Regulations but before commencement of the first Control Period, the Commission may determine the tariff based on the norms as specified for such generating station under these Regulations, under special case through separate Order.

5.2 The Commission shall determine baseline values for various financial and operational parameters of ARR for the Control Period taking into consideration the figures approved by the Commission in the past, actual average figures of last three years, audited accounts, estimate of the figures for the relevant year, Industry benchmarks/norms and other factors considered appropriate by the Commission. Provided that in case of substantial difference between the estimates earlier provided considered for determination of baseline values and the actual audited accounts, the Commission may re-determine the baseline values for the base year suo-moto or on an application filed by the Applicant. "

31. Norms of operations

31.1. Regulatory provisions

31.1.1. The Hon'ble Commission had set norms of operations under Tariff Regulations 2021.

31.1.2. The projected performance vis-a-vis norms of operations set is discussed below:

31.2. Installed and Effective Capacity in FY 2024-25

31.2.1. APGCL submits the following Installed and Effective Capacity for FY 2024-25.

Table 168: Installed & Effective Capacity of KLHEP for FY 2024-25

Station	Installed Capacity (MW)	No. of Units	Units Available for Generation & Capacity in MW	Effective Capacity
KLHEP	100	2	1 (50), 2(50)	100 MW

31.3. Snapshot of performance projection for FY 2024-25

31.3.1. The following table shows the projection of performance parameters of Karbi Langpi hydroelectric power station for FY 2024-25.

Table 169: Projected Operating Performance of KLHEP for FY 2024-25

KLHEP	FY 2024-25	FY 2024-25
	Approved	Revised Projection
Gross Energy in MU	390.00	390.00
Aux. Power Cons. (%)	0.50%	0.50%
Net Energy in MU	388.05	388.05
Plant Availability Factor (%)	85.00%	85.00%
Plant Load Factor (%)	44.50%	44.50%

31.4. Normative Annual Plant Availability Factor (NAPAF)

31.4.1. As per Regulation 50.1 of the Tariff Regulations, 2021 the Normative Plant Availability factor for recovery of full fixed charges, is 85% for FY 2024-25 for KLHEP. The approved and projected numbers are shown in the table below.

Table 170: Projected Availability of KLHEP for FY 2024-25

KLHEP	FY 2024-25	FY 2024-25
	Approved	Revised Projection
Plant Availability Factor (%)	85%	85%

31.5. Normative Annual Plant Load Factor (NAPLF)

31.5.1. As per Regulation 50.1 of the Tariff Regulations, 2021 the Normative Plant Load factor is 44.5% for FY 2024-25 for KLHEP. The approved and projected numbers are shown in the table below.

Table 171: Projected PLF of KLHEP for FY 2024-25

KLHEP	FY 2024-25	
	Approved	Revised Projection
Plant Load Factor (%)	44.5%	44.5%

31.6. Auxiliary Energy Consumption

31.6.1. As per Regulation 50.1 of the Tariff Regulations, 2021 the Normative Auxiliary energy consumption is 0.50% for FY 2024-25 for KLHEP. The same has been considered for projection. The approved and projected numbers are shown in the table below.

Table 172: Projected Auxiliary energy consumption of KLHEP for FY 2024-25

KLHEP	FY 2024-25	
	Approved	Revised Projection
Auxiliary Power Consumption (%)	0.50%	0.50%

31.6.2. APGCL prays to the Hon'ble Commission to kindly approve the projection of performance parameters as shown above.

32. Fixed Cost of the Plant

32.1. Annual fixed cost for FY 2024-25

32.1.1. As per regulation 43.1 of the AERC Tariff regulations, 2021 the following components have been considered for projecting of fixed cost under the Multi Year Tariff framework for the power plants:

- (a) Return on Equity Capital
- (b) Interest on Loan capital
- (c) Depreciation
- (d) Operation and Maintenance Expenses
- (e) Interest on Working Capital
- (f) Less: Non-Tariff Income

32.1.2. For the computation of the fixed components, the Petitioner has considered the principles provided in the Tariff Regulations, 2021. These components have been discussed in detail in the following sections of the petition.

32.2. Return on Equity (ROE)

32.2.1. The Hon'ble Commission in its regulation has considered the pre-tax return on equity at 15.5% on equity capital. The Regulation 34 of the Tariff Regulations, 2021 is reproduced below for reference.

"34 Return on Equity Capital

34.1 Return on equity capital shall be computed on the equity capital determined in accordance with Regulation 32

.....

32.2.2. APGCL has projected the Return on Equity (RoE) at a rate of 15.5% in accordance with the Tariff Regulations, 2021. The Petitioner submits that there is no plan of addition in Equity in FY 2024-25 for the existing plants. Further, it is submitted that the actual tax paid would be claimed separately during True up of respective years.

Table 173: Projected Return on Equity capital for FY 2024-25

Station	Particulars	FY 2024-25	
		Approved	Revised Projection
KLHEP	Opening Equity	68.65	156.68
	Closing Equity	68.65	156.68
	Rate of Return	15.50%	15.50%
	Return on Equity	10.64	24.29

Rs. Cr

32.2.3. APGCL prays to the Hon'ble Commission to kindly approve the projected Return on Equity as shown above.

32.3. Interest on Loan Capital

32.3.1. As per Regulation 35 of the Tariff Regulations, 2021, the Commission will consider interest on Loan capital on normative basis with repayment equal to depreciation allowed for that year and rate of interest will be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year.

32.3.2. In view of the above, the Petitioner has projected the Interest on long term Loan on normative basis for FY 2024-25. The Petitioner has considered normative loan portfolio and the repayment shown is considered equal to the depreciation for FY 2024-25. The interest rate has been considered as the weighted average rate of interest for FY 2024-25.

32.3.3. The finance charges are shown separately for FY 2024-25. The table below summarizes the interest on loan and finance charges considered for FY 2024-25.

Table 174: Projected Interest and Finance charges for FY 2024-25



Rs. Cr

Station	Particulars	FY 2024-25 Approved	FY 2024-25 Revised Projection
KLHEP	Net Normative Opening Loan	144.51	96.69
	Addition of normative loan during the year	11.75	36.49
	Normative Repayment during the year	21.58	23.43
	Net Normative Closing Loan	134.68	109.75
	Avg. Normative Loan	139.60	103.22
	Interest Rate	10.79%	10.31%
	Interest on Loan Capital	15.06	10.64
	Add: Bank Charges	0.00	0.00
	Net Interest on Loan Capital	15.06	10.64

32.3.4. APGCL prays to the Hon'ble Commission to kindly approve the projected total interest and finance charges as shown above.

32.4. Depreciation

32.4.1. The Hon'ble Commission in its Tariff Regulations, 2021 has considered following principals for determination of depreciation.

"33 Depreciation

33.1 The value base for the purpose of depreciation shall be the Capital Cost of the asset admitted by the Commission.

Provided that depreciation shall not be allowed on assets funded through Consumer contribution and Capital Subsidies/Grants.

33.2 The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

....."

32.4.2. In view of the above, the Petitioner has computed the Depreciation considering the Capital Cost of the asset admitted by the Commission and projected asset addition with 10% salvage value. The table below summarizes the Depreciation projected for FY 2024-25.

Table 175: Projected Depreciation of KLHEP for FY 2024-25

Rs. Cr

Particulars	FY 2024-25 (Revised Projection)
Opening GFA	523.32
Addition during the year	36.49
Closing GFA	559.81
Average GFA	541.56
Rate of Depreciation	4.33%
Total Depreciation	23.43



Particulars	FY 2024-25
	(Revised Projection)
Grant	0.00
Additions during the year	0.00
Closing grant	0.00
Average grant	0.00
Rate of Depreciation	4.33%
Depreciation on grants	0.00
Net Depreciation	23.43

Table 176: Summary of projected Depreciation for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25	FY 2024-25
		Approved	Revised Projection
KLHEP	Depreciation	23.96	23.43
	Less: Depreciation on assets funded by Grants	2.39	0.00
	Net Depreciation	21.58	23.43

32.4.3. GoA vide Financial Sanction No: FS/42_2021-22(I)_06 dated 31.12.2021 and Financial Sanction No: FS/pe_2023-24(I)_33 dated 12.10.2023 (attached at **Annexure-11**) had already approved conversion of all cumulative grant given to APGCL into equity as on 31.03.2021 and 31.03.2023 respectively. The impact of such conversion has already been reflected in the Equity base admitted by the Commission. With regards to this, the Hon'ble Commission is thus requested that benefit of grants being converted to equity on similar lines also be given to Depreciation calculation and accordingly, any deductions to depreciation on account of assets funded by Grants may be considered to be revised to Nil with respect to approved figures in the Tariff Order.

32.4.4. APGCL pray to the Hon'ble Commission to kindly approve the projected Depreciation for FY 2024-25 as shown above.

32.5. Interest on Working Capital

32.5.1. As per Regulation 37 of the Tariff Regulations, 2021, the interest on working capital will be considered on normative basis.

32.5.2. As per the above regulations, the Petitioner has projected normative interest on working capital. However, as APGCL does not have liquid fuel stock facility, it has not considered working capital on storage of liquid fuel. The rate of interest has been considered equal to the normative interest rate of three hundred (300) basis points above the average State Bank of India MCLR (One Year Tenor) prevalent during the last available six months, which $8.53\% + 3.00\% = 11.53\%$.

32.5.3. The interest on working capital considered is shown in the table below:

Table 177 : Summary of Interest on working capital projected for FY 2024-25



Rs. Cr

Station	Particulars	FY 2024-25 Approved	FY 2024-25 Revised Projection
KLHEP	O&M Expenses for one month	3.07	3.23
	Maintenance Spares-30% of O&M	5.53	11.62
	Receivables for two months	13.44	15.81
	Total Working Capital Requirement	22.04	30.66
	Rate of interest	10.00%	11.53%
	Interest on Working capital	2.20	3.53

32.5.4. APGCL prays to the Hon'ble Commission to kindly approve the interest on Working capital for FY 2024-25 as shown above.

32.6. Operation and Maintenance Expenses

32.6.1. The operation and maintenance expense are to be projected in line with Regulation 51.1 of the Tariff Regulations, 2021.

32.6.2. As per Para 7.8.2 of Tariff Order dated 29th March 2023, wherein for revised ARR, the Hon'ble Commission had escalated admitted O&M figure in APR for FY 2022-23 for arriving at normative O&M figure for revised ARR for FY 2023-24 by 6.31%; in line with MYT Regulations, 2021. APGCL also has claimed revised ARR figure of FY 2024-25 by escalating claimed O&M figure in APR petition of FY 2023-24 by 6.31% and accordingly calculating same at effective capacity.

Table 178: Revised O&M cost of KLHEP for FY 2024-25

Rs. Cr

Station	Approved in MYT order of March 2022	Approved O&M Cost at effective capacity	O&M considered for APR of FY 2023-24 at Full Capacity	O&M calculated for Revised ARR of FY 2024-25 at Full Capacity	Claimed at effective capacity
A	B	C	D	E = D *(1+6.31%)	F
KLHEP	36.90	36.90	36.44	38.74	38.74

32.6.3. APGCL prays to the Hon'ble Commission to kindly approve the O&M expenses for FY 2024-25 as shown above on effective capacity.

32.7. Non-Tariff income

32.7.1. As per Regulation 46 of the Tariff Regulations, 2021, the non-tariff income shall be deducted from the Annual Fixed Cost in determining the Annual Fixed Cost of the Generation Company.

32.7.2. The non-tariff income for FY 2024-25 has been projected same as approved by Hon'ble Commission in its order dated 21st March 2022. The same is as shown in the table below:



Table 179 : Station-wise non-tariff income projected for FY 2024-25

Rs. Cr

Station	FY 2024-25	
	Approved	Revised Projection
KLHEP	5.75	5.75

32.7.3. APGCL prays to the Hon'ble Commission to kindly approve the non-tariff income for FY 2024-25 as shown above.

32.8. Incentives

32.8.1. APGCL submits that the Incentives for FY 2024-25 will be claimed in True-up as per Regulations.

33. Other expenses

33.1. Capacity building

33.1.1. The Hon'ble Commission had not approved any amount for the Capacity Building expenditure for FY 2024-25 for KLHEP in its order dated 21st March 2022.

33.1.2. The below table shows the approved and projected expenditure for Capacity Building.

Table 180: Expenses under capacity building

Rs. Cr

Plant Name	FY 2024-25	
	Approved	Revised Projection
KLHEP	0.0	0.0

33.2. Special R&M

33.2.1. The Hon'ble commission had not approved any items under special R&M for FY 2024-25 as per tariff order dated 21st March 2022. Hence, APGCL has not claimed any amount under special R&M for FY 2024-25.

34. Summary of submissions for Revised ARR of FY 2024-25

34.1. Summary

34.1.1. The Summary of the revised ARR for FY 2024-25 for KLHEP is shown below.

Table 181: Revised ARR of KLHEP for FY 2024-25

Rs. Cr

Sl. No	Particulars	FY 2024-25	
		Approved	Revised Projection
I	POWER GENERATION (MU)		



Sl. No	Particulars	FY 2024-25	
		Approved	Revised Projection
	Gross Generation	390.00	390.00
	Net Generation	388.05	388.05
	Auxiliary Consumption Loss %	0.5%	0.5%
I	Fixed Charges		
	Operation & Maintenance Expenditure	36.90	38.74
	Increase in AERC Tariff Filing Fees	0	0.00
	Interest & Finance Charges	15.06	10.64
	Interest on working Capital	2.20	3.53
	Depreciation	21.58	23.43
	Return on Equity	10.64	24.29
	Income Taxes	0	0
	Special R&M	0	0
	Capacity Building	0	0
	<u>Less: Other Income</u>	-5.75	-5.75
II	Total Fixed Charges	80.64	94.88
III	Fuel Cost		
IV	Total Revenue Requirement	80.64	94.88

34.2. Net Annual Revenue Requirement

34.2.1. The Net Annual Revenue Requirements for FY 2024-25 are as shown in the tables below.

Table 182: Net Annual Revenue Requirements of KLHEP for FY 2024-25

Rs. Cr

Particulars	FY 2024-25	
	Approved	Revised Projection
Total Fixed Charges (Rs. Crore)	80.64	94.88
Fuel Cost (Rs. Crore)		
Total Revenue Requirement (Rs. Crore)	80.64	94.88
Total Per unit cost (Rs/ KWh)	2.08	2.45

34.3. Tariff for KLHEP for FY 2024-25

34.3.1. The tariff proposed for KLHEP for FY 2024-25 is as shown below.

Table 183: Tariff proposed of KLHEP for FY 2024-25

Particulars	KLHEP
Annual fixed charges (Rs crore)	94.88
Annual Capacity Charge (Rs crore)	47.44
Energy charge rate (Rs. / kWh)	1.22

34.3.2. The Petitioner prays to the Hon'ble Commission to approve the Net Annual Revenue Requirement for FY 2024-25 as discussed in the tables above.



APPEAL FOR AGGREGATE REVENUE REQUIREMENT FOR FY
2024-25 for LRPP
&
DETERMINATION OF TARIFF FOR FY 2024-25
TO
ASSAM ELECTRICITY REGULATORY COMMISSION



Prepared by
ASSAM POWER GENERATION CORPORATION LTD
Bijulee Bhawan, Paltanbazar
Guwahati – 781 001

AFFIDAVIT – LRPP

BEFORE THE ASSAM STATE ELECTRICITY REGULATORY
COMMISSION, GUWAHATI.

Petition No. –

Case No.
(to be filed by the Office)

IN THE MATTER OF

Filing of Petition for Revised Aggregate Revenue Requirement for the FY 2024-25.

AND

Petition for Determination of Tariff for the FY 2024-25

AND

IN THE MATTER OF

Lakwa Replacement Power Plant,
Assam Power Generation Corporation Limited,
Maibella, Charaideo,
Saffry-785689

Petitioner

I, Sri Janardan Das, Son of Late Bishnu Ram Das, age 45 years, residing at Beltola Tiniali, Guwahati - 781028, do solemnly affirm and say as follows:

I am the General Manager (HQ) i/c of Assam Power Generation Corporation Limited, the petitioner in the above matter and am duly authorized by the said Petitioner to make this affidavit for and on behalf of the Assam Power Generation Corporation Limited.

The Statement made in the Petition based on information received from official records and I believe them to reflect truly and no material has been concealed from the statements so made or documents or supporting data etc. attached.

Solemnly affirm at Guwahati on 23rd November' 2023 that the contents of this affidavit are true to my knowledge, no part of it is false or no material has been concealed therefore and misleading material included therein.

Deponent

Place: Guwahati

Date: 23/11/2023


(Janardan Das)
General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.



PRAYER – LRPP

BEFORE THE HON'BLE ASSAM ELECTRICITY REGULATORY COMMISSION

FILINGNO

CASENO.....

IN THE MATTER OF:

Petition for Submission of Revised Aggregate Revenue Requirement for the FY 2024-25 and Determination of Tariff for the FY 2024-25

AND IN THE MATTER OF:

Lakwa Replacement Power Plant (hereinafter referred to as "LRPP") of Assam Power Generation Corporation Limited (hereinafter referred to as "APGCL") incorporated under the provisions of the Companies Act, 1956 and having its registered office in the State of Assam

THE HUMBLE APPLICANT ABOVE NAMED MOST RESPECTFULLY SHEWETH:

- I. That the APGCL is a successor corporate entity of former ASEB, formed in pursuant to the notification of the Government of Assam, notified under sub-sections (1), (2), (5), (6) and (7) of Section 131 and Section 133 of the Electricity Act 2003(Central Act 36 of 2003), for the purpose of transfer and vesting of functions, properties, interests, rights, obligations and liabilities, along with the transfer of Personnel of the Board to the successor corporate entities.
- II. That the APGCL is a company incorporated with the main object of generation of electricity in the state of Assam.
- III. That the LRPP, commissioned on 26-04-2018, is an operating gas engine based thermal power station under the APGCL in the district of Charaideo, Assam.
- IV. That the Hon'ble Commission notified the AERC (Terms and Conditions for determination of Multi Year Tariff) Regulations, 2021 on 18th September, 2021.
- V. That as per the Hon'ble Commission's this new MYT Regulations of 2021 the licensee is filing for approval of the for Revised Aggregate Revenue Requirement of LRPP for the FY 2024-25 and Determination of Tariff for the FY 2024-25.

Place: Guwahati

Date: 23/11/2023

Deponent



(Janardan Das)
General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.



35. Revised ARR of LRPP for FY 2024-25

35.1. Regulatory provisions for Revised ARR

35.1.1. The Hon'ble Commission in its Tariff regulations, 2021 has stated the following on Revised ARR for the control period from FY 2022-23 to FY 2024-25. The same is reproduced below for ready reference:

"4 Multi-Year Tariff Framework

4.1 The Commission shall determine the tariff for matters covered under Regulation 3.3 above under a Multi-Year Tariff framework with effect from 1st April 2022.

4.2 The Multi-Year Tariff framework shall be based on the following elements, for calculation of

Aggregate Revenue Requirement and expected revenue from tariff and charges for Generating Companies, Transmission Licensee, SLDC, Distribution Wheeling Business and Retail Supply Business:

- (xvi) Before commencement of Control Period, a forecast of the Aggregate Revenue Requirement and expected revenue from existing tariff and charges shall be submitted by the applicant and approved by the Commission.*
- (xvii) A detailed Capital Investment Plan for each year of the Control Period, shall be submitted by the applicant for the Commission's approval.*
- (xviii) The applicant shall submit operating norms and trajectories of performance parameters for each year of the Control Period, for the Commission's approval.*
- (xix) The applicant shall submit the forecast of Aggregate Revenue Requirement and expected revenue from existing tariff for each year of the Control Period, and the Commission shall approve the tariff for Generating Companies, SLDC, Transmission Licensee, Distribution Wheeling Business and Retail Supply Business, for each year of the Control Period.*
- (xx) In its tariff petition, a generating company shall submit information to support the determination of tariff for each generating station"*

5 Control Period and Baseline

5.1 The first Control Period under these Regulations shall be of three financial years from April 1st, 2022 to March 31st, 2025 and for every block of three years thereafter or such other period as may be decided by the Commission.

Provided that in case any generating station gets commissioned after notification of these Regulations but before commencement of the first Control Period, the Commission may determine the tariff based on the norms as specified for such generating station under these Regulations, under special case through separate Order.

5.2 The Commission shall determine baseline values for various financial and operational parameters of ARR for the Control Period taking into consideration the figures approved by the Commission in the past, actual average figures of last three years, audited accounts, estimate of the figures for the relevant year, Industry benchmarks/norms and other factors considered appropriate by the Commission. Provided that in case of substantial difference between the estimates earlier provided considered for determination of baseline values and the actual audited accounts, the Commission may re-determine the baseline values for the base year suo-moto or on an application filed by the Applicant.

36. Norms of operations

36.1. Regulatory provisions

36.1.1. The Hon'ble Commission had set norms of operations under Tariff Regulations 2021.

36.1.2. The projected performance vis-a-vis norms of operations set is discussed below:

36.2. Installed and Effective Capacity in FY 2024-25

36.2.1. APGCL submits the following Installed and Effective Capacity for FY 2024-25.

Table 184: Installed & Effective Capacity of LRPP for FY 2024-25

Station	Installed Capacity (MW)	No. of Units	Units Available for Generation & Capacity in MW	Effective Capacity
LRPP	69.755	7	1-7 (9.965 each)	69.755 MW

36.3. Snapshot of performance projection for FY 2024-25

36.3.1. The following table shows the projection of performance parameters of gas based Lakwa replacement power station for FY 2024-25.

Table 185: Projected Operating Performance of LRPP for FY 2024-25

LRPP	FY 2024-25	FY 2024-25
	Approved	Revised Projection
Gross Energy in MU	519.40	519.40
Aux. Power Cons. (%)	3.50%	3.50%
Net Energy in MU	501.22	501.22
Plant Availability Factor (%)	85.00%	85.00%
Plant Load Factor (%)	90.00%	90.00%
Gross Station Heat Rate on GCV (kcal / kWh)	2150	2150

36.4. Normative Annual Plant Availability Factor (NAPAF)

36.4.1. The Hon'ble Commission had approved 85% for NAPAF for LRPP for FY 2024-25 in its order dated 21st March 2022. The approved and projected numbers are shown in the table below.

Table 186: Projected Availability of LRPP for FY 2024-25

LRPP	FY 2024-25	FY 2024-25
	Approved	Revised Projection
Plant Availability Factor (%)	85%	85%

36.5. Normative Annual Plant Load Factor (NAPLF)

36.5.1. The Hon'ble Commission had approved 90% for NAPLF for LRPP for FY 2024-25 in its order dated 21st March 2022. The approved and projected numbers are shown in the table below.

Table 187: Projected PLF of LRPP for FY 2024-25

LRPP	FY 2024-25	
	Approved	Revised Projection
Plant Load Factor (%)	90%	90%

36.6. Gross Station Heat Rate (SHR)

36.6.1. The Hon'ble Commission had approved GSHR of 2150 kCal/kWh for LRPP for FY 2024-25 in its order dated 21st March 2022. The approved and projected numbers are shown in the table below.

36.6.2. The actual and projected numbers are shown in the table below.

Table 188: Projected SHR of LRPP for FY 2024-25

LRPP	FY 2024-25	
	Approved	Revised Projection
Gross Station Heat Rate on GCV (kcal/ kWh)	2150	2150

36.7. Auxiliary Energy Consumption

36.7.1. The Hon'ble Commission had approved 3.5% for auxiliary consumption for LRPP for FY 2024-25 in its order dated 21st March 2022. The approved and projected numbers are shown in the table below.

Table 189: Projected Auxiliary energy consumption of LRPP for FY 2024-25

LRPP	FY 2024-25	
	Approved	Revised Projection
Auxiliary Power Consumption (%)	3.50%	3.50%

36.7.2. APGCL prays to the Hon'ble Commission to kindly approve the projection of performance parameters as shown above.

37. Fixed Cost of the Plant

37.1. Annual fixed cost for FY 2024-25

37.1.1. As per regulation 43.1 of the AERC Tariff regulations, 2021 the following components have been considered for projecting of fixed cost under the Multi Year Tariff framework for the power plants:

- (a) Return on Equity Capital
- (b) Interest on Loan capital

- (c) Depreciation
- (d) Operation and Maintenance Expenses
- (e) Interest on Working Capital
- (f) Less: Non-Tariff Income

37.1.2. For the computation of the fixed components, the Petitioner has considered the principles provided in the Tariff Regulations, 2021. These components have been discussed in detail in the following sections of the petition.

37.2. Return on Equity (ROE)

37.2.1. The Hon’ble Commission in its regulation has considered the pre-tax return on equity at 15.5% on equity capital. The Regulation 34 of the Tariff Regulations, 2021 is reproduced below for reference.

“34 Return on Equity Capital

34.1 Return on equity capital shall be computed on the equity capital determined in accordance with Regulation 32

.....

37.2.2. APGCL has projected the Return on Equity (RoE) at a rate of 15.5% in accordance with the Tariff Regulations, 2021. Further, it is submitted that the actual tax paid would be claimed separately during True-up of respective years.

Table 190: Projected Return on Equity capital for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25	
		Approved	Revised Projection
LRPP	Opening Equity	15.74	82.03
	Closing Equity	15.74	82.03
	Rate of Return	15.50%	15.50%
	Return on Equity	2.44	12.71

37.2.3. APGCL prays to the Hon’ble Commission to kindly approve the projected Return on Equity as shown above.

37.3. Interest on Loan Capital

37.3.1. As per Regulation 35 of the Tariff Regulations, 2021, the Commission will consider interest on Loan capital on normative basis with repayment equal to depreciation allowed for that year and rate of interest will be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year.

37.3.2. In view of the above, the Petitioner has projected the Interest on long term Loan on normative basis for FY 2024-25. The Petitioner has considered normative loan portfolio and the repayment shown is considered equal to the depreciation for FY 2024-25. The interest rate has been considered as the weighted average rate of interest for FY 2024-25.

37.3.3. The finance charges are shown separately for FY 2024-25. The table below summarizes the interest on loan and finance charges considered for FY 2024-25.

Table 191: Projected Interest and Finance charges for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25 Approved	FY 2024-25 Revised Projection
LRPP	Net Normative Opening Loan	20.21	8.76
	Addition of normative loan during the year	0.3	8.74
	Normative Repayment during the year	2.74	14.02
	Net Normative Closing Loan	17.77	3.48
	Avg. Normative Loan	18.99	6.12
	Interest Rate	10.79%	10.31%
	Interest on Loan Capital	2.05	0.63
	Add: Bank Charges	0.00	0.00
	Net Interest on Loan Capital	2.05	0.63

37.3.4. APGCL prays to the Hon'ble Commission to kindly approve the projected total interest and finance charges as shown above.

37.4. Depreciation

37.4.1. The Hon'ble Commission in its Tariff Regulations, 2021 has considered following principals for determination of depreciation.

"33 Depreciation

33.1 The value base for the purpose of depreciation shall be the Capital Cost of the asset admitted by the Commission.

Provided that depreciation shall not be allowed on assets funded through Consumer contribution and Capital Subsidies/Grants.

33.2 The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

....."

37.4.2. In view of the above, the Petitioner has computed the Depreciation considering the Capital Cost of the asset admitted by the Commission and projected asset addition with 10% salvage value. The table below summarizes the Depreciation projected for FY 2024-25.

Table 192: Projected Depreciation of LRPP for FY 2024-25

Rs. Cr

Particulars	FY 2024-25	
	Revised Projection	
Opening GFA	276.97	
Addition during the year	8.74	
Closing GFA	285.71	
Average GFA	281.34	
Rate of Depreciation	4.98%	
Total Depreciation	14.02	
Grant	0.00	
Additions during the year	0.00	
Closing grant	0.00	
Average grant	0.00	
Rate of Depreciation	4.98%	
Depreciation on grants	0.00	
Net Depreciation	14.02	

Table 193 : Summary of projected Depreciation for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25	
		Approved	Revised Projection
LRPP	Depreciation	13.73	14.02
	Less: Depreciation on assets funded by Grants	11	0.00
	Net Depreciation	2.74	14.02

37.4.3. GoA vide Financial Sanction No: FS/42_2021-22(I)_06 dated 31.12.2021 and Financial Sanction No: FS/pe_2023-24(I)_33 dated 12.10.2023 (attached at **Annexure-11**) had already approved conversion of all cumulative grant given to APGCL into equity as on 31.03.2021 and 31.03.2023 respectively. The impact of such conversion has already been reflected in the Equity base admitted by the Commission. With regards to this, the Hon'ble Commission is thus requested that benefit of grants being converted to equity on similar lines also be given to Depreciation calculation and accordingly, any deductions to depreciation on account of assets funded by Grants may be considered to be revised to Nil with respect to approved figures in the Tariff Order.

37.4.4. APGCL pray to the Hon'ble Commission to kindly approve the projected Depreciation for FY 2024-25 as shown above.

37.5. Interest on Working Capital

37.5.1. As per Regulation 37 of the Tariff Regulations, 2021, the interest on working capital will be considered on normative basis.

37.5.2. As per the above regulations, the Petitioner has projected normative interest on working capital. However, as APGCL does not have liquid fuel stock facility, it has not considered working capital on storage of liquid fuel. The rate of interest has been considered equal to the normative interest rate of three hundred (300) basis points above the average State Bank of India MCLR (One Year Tenor) prevalent during the last available six months, which $8.53\% + 3.00\% = 11.53\%$.

37.5.3. The interest on working capital considered is shown in the table below:

Table 194 : Summary of Interest on working capital projected for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25	
		Approved	Revised Projection
LRPP	Fuel Cost for one month	7.91	23.02
	O&M Expenses for one month	2.79	2.85
	Maintenance Spares-30% of O&M	10.06	10.26
	Receivables for two months	29.08	63.86
	Total Working Capital Requirement	49.84	100.00
	Rate of interest	10.00%	11.53%
	Interest on Working capital	4.98	11.52

37.5.4. APGCL prays to the Hon'ble Commission to kindly approve the interest on Working capital for FY 2024-25 as shown above.

37.6. Operation and Maintenance Expenses

37.6.1. The operation and maintenance expense are claimed in line with Regulation 51.1 of the Tariff Regulations, 2021.

37.6.2. As per Para 7.8.2 of Tariff Order dated 29th March 2023, wherein for revised ARR, the Hon'ble Commission had escalated admitted O&M figure in APR for FY 2022-23 for arriving at normative O&M figure for revised ARR for FY 2023-24 by 6.31%; in line with MYT Regulations, 2021. APGCL also has claimed revised ARR figure of FY 2024-25 by escalating claimed O&M figure in APR petition of FY 2023-24 by 6.31% and accordingly calculating same at effective capacity.

Table 195: Revised O&M cost for FY 2024-25 for LRPP

Rs. Cr

Station	Approved in MYT order of March 2022	Approved O&M Cost at effective capacity	O&M considered for APR of FY 2023-24 at Full Capacity	O&M calculated for Revised ARR of FY 2024-25 at Full Capacity	Claimed at effective capacity
A	B	C	D	E = D *(1+6.31%)	F
LRPP	33.54	33.54	32.18	34.21	34.21

37.6.3. APGCL prays to the Hon'ble Commission to kindly approve the O&M expenses for FY 2024-25 as shown above on effective capacity.

37.7. Impact of AERC (Payment of Fees etc.) Regulation, 2020

37.7.1. The Hon'ble Commission has notified the new AERC (Payment of Fees etc.) Regulations, 2020 which has led to a substantial increase in the Filing Fees of APGCL payable to AERC.

37.7.2. The tentative impact of the increase in the filing fees has been shown below:

Table 196: Impact of increase in AERC Fees projected for FY 2024-25

Rs. Cr

Station	FY 2024-25	FY 2024-25
	Approved	Revised Projection
LRPP	0.10	0.10

37.8. Non-Tariff income

37.8.1. As per Regulation 46 of the Tariff Regulations, 2021, the non-tariff income shall be deducted from the Annual Fixed Cost in determining the Annual Fixed Cost of the Generation Company.

37.8.2. The non-tariff income for FY 2024-25 has been projected same as approved by Hon'ble Commission in its order dated 21st March 2022. The same is as shown in the table below:

Table 197: Station-wise non-tariff income projected for FY 2024-25

Rs. Cr

Station	FY 2024-25	FY 2024-25
	Approved	Revised Projection
LRPP	0	0

37.8.3. APGCL prays to the Hon'ble Commission to kindly approve the non-tariff income for FY 2024-25 as shown above.

38. Energy Charges

38.1. Fuel Price and Calorific Value

38.1.1. As per Regulation 10 of the Tariff Regulations 2021, 'Fuel Price' and 'Calorific Value of Fuel' are uncontrollable items. The projected values of 'Fuel Price' and 'Calorific Value of Fuel' are shown in the table below.

Table 198 : Projected GCV and Price for FY 2024-25

Station	Wt. Avg. Gross Calorific Value of Gas (kcal/SCM)	Wt. Avg. Price of Gas (Rs./1000 SCM)
LRPP	9246.32	22872.58

38.1.2. The Petitioner prays to the Hon'ble Commission to kindly approve the projected Price of Gas and GCV for LRPP for FY 2024-25 as shown in the table above.

38.2. Fuel cost

38.2.1. The Hon'ble Commission, in the Tariff Order dated 21st March 2022 had approved the Fuel Cost for FY 2024-25. The table below shows the revised projected fuel cost for FY 2024-25.

Table 199 : Fuel cost of LRPP for FY 2024-25

Particulars	Derivation	Unit	FY 2024-25	
			Approved	Revised Projection
Gross Generation	A	MU	519.4	519.40
Heat Rate	B	kcal/kWh	2150	2150.00
GCV of gas	C	kcal/SCM	9337.66	9246.32
Overall Heat	D=A x B	G. cal.	1116700.82	1116700.82
Gas consumption	E=D/C	M. SCM	119.59	120.77
Price of Gas	F	Rs./1000 SCM	7932.73	22872.58
Total cost of Gas	G=E x F/10000	Rs. Crore	94.87	276.24

38.2.2. The Petitioner prays to the Hon'ble Commission to kindly approve the projected Fuel cost Price for LRPP for FY 2024-25 as shown in the table above.

38.3. Incentives

38.3.1. APGCL submits that the Incentives for FY 2024-25 will be claimed in True-up as per Regulations.

39. Other expenses

39.1. Capacity building

39.1.1. The Hon'ble Commission had not approved any amount for the Capacity Building expenditure for FY 2024-25 for LRPP in its order dated 21st March 2022.

39.1.2. The below table shows the approved and projected expenditure for Capacity Building.

Table 200: Expenses under capacity building

Plant Name	FY 2024-25	
	Approved	Revised Projection
LRPP	0.0	0.0

Rs. Cr

39.2. Special R&M

39.2.1. APGCL's plans to undertake Special R&M for the following units, cost of which will be claimed as shown below.

Table 201: Expenses under Special R&M



Rs. Lakhs

Plant Name	FY 2024-25	
	Approved	Revised Projection
LRPP	3375	3375

Sl. No.	Work Name	Approved (Rs. Lakhs)	Claim for FY 2024-25 (Rs. Lakhs)	Remarks
1	16,000 and 48,000 Running Hours Maintenance	3375	3375	Same

40. Summary of submissions for Revised ARR of FY 2024-25

40.1. Summary

40.1.1. The Summary of the revised ARR for FY 2024-25 for LRPP is shown below.

Table 202: Revised ARR of LRPP for FY 2024-25

Rs. Cr

Sl. No	Particulars	FY 2024-25	
		Approved	Revised Projection
I	POWER GENERATION (MU)		
	Gross Generation	519.40	519.40
	Net Generation	501.22	501.22
	Auxiliary Consumption Loss %	3.50%	3.50%
I	Fixed Charges		
	Operation & Maintenance Expenditure	33.54	34.21
	Increase in AERC Tariff Filing Fees	0.1	0.10
	Interest & Finance Charges	2.05	0.63
	Interest on working Capital	4.98	11.52
	Depreciation	2.74	14.02
	Return on Equity	2.44	12.71
	Income Taxes	0	0
	Special R&M	33.75	33.75
	Capacity Building	0	0
	<u>Less: Other Income</u>	0.00	0.00
II	Total Fixed Charges	79.60	106.95
III	Fuel Cost	94.87	276.24
IV	Total Revenue Requirement	174.47	383.19



40.2. Net Annual Revenue Requirement

40.2.1. The Net Annual Revenue Requirements for FY 2024-25 are as shown in the tables below.

Table 203 : Net Annual Revenue Requirements for LRPP for FY 2024-25

Particulars	FY 2024-25	
	Approved	Revised Projection
Total Fixed Charges (Rs. Crore)	79.60	106.95
Fuel Cost (Rs. Crore)	94.87	276.24
Total Revenue Requirement (Rs. Crore)	174.47	383.19
Total Per unit cost (Rs/ KWh)	3.48	7.65

Rs. Cr

40.3. Tariff for LRPP for FY 2023-24

40.3.1. The tariff proposed for LRPP for FY 2024-25 is as shown below

Table 204 : Tariff proposed for LRPP for FY 2024-25

Particulars	LRPP
Annual fixed charges (Rs crore)	106.95
Monthly fixed charges (Rs crore)	8.91
Energy charge rate (Rs. / kWh)	5.51

40.3.2. The Petitioner prays to the Hon'ble Commission to approve the Net Annual Revenue Requirement for FY 2024-25 as discussed in the tables above.

APPEAL FOR AGGREGATE REVENUE REQUIREMENT FOR FY
2024-25 for NRPP
&
DETERMINATION OF TARIFF FOR FY 2024-25
TO
ASSAM ELECTRICITY REGULATORY COMMISSION



Prepared by
ASSAM POWER GENERATION CORPORATION LTD
Bijulee Bhawan, Paltanbazar
Guwahati – 781 001

AFFIDAVIT – NRPP

BEFORE THE ASSAM STATE ELECTRICITY REGULATORY
COMMISSION, GUWAHATI.

Petition No. –

Case No.
(to be filed by the Office)

IN THE MATTER OF

Filing of Petition for Revised Aggregate Revenue Requirement for the FY 2024-25.

AND

Petition for Determination of Tariff for the FY 2024-25

AND

IN THE MATTER OF

Namrup Replacement Power Plant,
Assam Power Generation Corporation Limited,
Namrup, Dibrugarh, 786622

Petitioner

I, Sri Janardan Das, Son of Late Bishnu Ram Das, age 45 years, residing at Beltola Tinali, Guwahati - 781028, do solemnly affirm and say as follows:

I am the General Manager (HQ) i/c of Assam Power Generation Corporation Limited, the petitioner in the above matter and am duly authorized by the said Petitioner to make this affidavit for and on behalf of the Assam Power Generation Corporation Limited.

The Statement made in the Petition based on information received from official records and I believe them to reflect truly and no material has been concealed from the statements so made or documents or supporting data etc. attached.

Solemnly affirm at Guwahati on 23rd November 2023 that the contents of this affidavit are true to my knowledge, no part of it is false or no material has been concealed therefore and misleading material included therein.

Deponent



(Janardan Das)

General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.

Place: Guwahati

Date: 23/11/2023



PRAAYER – NRPP

BEFORE THE HON'BLE ASSAM ELECTRICITY REGULATORY COMMISSION

FILINGNO

CASENO.....

IN THE MATTER OF:

Petition for Submission of Revised Aggregate Revenue Requirement for the FY 2024-25 and Determination of Tariff for the FY 2024-25

AND IN THE MATTER OF:

Namrup Replacement Power Plant (hereinafter referred to as "NRPP") of Assam Power Generation Corporation Limited (hereinafter referred to as "APGCL") incorporated under the provisions of the Companies Act, 1956 and having its registered office in the State of Assam

THE HUMBLE APPLICANT ABOVE NAMED MOST RESPECTFULLY SHEWETH:

- I. That the APGCL is a successor corporate entity of former ASEB, formed in pursuant to the notification of the Government of Assam, notified under sub-sections (1), (2), (5), (6) and (7) of Section 131 and Section 133 of the Electricity Act 2003(Central Act 36 of 2003), for the purpose of transfer and vesting of functions, properties, interests, rights, obligations and liabilities, along with the transfer of Personnel of the Board to the successor corporate entities.
- II. That the APGCL is a company incorporated with the main object of generation of electricity in the state of Assam.
- III. That the NRPP, commissioned on 16-07-2021, is an operating gas turbine based thermal power station under the APGCL in the district of Dibrugarh, Assam.
- IV. That the Hon'ble Commission notified the AERC (Terms and Conditions for determination of Multi Year Tariff) Regulations, 2021 on 18th September, 2021.
- V. That as per the Hon'ble Commission's this new MYT Regulations of 2021 the licensee is filing for approval of the for Revised Aggregate Revenue Requirement of NRPP for the FY 2024-25 and Determination of Tariff for the FY 2024-25.

Place: Guwahati

Date: 23/11/2023

Deponent



(Janardan Das)
General Manager (HQ) i/c,
Assam Power Generation Corporation Ltd.



41. Revised ARR of NRPP for FY 2024-25

41.1. Regulatory provisions for Revised ARR

41.1.1. The Hon'ble Commission in its Tariff regulations, 2021 has stated the following on Revised ARR for the control period from FY 2022-23 to FY 2024-25. The same is reproduced below for ready reference:

"4 Multi-Year Tariff Framework

4.1 The Commission shall determine the tariff for matters covered under Regulation 3.3 above under a Multi-Year Tariff framework with effect from 1st April 2022.

4.2 The Multi-Year Tariff framework shall be based on the following elements, for calculation of

Aggregate Revenue Requirement and expected revenue from tariff and charges for Generating Companies, Transmission Licensee, SLDC, Distribution Wheeling Business and Retail Supply Business:

- (xxi) Before commencement of Control Period, a forecast of the Aggregate Revenue Requirement and expected revenue from existing tariff and charges shall be submitted by the applicant and approved by the Commission.*
- (xxii) A detailed Capital Investment Plan for each year of the Control Period, shall be submitted by the applicant for the Commission's approval.*
- (xxiii) The applicant shall submit operating norms and trajectories of performance parameters for each year of the Control Period, for the Commission's approval.*
- (xxiv) The applicant shall submit the forecast of Aggregate Revenue Requirement and expected revenue from existing tariff for each year of the Control Period, and the Commission shall approve the tariff for Generating Companies, SLDC, Transmission Licensee, Distribution Wheeling Business and Retail Supply Business, for each year of the Control Period.*
- (xxv) In its tariff petition, a generating company shall submit information to support the determination of tariff for each generating station"*

5 Control Period and Baseline

5.1 The first Control Period under these Regulations shall be of three financial years from April 1st, 2022 to March 31st, 2025 and for every block of three years thereafter or such other period as may be decided by the Commission.

Provided that in case any generating station gets commissioned after notification of these Regulations but before commencement of the first Control Period, the Commission may determine the tariff based on the norms as specified for such generating station under these Regulations, under special case through separate Order.

5.2 The Commission shall determine baseline values for various financial and operational parameters of ARR for the Control Period taking into consideration the figures approved by the Commission in the past, actual average figures of last three years, audited accounts, estimate of the figures for the relevant year, Industry benchmarks/norms and other factors considered appropriate by the Commission. Provided that in case of substantial difference between the estimates earlier provided considered for determination of baseline values and the actual audited accounts, the Commission may re-determine the baseline values for the base year suo-moto or on an application filed by the Applicant.

42. Norms of operations

42.1. Regulatory provisions

42.1.1. The Hon'ble Commission had set norms of operations under Tariff Regulations 2021.

42.1.2. The projected performance vis-a-vis norms of operations set is discussed below:

42.2. Installed and Effective Capacity in FY 2024-25

42.2.1. APGCL submits the following Installed and Effective Capacity for FY 2024-25.

Table 205: Installed & Effective Capacity of NRPP for FY 2024-25

Station	Installed Capacity (MW)	No. of Units	Units Available for Generation & Capacity in MW	Effective Capacity
NRPP	98.4	2	1(62.25), 2(36.15)	98.40

42.3. Snapshot of performance projection for FY 2024-25

42.3.1. The following table shows the projection of performance parameters of gas based Namrup replacement power station for FY 2024-25.

Table 206: Projected Operating Performance of NRPP for FY 2024-25

NRPP	FY 2024-25	FY 2024-25
	As per Regulation	Revised Projection
Gross Energy in MU	732.69	732.69
Aux. Power Cons. (%)	5.00%	5.00%
Net Energy in MU	696.05	696.05
Plant Availability Factor (%)	85.00%	85.00%
Plant Load Factor (%)	85.00%	85.00%
Gross Station Heat Rate on GCV (kcal / kWh)	1988	1988

42.4. Normative Annual Plant Availability Factor (NAPAF)

42.4.1. The Hon'ble Commission had approved 85% for NAPAF for NRPP for FY 2024-25 in its order dated 21st March 2022. The approved and projected numbers are shown in the table below.

Table 207: Projected Availability of NRPP for FY 2024-25

NRPP	FY 2024-25	FY 2024-25
	Approved	Revised Projection
Plant Availability Factor (%)	85%	85%

42.5. Normative Annual Plant Load Factor (NAPLF)

42.5.1. As per regulation 48.2(b) of AERC Tariff Regulation, 2021 the normative plant load factor for incentive of Gas based generating station is 85%. The approved and projected numbers are shown in the table below.

Table 208: Projected PLF for FY 2024-25 of NRPP

NRPP	FY 2024-25	
	As per Regulation	Revised Projection
Plant Load Factor (%)	85%	85%

42.6. Gross Station Heat Rate (SHR)

42.6.1. SHR for NRPP: Since, NRPP was commissioned on 16th July 2021. Hence, as per Regulation 47.4 (ii) (b) of Tariff Regulation 2018, the GSHR of new plants commissioned on or after 1st April 2019 for Gas-based plant

= "1.05 X Design Heat Rate of the unit/block for Natural Gas and RLNG (kCal/kWh)

Where, the **Design Heat Rate of a unit shall mean the guaranteed heat rate for a unit at 100% MCR and at site ambient conditions....**

- ✓ The Guaranteed Heat Rate of NRPP at 98.4 MW combined cycle operation by OEM at NCV is 1705.8 kCal/kWh.
- ✓ The Guaranteed Heat Rate of NRPP at 98.4 MW combined cycle operation by OEM at GCV is (1705.8 X 1.11 KCal/kWh) = 1893.4 kCal/kWh
- ✓ As such combined cycle GSHR of NRPP as per Regulation= 1893.4 X 1.05 kCal/kWh=1988 kCal/kWh

42.6.2. The approved and projected numbers are shown in the table below.

Table 209: Projected SHR of NRPP for FY 2024-25

NRPP	FY 2024-25	
	As per Regulation	Revised Projection
Gross Station Heat Rate on GCV (kcal/ kWh)	1988	1988

42.7. Auxiliary Energy Consumption

42.7.1. The Hon'ble Commission had approved 5.00% for auxiliary consumption for NRPP for FY 2024-25 in its order dated 21st March 2022. The approved and projected numbers are shown in the table below.

Table 210: Projected Auxiliary energy consumption of NRPP for FY 2024-25

NRPP	FY 2024-25	
	Approved	Revised Projection
Auxiliary Power Consumption (%)	5.00%	5.00%

42.7.2. APGCL prays to the Hon'ble Commission to kindly approve the projection of performance parameters as shown above.

43. Fixed Cost of the Plant

43.1. Annual fixed cost for FY 2024-25

43.1.1. As per regulation 43.1 of the AERC Tariff regulations, 2021 the following components have been considered for projecting of fixed cost under the Multi Year Tariff framework for the power plants:

- (a) Return on Equity Capital
- (b) Interest on Loan capital
- (c) Depreciation
- (d) Operation and Maintenance Expenses
- (e) Interest on Working Capital
- (f) Less: Non-Tariff Income

43.1.2. For the computation of the fixed components, the Petitioner has considered the principles provided in the Tariff Regulations, 2021. These components have been discussed in detail in the following sections of the petition.

43.2. Return on Equity (ROE)

43.2.1. The Hon'ble Commission in its regulation has considered the pre-tax return on equity at 15.5% on equity capital. The Regulation 34 of the Tariff Regulations, 2021 is reproduced below for reference.

"34 Return on Equity Capital

34.1 Return on equity capital shall be computed on the equity capital determined in accordance with Regulation 32

.....

43.2.2. APGCL has projected the Return on Equity (RoE) at a rate of 15.5% in accordance with the Tariff Regulations, 2021. Further, it is submitted that the actual tax paid would be claimed separately during True-up of respective years.

Table 211: Projected Return on Equity capital for FY 2024-25

Rs. Cr

Station	Particulars	2024-25	2024-25
		Approved	Revised Projection
NRPP	Opening Equity	218.69	218.69
	Closing Equity	218.69	218.69
	Rate of Return	15.50%	15.50%
	Return on Equity	33.90	33.90



43.2.3. APGCL prays to the Hon'ble Commission to kindly approve the projected Return on Equity as shown above.

43.3. Interest on Loan Capital

43.3.1. As per Regulation 35 of the Tariff Regulations, 2021, the Commission will consider interest on Loan capital on normative basis with repayment equal to depreciation allowed for that year and rate of interest will be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year.

43.3.2. In view of the above, the Petitioner has projected the Interest on long term Loan on normative basis for FY 2024-25. The Petitioner has considered normative loan portfolio and the repayment shown is considered equal to the depreciation for FY 2024-25. The interest rate has been considered as the weighted average rate of interest for FY 2024-25.

43.3.3. The finance charges are shown separately for FY 2024-25. The table below summarizes the interest on loan and finance charges considered for FY 2024-25.

Table 212 : Projected Interest and Finance charges for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25 Approved	FY 2024-25 Revised Projection
NRPP	Net Normative Opening Loan	403.52	407.48
	Addition of normative loan during the year	0.00	2.90
	Normative Repayment during the year	36.27	42.16
	Net Normative Closing Loan	367.25	368.22
	Avg. Normative Loan	385.39	387.85
	Interest Rate	10.79%	10.31%
	Interest on Loan Capital	41.57	39.99
	Add: Bank Charges	0.00	0.00
	Net Interest on Loan Capital	41.57	39.99

43.3.4. APGCL prays to the Hon'ble Commission to kindly approve the projected total interest and finance charges as shown above.

43.4. Depreciation

43.4.1. The Hon'ble Commission in its Tariff Regulations, 2021 has considered following principals for determination of depreciation.

"33 Depreciation

33.1 The value base for the purpose of depreciation shall be the Capital Cost of the asset admitted by the Commission.

Provided that depreciation shall not be allowed on assets funded through Consumer contribution and Capital Subsidies/Grants.

33.2 The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

.....”

43.4.2. In view of the above, the Petitioner has computed the Depreciation considering the Capital Cost of the asset admitted by the Commission and projected asset addition with 10% salvage value. The table below summarizes the Depreciation projected for FY 2024-25.

Table 213 : Projected Depreciation of NRPP for FY 2024-25

Rs. Cr

Particulars	FY 2024-25	
	Revised Projection	
Opening GFA	729.09	
Addition during the year	2.90	
Closing GFA	731.99	
Average GFA	730.54	
Rate of Depreciation	5.77%	
Total Depreciation	42.16	
Grant	0.00	
Additions during the year	0.00	
Closing grant	0.00	
Average grant	0.00	
Rate of Depreciation	5.77%	
Depreciation on grants	0.00	
Net Depreciation	42.16	

Table 214 : Summary of projected Depreciation for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25	
		Approved	Revised Projection
NRPP	Depreciation	36.27	42.16
	Less: Depreciation on assets funded by Grants	0	0
	Net Depreciation	36.27	42.16

43.4.3. APGCL pray to the Hon'ble Commission to kindly approve the projected Depreciation for FY 2024-25 as shown above.

43.5. Interest on Working Capital

43.5.1. As per Regulation 37 of the Tariff Regulations, 2021, the interest on working capital will be considered on normative basis.

43.5.2. As per the above regulations, the Petitioner has projected normative interest on working capital. However, as APGCL does not have liquid fuel stock facility, it has not considered working capital on storage of liquid fuel. The rate of interest has been considered equal to the normative interest rate of three hundred (300) basis points above the average State Bank of India MCLR (One Year Tenor) prevalent during the last available six months, which $8.53\% + 3.00\% = 11.53\%$.

43.5.3. The interest on working capital considered is shown in the table below:

Table 215 : Summary of Interest on working capital projected for FY 2024-25

Rs. Cr

Station	Particulars	FY 2024-25	
		Approved	Revised Projection
NRPP	Fuel Cost for one month	7.27	18.16
	O&M Expenses for one month	2.01	3.92
	Maintenance Spares-30% of O&M	7.23	14.12
	Receivables for two months	38.80	78.91
	Total Working Capital Requirement	55.30	115.11
	Rate of interest	10.00%	11.53%
	interest on Working capital	5.54	13.27

43.5.4. APGCL prays to the Hon'ble Commission to kindly approve the interest on Working capital for FY 2024-25 as shown above.

43.6. Operation and Maintenance Expenses

43.6.1. The operation and maintenance expense are claimed in line with Regulation 51.1 of the Tariff Regulations, 2021.

43.6.2. As per Para 7.8.2 of Tariff Order dated 29th March 2023, wherein for revised ARR, the Hon'ble Commission had escalated admitted O&M figure in APR for FY 2022-23 for arriving at normative O&M figure for revised ARR for FY 2023-24 by 6.31%; in line with MYT Regulations, 2021. APGCL also has claimed revised ARR figure of FY 2024-25 by escalating claimed O&M figure in APR petition of FY 2023-24 by 6.31% and accordingly calculating same at effective capacity.

Table 216: Revised O&M cost of NRPP for FY 2024-25

Rs. Cr

Station	Approved in MYT order of March 2022	Approved O&M Cost at effective capacity	O&M considered for APR of FY 2023-24 at Full Capacity	O&M calculated for Revised ARR of FY 2024-25 at Full Capacity	Claimed at effective capacity
A	B	C	D	E = D *(1+6.31%)	F
NRPP	25.37	25.37	44.28	47.07	47.07

43.6.3. APGCL prays to the Hon'ble Commission to kindly approve the O&M expenses for FY 2024-25 as shown above on effective capacity.

43.7. Impact of AERC (Payment of Fees etc.) Regulation, 2020

43.7.1. The Hon'ble Commission has notified the new AERC (Payment of Fees etc.) Regulations, 2020 which has led to a substantial increase in the Filing Fees of APGCL payable to AERC.

43.7.2. The tentative impact of the increase in the filing fees has been shown below:

Table 217: Impact of increase in AERC Fees projected for FY 2024-25

Station	FY 2023-24	FY 2024-25
	Approved	Revised Projection
NRPP	0.00	0.00

Rs. Cr

43.8. Non-Tariff income

43.8.1. As per Regulation 46 of the Tariff Regulations, 2021, the non-tariff income shall be deducted from the Annual Fixed Cost in determining the Annual Fixed Cost of the Generation Company.

43.8.2. The non-tariff income for FY 2024-25 has been projected same as approved by Hon'ble Commission in its order dated 21st March 2022. The same is as shown in the table below:

Table 218 : Station-wise non-tariff income projected for FY 2024-25

Station	FY 2024-25	FY 2024-25
	Approved	Revised Projection
NRPP	0	0

Rs. Cr

43.8.3. APGCL prays to the Hon'ble Commission to kindly approve the non-tariff income for FY 2024-25 as shown above.

44. Energy Charges

44.1. Fuel Price and Calorific Value

44.1.1. As per Regulation 10 of the Tariff Regulations 2021, 'Fuel Price' and 'Calorific Value of Fuel' are uncontrollable items. The projected values of 'Fuel Price' and 'Calorific Value of Fuel' are shown in the table below.

Table 219 : Projected GCV and Price for FY 2024-25

Station	Wt. Avg. Gross Calorific Value of Gas (kcal/SCM)	Wt. Avg. Price of Gas (Rs./1000 SCM)
NRPP	9251.70	13838.27



44.1.2. The Petitioner prays to the Hon'ble Commission to kindly approve the projected Price of Gas and GCV for NRPP for FY 2024-25 as shown in the table above.

44.2. Fuel cost

44.2.1. The Hon'ble Commission, in the Tariff Order dated 21st March 2022 had approved the Fuel Cost for FY 2024-25. The table below shows the revised projected fuel cost for FY 2024-25.

Table 220 : Fuel cost of NRPP for FY 2024-25

Particulars	Derivation	Unit	FY 2024-25	
			Approved	Revised Projection
Gross Generation	A	MU	732.69	732.69
Heat Rate	B	kcal/kWh	1,951.05	1988.00
GCV of gas	C	kcal/SCM	9204.80	9251.70
Overall Heat	D=AxB	G. cal.	1429505.6	1456580.56
Gas consumption	E=D/C	M. SCM	155.3	157.44
Price of Gas	F	Rs./1000 SCM	5,617.39	13838.27
Total cost of Gas	G=ExF/10000	Rs. Crore	87.24	217.87

44.2.2. The Petitioner prays to the Hon'ble Commission to kindly approve the projected Fuel cost Price of NRPP for FY 2024-25 as shown in the table above.

44.3. Incentives

44.3.1. APGCL submits that the Incentives for FY 2024-25 will be claimed in True-up as per Regulations.

45. Other expenses

45.1. Capacity building

45.1.1. The Hon'ble Commission had not approved any amount for the Capacity Building expenditure for FY 2024-25 for NRPP in its order dated 21st March 2022.

45.1.2. The below table shows the approved and projected expenditure for Capacity Building.

Table 221: Expenses under capacity building

Plant Name	FY 2024-25	
	Approved	Revised Projection
NRPP	0.0	0.0

Rs. Cr



45.2. Special R&M

45.2.1. APGCL's plans to undertake Special R&M for the following units, cost of which will be claimed as shown below.

Table 222: Expenses under Special R&M

Rs. Lakhs

Plant Name	FY 2024-25	
	Approved	Revised Projection
NRPP	0	7919

Sl. No.	Work Name	Approved (Rs. Lakhs)	Claim for FY 2024-25 (Rs. Lakhs)
1	HGPI for GT Unit of NRPP	0	7919
Remarks			
As per the directive of the Hon'ble Commission APGCL is submitting the details along with the DPR and cost benefit analysis for the work, as attached in Annexure-20 .			

46. Summary of submissions for Revised ARR of FY 2024-25

46.1. Summary

46.1.1. The Summary of the Revised ARR for FY 2024-25 for NRPP is shown below.

Table 223: Revised ARR of NRPP for FY 2024-25

Rs. Cr

Sl. No	Particulars	FY 2024-25	
		Approved	Revised Projection
I	POWER GENERATION (MU)		
	Gross Generation	732.69	732.69
	Net Generation	696.05	696.05
	Auxiliary Consumption Loss %	5.0%	5.0%
I	Fixed Charges		
	Operation & Maintenance Expenditure	25.37	47.07
	Increase in AERC Tariff Filing Fees	0	0.00
	Interest & Finance Charges	41.57	39.99
	Interest on working Capital	5.54	13.27
	Depreciation	36.27	42.16
	Return on Equity	33.90	33.90
	Income Taxes	0	0
	Special R&M	0	79.19
	Capacity Building	0	0

Sl. No	Particulars	FY 2024-25	FY 2024-25
		Approved	Revised Projection
	Less: Other Income	0.00	0.00
II	Total Fixed Charges	142.64	255.58
III	Fuel Cost	87.24	217.87
IV	Total Revenue Requirement	229.88	473.45

46.2. Net Annual Revenue Requirement

46.2.1. The Net Annual Revenue Requirements for FY 2024-25 are as shown in the tables below.

Table 224 : Net Annual Revenue Requirements of NRPP for FY 2024-25

Rs. Cr

Particulars	FY 2024-25	FY 2024-25
	Approved	Revised Projection
Total Fixed Charges (Rs. Crore)	142.64	255.58
Fuel Cost (Rs. Crore)	87.24	217.87
Total Revenue Requirement (Rs. Crore)	229.88	473.45
Total Per unit cost (Rs/ KWh)	3.30	6.80

46.3. Tariff of NRPP for FY 2024-25

46.3.1. The tariff proposed for NRPP for FY 2024-25 is as shown below

Table 225: Tariff proposed of NRPP for FY 2024-25

Particulars	NRPP
Annual fixed charges (Rs crore)	255.58
Monthly fixed charges (Rs crore)	21.30
Energy charge rate (Rs. / kWh)	3.13

46.3.2. The Petitioner prays to the Hon'ble Commission to approve the Net Annual Revenue Requirement for FY 2024-25 as discussed in the table.

47. Directives

47.1. Compliance of Directives issued in the Tariff Order for FY 2023-24

47.1.1. We submit that the update on the compliance of directives issued in the Tariff order for FY 2023-24 for Quarter 1 has already been submitted to the Hon'ble Commission.

Compliance of Directives issued in the Tariff Order for FY 2023-24		
Sl. No:	AERC's Directive	Status as on 30 th September, 2023
1	<p>Directive 1: Completion of Projects</p> <p>The Commission directs APGCL to complete the new and ongoing projects on time.</p> <p>The Commission also directs APGCL to set up their ongoing Solar Plants on Time.</p>	Noted. The status of ongoing projects is enclosed in Sub-Annexure-I of Annexure 21 .
2	<p>Directive 2: Procurement of Gas</p> <p>APGCL should continue to pursue with its gas suppliers/ transporter to obtain the contracted quantum of gas on a regular basis. The issue of gas should be pursued with the concerned ministry of GOI in consultation with the state Government.</p>	Correspondence with OIL (Oil India Ltd.) regarding the supply of contracted quantity as well as supply of additional gas for the new Projects has been made and requested to forward the proposal to MoPNG (Ministry of Petroleum and Natural Gas) for allocation etc. The copy of the letter is also marked to GoA (Govt. of Assam) and the same is enclosed at Sub-Annexure-II of Annexure 21 .
3	<p>Directive 3: Fixed Asset Register</p> <p>The Commission directs APGCL that Fixed Asset Register should be updated every year, and these should be duly certified by Chartered Accountant. APGCL is directed to maintain Fixed Asset Register at their end and submit to the Commission as and when asked during tariff proceedings.</p>	APGCL updates its FAR regularly and is ready to submit to the Hon'ble Commission whenever asked for.
4	<p>Directive 4: Energy Audit of LTPS and NTPS</p> <p>The Commission directs APGCL to conduct</p>	Noted. A report was submitted along with 1st Quarter compliance of directives for FY 2022-23 as per the

Compliance of Directives issued in the Tariff Order for FY 2023-24		
	<p>an energy Audit of LTPS and NTPS with the help of NIT Silchar.</p>	<p>directives of the Hon’ble Commission which was submitted vide letter No. APGCL/CGM(G)/AERC/2020/115/Pt-XII/17 Dated 15/07/2022 and the same is again enclosed at Sub-Annexure-III of Annexure 21.</p> <p>This was also noted by the Hon’ble commission in the minutes of the Monitoring committee meeting held on 19th July.2022.</p>
5	<p>Directive 5: Overhauling of Units</p> <p>Commission observes that the Overhauling of units are never completed on time as proposed by APGCL. The Commission directs APGCL to complete the overhauling of units as per scheduled otherwise the Commission may not allow the expenditure in future.</p>	<p>Noted. APGCL is putting all-out effort to complete the Special R&M works within the stipulated time period. The status of the same is enclosed at Sub-Annexure-IV of Annexure 21. However, the overhauling is dependent on factors like Running hours, Commercial availability of parts of machinery etc., so sometimes it may differ from the stipulated time frame. APGCL has submitted the details justification of overhauling period to Hon’ble commission vide letter no. APGCL/CGM(G)/AERC/2022/115/Pt-XII/71 dated 06.11. 2023. Moreover, for hydro power plant, the time required to complete the overhauling of units from different utilities are annexed at Sub-Annexure-V of Annexure 21.</p>
6	<p>Directives 6: Solar Storage/ Pump Storage</p> <p>The Commission directs APGCL to initiate action for installation of solar/pump storage facilities to suit the demand</p>	<p>APGCL has floated a tender of engagement of consultant for preparation of PFR (Pre-feasibility Report) and DPR of pump storage projects in Assam.</p>
7	<p>Directive 7: Board approval of Special R&M/Capital Projects/Schemes/Works</p> <p>The commission directs APGCL to submit approval of the board or any other</p>	<p>Noted. New Special R&M/ Capital Projects/Schemes/Works proposed will submit to the Hon’ble commission in the tariff petition for Revised ARR & determination of tariff for FY 2024-25.</p>

Compliance of Directives issued in the Tariff Order for FY 2023-24

competent authority for all Special R&M/ Capital Projects/Schemes/Works proposed to be undertaken by the petitioner. The commission also directs APGCL to approach the commission separately for its projects which were not included in the capital investment plan approved in the MYT order.



END OF MAIN PETITION