



कॉर्पोरेट अफेयर्स | Corporate Affairs

सं./No. CA/37/413

सेवा में/To,

सचिव/The Secretary

केन्द्रीय विद्युत विनियामक आयोग/Central Electricity Regulatory Commission

तीसरी एवं चौथी मंजिल/3rd & 4th Floor,

चंद्रलोक भवन/Chanderlok Building,

36, जन्पथ, नई दिल्ली-110001/36, Janpath, New Delhi-110001

A Wholly Owned subsidiary of NTPC Ltd.
Second Floor, Block-C, Centrum Plaza Mall
Sullanpur, M.G. Road, New Delhi-110030
Email: corpaffairs@neepco.co.in
दिनांक/Dated 12.11.2024

विषय / Sub: Petition under section 62 and 79 (1) of the Electricity Act,2003 read with related provisions of the Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations,2023 and with relevant Regulations under Chapter-3 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for: (a) Carrying out **truing up exercise** for the period 2019-24 with respect to the capital expenditure including additional capital expenditure incurred during the period of 2019-24 in respect of Turial Hydro Power Station (60 MW) (hereinafter referred to as **TrHPS**), of North Eastern Electric Power Corporation Limited (NEEPCO), Shillong, (b) Truing up exercise for determination of **shortfall of energy charges** beyond the control of the Generating Station during 2019-24 and (c) **Determination of Tariff** for the period 01.04.2024 to 31.03.2029 in respect of TrHPS.

महोदय /Dear Sir,

This has reference to the above, Please find enclosed Petitions in respect of Turial Hydro Power Station (60 MW) (hereinafter referred to as TrHPS) of North Eastern Electric Power Corporation Limited (NEEPCO), Shillong for truing up exercise for the period 2019-24 and Determination of Tariff for the 01.04.2024 to 31.03.2029 in respect of TrHPS.

This is for kind consideration of the Honourable Commission.

धन्यवाद/Thanking you,

संलग्नक: यथोक्त/Encl: As above

भवदीया/Yours faithfully,

(रिजुअर्य मुद्रया)
मुख्य महाप्रबंधक

नीपको लिमिटेड, नई दिल्ली-66

दिनांक/Dated: 12.11.2024

ज्ञापन सं./CA/37/414-417

1. मुख्य अभियन्ता, विद्युत और बिजली विभाग, कावलपैथ, नया सचिवालय परिसर, आइजोल - 796005, मिजोरम
2. सदस्य सचिव, नॉर्थ ईस्टर्न रीजनल पावर कमिटी, एनईआरपीसी कॉम्प्लेक्स, डोंग परमाव, लापालांग, शिलांग - 793006, मेघालय
3. महाप्रबंधक, नॉर्थ ईस्टर्न रीजनल लोड डिस्पैच सेंटर, झोंटीह, लोअर नोंग्रह, लापालांग, शिलांग -793006, मेघालय
4. अधीक्षण अभियन्ता, राज्य लोड डिस्पैच सेंटर, बिजली और बिजली विभाग, मिजोरम सरकार, पावर हाउस कॉम्प्लेक्स, इलेक्ट्रिक वेग, आइजोल - 796006

1. Chief Engineer, Power & Electricity
Deptt.,Kawlpeetha, New Secretariat Complex, Aizawl -
796005, Mizoram.

2. Member Secretary, North Eastern Regional Power
Committee, NERPC Complex, Dong Parmaw, Lapalang,
Shillong-793006, Meghalaya.

3. General Manager, North Eastern Regional Load
Despatch Centre, Dongtich, Lower Nongrah, Lapalang,
Shillong-793006, Meghalaya.

4. The Superintending Engineer, State Load Despatch
Centre,Power & Electricity Department, Government of Mizoram,
Power House Complex, Electric Veng, Aizawl - 796006

मुख्य महाप्रबंधक
नीपको लिमिटेड, नई दिल्ली-66



सत्यमेव जयते

INDIA NON JUDICIAL

Government of National Capital Territory of Delhi

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Certificate Issued Date : 17-Nov-2023 11:49 AM
Account Reference : IMPACC (IV)/ dl754903/ DELHI/ DL-DLH
Unique Doc. Reference : SUBIN-DL75490359899326707652V
Purchased by : NEEPCO LIMITED
Description of Document : Article 4 Affidavit
Property Description : Not Applicable
Consideration Price (Rs.) : 0
(Zero)
First Party : NEEPCO LIMITED
Second Party : SUBMISSIONS OF DATA TO CERC
Stamp Duty Paid By : NEEPCO LIMITED
Stamp Duty Amount(Rs.) : 10
(Ten only)



Please write or type below this line:
BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION, NEW DELHI

IN THE MATTER OF:

Petition under section 62 and 79 (1) of the Electricity Act, 2003 read with related provisions of the Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and with relevant Regulations under Chapter-3 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for: (a) Carrying out **truing up exercise** for the period 2019-24 with respect to the capital expenditure including additional capital expenditure incurred during the period of 2019-24 in respect of Turial Hydro Power Station (60 MW) (hereinafter referred to as TrHPS), of North Eastern Electric Power Corporation Limited (NEEPCO), Shillong. (b) Truing up exercise for determination of **shortfall of energy charges** beyond the control of the Generating Station during 2019-24 and (c) **Determination of Tariff** for the period 01.04.2024 to 31.03.2029.

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AND

IN THE MATTER OF:

North Eastern Electric Power Corporation Limited
Corporate Office: Brookland Compound
Lower New Colony, Shillong 793 003
Meghalaya

— PETITIONER

VERSUS

Power & Electricity Department,
Government of Mizoram,
New Secretariat Complex, Kawlphetha, Aizawl – 796006 and 03 (Three) others

RESPONDENTS

Affidavit verifying the submission of NEEPCO.

I Ripunjoy Bhuyan, Chief General Manager (Tech) son of Late Deb Nath Bhuyan, aged about 51 years presently residing at Hatigarh Charali, Guwahati- 781021, do solemnly affirm and state as follows:

1. That I am Chief General Manager (Tech) in the Petitioner - North Eastern Electric Power Corporation Limited and am well conversant with the facts of the case and am competent to swear the present affidavit.
2. That I have read the contents of the accompanying submission filed by North Eastern Electric Power Corporation Limited and have understood the contents of the same.
3. That the contents of the accompanying submission are based on information available with the petitioner in the normal course of business and believed by the deponent to be true.
4. That the annexures to the submissions are true and correct copies of their original



Deponent

VERIFICATION:

Verified at New Delhi on 12.11.2024, that the contents of above affidavit are true to the best of my knowledge, no part of it is false and nothing material has been concealed therefrom.



ATTESTED
NOTARY PUBLIC INDIA
10 3 NOV 2024

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

PETITION NO: /2024

IN THE MATTER OF:

Petition under section 62 and 79 (1) of the Electricity Act,2003 read with related provisions of the Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations,2023 and

(a)Chapter-3 Regulation 13 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for carrying out truing up exercise for the period 2019-24 with respect to the capital expenditure including additional capital expenditure incurred during the period of 2019-24 and

(b) Chapter-11 Regulation 65 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 of truing up exercise for determination of shortfall of energy charges beyond the control of the Generating Station during 2019-24 which has already been billed to Respondent no-1 and

(c) Chapter-3 Regulation 9 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for Determination of Tariff for the period 01.04.2024 to 31.03.2029

In respect of **Tuirial Hydro Power Station (60 MW)** (hereinafter referred to as **TrHPS**) of **North Eastern Electric Power Corporation Limited (NEEPCO)**, Shillong.

AND IN THE MATTER OF:

North Eastern Electric Power Corporation Limited
Corporate Office: Brookland Compound Lower New Colony,
Shillong 793 003 Meghalaya

----- PETITIONER

VERSUS

The Engineer-in-Chief, Power & Electricity Department, Government of Mizoram, Kawlphetha,
New Secretariat Complex, Aizawl – 796005 & 3 (three) others

----- RESPONDENTS



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NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED

THROUGH

(Ripunjoy Bhuyan)

CGM (Commercial), NEEPCO

Place: Delhi

Dated



BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

PETITION NO: /2024

IN THE MATTER OF:

Petition under section 62 and 79 (1) of the Electricity Act,2003 read with related provisions of the Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations,2023 and

(a)Chapter-3 Regulation 13 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for carrying out truing up exercise for the period 2019-24 with respect to the capital expenditure including additional capital expenditure incurred during the period of 2019-24 and

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in respect of Tuirial Hydro Power Station (60 MW) (hereinafter referred to as TrHPS) of North Eastern Electric Power Corporation Limited (NEEPCO), Shillong.

AND IN THE MATTER OF :

North Eastern Electric Power Corporation Limited

Corporate Office : Brookland Compound

Lower New Colony, Shillong 793 003

Meghalaya



----- PETITIONER

VERSUS

RESPONDENTS:

1. Engineer In Chief

Power & Electricity Department,
Government of Mizoram,
New Secretariat Complex, Kawlphetha, Aizawl – 796006.

2. Member Secretary

North Eastern Regional Power Committee,
NERPC Complex, Dong Parmaw
Lapalang, Shillong-793006,
Meghalaya.

3. Executive Director

North Eastern Regional Load Despatch Centre
Dongtiah, Lower Nongrah,
Lapalang, Shillong -793006,
Meghalaya.

4. The Superintending Engineer

State Load Despatch Centre
Power & Electricity Department
Government of Mizoram
Power House Complex, Electric Veng,
Aizawl - 796006

It is respectfully submitted by the petitioner:-

(a) TRUING UP EXERCISE FOR THE PERIOD 2019-24

1. The North Eastern Electric Power Corporation Limited (hereinafter referred to as **NEEPCO**), a Government of India Enterprise established under Companies Act, 1956 came into existence on 2nd April, 1976 with its Headquarters at Shillong, Meghalaya.



2. The Petitioner is having power stations/projects at different states/locations of the North Eastern Region of the country. The Tuirial Hydro Power Station (60 MW) (hereinafter referred to as TrHPS) is one of such generating stations located at " Kolasib District of Mizoram" having an installed capacity of 60 MW.
3. **Tuirial Hydro Power Station (60 MW) (hereinafter referred to as TrHPS)** owned and operated by NEEPCO, is a medium head storage scheme on River Tuirial / Sonai, a tributary of river Barak in Kolasib district of the state of Mizoram.

The **Tuirial Hydro Power Station (TrHPS)**, situated on the River Tuirial, has an installed capacity of 60 MW (2 X 30 MW). The power station consists of a 75 m high Zoned Earth Fill Dam, 2 nos. of Diversion Tunnels of diameter 8.0 m and length 787.8 m each, 2 Nos. Vertical Francis Turbines with installed capacity 2x30 MW and annual Design Energy 250.63 MU. The dates of commercial operation of individual units of the Generating Station are indicated in the table below:

Unit No.	Date Of Commercial Operation	Unit Capacity
UNIT – 1	30.10.2017	30 MW
UNIT – 2	30.01.2018	30 MW
Station COD	30.01.2018	

4. It is submitted that the electricity generated from TrHPS is being supplied to the respondents at Sl.No.1 mentioned herein above.
5. The Annual Design Energy of the **Tuirial Hydro Power Station** is 250.63 MU.
6. **NAPAF and AEC:-** As per order dtd 16th April, 2021 Petition No. 390/GT/2020, Hon'ble Commission allowed NAPAF and Auxiliary Energy Consumption as 85% and 1% . However NEEPCO filed a Petition 390/GT/2020 praying relaxation of Normative Plant Availability Factor (NAPAF) to 72 % and Auxiliary Energy Consumption 4.30 %. Hon'ble Commission



vide order dtd 10.12.2023 Petition **125/MP/2021 (Annexure-B)** relaxed the NAPAF to 75% based on of actual PAF achieved by the generating station from the period 2019-20 to 2022-23 invoking the powers vested under Regulations 54 of the Tariff Regulations, 2014, and Regulations 76 of the Tariff Regulations, 2019 from the Date of Commercial Operation of the Plant the instant generating station i.e. for the 2014-19 tariff period and 2019-24 tariff period . Hon'able commission also opined that he relaxed norms for the 2019-24 period are subject to the final recommendation of CEA, which will be considered at the time of true-up. However , Commission allowed NAPAF of 75% for the period 2024-29 in Tariff Regulations 2024-29.

Commission in the same order allowed AEC of 4.304% of for the 2014-19 period based on the average weighted AEC data (para 34 above) as submitted by the petitioner by invoking the powers vested in it under Regulations 54 of the Tariff Regulations, 2014 from the Date of Commercial Operation of the Plant the instant generating station i.e. for the 2014-19 tariff period. For the 2019-24 tariff period, AEC will be decided based on the recommendation by the CEA.

In compliance of Commission's order dtd 10.12.2023 , NEEPCO wrote a letter to CEA on 17.01.2024 , Hydro Project Appraisal Division requesting approval of relaxed norms for NAPAF and AEC. NEEPCO also mentioned that the detailed data regarding relaxed NAPAF has already been submitted to CEA vide letter dtd 20.08.2019. The model study report submitted by NEEPCO in relation to NAPAF was agreed by CEA vide letter dtd 30.09.2020. NEEPCO submitted the actual AEC data from 2019-20 to Dec 2023 requesting for their recommendation of AEC as 4.81% during 2029-24. NEEPCO had sent reminder on 07.08.2024 to CEA for the same.All correspondences with CEA ia attached in **Annexure-G**

7. The Hon'ble Commission has determined the tariff of **TrHPS** for the period 01.04.2019 to 31.03.2024 and approved the Annual Fixed Charges (AFC) for the tariff period 2019-24 vide its order dated 16.04.2021 in **Petition No. 390/GT/2020** in accordance with the Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2019.-**Annexure-D**

8. **Capital Cost:** The capital cost as on 31.03.2019 admitted for the purpose of tariff by the Commission in the above order was Rs. ₹81721.90 lakh



9. **Additional Capitalization and De-capitalization:** As per relevant regulations under Chapter-7 of CERC Tariff Regulations 2019 (Computation of additional capital expenditure) to be allowed by the Commission in the Tariff.
10. The petitioner has capitalized various expenditures incurred during the FYs 2019-24 in the books of TrHPS. Accordingly, the Petitioner have proposed to revise the Annual Fixed Charges for the Power Station for the period of 2019-24 showing impact thereof during the said period through this petition for the purpose of carrying out truing up exercise by the Hon'ble Commission.
11. The application is made before the Hon'ble Commission for revision of tariff for the TrHPS in terms of the CERC (Terms and Conditions of Tariff) Regulations, 2019 clause 13 for the purpose of truing up based on additional capital expenditure incurred during the period of 2019-24.
- (i) The Additional capitalization and De-capitalization approved during the period 2019-24 as per Order dtd 16.04.2021 in Petition No. 390/GT/2020.
 - (ii) However, the additional capitalization claimed during the period 2019-24 has been worked out as detailed in **Annexure-A**.
 - (iii) The aforesaid additional capitalization to be considered for tariff purpose after adjustment of de-capitalization.
 - (iv) All auditor's certificates related to ADDCAP , DeCAP , Gross Block , Capital Cost etc are attached in **Annexure-E**
 - (v) All supporting documents wit regard to ADDCAP, statutory requirement etc are attached in **Annexure-F**
12. The revised Annual Fixed Charges (AFC) for the Power Station for the period of 2019-24 have been calculated & furnished (**Annexure-A**) duly considering the admissible additional capital expenditure actually incurred during 2019-24 for the said purpose. Further, in terms of Regulation 31 of Central Electricity Regulatory Commission (Terms



and Conditions of Tariff) Regulations, 2019, the Return on Equity for each financial year has been "Grossed up" with the applicable effective tax rates for the years 2019-24.

13. **Security expenses:** As per paragraph no. 35 of Tariff Regulation 2019, Security Expenses for Hydel generating stations are allowed separately. The security expenses at actual claimed along with auditor certificates during the period of 2019-24 amounting to total Rs. 458.02 lakh is detailed in Annexure-A has bene submitted by the petitioner for truing up.

FINANCIAL YEAR	AMOUNT (in Rs. Lakh)
2019-20	83.57
2020-21	88.90
2021-22	110.14
2022-23	73.18
2023-24	102.23

14. **Capital Spares:** As per paragraph no. 35 of Tariff Regulation 2019, Security Expenses for Hydel generating stations are allowed separately. The security expenses at actual claimed along with auditor certificates during the period of 2019-24 amounting to total Rs. 251.64 lakh is detailed in Annexure-A has bene submitted by the petitioner for truing up.

15. It is submitted that the petitioner has paid the requisite filing fee in compliance of Regulation 3 of CERC (Payment of Fees) Regulation 2012 amounting to ₹ 90,28,800/- deposited through SAUDAMINI e-filing portal for payment of annual application fees for determination of Tariff for the FY 2024-25 and detail of the same has been communicated to the Hon'ble Commission vide letter no. NEEPCO/ED/COMML/F-41/2024-25/42 dtd 10/04/2024 in respect of generating stations of NEEPCO. Copy of the letter is attached (Annexure -C).

16. The details of documents annexed to this petition are given in the Index.



PRAYER

The petitioner, therefore, most humbly prays that the Hon'ble Commission may kindly be pleased to:

- (i) Approve the Revised Annual Fixed Charges in respect of TrHPS, after considering the impact of net capitalization done during 2019-24 as per the details given in Annexure- A to this Petition.
- (ii) Allow relaxation of NAPAF and AEC as 75% and 4.304 % .
- (iii) Allow recovery of publication expenses from the beneficiaries incurred with regards to this petition.
- (iv) Allow recovery from the beneficiaries any such tax, cess levied in NEEPCO in relation to generation and supply/distribution of electricity.
- (v) Allow recovery of filing fees relating to the period of 2019-24 from the beneficiaries as and when the same paid to the Hon'ble Commission.
- (vi) Pass any other order in this regard as the Hon'ble Commission may find appropriate in the circumstances pleaded above.

NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED

THROUGH



(Ripunjoy Bhuyan)

CGM (Commercial), NEEPCO

Place: Delhi

Dated:



IT IS RESPECTFULLY SUBMITTED BY THE PETITIONER:

b) Truing up exercise for determination of shortfall of energy charges beyond the control of the Generating Station during 2019-24

IN THE MATTER OF:

Petition under section 62 and 79 (1) of the Electricity Act, 2003 read with related provisions of the Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2003 and Chapter-11 Regulation 65 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004 of truing up exercise for determination of shortfall of energy charges beyond the control of the generating Station during 2019-24 in respect of Turrial Hydro Power Station (60 MW) (hereinafter referred to as TrHPS) of North Eastern Electric Power Corporation Limited (NEEPCO), Shillong. (which has already been billed to Respondent no-1)

AND IN THE MATTER OF:

North Eastern Electric Power Corporation Limited
Corporate Office: Brookland Compound Lower New Colony,
Shillong 793 003 Meghalaya

----- PETITIONER

VERSUS

The Engineer-in-Chief, Power & Electricity Department, Government of Mizoram,
Kawlphetha, New Secretariat Complex, Aizawl – 796005 & 3 (three) others

----- RESPONDENTS



A handwritten signature in blue ink, appearing to be "Raj", written over a horizontal line.

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NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED

THROUGH

(Ripunjoy Bhuyan)

CGM (Commercial), NEEPCO

Place: Delhi

Dated:



BEFORE THE HONB'LE CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

PETITION NO: /2024

IN THE MATTER OF:

Petition under section 62 and 79 (1) of the Electricity Act,2003 read with related provisions of the Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations,2023 and Chapter-11 Regulation 65 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 of truing up exercise for determination of shortfall of energy charges beyond the control of the Generating Station during 2019-24 In respect of Tuirial Hydro Power Station (60 MW) (hereinafter referred to as TrHPS) during 2019-24 of **North Eastern Electric Power Corporation Limited (NEEPCO)**, Shillong. (which has already been billed to Respondent no-1)

AND IN THE MATTER OF :

North Eastern Electric Power Corporation Limited
Corporate Office : Brookland Compound
Lower New Colony, Shillong 793 003
Meghalaya

----- **PETITIONER**

VERSUS

RESPONDENTS:

1. Engineer In Chief
Power & Electricity Department,
Government of Mizoram,
New Secretariat Complex, Kawlphetha,Aizawl – 796006.



2. Member Secretary
North Eastern Regional Power Committee,
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3. Executive Director,
North Eastern Regional Load Despatch Centre
Dongtieh, Lower Nongrah,
Lapalang, Shillong -793006,
Meghalaya.

4. The Superintending Engineer,
State Load Despatch Centre
Power & Electricity Department
Government of Mizoram
Power House Complex, Electric Veng,
Aizawl - 796006



IT IS RESPECTFULLY SUBMITTED BY THE PETITIONER:

Truing up exercise for determination of shortfall of energy charges beyond the control of the Generating Station during 2019-24

IN THE MATTER OF:

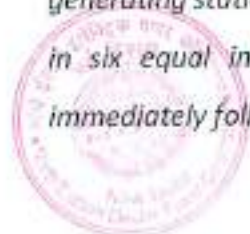
Petition under section 62 and 79 (1) of the Electricity Act, 2003 read with related provisions of the Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Chapter-11 Regulation 65 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 of truing up exercise for determination of shortfall of energy charges beyond the control of the Generating Station during 2019-24 In respect of Tuirial Hydro Power Station (60 MW) (hereinafter referred to as TrHPS) during 2019-24 of North Eastern Electric Power Corporation Limited (NEEPCO), Shillong. (which has already been billed to Respondent no-1)

1. The **North Eastern Electric Power Corporation Limited** (hereinafter referred to as **NEEPCO**), a Government of India Enterprise established under Companies Act, 1956 came into existence on 2nd April, 1976 with its Headquarters at Shillong, Meghalaya.

2. The Petitioner is having power stations/projects at different states/locations of the North Eastern Region of the country. Tuirial Hydro Power Station (60 MW) (hereinafter referred to as **TrHPS**) is one of such generating stations located at "Kolasib District of Mizoram" having an installed capacity of 60 MW.

3. Regulation 65(7&8) of the CERC (Terms and Conditions of Tariff) Regulations, 2024, allows the recovery of shortfall in energy charges for reasons beyond the control of generating stations during the tariff period 2019-24 directly from the beneficiaries. The relevant Regulations are as follows: -

"65(7) In case the saleable scheduled energy (ex-bus) of a hydro generating station during a year is less than the saleable design energy (ex-bus) for reasons beyond the control of the generating station, the generating station may directly recover the shortfall in energy charges in six equal interest-free monthly instalments after adjusting for DSM Energy in the immediately following year and shall be subject to truing up at the end of the tariff period.



Provided that in case actual generation from a hydro generating station is less than the design energy for a continuous period of four years on account of hydrology factor, the generating station shall approach the Central Electricity Authority with relevant hydrology data for revision of design energy of the station."

"65(8)Any shortfall in the energy charges on account of saleable scheduled energy (ex-bus) being less than the saleable design energy (ex-bus) during the tariff period 2019-24, which was beyond the control of the generating station and which could not be recovered during the said tariff period shall be recovered in accordance with clause (7) of this Regulation. "

In the previous Tariff Regulations 2019-24, filing of petitions for recovery of shortfall of energy charges was necessary. In the present Tariff Regulations 2024-29, commission has given liberty to the generating stations to directly recover the shortfall of energy. However, the recovery amount will be subject to truing up at the end of the tariff period.

Commission in its recent order dtd. 20.01.24 on various Petitions of NHPC allowed recovery of shortfall of energy charges of hydro stations for the tariff period 2019-2021.

With the above-mentioned facts in the background and following the methodology in the order dtd, 20.01.24, NEEPCO has calculated the recovery of shortfall of energy charges for the period from 2019 to 2014 for reasons beyond the control of the generating station.

In case of Tuirial Power Station the following factors have been taken into consideration as un controllable :-

- 1)Less Inflow of water w.r.t Design flow
- 2)Less Schedule (i.e. URS -Difference between DC & Schedule.)
- 3)Transmission Constraints



1) Less Inflow of water w.r.t Design flow:-

We have gathered the following data for each day of the respective financial years to ascertain the uncontrollable factors of less Inflow of water w.r.t Design flow :-

- a) Water inflow data b) Actual Generation data c) Outage data d) IMD data -
Annexure-H

The following formulae have been used to calculate the maximum possible saleable ex-bus generation corresponding to actual inflows available during each day of a financial year.

Maximum possible saleable ex-bus generation for a day = Design energy for the day x Actual inflow (cumecs) x K1 x K2 / Design Inflow

Where K1 represents the multiplying factor to account for the Free Energy of 12% to home states, and K2 represents the multiplying factor to account for the auxiliary consumption. A summation of such derived values for the whole financial year represents the maximum possible saleable ex-bus generation for the year. Difference between the Saleable Ex bus design energy and maximum possible exbus energy is the shortfall/excess of generation on account of Inflow of water.

2) Less Schedule (i.e. URS -Difference between DC & Schedule.)

Mizoram is the only beneficiary of Turial HPS . As per the PPA clause 2.2 signed with Mizoram it was clearly mentioned that entire quantum of Power is allocated to Mizoram for their consumption and trading outside the State in case of Surplus. Mizoram did not schedule the entire declared power (DC) in spite repeated reminders .For Schedule being less ,energy charges of THPS could not be recovered by NEEPCO. Mizoram SLDC does not have Web based Scheduling system so far. Day wise block wise DC was informed on day ahead basis by NEEPCO to Mizoram SLDC through emails. Mizoram conveyed Schedule through emails.

Mizoram issued Energy Accounting at the end of the month and sends through email to NEEPCO.



3)Transmission Constraints:- Tuirial is connected through 132 KV transmission line owned and maintained by P&E Deptt. Mizoram. Power could not be evacuated when there was outages in the line. Transmission constrains is also considered as an uncontrollable factor.

Year wise shortfall of energy is calculated as per the following Table:-

ENERGY SHORTFALL BEYOND CONTROL OF THE GENERATING STATION							
Name of the station-THPS	Unit	Year					
Uncontrollable factors	MU	2019-20	2020-21	2021-22	2022-23	2023-24	Total
Maximum possible generation wrt to available flow	MU	231.882	205.260	208.974	268.735	199.150	
Design energy	MU	250.630	250.630	250.630	250.630	250.630	
1)Shortfall/Excess wrt to DE	MU	18.748	45.370	41.656	-18.105	51.480	139.14
2)Energy Loss Due To Transmission Constraints	MU	0.068	0.984	0.335	0.846	0.549	
3)Less Schedule(i.e.URS - Difference between DC & ScH)	MU	59.133	60.915	81.401	70.272	93.265	364.98
Total	MU	77.949	107.269	123.392	53.013	145.295	
Ex bus energy restricted to "Shortfall of energy "	MU	61.736	77.245	95.305	38.908	110.726	
DSM Energy	MU						
Net energy for shortfall calculation	MU	61.736	77.245	95.305	38.908	110.726	
ECR	Rs/Kw H	2.678	2.673	2.659	2.645	2.632	
Recovery amount	Rs Cr.	16.53	20.65	25.34	10.29	29.14	101.95
Design Energy	MU	250.6	250.6	250.6	250.6	250.6	
Saleable Design Energy	MU	211.1	211.1	211.1	211.1	211.1	
Sch Energy	MU	169.7	152.1	131.5	195.6	114.0	



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Free Power	MU	20.4	18.2	15.8	23.5	13.7	
Salesable sch Energy	MU	149.3	133.8	115.8	172.2	100.3	
Shortfall of energy	MU	61.73	77.25	95.31	38.90	110.72	383.903
Recovery amount	Rs Cr.	16.53	20.65	25.34	10.29	29.14	101.95

Accordingly an amount of Rs 102.07 Cr was billed to Mizoram on 30.04.2024. **Annexure-I**.

However, after calculation with reconciled figure, shortfall of energy charges bill becomes Rs.101.952 Cr. due to minor change in Scheduled Energy. While reconciling the billing on account of Energy loss due to Transmission Constraint it was found that further analysis of data is required. Thereafter P&E Department has requested not to press upon the billing against the ground of transmission constraint amounting to Rs. 74.0 Lakhs. Accordingly, the revised due amount stands at Rs.101.21 Crore. Calculation sheet is enclosed as **Annexure-J**.

NEEPCO is in process of revision of Design Energy for Tuirial HPS. The Hydrological data of Tuirial HPS for calculation of revised design energy has been forwarded to CWC on 26.10.2021 for clearance of the same. However, since there were series of communication/discussion/Presentation with CWC in this regard and finally after updating the data by inclusion of further information, the final submission was made to CWC on 04.04.2024 for examination and concurrence. The revised design energy calculation will be submitted to CEA after necessary vetting of the hydrology by CWC. Correspondences with CWC is attached in **Annexure- K**.

Petitioner has submitted measured/calculated inflow data and rainfall maps from the Indian Metrological Department to HP & I Division , CEA for kind examination and certification in order for submission of true up Petition. **Annexure-L**

PRAYER

The petitioner, therefore, most humbly prays that the Hon'ble Commission may kindly be pleased to:



- i) The Commission may kindly allow recovery of shortfall of energy charges amounting to Rs 101.95 Cr alongwith applicable interest .
- ii) The Commission may kindly allow the revision of energy charges after revision of Annual Fixed Cost through trough true up exercise for 2019-24.
- iii) Pass such other and further order / orders as are deemed fit and proper in the facts and circumstances of the case.

NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED

THROUGH



(Ripunjoy Bhuyan)

CGM (Commercial), NEEPCO

Place: Delhi

Dated:



IT IS RESPECTFULLY SUBMITTED BY THE PETITIONER:

c) DETERMINATION OF TARIFF FOR THE PERIOD 01.04.2024 TO 31.03.2029

IN THE MATTER OF:

Petition under section 62 and 79 (1) of the Electricity Act,2003 read with related provisions of the Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations,2023 and Chapter-3 Regulation 9 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for Determination of Tariff for the period 01.04.2024 to 31.03.2029

AND IN THE MATTER OF:

North Eastern Electric Power Corporation Limited
Corporate Office: Brookland Compound Lower New Colony,
Shillong 793 003 Meghalaya

----- PETITIONER

VERSUS

The Engineer-in-Chief, Power & Electricity Department, Government of Mizoram,
Kawlphetha, New Secretariat Complex, Aizawl – 796005 & 3 (three) others

----- RESPONDENTS



INDEX

Sl. No.	Particulars	Page No.
1	Petition	
2	Affidavit	
3	Summary (Tariff form) of revised Annual Fixed Charges for the period of 2024-29 including additional capital expenditure to be incurred during the period and related forms there-to Annexure -L .	
4	Proof of filing fees- Annexure-C	

NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED

THROUGH



(Ripunjoy Bhuyan)

CGM (Commercial), NEEPCO

Place: Delhi

Dated:



BEFORE THE HONB'LE CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

PETITION NO: /2024

IN THE MATTER OF:

Petition under section 62 and 79 (1) of the Electricity Act,2003 read with related provisions of the Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations,2023 and Chapter-3 Regulation 9 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for Determination of Tariff for the period 01.04.2024 to 31.03.2029

AND IN THE MATTER OF :

North Eastern Electric Power Corporation Limited
Corporate Office : Brookland Compound
Lower New Colony, Shillong 793 003
Meghalaya

----- **PETITIONER**

VERSUS

RESPONDENTS:

1. Engineer In Chief
Power & Electricity Department,
Government of Mizoram,
New Secretariat Complex, Kawlphetha,Aizawl – 796006.
2. Member Secretary
North Eastern Regional Power Committee,
NERPC Complex, Dong Parmaw
Lapalang, Shillong-793006, Meghalaya.



3. Executive Director,
North Eastern Regional Load Despatch Centre
Dongtieh, Lower Nongrah,
Lapalang, Shillong -793006,
Meghalaya.

4. The Superintending Engineer,
State Load Despatch Centre
Power & Electricity Department
Government of Mizoram
Power House Complex, Electric Veng,
Aizawl - 796006

IT IS RESPECTFULLY SUBMITTED BY THE PETITIONER:

DETERMINATION OF TARIFF FOR THE PERIOD 01.04.2024 TO 31.03.2029

IN THE MATTER OF:

Petition under section 62 and 79 (1) of the Electricity Act, 2003 read with related provisions of the Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Chapter-3 Regulation 9 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for Determination of Tariff for the period 01.04.2024 to 31.03.2029

1. The **North Eastern Electric Power Corporation Limited** (hereinafter referred to as **NEEPCO**), a Government of India Enterprise established under Companies Act, 1956 came into existence on 2nd April, 1976 with its Headquarters at Shillong, Meghalaya.

2. The Petitioner is having power stations/projects at different states/locations of the North Eastern Region of the country. The Tuirial Hydro Power Station (60 MW) (hereinafter referred to as **TrHPS**) is one of such generating stations located at "Kolasib District of Mizoram" having an installed capacity of 60 MW.



3. **Tuirial Hydro Power Station (hereafter referred to as "TrHPS")** owned and operated by NEEPCO, is a medium head storage scheme on River Tuirial / Sonai, a tributary of river Barak in Kolasib district of the state of Mizoram

The Tuirial Hydro Power Station (60 MW) (hereinafter referred to as TrHPS), situated on the River Tuirial, has an installed capacity of 60 MW (2 X 30 MW). The power station consists of a 75 m high Zoned Earth Fill Dam, 2 nos. of Diversion Tunnels of diameter 8.0 m and length 787.8 m each, 2 Nos. Vertical Francis Turbines with installed capacity 2x30 MW and annual Design Energy 250.63 MU. The dates of commercial operation of individual units of the Generating Station are indicated in the table below:

Unit No.	Date Of Commercial Operation	Unit Capacity
UNIT - 1	30.10.2017	30 MW
UNIT - 2	30.01.2018	30 MW
Station COD	30.01.2018	

4. It is submitted that the electricity generated from TrHPS is being supplied to the respondents at Sl.No.1 mentioned herein above.

5. The Hon'ble Commission has determined the tariff of TrHPS for the period 01.04.2019 to 31.03.2024 and approved the Annual Fixed Charges (AFC) for the tariff period 2019-24 vide its order dated 16.04.2021 in Petition No. 390/GT/2020 in accordance with the Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2019.

6. **Capital Cost:** The capital cost as on 31.03.2019 admitted for the purpose of tariff by the Commission in the above order was Rs. ₹81721.90 lakh .



The Petitioner has submitted final true up Petition for **TrHPS** for revision of Annual Fixed Charges (AFC) for the period of 01.04.2019-to 31.03.2024 on account of actual capital expenditure incurred during the said period.

8. The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 (hereinafter referred to as Tariff Regulations, 2024), which have come into force with effect from 01.04.2024, specifying the terms & conditions and methodology for determination of tariff for a period of 05 (five) years from 01.04.2024 to 31.03.2029. The Petitioner is filing the present petition for determination of tariff for **TrHPS** for the period of 01.04.2024 to 31.03.2029 as per the said Tariff Regulations, 2024.
9. Regulation 9(2) of the Tariff Regulations 2024 states about application for determination of tariff for the period 1st April 2024 to 31st March 2029, which is extracted as below:

"(2) In case of an existing generating station or unit thereof, or transmission system or element thereof, the application shall be made by the generating company or the transmission licensee, as the case may be, by 30.11.2024, based on admitted capital cost including additional capital expenditure already admitted and incurred up to 31.3.2024 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2024-29 along with the true up petition for the period 2019-24 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2019."

10. The Annual Fixed Cost (AFC)for **TrHPS** for the period of 2024-29 have been worked out in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 as under (Part – II, Form -1):

₹ in lakh

Financial year	2024-25	2025-26	2026-27	2027-28	2028-29



AFC	13792.06	13953.71	14056.11	14196.77	14387.22
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11. The above AFC is exclusive of any taxes, duties, cess etc., if any, imposed/levied by the appropriate authorities. Any such tax, cess etc. levied on NEEPCO in relation to generation and supply/distribution of electricity and payable accordingly shall be recoverable from the beneficiaries in proportion to their Annual Capacity Charges.
12. Details of the projected Additional Capital Expenditure during the period 2024-29 claimed under the relevant clauses of the Tariff Regulations, 2024 are detailed in the attached Form 9 (A) of Tariff Form enclosed as **Annexure-L**.
- 13. Security expenses:** In terms of Tariff Regulation-2024, Clauses 34 and 36 of Chapter-8 (Computation of Annual Fixed Cost), the Petitioner humbly submits the projected/estimated security expenses year wise for deployment of security as follows for acceptance of the Hon'ble Commission:

FINANCIAL YEAR	AMOUNT (in Rs. Lakh)
2024-25	100.00
2025-26	100.00
2026-27	100.00
2027-28	100.00
2028-29	100.00

14. It is submitted that the petitioner has paid the requisite filing fee in compliance of Regulation 3 of CERC (Payment of Fees) Regulation 2012 amounting to ₹ 90,28,800/- deposited through SAUDAMINI e-filing portal for payment of annual application fees for determination of Tariff for the FY 2024-25 and detail of the same has been communicated to the Hon'ble Commission vide letter no. NEEPCO/ED/COMML/F-41/2024-25/42 dtd



10/04/2024 in respect of generating stations of NEEPCO. Copy of the letter is attached (Annexure -C).

The details of documents annexed to this petition are given in the Index.

PRAYER

The petitioner, therefore, most humbly prays that the Hon'ble Commission may kindly be pleased to:

- (vii) Approve the tariff in respect of TrHPS for the period of 01.04.2024 to 31.03.2029 and allow recovery of arrears from the beneficiaries, if any, on account of revision of tariff.
- (viii) Allow recovery of Security Expenses and Capital Spare .
- (ix) Allow recovery of filing fees relating to the period of 2024-29 from the beneficiaries as and when the same paid to the Hon'ble Commission.
- (x) Allow recovery from the beneficiaries the publication expenses incurred with regard to this petition.
- (xi) Allow to recover from the beneficiaries any levies, tax, cess etc., if any, as mentioned in paragraph 11 above.

NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED

THROUGH


(Ripunjoy Bhuyan)

CGM (Commercial), NEEPCO

Place: Delhi

Dated:



PART-II

**Checklist of Forms and other information/ documents for tariff filing for
Hydro Stations (TrHPS)**

Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM- 1	Summary of Tariff	Yes
FORM -1 (I)	Statement showing claimed capital cost	Yes
FORM -1 (II)	Statement showing Return on Equity	Yes
FORM-2	Details of COD, Type of hydro station, Normative Annual Plant Availability Factor (NAPAF) & Other normative parameters considered for tariff calculation	Yes
FORM-3	Salient Features of Hydroelectric Project	Yes
FORM- 4	Details of Foreign loans	NA
FORM- 4A	Details of Foreign Equity	NA
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	Yes
FORM-5A	Abstract of Capital Cost Estimates and Schedule of Commissioning for the New projects	NA
FORM-5B	Break-up of Capital Cost for Hydro Power Generating Station	NA
FORM-5C	Break-up of Capital Cost for Plant & Equipment	NA
FORM-5D	Break-up of Construction/Supply/Service packages	NA
FORM-5Ei	In case there is cost over run	NA
FORM-5Eii	In case there is time over run	NA
FORM- 6	Financial Package up to COD	NA
FORM- 7	Details of Project Specific Loans	NA
FORM- 8	Details of Allocation of corporate loans to various projects	NA
FORM-9A	Statement of Additional Capitalization after COD	Yes
FORM 9B	Statement of Additional Capitalization during end of the Project	NA
FORM 9Bi	Details of Asset De-capitalized during the period	Yes
FORM- 9C	Statement showing reconciliation of ACE claimed with the capital additions as per books	Yes
FORM- 9D	Statement showing items/assets/works claimed under Exclusions	Yes
FORM- 9E	Statement of Capital cost	Yes
FORM- 9F	Statement of Capital Woks in Progress	Yes



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Form No.	Title of Tariff Filing Forms (Hydro)	Tick
FORM- 10	Financing of Additional Capitalization	Yes
FORM- 11	Calculation of Depreciation on original project cost	Yes
FORM- 12	Statement of Depreciation	Yes
FORM- 13	Calculation of Weighted Average Rate of Interest on Actual Loans	Yes
FORM- 13A	Calculation of Interest on Normative Loan	Yes
FORM- 13B	Calculation of Interest on Working Capital	Yes
FORM- 13C	Non-Tariff Income	Yes
FORM- 13D	Incidental Expenditure during Construction	NA
FORM- 14	Draw Down Schedule for Calculation of IDC & Financing Charges	Yes
FORM- 14A	Actual cash expenditure	Yes
FORM- 15A	Design energy and peaking capability (month wise)- ROR with Pondage/Storage type new stations	Yes
FORM- 15B	Design energy and MW Continuous (month wise)- ROR type stations	Yes
FORM- 16	Statement of Liability Flow	Yes
FORM- 17	Operation & Maintenance Expense	Yes
FORM- 18	Details of Statutory Charges	Yes
FORM- 19	Summary of issue involved in the petition	NA

By





PART-II
FORM-1

Summary of Tariff

Name of the Payee: NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
 Name of the Generating Station: TURRAL HYDRO POWER STATION
 Region: North Eastern Region.
 000

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	No. in Letters
1.1	Depreciation	1644.80	1957.74	1660.78	1688.88	1660.88
1.2	Interest on Loan	3812.45	3937.64	3409.31	3233.55	3116.43
1.3	Interest on Equity	2096.49	3493.97	2490.41	3484.04	2925.87
1.4	Interest on Working Capital	505.74	243.66	233.34	233.57	274.48
1.5	D & M Expenses	3000.60	3317.07	3008.43	3533.10	2007.44
	Annual Excess Charges before Global Gains, Security Expenses	11268.18	11388.21	11282.62	11275.60	11329.13
	Capital Spares	51.61	6.00	105.03	4.81	57.54
	Security Expenses	83.57	84.91	119.14	75.48	92.24
	Annual Fixed Charges	11383.36	11508.12	11487.79	11354.98	11378.91

Note: Details of variations, including tariffs per register, in the schedule

(Payee's)

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TUIRIAL HYDRO POWER STATION

Rs. in Lakh

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Opening Capital Cost	81721.90	82764.47	83409.16	82868.65	84019.57
2	Add: Addition during the year/period	395.29	96.18	168.31	739.16	834.10
3	Less: Decapitalisation during the year/period	54.83	32.40	879.06	116.84	0.11
4	Less: Reversal during the year/period	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year/period	702.10	580.91	66.67	483.33	173.30
6	Closing Capital Cost	82764.47	83409.16	82868.65	84019.57	85069.60
7	Average Capital Cost	82243.18	83086.82	83138.91	83444.11	84544.58

Statement showing claimed capital cost eligible for R.o.E at normal rate (A)

Rs. in Lakh

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Opening Capital Cost	81721.90	82764.47	83332.90	82688.82	83794.47
2	Add: Addition during the year/period	395.29	19.92	168.31	739.16	834.10
3	Less: Decapitalisation during the year/period	54.83	32.40	879.06	116.84	0.11
4	Less: Reversal during the year/period	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year/period	702.10	580.91	66.67	483.33	173.30
6	Closing Capital Cost	82764.47	83332.90	82688.82	83794.47	84801.76
7	Average Capital Cost	82243.18	83048.68	83010.86	83241.64	84298.11

Statement showing claimed capital cost eligible for R.o.E at weighted average rate of interest on actual loan portfolio (B)

Rs. in Lakh

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Opening Capital Cost	0.00	0.00	76.26	179.83	225.11
2	Add: Addition during the year/period	0.00	76.26	103.56	45.28	42.73
3	Less: Decapitalisation during the year/period	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year/period	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year/period	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	0.00	76.26	179.83	225.11	267.84
7	Average Capital Cost	0.00	38.13	128.05	202.47	246.47



NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
TURBUL HYDRO POWER STATION

Name of the Positioner :
Name of the Governing Station :
COD

Statement showing Return on Equity of Normal Rate

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	1 Gross Operating Equity (Normal)	12288.29	12414.87	12492.83	12463.32	12469.17
2	2 Less: Adjustment in Equity	0.00	0.00	0.00	0.00	0.00
3	3 Adjustment during the year	0.00	0.00	0.00	0.00	0.00
4	4 Net Operating Equity (Normal)	12288.29	12414.87	12492.83	12463.32	12469.17
5	5 Add: Increase due to addition during the year / period	58.29	2.84	25.25	110.87	132.13
6	6 Less: Decrease due to depreciation during the year / period	8.22	4.86	13.14	17.53	20.02
7	7 Less: Decrease due to undistributed surplus during the year / period	0.00	3.07	0.00	0.00	0.00
8	8 Add: Increase due to Reserves during the year / period	1814.87	12488.32	12410.32	12393.17	12720.38
9	9 Net closing Equity (Normal)	12346.48	12487.30	12451.83	12398.33	12344.72
10	10 Average Equity (Normal)					
11	11 Rate of ROE	19.992%	19.992%	19.992%	19.992%	19.992%
12	12 TOTAL ROE	3485.46	2480.85	2459.48	3086.46	2528.09

Statement showing Return on Equity at Weighted Average Rate of Interest on Actual Loan Portfolio

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	1 Gross Operating Equity (Normal) to Provision to Regulation 3(3)(i)	0.00	0.00	10.45	23.97	27.77
2	2 Less: Adjustment in Equity	0.00	0.00	0.00	0.00	0.00
3	3 Adjustment during the year	0.00	0.00	0.00	0.00	0.00
4	4 Net Operating Equity	0.00	0.00	10.45	23.97	27.77
5	5 Add: Increase due to addition during the year / period	0.00	0.00	0.00	0.00	0.00
6	6 Less: Decrease due to depreciation during the year / period	0.00	0.00	0.00	0.00	0.00
7	7 Less: Decrease due to undistributed surplus during the year / period	0.00	0.00	0.00	0.00	0.00
8	8 Add: Increase due to Reserves during the year / period	0.00	0.00	0.00	0.00	0.00
9	9 Net closing Equity (Normal) to Provision to Regulation 3(3)(i)	0.00	0.00	10.45	23.97	27.77
10	10 Average Equity (Normal) to Provision to Regulation 3(3)(i)	0.00	0.00	0.00	0.00	0.00
11	11 Rate of ROE (Weighted average rate of interest on actual loan portfolio)	0.00%	0.00%	0.97%	1.13	1.79
12	12 Total ROE					
	(WABRI) on actual loan portfolio	5.70%	6.07%	6.42%	6.24%	6.10%
	(WABRI) on actual loan portfolio after grossing up	6.31%	6.80%	7.16%	6.88%	6.18%

Note:
1. Adjustment of equity as per provision Regulation 3(3)(i) of 2019 Tariff Regulation.
2. With respect to equity credits, the Generating Company is required to accumulate self-financing amounts such as towards maintenance, depreciation and replacement of assets.

(Positioner)



Details of COD, Type of Hydro station, Normalised Annual Plant Availability Factor, (NAPAF) & other normative parameters considered for tariff calculation.

Name of the Petitioner: NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

	Particulars	Unit	Year Ending March													
			2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28				
1	Installed Capacity	(1)	56	60	60	60	60	60	60	60	60	60	60	60	60	60
2	Free power to home state	%	12	12	12	12	12	12	12	12	12	12	12	12	12	12
3	Free power under Local Area development Fund (LADF)															
4	Date of commercial operation (actual/anticipated)															
	Unit - 1															
	Unit - 2															
	Unit - 3															
5	Type of Station															
	a) Surface / underground															
	b) Run-of-River / Pondage / Storage															
	c) Peaking / non-peaking															
	d) No. of hours of peaking															
	e) Overhead capacity (MW) & period															
6	Type of excitation															
	a) Rotating exciter on generator															
	b) Static excitation															
7	Design Energy (Annual) ¹	MWh														
	Auxiliary Consumption including Transformation Losses	%														
8	Normalised Plant Availability Factor (NAPAF) ²	%														
9.1	Maintenance Spares for WC	% of O&M	472.84	495.60	521.75	541.94	560.95									
9.2	Recoveries for WC	In Month	1386.70	1394.20	1387.31	1303.95	1400.44									
9.3	Base Rate of Return on Equity	%	16.5	16.5	16.5	16.5	16.5									
9.4	Base Rate of Return on Equity on AOP	%	16.5	16.5	16.5	16.5	16.5									
9.5	Tax Rate ³	%														
9.6	Effective Tax Rate ⁴	%														
9.7	Base Rate + 300 basis points as at the beginning of the year	%		12.65%	11.25%	10.97%	10.50%	10.50%	10.50%	10.50%	10.50%	10.50%	10.50%	10.50%	10.50%	10.50%

1. Month wise 10 - day Design energy figures to be given separately with the petition.
2. Tax rate applicable to the company for the year FY 2018 - 19 should also be furnished.
3. Mention relevant date
4. Effective tax rate is to be computed in accordance with Regulation 31 i.e. actual tax (or advance tax) / gross income, where gross income refers the profit before tax.

(Petitioner)

Salient Features of Hydroelectric Project

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TUIRIAL HYDRO POWER STATION

1. Location	
State / Distt.	
River	
2. Diversion Tunnel	
Size, shape	
Length (M)	
3. Dam	
Type	
Maximum dam height (M)	
4. Spillway	
Type	
Crest level of spillway (M)	
5. Reservoir	
Full Reservoir Level (FRL) (M)	
Minimum Draw Down Level (MDDL) (M)	
Live storage (MCM)	
6. De - silting Chamber	
Type	
Number and Size	
Particle size to be removed (mm)	
7. Head Race Tunnel	
Size and type	
Length (M)	
Design discharge (Cumecs)	
8. Surge Shaft	
Type	
Diameter (M)	
Height (M)	
9. Penstock / Pressure shafts	
Type	
Diameter & Length (M)	
10. Power House	
Installed capacity (No of units X MW)	
Type of turbine	
Rated Head (M)	
Rated Discharge (Cumecs)	
Head at Full Reservoir Level (M)	
Head at Minimum Draw down Level (M)	
MW Capability at FRL	
MW Capability at MDDL	
11. Tail Race Tunnel / Channel	
Diameter (M), shape	
Length (M)	
Minimum tail water level (M)	
12. Switchyard	
Type of Switch gear	
No. of generator bays	
No. of Bus coupler bays	
No. of line bays	
Efficiency (overall) Turbine and generator	

Note : Specify limitation on generation during specific time period (s) on account of restrictions on water use due to irrigation, drinking water, industrial, environmental considerations etc.

(Petitioner)





Abstract of Admitted Capital Cost for the existing Projects.

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

Name of the Generating Station : TUIRIAL HYDRO POWER STATION

Rs. In Lakhs

	Capital Cost as admitted by CERC	
a)	Capital Cost admitted as on <u>31.03.2019</u>	81721.9
	(Give reference of the relevant CERC Order with Petition No. & Date)	
	Petition No.329/GT/2019 dttd. 10.03.2021	
b)	Foreign Component, if any (In Million US \$ or the relevant Currency)	
c)	Foreign Exchange rate considered for the admitted Capital cost (Rs Lakh)	
d)	Total Foreign Component (Rs. Lakh)	
e)	Domestic Component (Rs. lakh)	
f)	Hedging cost, if any, considered for the admitted Capital cost (Rs Lakh)	
	Total Capital cost admitted (Rs. Lakh) (d+e+f)	81721.9


(Petitioner)



Details of Project Specific LoansName of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TUIRIAL HYDRO ELECTRIC PROJECT

Rs. in lakh

Particulars	DONER Grant	GOI Subordinate loan
Source of Loan ¹	Govt. of India	Govt. of India
Currency ²	INR	INR
Amount of Loan sanctioned	30000.00	29196.72
Amount of Gross Loan drawn upto 31.03.2014/COD ^{3, 4, 5, 13, 15}	30000.00	29196.42
Interest Type ⁶	N/A	Fixed
Fixed Interest Rate, if applicable	N/A	1% payable after COD
Base Rate, if Floating Interest ⁷	N/A	N/A
Margin, if Floating Interest ⁸	N/A	N/A
Are there any Caps/Floor ⁹	N/A	N/A
If above is yes, specify caps/floor	N/A	N/A
Moratorium Period ¹⁰	N/A	16 years
Moratorium effective from	N/A	Dates of drawal as per Annexure I
Repayment Period ¹¹	N/A	15 years
Repayment effective from	N/A	16 th year from COD
Repayment Frequency ¹²	N/A	Yearly
Repayment Instalment ^{13, 14}	-	1946.43
Base Exchange Rate ¹⁵	-	-
Are foreign currency loan hedged?	-	-
If above is yes, specify details ¹⁷	-	-

(Petitioner)

Note:

- Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMS, FNB, SBI, ICICI, IFC, PFC etc.
- Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.
- Details are to be submitted as on 31.03.2014 for existing assets and as on COD for the remaining assets.
- Where the loan has been refinanced, details in the Form is to be given for the loan refinanced. However, the details of the original loan is to be given separately in the same form.
- If the Tariff in the petition is claimed separately for various units, details in the Form is to be given separately for all the units in the same form.
- Interest type means whether the interest is fixed or floating.
- Base rate means the base as PLR, LIBOR etc. over which the margin is to be added. Documentary evidence for applicable base rate on different dates from the date of drawal may also be enclosed.
- Margin means the points over and above the floating rate.
- All times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits.
- Moratorium period refers to the period during which loan servicing liability is not required.
- Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.
- Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.
- Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.
- If the repayment instalment amount and repayment date cannot be worked out from the data furnished above, the repayment schedule is to be furnished separately.
- In case of Foreign loan, date of each drawal & repayment along with exchange rate at that date may be given with documentary evidence.
- Base exchange rate means the exchange rate prevailing as on 31.03.2014 for existing assets and as on COD for the remaining assets.
- In case of hedging, specify details like type of hedging, period of hedging, cost of hedging, etc.
- In case of foreign loans, provide details of exchange rate considered on date of each repayment of principal and date of interest payment.
- At the time of fixing up rate of interest with relevant reset date (if any) to be furnished separately.
- At the time of fixing up provide details of refinancing of loans considered earlier. Details such as date on which refinancing done, amount of refinanced loan, terms and conditions of refinanced loan, financing and other charges incurred for refinancing, etc.
- Call or put option, if any exercised by the generating company for refinancing of loan.
- Copy of loan agreement.





Model PART - B, Form-B

1. Source of loan means the agency from whom the loan has been taken such as WB, ADB, JWB, FNB, SBI, ICICI, IFC, IFD etc.
2. Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.
3. Details are to be submitted as on 31.03.2014 for existing assets and as on COD for the remaining assets.
4. Where the loan has been refinanced, details in the Form is to be given for the loan refinanced. However, the details of the original loan is to be given separately in the same form.
5. If the Tarriff is claimed separately for various units, details in the Form is to be given separately for all the units in the same form.
6. Interest type means whether the interest is fixed or floating.
7. Base rate means the base rate (PLR, LIBOR etc.) over which the margin is to be added. Documentary evidence for applicable base rate at different dates from the date of draw may also be enclosed.
8. Margin means the period over and above the floating rate.
9. At times option/term are put at which the floating rate are loans. If such a condition exists, specify the limits.
10. Maturity period refers to the period during which loan servicing facility is not required.
11. Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.
12. Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.
13. Where there is more than one drawdown/repayment for a loan, the date & amount of each drawdown/repayment may also be given separately.
14. If the repayment instalment amount and repayment date cannot be worked out from the data furnished above, the repayment schedule to be furnished separately.
15. In case of foreign loan, date of each drawal & repayment along with exchange rate at that date may be given with documentary evidence.
16. Base exchange rate means the exchange rate prevailing as on 31.03.2014 for existing assets and as on COD for the remaining assets.
17. In case of hedging, specify details like type of hedging, period of hedging, cost of hedging, etc.
18. In case of foreign loans, provide details of exchange rate considered on date of each repayment of principal and date of interest payment.
19. At the time of being up to date of interest with relevant asset date (if any) to be furnished separately.
20. At the time of being up to date of interest with relevant asset date (if any) to be furnished separately.
21. Call or put option, if any exercised by the generating company for refinancing of loan, terms and conditions of refinanced loan, financing and other charges incurred for refinancing etc.
22. Copy of loan agreement.

Year-wise Statement of Additional Contributions as at 31/03/2024

2019-24

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M/s. SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED
 10/10, SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED
 10/10, SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED
 CHENNAI - 600 028
 CIN: U74999TN2018PTC000001



Sl. No.	Particulars	Approved lease (Rs. in Lakhs)	Accumulated Liability included in P&L (Rs. in Lakhs)	Good lease	OCI (Rs. in Lakhs)	Regulatory under which operate	Particulars
1.	Particulars						
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED						
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	1.87					
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	4.52					
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	3.11					
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	45.28		45.28			
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	1.12			1.12		
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	2.24			2.24		
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	1.52			1.52		
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	1.07			1.07		
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	1.48			1.48		
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	38.52	38.52	38.52			
2.	Particulars						
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	24.87			24.87		
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	48.38		48.38			
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	3.18		3.18			
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	11.11		11.11			
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED						
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	3.28		3.28			
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	3.71		3.71			
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	3.11		3.11			
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	1.82		1.82			
	CONTRIBUTION TO SRI LAKSHMI INVESTMENTS & FINANCIAL SERVICES PRIVATE LIMITED	2.27		2.27			
	TOTAL	95.15	38.52	95.15	88.14		



3. 2019-2020 YILI DÖNEMİ İÇİN YAPILAN İZLENİMLERİN ÖZETİ MÜHÜRLENMİŞ GÖRÜMLERİN ÖZETİ	13.03	113.02	27.08	1038.1	<p>Özetlenen dönem içinde yapılan çalışmaların ve faaliyetlerin özeti aşağıda sunulmaktadır. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur.</p>
KURUMSAL GELİMLERİN ÖZETİ	27.08	37.86	27.08	27.08	<p>Kurumsal gelişmelerin özeti aşağıda sunulmaktadır. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur.</p>
KURUMSAL GELİMLERİN ÖZETİ	34.42	34.42	34.42	34.42	<p>Kurumsal gelişmelerin özeti aşağıda sunulmaktadır. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur.</p>
KURUMSAL GELİMLERİN ÖZETİ	42.81	42.81	42.81	42.81	<p>Kurumsal gelişmelerin özeti aşağıda sunulmaktadır. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur.</p>
KURUMSAL GELİMLERİN ÖZETİ	27.08	27.08	27.08	27.08	<p>Kurumsal gelişmelerin özeti aşağıda sunulmaktadır. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur.</p>
KURUMSAL GELİMLERİN ÖZETİ	39.20	41.25	39.20	39.20	<p>Kurumsal gelişmelerin özeti aşağıda sunulmaktadır. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur.</p>
KURUMSAL GELİMLERİN ÖZETİ	2.02	1.07	2.02	2.02	<p>Kurumsal gelişmelerin özeti aşağıda sunulmaktadır. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur.</p>
KURUMSAL GELİMLERİN ÖZETİ	0.31	0.23	0.31	0.31	<p>Kurumsal gelişmelerin özeti aşağıda sunulmaktadır. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur.</p>
KURUMSAL GELİMLERİN ÖZETİ	81.28	411.23	81.28	81.28	<p>Kurumsal gelişmelerin özeti aşağıda sunulmaktadır. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur.</p>
KURUMSAL GELİMLERİN ÖZETİ	238.36	238.08	238.36	238.36	<p>Kurumsal gelişmelerin özeti aşağıda sunulmaktadır. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur.</p>
KURUMSAL GELİMLERİN ÖZETİ	7.02	1.02	7.02	7.02	<p>Kurumsal gelişmelerin özeti aşağıda sunulmaktadır. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur.</p>
TOPLAM	394.44	632	394.44	394.44	<p>Kurumsal gelişmelerin özeti aşağıda sunulmaktadır. Bu raporun hazırlanmasında ilköğretim kurumlarında yapılan çalışmaların özeti ile ilgili olarak aşağıdaki bilgiler sunulmuştur.</p>

No.	Particulars	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	Provision for gratuity and other provisions	389.88	384.86					
2	Staff welfare expenses	28.00	32.00					
3	Staff provident fund	8.14	5.60					
4	Staff gratuity	467.77	441.77					
5	Staff pension	8.77	5.20					
6	Staff gratuity	2.28	3.30					
7	Staff gratuity	878.05	972.83					
8	Total							



1. Provide the budget for the year 2023-24 for the items mentioned in the table above as well as the budget for the year 2024-25.
2. The budget for the year 2023-24 for the items mentioned in the table above is based on the budget for the year 2022-23.
3. In case of any increase/decrease in the budget for the year 2023-24 or 2024-25, the budget for the year 2022-23 shall be maintained.
4. The budget for the year 2023-24 shall be maintained for the year 2024-25 as well.
5. The budget for the year 2023-24 shall be maintained for the year 2024-25 as well.

Detail of Assets De-Capitalized during the period

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
 Name of the Generating Station : TURRIAL HYDRO ELECTRIC PLANT
 Place (Region/District/State): North Eastern Region State: MIZORAM District: KOLASHIB
 Station COD :- 30.01.2018

Sr. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalized (Rs. in Lakh)		Depreciation recovered till date of de-capitalization. (Rs. in Lakh)
1	2	3	4	5	6
2019-2020					
1	Main Plant Building -Power House	Additional capital expenditure	34.50	2017	1.559
2	TEMPORARY NON-RESID BUILDING	Additional capital expenditure	11.44	2009	11.44
3	WATER SUPPLY AND SANITATION	Additional capital expenditure	0.19	2018	0.03
4	Fire Fighting Equipment :-	Additional capital expenditure	4.38	2003	4.07
5	Camp Equipment :-	Additional capital expenditure	0.94	2012	0.85
6	Furniture & Fixture :-	Additional capital expenditure	0.21	2010	0.22
7	Other EOP Equipment :-	Additional capital expenditure	0.60	2010	0.54
8	Indoor Electrification :-	Additional capital expenditure	1.78	2008	1.63
9	Plant Assets-Misc value :-	Additional capital expenditure	0.14	2011	0.14
		TOTAL :-	54.83		21.36
2020-2021					
1	Guest House Equipment :-	Additional capital expenditure	0.77	2004	0.77
2	WATER TREATMENT PLANT	Additional capital expenditure	0.88	2015	0.82
3	Ordinary Tools & Plants :-	Additional capital expenditure	6.82	2018	7.07
4	Genry Equipment :-	Additional capital expenditure	1.45	1999	1.45
5	Laboratory & Maintenance Equip:-	Additional capital expenditure	4.26	2004	3.89
6	Audio Visual Equip :-	Additional capital expenditure	0.05	2001	0.05
7	Furniture & Fixture :-	Additional capital expenditure	4.73	2010	4.73
8	Other EOP Equipment :-	Additional capital expenditure	0.11	2019	0.11
9	Office Equipments:-	Additional capital expenditure	4.72	2019	4.72
10	Misc. Equipment :-	Additional capital expenditure	0.12	2018	0.12
		TOTAL :-	32.40		30.68
2021-2022					
1	Dam & Spillway :-	Additional capital expenditure	26.10	29.10.2017	6.018
2	Guest House Equipment :-	Additional capital expenditure	0.45	2004	0.26
3	Special Tools & Plants :-	Additional capital expenditure	811.59	2003	730.51
4	Fire Fighting Equipment :-	Additional capital expenditure	0.05	2009	0.05
5	Main Frame Computer :-	Additional capital expenditure	4.80	2010	6.12
6	Furniture & Fixture :-	Additional capital expenditure	5.31	2010	5.30
7	Other EOP Equipment :-	Additional capital expenditure	11.14	2010	10.52
8	Audio Visual Equip :-	Additional capital expenditure	3.25	2001	3.25
9	Office Equipments:-	Additional capital expenditure	5.28	2010	5.09
10	Misc. Equipment :-	Additional capital expenditure	4.91	2010	4.82
11	Plant Assets-Misc value :-	Additional capital expenditure	1.19	2012	1.10
		TOTAL :-	879.06		773.17



Detail of Assets De-Capitalized during the period

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
 Name of the Generating Station : TUDRIAL HYDRO ELECTRIC PLANT
 Place (Region/District/State): North Eastern Region State: MIZORAM District: KOLASIB
 Station COD :- 30.01.2018

Sr. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalised (Rs. in Lakh)		Depreciation recovered till date of de-capitalization. (Rs. in Lakh)
2022-2023					
1	Steel Liner & Paving	Withdrawal of Excess Provision on Finalization of BE	87.96	30.01.2018	
2	Reservoir & Dam	Write-off Seepage measuring Device	15.17	29.10.2017	6.88
3	Guard House Equipment :-	Additional capital expenditure	0.10	2014	0.09
4	Special Tools & Plants :-	Additional capital expenditure	0.21	2009	0.21
5	TEMPORARY NON-RESIDENT BUILDING	Additional capital expenditure	24.01	2015	24.01
6	WATER TREATMENT PLANT	Additional capital expenditure	0.10	2015	0.07
7	Furniture & Fixture :-	Additional capital expenditure	2.87	2018	2.82
8	Other EOP Equipment :-	Additional capital expenditure	1.06	2018	1.06
9	Audio Visual Equip :-	Additional capital expenditure	2.59	2013	1.75
10	Indoor Electrification :-	Additional capital expenditure	0.74	2000	0.57
11	HOSPITAL EQUIPMENT	Additional capital expenditure	0.35	2015	0.13
12	Office Equipments:-	Additional capital expenditure	3.15	2013	0.72
13	Misc. Equipment :-	Additional capital expenditure	0.04	2010	0.04
14	Fixed Assets-Miscor value :-	Additional capital expenditure	0.37	2011	0.37
		TOTAL :-	116.04		35.59
2023-2024					
1	Special Tools & Plants :-	Additional capital expenditure	0.05	1998	0.01
2	Furniture & Fixture :-	Additional capital expenditure	0.08	2010	0.09
3	Misc. Equipment :-	Additional capital expenditure	0.01	2010	0.01
4	Fixed Assets-Miscor value :-	Additional capital expenditure	0.01	2012	0.01
		TOTAL :-	0.11		0.11

Note : Year wise detail need to be submitted.

(Petitioner)



Statement showing reconciliation of ACR claimed with the capital additions as per books

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station: TURIAL HYDRO POWER STATION

(Amount in Rs. Lakhs)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Closing Gross Block as per IND AS	146689.35	146553.14	146391.80	144726.45	148137.97
2	Add/Less: Adjustments					
3	Closing Gross Block as per GAAP	146689.35	146553.14	146391.80	144726.45	148137.97
4	Opening Gross Block as per IND AS	143274.80	146689.35	144553.14	141691.60	144793.46
5	Add/Less: Adjustments					
6	Opening Gross Block as per GAAP	143274.80	146689.35	144553.14	141691.60	144793.46
7	Total Additions as per books (G= 3 - 4)	314.00	83.79	-491.53	707.84	3338.53
8	Less: Additions pertaining to other Stages (give Stage wise breakup)	0	0	0	0	0
9	Net Additions pertaining to Instant project/Unit/Stage	314.00	83.79	-491.53	707.84	3338.53
10	Less: Exclusions (Items not allowable / not claimed)	139.00	0.00	28.98	31.79	2398.44
11	Net Additional Capital Expenditure Claimed (on accrual basis)	403.00	83.79	-490.48	674.05	940.09
12	Less: Un-discharged Liabilities	0.00	0.00	0.00	0.00	0.00
13	Add: Discharges of un-discharged liabilities, corresponding to admitted assets/works	0.00	0.00	0.00	0.00	0.00
14	Net Additional Capital Expenditure Claimed (on cash basis)	403.00	83.79	-490.48	674.05	940.09

Note: Reason for exclusion of any expenditure shall be given in clear terms.

(Petitioner)

RECONCILIATION OF NET ADD CAP AS PER BOOKS AND CERC FORMS

	2019-20	2020-21	2021-22	2022-23	2023-24
NET ADD CAP AS PER BOOKS (A)	554.00	83.79	-491.53	707.84	3338.53
ADD CAP AS PER CERC FORMS:					
FORM 9A	285.30	88.18	271.88	734.44	678.83
CAPITAL SPARE	65.15	-	136.69	6.28	83.37
EXCLUSION	103.00	-	28.98	30.79	2386.04
TRF CAP	14.55	37.48	054.00	135.84	8.71
NET ADD CAP AS PER CERC FORMS (B)	514.00	83.79	-491.53	707.84	3338.53
DIFFERENCE	0.00	0.00	0.00	0.00	0.00
STATUS	RECONCILED	RECONCILED	RECONCILED	RECONCILED	RECONCILED



**Statement showing Items/Assets/Works claimed under Deductions
2019-24**

Name of the Panchayat: **NORTH EASTERN ELECTRIC POWER CORPORATION LTD.**
Name of the Accounting Station: **TERMINAL HYDRO POWER STATION**
CDD / SDO/DO:

KAS-02
10/06/20

Sl. No.	Name of the Asset/Work	ICE Costed/Actual/Planned			ICE Deductions cost	Justification
		Actual (Rs in Lakhs)	Un-disbursed liability included in A-3 (Rs in Lakhs)	Cost (Rs)		
1	2	3	4	5	6	
1. For Financial Year 2019-2020						
	WORK PLAN DECLARED - CIVIL WORKS	73.06	73.06	-		After Declaration on the basis of A-3 work. Provision has been made against A-3/0001 BT, 00/01, 7/0000/01, which is not pending as on the date of filing of the return under sub-section 10(1) of the Act.
	PROVISION FOR DEFECTS IN CIVIL WORKS	1.00	-	1.00		Provision for Defects in Civil Works (PDCW) for 2019-2020. Amounting to Rs. 1.00 Lakhs. Provision for Defects in Civil Works (PDCW) for 2019-2020. Amounting to Rs. 1.00 Lakhs.
	WORKS IN PROGRESS - CIVIL WORKS	0.22	-	0.22		
	TOTAL	74.28	73.06	1.22		
	TERMINAL HYDRO POWER STATION	33.30	-	33.30		Contribution of works done at the Terminal Hydro Power Station. The Terminal Hydro Power Station has 11000 KW. Contribution of works done at the Terminal Hydro Power Station. The Terminal Hydro Power Station has 11000 KW. Contribution of works done at the Terminal Hydro Power Station. The Terminal Hydro Power Station has 11000 KW.
	Provision for Defects in Civil Works	0.80	-	0.80	Exclusion	
	TOTAL	34.10	0.00	34.10		
2. For Financial Year 2020-2021						
	TOTAL	-	-	-		
3. For Financial Year 2021-2022						
	Provision for Defects in Civil Works	1.61	-	1.61		
	TOTAL	1.61	0.00	1.61		
4. For Financial Year 2022-2023						
	SPECIAL TOOL WEAR	14.07	-	14.07		Under Special Tool Wear (STW) Scheme. The STW Scheme is a part of the Special Tool Wear (STW) Scheme. The STW Scheme is a part of the Special Tool Wear (STW) Scheme. The STW Scheme is a part of the Special Tool Wear (STW) Scheme.
	REPAIRS AND MAINTENANCE	1.28	-	1.28		
	WORKS IN PROGRESS	0.20	-	0.20		
	STATIONERY	1.38	-	1.38		
	REPAIRS AND MAINTENANCE	0.88	-	0.88		
	STATIONERY	1.30	-	1.30		
	Out Door Electricity	1.28	-	1.28		Laying of 110KV and 220KV Lines in the vicinity of the Station. - Replacement of existing cables which got damaged.
	TOTAL	20.61	0.00	20.61		
5. For Financial Year 2023-2024						
	REPAIRS AND MAINTENANCE	1.48	-	1.48		
	OFFICE EQUIPMENT	1.10	-	1.10		
	STATIONERY	1.10	-	1.10		
	REPAIRS AND MAINTENANCE	35.64	-	35.64		A. Type of work done in the vicinity of the Station. - Replacement of existing cables which got damaged.
	STATIONERY	1.28	-	1.28		
	REPAIRS AND MAINTENANCE	1.01	-	1.01		
	STATIONERY	0.88	-	0.88		
	REPAIRS AND MAINTENANCE	0.90	-	0.90		
	TOTAL	38.29	0.00	38.29		
6. For Financial Year 2024-2025						
	REPAIRS AND MAINTENANCE - CIVIL WORKS	46.37	46.37	-		Provision against A-3/0001 BT, 00/01, 7/0000/01. - As per A-3/0001 BT, 00/01, 7/0000/01.
	REPAIRS AND MAINTENANCE	215.37	215.37	-		Provision against A-3/0001 BT, 00/01, 7/0000/01. - As per A-3/0001 BT, 00/01, 7/0000/01.
	STATIONERY	2,000.00	2,000.00	-		Provision against A-3/0001 BT, 00/01, 7/0000/01. - As per A-3/0001 BT, 00/01, 7/0000/01.
	REPAIRS AND MAINTENANCE	1.30	-	1.30		
	STATIONERY	0.80	-	0.80		
	REPAIRS AND MAINTENANCE	1.25	-	1.25		
	STATIONERY	0.80	-	0.80		
	REPAIRS AND MAINTENANCE	22.07	-	22.07		Exclusion of A-3/0001 BT, 00/01, 7/0000/01. - As per A-3/0001 BT, 00/01, 7/0000/01.
	REPAIRS AND MAINTENANCE	0.07	-	0.07		
	TOTAL	47.86	47.86	0.00		
	REPAIRS AND MAINTENANCE	-	-	-		
	TOTAL	-	-	-		
	REPAIRS AND MAINTENANCE	11.00	-	11.00		
	STATIONERY	0.80	-	0.80		
	REPAIRS AND MAINTENANCE	1.00	-	1.00		
	REPAIRS AND MAINTENANCE	10.47	-	10.47		
	STATIONERY	17.30	-	17.30		
	REPAIRS AND MAINTENANCE	1.30	-	1.30		
	TOTAL	31.87	0.00	31.87		

1. In case the project has been completed and no work has been started under any bill/contract till the year, 00 lakhs. If going the cost is reduced by the purpose of the bill/contract already issued for (Name of the category/contract copy of the bill/contract).

2. The above information is to be furnished separately for each year/period of bill/contract.

3. In case of the acquisition of more specific details to be furnished at column 1, 2, 3 and 4. Further the original book value of the acquisition of work under is to be furnished at column 5. Where the cost is not provided for the year to be shown separately. Where any work is not started under the year to be shown in the original bill/contract year and original value of such work is shown at column 1, 2, 3, 4 and 5. In the original value of any year of the bill/contract to be provided at column 6.

4. Provision against A-3/0001 BT, 00/01, 7/0000/01. - As per A-3/0001 BT, 00/01, 7/0000/01.

Note:
1. For the items in the original bill/contract year when the bill/contract is not being issued for the year to be shown in the original bill/contract year. 2. In case bill/contract is not being issued for the year to be shown in the original bill/contract year. 3. In case bill/contract is not being issued for the year to be shown in the original bill/contract year. 4. In case bill/contract is not being issued for the year to be shown in the original bill/contract year. 5. In case bill/contract is not being issued for the year to be shown in the original bill/contract year. 6. In case bill/contract is not being issued for the year to be shown in the original bill/contract year.



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Year-wise Statement of Capital Spares for the period 2018-24

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
 Name of the Generating Station : TURAL HYDRO POWER STATION
 CDD : 30.05.2019
 For Financial Year : 2018-2024

Figure in Rs. Lakh

Sr No	Head of work/equipment	Accrual Basis	Uncharged liability	Cash Basis	Justification
FY 2018-20					
	DIESEL GENERATING STATION	55.51	-	55.51	800 KVA D/G Set for Ps. 068R002.00 - Spares DG set was required for ensuring emergency station supply during station black out as there was only one outgoing feeder.
	Transformer -Rating 100K.V. ABOVE	8.62	-	8.62	500KVA Distribution Transformer for Ps. 0617003.00 - 50 / 0.400 KV Distribution transformer to provide power supply from colony to the DAM, Railway, Intake gate & O-L-O gate area area for Baramitri (up/05).
	Total	64.13	0.00	64.13	
FY 2019-21					
	NIL				
FY 2021-22					
	400/220/110 KV SWITCH YARD AT SITE	8.30	-	8.30	Laying of 165Square-3.5 Core Armored Cable for Ps. 632017.00 - For interconnection scheme between into emergency DG of power house.
	TRANSFORMER RATING 100KVA AND ABOVE	110.37	-	110.37	6000KVA (220/33KV) 3 Phase Power Transformer - There was no redundancy for station supply from power house. So, this 3 MVA Oilless Transformer was procured and commissioned.
	Total	118.67	0.00	118.67	
FY 2022-23					
	COOLING WATER SYSTEM	6.45	-	6.45	Secondary Cooling Water Motor for Ps - Spares secondary CW Pump procured as the duty cycle of running pumps are on continuous basis.
	Total	6.45	0.00	6.45	
FY 2023-24					
	SERVICE & GENERAL STATION EQUIP	24.31	-	24.31	Dry Type Transformer / Oil Filtration -Capacity of existing Oil Strainer machine was less. Move over existing plant have transformer provision for its reformer vacuum. Hence new oil Strainer plant of adequate capacity was procured.
	CONTROL & INSTRUMENTATION EQUIP	31.88	-	31.88	Capacitance & Tan Delta Measurement Kit/CT A kit was - Tan Delta measurement on yearly basis is a standard condition monitoring practice for Generator Transformers. Tan Delta Kit was not available; hence procured under CAPEX.
	DIESEL GENERATING STATION	7.38	-	7.38	Procured as Capital Spares
	Total	63.57	0.00	63.57	



Statement of Capital Cost
(To be given for relevant dates and year wise)

PART-11
FORM-02

Name of the Petitioner: NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station: TURBIAL HYDRO POWER STATION

COD: 30.01.2018

S. No.	Particulars	As on relevant date, (2019-2020)	As on relevant date, (2020-2021)	As on relevant date, (2021-2022)	As on relevant date, (2022-2023)	As on relevant date, (2023-2024)
		Accrual Basis	Accrual Basis	Accrual Basis	Accrual Basis	Accrual Basis
1	2	3	3	3	2	3
A	a) Opening Gross Block Amount as per books	143974.88	144025.20	144025.14	144021.68	144028.45
	b) Amount of IDC in A(a) above	8.00	0.00	0.00	0.00	0.00
	c) Amount of FC in A(a) above	8.00	0.00	0.00	0.00	0.00
	d) Amount of PFRV in A(a) above	0.00	0.00	0.00	0.00	0.00
	e) Amount of Hedging Cost in A(a) above	0.00	0.00	0.00	0.00	0.00
	f) Amount of HEDC in A(a) above	0.00	0.00	0.00	0.00	0.00
B	a) Addition in Gross Block Amount during the period	110.00	10.00	05.00	06.00	2391.68
	b) Amount of IDC in B(a) above	0.00	0.00	0.00	0.00	0.00
	c) Amount of FC in B(a) above	0.00	0.00	0.00	0.00	0.00
	d) Amount of PFRV in B(a) above	0.00	0.00	0.00	0.00	0.00
	e) Amount of Hedging Cost in B(a) above	0.00	0.00	0.00	0.00	0.00
	f) Amount of HEDC in B(a) above	0.00	0.00	0.00	0.00	0.00
C	a) Addition in Gross Block Amount during the period	412.00	00.00	300.00	700.00	940.00
	b) Amount of IDC in C(a) above	0.00	0.00	0.00	0.00	0.00
	c) Amount of FC in C(a) above	0.00	0.00	0.00	0.00	0.00
	d) Amount of PFRV in C(a) above	0.00	0.00	0.00	0.00	0.00
	e) Amount of Hedging Cost in C(a) above	0.00	0.00	0.00	0.00	0.00
	f) Amount of HEDC in C(a) above	0.00	0.00	0.00	0.00	0.00
D	a) Deletion in Gross Block Amount during the period	54.95	30.00	00.00	110.00	0.00
	b) Amount of IDC in D(a) above	0.00	0.00	0.00	0.00	0.00
	c) Amount of FC in D(a) above	0.00	0.00	0.00	0.00	0.00
	d) Amount of PFRV in D(a) above	0.00	0.00	0.00	0.00	0.00
	e) Amount of Hedging Cost in D(a) above	0.00	0.00	0.00	0.00	0.00
	f) Amount of HEDC in D(a) above	0.00	0.00	0.00	0.00	0.00
E	a) Closing Gross Block Amount as per books	144423.20	144025.14	144021.68	144028.45	144028.45
	b) Amount of IDC in E(a) above	0.00	0.00	0.00	0.00	0.00
	c) Amount of FC in E(a) above	0.00	0.00	0.00	0.00	0.00
	d) Amount of PFRV in E(a) above	0.00	0.00	0.00	0.00	0.00
	e) Amount of Hedging Cost in E(a) above	0.00	0.00	0.00	0.00	0.00
	f) Amount of HEDC in E(a) above	0.00	0.00	0.00	0.00	0.00

Note: 1. Relevant dates means date of COD of installation and financial year start date and end date

(To Be Signed)



Statement of Capital works in Progress

(To be given for relevant dates and year wise)

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TUIRIAL HYDRO POWER STATION

Rs. In Lakhs

Sl. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	a) Opening CWIP as per books	303.83	188.69	269.20	586.86	518.09
	b) Amount of IDC in A(a) above	0.00	0.00	0.00	0.00	0.00
	c) Amount of FC in A(a) above	0.00	0.00	0.00	0.00	0.00
	d) Amount of FERV in A(a) above	0.00	0.00	0.00	0.00	0.00
	e) Amount of Hedging Cost in A(a) above	0.00	0.00	0.00	0.00	0.00
	f) Amount of IEDC in A(a) above	0.00	0.00	0.00	0.00	0.00
B	a) Addition in CWIP during the period	302.75	161.11	672.09	849.58	464.45
	b) Amount of IDC in B(a) above	0.00	0.00	0.00	0.00	0.00
	c) Amount of FC in B(a) above	0.00	0.00	0.00	0.00	0.00
	d) Amount of FERV in B(a) above	0.00	0.00	0.00	0.00	0.00
	e) Amount of Hedging Cost in B(a) above	0.00	0.00	0.00	0.00	0.00
	f) Amount of IEDC in B(a) above	0.00	0.00	0.00	0.00	0.00
C	a) Transferred to Gross Block Amount during the period	-413.91	-80.52	-351.67	-757.80	-947.56
	b) Amount of IDC in C(a) above	0.00	0.00	0.00	0.00	0.00
	c) Amount of FC in C(a) above	0.00	0.00	0.00	0.00	0.00
	d) Amount of FERV in C(a) above	0.00	0.00	0.00	0.00	0.00
	e) Amount of Hedging Cost in C(a) above	0.00	0.00	0.00	0.00	0.00
	f) Amount of IEDC in C(a) above	0.00	0.00	0.00	0.00	0.00
D	a) Deletion in CWIP during the period	-3.98	-0.07	-2.77	-160.54	0.00
	b) Amount of IDC in D(a) above	0.00	0.00	0.00	0.00	0.00
	c) Amount of FC in D(a) above	0.00	0.00	0.00	0.00	0.00
	d) Amount of FERV in D(a) above	0.00	0.00	0.00	0.00	0.00
	e) Amount of Hedging Cost in D(a) above	0.00	0.00	0.00	0.00	0.00
	f) Amount of IEDC in D(a) above	0.00	0.00	0.00	0.00	0.00
E	a) Closing CWIP as per books	188.69	269.20	586.86	518.09	34.98
	b) Amount of IDC in E(a) above	0.00	0.00	0.00	0.00	0.00
	c) Amount of FC in E(a) above	0.00	0.00	0.00	0.00	0.00
	d) Amount of FERV in E(a) above	0.00	0.00	0.00	0.00	0.00
	e) Amount of Hedging Cost in E(a) above	0.00	0.00	0.00	0.00	0.00
	f) Amount of IEDC in E(a) above	0.00	0.00	0.00	0.00	0.00

Note:

1. Relevant date/s means date of COD of unit/s/station and financial year start date and end date


 Petitioner


Financing of Additional Capitalisation.

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
 Name of the Generating Station : TUJIAL HYDRO POWER STATION
 Date of Commercial Operation : 30.01.2018

(Rs. Lakh)

Financial Year (Starting from COD) ¹	Actual					Admitted				
	Year 1	Year 2	Year 3	Year 4	Year 5 & so on	Year 1	Year 2	Year 3	Year 4	Year 5 & so on
1	2	3	4	5	6	7	8	9	10	11
Amount capitalised in Work/Equipment	From internal resources									
Financing Details										
Loan - 1										
Total										

Notes :

1. Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.
2. Loan details for meeting the additional capitalisation requirement should be given as per FORM - 7 or 8 whichever is relevant.

[Signature]
(Petitioner)



Statement of Depreciation

PART-02
NDRN-02Name of the Authority:
Name of the Generating Station:NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
TUKRAI HYDRO-ELECTRIC PLANT

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Opening Capital Cost	81721.99	82796.47	83489.16	83888.85	84018.57
2.	Closing Capital Cost	82796.47	83493.95	83888.65	84072.57	84088.00
3.	Average Capital Cost	82243.18	83095.22	83138.91	83944.11	84044.50
4.	Pro-vided life*	972.00	972.00	972.00	972.00	972.00
5.	Rate of depreciation	2.00	2.00	2.00	2.00	2.00
6.	Depreciable value	79144.57	75853.33	73050.22	74224.50	75215.33
7.	Balance useful life at the beginning of the period	33.51	37.51	34.51	35.51	34.51
	Current year Depreciation upto previous year	2235.82	3050.32	5489.38	4378.88	6012.26
8.	Remaining depreciable value	76908.75	76045.01	69560.83	69845.91	67203.25
9.	Depreciation (for the period)	1644.80	1601.74	1682.78	1688.88	1650.00
10.	Depreciation (accumulated)	1644.80	3245.74	4928.52	6617.40	8267.40
11.	Cumulative depreciation at the end of the period	3879.68	6520.98	7162.16	8047.47	9707.17
	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 31.03.2019					
12.	Less: Cumulative depreciation adjustment on account of de-capitalisation	21.36	33.36	773.17	36.00	6.11
13.						
14.	Net Cumulative depreciation at the end of the period	3658.32	6487.62	6388.99	8012.26	9703.99

1. In case of details of FERRY and AAD, give information for the applicable period.



(Signature)


Statement of Liability Fund.

Name of the Borrower: NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
NIC at the corresponding station: TUSAVAL HYDRO POWER STATION
DDP-2-20/11/2018



Party	Amount / Work	Year of actual capitalization	Original liability	Liability as on		Liability as on		Liability as on		Discharge (Yearwise) (12-20)	Discharge (Yearwise) (12-20)	Discharge (Yearwise) (12-20)	Reversal (Yearwise)	
				31.03.2019	31.03.2022	31.03.2024	31.03.2025	31.03.2024	31.03.2025					
A) For assets eligible for interest free														
M/s. JICA Ltd. (10/73)	New 8. Surtees (1.00) Station	2012-18	5480.27	7323.31	914.27	928.24	264.93	264.93	360.18	360.18	173.26			
			233.79	44.13	28.79	28.79	176.12	176.12	37.21	37.21	0	0	0	
			2306.22	493.25	86.76	86.76	148.13	148.13	246.27	246.27	0	0	0	
			6390	4.30	3.35	3.35	3202.5	3202.5	4.90	4.90	5.93	5.93	0	0
			6726.89	982.77	98.27	98.27	3.20	3.20	1.85	1.85	9.88	9.88	33.27	0
			5596.28	1792.89	1547.47	884.26	884.26	782.11	782.11	883.7	883.7	173.31		
			TOTAL											
			B) For assets eligible with an average interest rate of interest on loan.											

Details of Statutory Charges (If Applicable)

Name of the Petitioner

North Eastern Electric Power Corporation LTD

Name of the Generating Station

TUJIRIAL HYDRO POWER STATION

₹ in lakh

Sl. No	Particulars	Unit Rate	No of Units	Amount Claimed
1	Electricity Duty			0.00
2	Weber Cost			0.00


Petitioner



Calculation of Weighted Average Rate of Interest on External Loans
Name of the Proliferator: NORTH EASTIONS ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station: TURBAC, ANDHRA PRADESH STATE

Sr. No.	Particulars	As on 31.03.2019	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7	8	9	10	11	12	13
1	500 Subordinate Loan (Rs. in lakh)											
	Gross loan - Opening	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42
	Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42
	Add: Drawal (s) during the Year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Less: Repayment (s) of Loans during the year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42
	Average Net Loan	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42	29796.42
	Rate of Interest on Loan on annual basis	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
	Interest on loan	297.96	297.96	297.96	297.96	297.96	297.96	297.96	297.96	297.96	297.96	297.96
2	PSU Bonds With Secured (Rs. in lakh)											
	Gross loan - Opening	98492.80	14462.68	16662.90	16462.68	16462.68	16462.68	16462.68	16462.68	16462.68	16462.68	16462.68
	Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	98492.80	14462.68	16662.90	16462.68	16462.68	16462.68	16462.68	16462.68	16462.68	16462.68	16462.68
	Add: Drawal(s) during the Year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Less: Repayment (s) of Loans during the year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	98492.80	14462.68	16662.90	16462.68	16462.68	16462.68	16462.68	16462.68	16462.68	16462.68	16462.68
	Average Net Loan	98492.80	14462.68	16662.90	16462.68	16462.68	16462.68	16462.68	16462.68	16462.68	16462.68	16462.68
	Rate of Interest on Loan on annual basis	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
	Interest on loan	7879.42	1157.02	1333.03	1317.34	1317.34	1317.34	1317.34	1317.34	1317.34	1317.34	1317.34
3	PSU Bonds With Secured (Rs. in lakh)											
	Gross loan - Opening	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36
	Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36
	Add: Drawal(s) during the Year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Less: Repayment (s) of Loans during the year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36
	Average Net Loan	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36	33044.36
	Rate of Interest on Loan on annual basis	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%
	Interest on loan	2577.96	2577.96	2577.96	2577.96	2577.96	2577.96	2577.96	2577.96	2577.96	2577.96	2577.96
4	HSFC Long Term Loan (Rs. in lakh)											
	Gross loan - Opening											
	Cumulative repayments of Loans upto previous year											
	Net loan - Opening											
	Add: Drawal(s) during the Year											
	Less: Repayment (s) of Loans during the year											
	Net loan - Closing											
	Average Net Loan											
	Rate of Interest on Loan on annual basis											
	Interest on loan											

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Sr. No.	Particulars	As on 31.03.2019	31/3-19	2018-19	2017-18	2016-17	2015-16	2014-15	16/1-14	16/1-14	16/1-14	2013-14	16/1-14	2012-13	16/1-14	2011-12	16/1-14	2010-11	2009-10	2008-09
5	Axis Bank Long Term Loan (Pa. in book)																			
	Gross loan - Opening																			
	Cumulative repayments of Loans upto previous year																			
	Net loan - Opening																			
	Add: Drawals during the Year																			
	Less: Repayment of Loans during the year																			
	Net loan - Closing																			
	Average Net Loan																			
	Rate of Interest on Loan on annual basis																			
	Interest on loan																			
	Weighted average Rate of Interest on Loans																			
6	Total Loan																			
	Gross loan - Opening																			
	Cumulative repayments of Loans upto previous year																			
	Net loan - Opening																			
	Add: Drawals during the Year																			
	Less: Repayment of Loans during the year																			
	Net loan - Closing																			
	Average Net Loan																			
	Interest on loan																			
	Weighted average Rate of Interest on Loans																			


 Director

PART - B
FORM 13



2029-30	2029-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42	2042-43	2043-44	2044-45	2045-46	2046-47	2048-47
19	29	27	22	23	24	28	28	27	28	28	29	31	32	33	34	35	36	37
29196.43	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42
1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96
2915.51	2915.51																	
1351.48	1351.48																	
894.03	894.03																	
1.00	1.00																	
455.26	455.26																	
308.79	308.79																	
671.42	671.42																	
8.40%	8.40%																	
33.04	33.04																	

(Professor)

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2023-23	2023-21	2023-20	2023-19	2023-18	2023-17	2023-16	2023-15	2023-14	2023-13	2023-12	2023-11	2023-10	2023-09	2023-08	2023-07	2023-06	2023-05	2023-04	2023-03	2023-02	2023-01
4481.82	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02	4451.02
1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29	1526.29
2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84	2894.84
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
472.64	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68	469.68
2054.04	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05	2045.05
2028.73	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35	2021.35
8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%
352.30	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42	345.42
2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86	2542.86
2614.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87	2592.87
33428.05	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15	32982.15
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
827.06	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68	816.68
20480.14	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47	20447.47
33669.15	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87	33642.87
207.10	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08	204.08
1.80%	1.42%	1.31%	1.32%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%

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Calculation of on Working CapitalName of the Petitioner :
Name of the Generating Station :NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
TURLIAL HYDRO POWER STATION

(Amount in Rs. Lakhs)

No. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	O & M Expenses (1 month O&M & security expenses)	292.69	270.30	289.80	303.19	316.64
2	Maintenance Spares (15% of O&M & Security Expenses)	472.84	405.60	521.79	640.34	580.86
3	Receivables (45 days of AFC)	1395.70	1394.29	1387.31	1383.93	1420.44
4	Total Working Capital	2122.29	2165.21	2198.90	2224.48	2287.83
5	Rate of Interest	12.05%	11.26%	10.50%	10.50%	12.00%
6	Interest on Working Capital for the period	255.74	343.59	230.88	233.57	274.44

	2019-20	2020-21	2021-22	2022-23	2023-24
Security Expenses	83.57	88.91	110.34	73.18	302.24



(Signature)


Calculation of Interest on Normalized Loan

Name of the Petitioner :
Name of the Generating Station :NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
TUERIAL HYDRO POWER STATION

(Amount in Rs. Lakhs)

M. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	1					
	1					
	2					
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Petitioner






PART-II
FORM-13C

Non-Tariff Income

Name of the Hydro Asset: NORTH EASTERN ELECTRIC POWER CORPORATION LTD. TUIRIAL HYDRO POWER STATION .

S.No.	Parameters	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Income from rent of land or buildings	0	0	0	0	0	0
2.	Income from sale of scrap	0.01	0.05	0.03	0.49	0.00	1.05
3.	Income from advertisements	0	0	0	0	0	0

Note: To be submitted at the time of truing up


(Petitioner)



**PART-II
FORM-13D**

Incidental Expenditure during Construction

**Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TUIRIAL HYDRO POWER STATION**

(Amount in Rs. Lakh)

Sl. No.	Parameters	Upto Scheduled COD	Upto actual/ anticipated COD
A	Expenses:		
1	Employees' Benefits Expenses		
2	Finance Costs		
3	Water Charges		
4	Communication Expenses		
5	Power Charges		
6	Other Office and Administrative Expenses		
7	Others (Please Specify Details)		
8	Other Pre-Operating Expenses		
		
		
B	Total Expenses		
	Less: Income from sale of tenders		
	Less: Income from guest house		
	Less: Income recovered from Contractors		
	Less: Interest on Deposits		
		

(Petitioner)

Draw Down Schedule for Calculation of IDC & Financing Charges

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TURIAL HYDRO ELECTRIC PROJECT

Sl.	Draw Down Particulars	2013-14				2014-15				
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4	
		Quantum in Foreign currency	Exchange Rate as draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate as draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate as draw down date	Amount in Indian Rupee (₹ in lakh)
1	Loans									
1.1	Foreign Loans									
1.2	Indian Loans (Rs. in lakh)									
1.2.1	881 Short Term Loan									
	Draw down Amount			21,20.00						
	IDC			39.34						
	Financing charges			0.00						
1.2.2	881 Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.3	881 Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.4	881 Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.5	881 Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.6	881 Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.7	881 Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									



Sl.	Draw Down Particulars	Quarter 1			Quarter 2			Quarter 3			Quarter 4		
		Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)
1.2.1	SBI Short Term Loan												
	Draw down Amount												
	EC												
	Financing charges												
1.2.2	PSU Bonds/NTVs Series												
	Draw down Amount												
	EC												
	Financing charges												
1.2.3	PSU Bonds/With Series												
	Draw down Amount												
	EC												
	Financing charges												
1.2.3.0	BOI loan												
	Draw down Amount												
	EC												
	Financing charges												
1.2	Total Indian Loans												
	Draw down Amount			0.00			0.00			2125.83		0.80	
	EC			0.00			0.00			39.34		39.34	
	Financing charges			0.00			0.00			0.33		0.89	
1	Total of Loans drawn			0.00			0.00			2125.60		1.09	
	EC			0.00			0.00			39.34		39.34	
	Financing charges			0.00			0.00			0.30		0.00	
	PERY												
	Hedging Cost												
2	Equity												
2.1	Foreign equity drawn												
2.2	Indian equity drawn												
	As per Annexure II												
2	Total eqy by deployed												
	As per Annexure I												

[Signature]
 (Petitioner)

Note :
 1 Ru.27.00 crore was received as equity on July, 2016 (Annexure I attached).
 2 GOI loan (Annexure I attached).

Draw Down Schedule for Calculation of IDC & Financing Charges

Name of the Petitioner: NORTHEASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station: TURIGAL HYDRO ELECTRIC PROJECT

Sl	Draw Down Particulars	Quarter 1				Quarter 2				Quarter 3				Quarter 4			
		Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	
1	Loans																
1.1	Foreign Loans																
1.2	Indian Loans (Rs. in lakh)																
1.2.1	SBI Short Term Loan																
	Draw down Amount			23.62				23.62									
	IDC			0.13													
1.2.2	SBI Short Term Loan																
	Draw down Amount							40.08									
	IDC							64.76								64.76	
1.2.3	SBI Short Term Loan																
	Draw down Amount							30.00									
	IDC							15.19								15.19	
1.2.4	IOB Short Term Loan																
	Draw down Amount			300.00													
	IDC			25.82													
1.2.5	PNB Short Term Loan																
	Draw down Amount			190.00													
	IDC			18.03													
1.2.6	Financing charges																
	SBI Short Term Loan																
	Draw down Amount																
	IDC																
1.2.7	Financing charges																
	SBI Short Term Loan																
	Draw down Amount																
	IDC																
	Financing charges																

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Sl.	Particulars	Quarter 1				Quarter 2				Quarter 3				Quarter 4			
		Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	
1.2.8	3M Short Term Loan																
	Draw down Amount																
	IOC																
	Financing charges																
1.2.9	PSU Bonds-ATM Series																
	Draw down Amount																
	IOC																
	Financing charges																
1.2.10	PSU Bonds-XIIBH Series																
	Draw down Amount																
	IOC																
	Financing charges																
1.2.11	BDI loan																
	Draw down Amount																
	IOC																
	Financing charges																
1.2	Total Indian Loans																
	Draw down Amount																
	IOC																
	Financing charges																
1	Total of Loans drawn																
	IOC																
	Financing charges																
	FDNY																
	Hedging Cost																
2	Equity																
2.1	Foreign equity drawn																
2.2	Indian equity drawn																
2	Total equity employed																

(Signature)
(Particular)

Draw Down Schedule for Calculation of IDC & Financing Charges

Name of the Borrower: NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station: TURJIAL HYDRO ELECTRIC PROJECT

Sl.	Draw Down Particulars	Quarter 1		Quarter 2		Quarter 3		Quarter 4		
		Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)
1	Loans									
1.1	Foreign Loans									
1.2	Indian Loans (Rs. in lacs)									
1.2.1	SBI Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.2	SBI Short Term Loan									
	Draw Down Amount									
	IDC			18.81						
	Financing charges			0.02						
1.2.3	SBI Short Term Loan									
	Draw down Amount									
	IDC			8.72						
	Financing charges									
1.2.4	IOB Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.5	PNB Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.6	SBI Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.7	SBI Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									

[Handwritten Signature]





Sl.	Particulars	Quarter 1			Quarter 2			Quarter 3			Quarter 4		
		Quantity in Foreign currency	Exchange Rate as draw down date	Amount in Indian Rupee (₹ in lakh)	Quantity in Foreign currency	Exchange Rate as draw down date	Amount in Indian Rupee (₹ in lakh)	Quantity in Foreign currency	Exchange Rate as draw down date	Amount in Indian Rupee (₹ in lakh)	Quantity in Foreign currency	Exchange Rate as draw down date	Amount in Indian Rupee (₹ in lakh)
1.2.6	681 Short Term Loan												
	Draw down Amount												
	IOC												
	Financing charges												
1.2.9	PSU Bonds-XIVth Series												
	Draw down Amount												
	IOC			443.71			443.71						443.71
	Financing charges			0.28			0.28						0.28
1.2.3	PSU Bonds-XVIIIth Series												
	Draw down Amount												
	IOC			0.08			0.08						0.08
	Financing charges			0.08			0.08						0.08
1.2.10	SOI loan												
	Draw down Amount												
	IOC			0.08			0.08						0.08
	Financing charges												0.28
1.2	Total Indian Loans			1.08			1.08						1.08
	Draw down Amount			471.24			471.24						443.71
	IOC			471.24			471.24						443.71
	Financing charges			0.11			0.09						0.25
1	Total Loans drawn			0.00			0.00						0.30
	IOC			471.24			471.24						443.71
	Financing charges			0.11			0.09						0.25
	Financing Cost												
2	Equity			7.80									
2.1	Foreign equity drawn												
2.2	Indian equity drawn												
2	Total equity deployed			7.80									

(Signature)
 (Petitioner)

Draw Down Schedule for Calculation of IDC & Financing ChargesName of the Peshawar: NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station: TURIAL HYDRO ELECTRIC PROJECT

Sl.	Particulars	2016-17				2016-17			
		Quarter 1		Quarter 2		Quarter 3		Quarter 4	
	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)
1	Loans								
1.1	Foreign Loans								
1.2	Indian Loans (Rs. in lakh)								
1.2.1	SBI Short Term Loan								
	Draw down Amount								
	IDC								
	Financing charges								
1.2.2	SBI Short Term Loan								
	Draw down Amount								
	IDC								
	Financing charges								
1.2.3	SBI Short Term Loan								
	Draw down Amount								
	IDC								
	Financing charges								
1.2.4	IDB Short Term Loan								
	Draw down Amount								
	IDC								
	Financing charges								
1.2.5	PNB Short Term Loan								
	Draw down Amount								
	IDC								
	Financing charges								
1.2.6	SBI Short Term Loan								
	Draw down Amount			4000.00		45.14			48.14
	IDC			48.14					
	Financing charges			0.27					
1.2.7	SBI Short Term Loan								
	Draw down Amount								
	IDC								
	Financing charges								
									8.72





Sl.	Draw Down Particulars	Quarter 1				Quarter 2				Quarter 3				Quarter 4			
		Quantity in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantity in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantity in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantity in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantity in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	
1.2.1	888 Short Term Loan																
	Draw down Amount																
	DC																
	Financing charges																
1.2.1	980 Bonds-XIVth Series																
	Draw down Amount			441.26		441.26		3.06		441.26		0.05			441.26		
	DC															0.05	
	Financing charges																
1.2.1	980 Bonds-XVIII Series																
	Draw down Amount			0.00		0.00		0.00		0.00		0.00			0.00		
	DC															0.00	
	Financing charges																
1.2.10	GOI loan																
	Draw down Amount			0.00		0.00		0.96		0.00		0.00			0.00		
	DC															0.96	
	Financing charges																
1.2	Total Indian Loans			0.00		489.26				489.26		1773.33			489.26		
	Draw down Amount			441.26		441.26				491.43		491.43			491.43		
	DC															0.75	
	Financing charges																
1	Total of Loans drawn			0.00		489.26				491.43		1773.33			491.43		
	DC					441.26				491.43		1773.33			491.43		
	Financing charges															0.75	
	FEBV																
	Hedging Cost																
2	Equity																
2.1	Foreign equity drawn																
2.2	Indian equity drawn																
3	Total equity deployed																

[Signature]
(Pastor)

Draw Down Schedule for Calculation of IDC & Financing Charges

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TURKAL HYDRO ELECTRIC PROJECT

Sl	Draw Down Particulars	2017-18				Total Amount in Indian Rupee (₹ in lakh)						
		Quarter-1	Quarter-2	Quarter-3	Quarter-4							
		Quantum in Foreign currency	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Quantum in Foreign currency	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Quantum in Foreign currency	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Quantum in Foreign currency	Amount in Indian Rupee (₹ in lakh)
1	Loans											
1.1	Foreign Loans											
1.2	Indian Loans (Rs. in lakh)											
1.2.1	SBI Short Term Loan											
	Draw down Amount											2125.00
	IDC											140.35
	Financing charges											0.35
1.2.2	SBI Short Term Loan											
	Draw down Amount											4800.00
	IDC											232.12
	Financing charges											0.82
1.2.3	SBI Short Term Loan											
	Draw down Amount											1800.00
	IDC											83.83
	Financing charges											0.50
1.2.4	IOB Short Term Loan											
	Draw down Amount											2000.00
	IDC											77.39
	Financing charges											0.09
1.2.5	PMB Short Term Loan											
	Draw down Amount											1500.00
	IDC											54.15
	Financing charges											0.08
1.2.6	SBI Short Term Loan											
	Draw down Amount											4000.00
	IDC											193.68
	Financing charges											6.36
1.2.7	SBI Short Term Loan											
	Draw down Amount											1773.00
	IDC											48.00
	Financing charges											0.08



Sl	Particulars	Quarter 1				Quarter 2				Quarter 3				Quarter 4				Total Amount in Indian Rupee (₹ in lakh)
		Quantum in Foreign currency	Exchange Rate as draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate as draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate as draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate as draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate as draw down date	Amount in Indian Rupee (₹ in lakh)		
1.2.8	SBI Short Term Loan			400.00			40.14					40.14						400.00
	Draw down amount			400.00			40.14					40.14						160.57
	DC																	9.00
1.2.9	PSU Bonds-VIII Series																	9942.00
	Draw down Amount			310.77			310.77					310.77						3078.57
	DC			0.00			0.00					0.00						13.73
	Financing charges																	
1.2.9	PSU Bonds-VIII Series																	32044.98
	Draw down Amount			0.00			0.00					0.00						360.74
	DC			0.00			0.00					0.00						0.15
	Financing charges																	
1.2.10	SBI Loan																	0.00
	Draw down Amount			0.00			0.00					0.00						0.34
	DC			0.48			0.48					0.48						4.50
	Financing charges																	
1.2	Total Indian Loans			400.00			400.00					400.00						71005.91
	Draw down Amount			400.00			400.00					400.00						481.28
	DC			400.00			400.00					400.00						8917.00
	Financing charges																	
	Draw down Amount			0.00			0.00					0.00						10.14
	DC			0.00			0.00					0.00						0.00
	Financing charges																	
1	Total of Loans drawn			400.00			400.00					400.00						71905.91
	DC			400.00			400.00					400.00						8917.00
	Financing charges																	
	Draw down Amount			0.00			0.00					0.00						10.14
	DC			0.00			0.00					0.00						0.00
	Financing charges																	
2	Equity																	16484.89
2.1	Foreign equity drawn																	
2.2	Indian equity drawn																	16484.89
3	Total equity deployed																	16484.89

(Signature)
(Pattisara)



PART-II
FORM-14A

Actual Cash Expenditure

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TUIRIAL HYDRO POWER STATION
COD: 30.01.2018

(Amount in Rs Lakh)

Particulars	Quarter-I	Quarter-II	Quarter-III	Quarter-n (COD)
1	2	3	4	5
Expenditure towards Gross Block				
Add:expenditure towards CWTP				
Add:Capital Advances,if any.				
Less:Undischarged liabilities (included above)				
Add/Less: Others				
Payment to contractors / suppliers towards capital assets				
Cummulative payments				

Note: If there is variation between payment and fund deployment justification need to be furnished


(Petitioner)

Design energy and MW Continuous (month wise) - ROR type stations

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TUIRIAL HYDRO POWER STATION
COD: 30.01.2018

Generating Company :			
Name of Hydro-electric Generating Station :			
Installed Capacity : No of units X MW = 3 X 135			
Month		Design Energy * (MUs)	MW Continuous *
April	I		
	II		
	III		
May	I		
	II		
	III		
June	I		
	II		
	III		
July	I		
	II		
	III		
August	I		
	II		
	III		
September	I		
	II		
	III		
October	I		
	II		
	III		
November	I		
	II		
	III		
December	I		
	II		
	III		
January	I		
	II		
	III		
February	I		
	II		
	III		
March	I		
	II		
	III		
TOTAL			

* As per DPR / TEC of CEA dated


(Petitioner)



CENTRAL ELECTRICITY REGULATORY COMMISSION
New Delhi

Petition No.125/MP/2021

Coram:

Shri Jishnu Barua, Chairperson

Shri I.S. Jha, Member

Shri Arun Goyal, Member

Shri P.K. Singh, Member

Date of Order: 10th December, 2023

In the matter of

Petition under Sections 62 and 79 (1) of the Electricity Act, 2003 read with related provisions of Regulations 48 (1)(a), 48 (1)(b), 54 and 55 under Chapter-10 (Miscellaneous Provisions), of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and Regulations 66 (1), 66 (2), 76 and 77 under Chapter-15 (Miscellaneous Provisions) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of Determination of Normative Plant Availability Factor (NAPAF) and Relaxation of Norms for Auxiliary Energy Consumption (AEC) in respect of 60 MW Turrial Hydro Electric Plant.

And

In the matter of

North Eastern Electric Power Corporation Limited

Corporate Office: Brookland Compound

Lower New Colony, Shillong 793003, Meghalaya

..... **Petitioner**

Vs

1. **The Engineer-in-Chief,
Power & Electricity Department,
Government of Mizoram,
New Secretariat Complex, Kawlphetha
Aizwal- 796 001.**

2. **Member Secretary,
North Eastern Regional Power Committee,**

Order in Petition No.125/MP/2021

Page 1



NERPC Complex, Dong Parmaw
Lapalang, Shillong-793 006, Meghalaya.

3. **Executive Director,**
North Eastern Regional Load Dispatch Centre,
Dongtieh, Lower Nongrah,
Lapalang, Shillong -793 006, Meghalaya.
4. The Superintending Engineer,
Mizoram State Load Despatch Centre,
SLDC Circle, Power & Electricity Department,
New Secretariat Complex, Kawiphetha
Aizawl – 796 001.

.....Respondent

Parties Present:

Shri Ripunjoy Bhuyan, NEEPCO

ORDER

The Petitioner, NEEPCO. (hereinafter referred to as NEEPCO) has filed this petition seeking the following relief:

- a) *Approve the relaxation of Normative Plant Availability Factor (NAPAF) to 72 % for the 60 MW (2 X 30 MW) Tuirial Hydro Electric Plant for the recovery of full capacity charges with effect from COD till completion of the useful life of the plant.*
- b) *Approve the relaxation of norms allowing Auxiliary Energy Consumption (AEC) @ 4.30 % in respect of 60 MW (2 X 30 MW) Tuirial Hydro Electric Plant with effect from from COD till completion of the useful life of the plant.*
- c) *Allow recovery of arrears from the beneficiaries, if any, on account of the above relaxations.*
- d) *Allow additions/ alterations/ changes/ modifications to the Petition at a future date.*
- e) *Pass such order as this Hon'ble Commission deems fit and appropriate in the facts*
- f) *and circumstances of the case in the interest of justice.*
- g) *Condone any inadvertent omissions/errors/differences/shortcomings.*



Background

1. The North Eastern Electric Power Corporation Limited (hereinafter referred to as NEEPCO), a Government of India Undertaking established under the Companies Act, 1956, came into existence on 2nd April 1976, with its Headquarters in Shillong, Meghalaya.
2. The Tuirial Hydro Electric Power Plant (hereafter referred to as "TrHEP") owned and operated by NEEPCO, is a medium head storage scheme on the river Tuirial/Sonal, a tributary of river Barak in the Kolasib district of Mizoram. The installed capacity of the Tuirial Hydro Electric Project is 60 MW (2 X 30 MW).
3. The plant consists of a 75 m high Zoned Earth Fill Dam, 2 nos. of Diversion Tunnels of diameter 8.0 m and length 787.8 m each, an Open Chute Spillway and Surface Power House with 2 nos. of Vertical Francis Turbines with an installed capacity of 2x30 MW and an annual Design Energy 250.63 MU.

Submission of the Petitioner

4. The dates of commercial operation of individual units and the corresponding unit capacities are indicated in the table below:

Plant	Unit No.	Date of Commercial Operation	Unit Capacity
Tuirial Hydro Electric Plant (2X 30 MW)	U# I	29.10.2017	30 MW
	U# II	29.01.2018	30 MW
	Generating Station	29.01.2018	60 MW



5. The Annual Design Energy of the Tuirial Hydro Electric Power Plant is 250.63 Million units (MU).

6. It is submitted that the electricity generated from the Tuirial Hydro Electric Power Plant is being supplied to the Govt. of Mizoram.

7. The generated power from the Tuirial HEP is evacuated through a 132KV Single Circuit Transmission Line up to Kolasib Sub-Station of Govt. of Mizoram.

8. The Commission determined the tariff of Tuirial Hydro Electric Power Plant for the period 29.01.2018 (Station COD) to 31.03.2019 and approved the Annual Fixed Charges (AFC) for the control period 2014-19 vide their order dated 9.10.2018 in Petition No. 15/GT/2018 and revised the same based on true up exercise vide order dated 10.3.2021 in Petition No. 329/GT/2019 in accordance with the Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2014. The Commission determined the tariff and approved the AFCs of the Plant for the period 01.04.2019 to 31.03.2024 vide order dated 16.04.2021 in Petition No. 390/GT/2020.

9. It is humbly submitted that vide the orders aforementioned in paragraph 8 the Commission has allowed the Operational norms as follows:

- A. Normative Annual Plant Availability Factor (NAPAF): 85%.
- B. Auxiliary Energy Consumption (2014-2019 control period): 1%.
- C. Auxiliary Energy Consumption (2019-2024 control period): 1.2 %

(A). Normative Plant Availability Factor (NAPAF)



10. The Petitioner has submitted that in its aforementioned Petition Nos. 15/GT/2018, 329/GT/2019 and 390/GT/2020 had pleaded for relaxation of norms on NAPAF as 82% on the following grounds:

a. Salient features of the Tuirial Project are as follows:

FRL - 90.5 m, MDDL - 68.0 m, Normal TWL at Full load - 30.7 m, TWL with 1 unit running - 29.3 m.

b. From the above parameters, it was observed that head variation between FRL and MDDL is more than 8%, and accordingly month, month-wise peaking capability shall form the basis of fixation of NAPAF. However, monthly peaking capability was considered in DPR based on the net head. The net head has been further reduced by another 2 m considering the existing TWL as the Tail water level gets raised by approximately 2.0 m due to the raising of the river bed level downstream.

c. From the calculated monthly peaking capability, the NAPAF is obtained as 96%. Based on this, and considering all applicable allowances (10 % for outage and 5 % for N. E. Region), the final NAPAF stands at $96\% \times 0.85 = 82\%$, which was submitted to the Commission vide affidavit dated 13.07.2018 for consideration of NAPAF of 60 MW Tuirial Hydro Electric Project.

d. It was submitted by the Petitioner that the matter was pending before CEA for a final opinion.

11. The Commission vide orders dated 10th March 2021 and 16th April 2021 in Petition Nos. 329/GT/2019 and 390/GT/2020, respectively had granted liberty to the Petitioner to

file an appropriate petition for revision of NAPAF after obtaining approval of CEA on the matter.

12. In continuation of the above, the Petitioner has submitted for the kind perusal of the Hon'ble Commission:

(i) The Turrial Hydro Electric Plant is operated in a wide variation of reservoir level with full reservoir level at El. 90.5m and minimum draw-down level at El. 68.0m. Maximum reservoir level (MRL) and Normal Maximum Operating Level (Full Supply Level, FSL) are El. 95.2m and El. 90.5m respectively. Here FSL is considered as full reservoir level. This variation of 22.5m is 42.4% of the rated net head of 53.0m. This significant variation has put certain limitations in the design and subsequent operation of machines. The machines of the plant have been designed for 53m design head and thus, the demonstration of a rated installed capacity of 30 MW per machine is possible only when the reservoir level is El. 84.38m or above. Below El. 84.38m, the machine rating gets reduced gradually commensurate to the available head and it reduces even up to 17MW against the rated nameplate capacity of 30MW.

(ii) This characteristic has become evident during the operation of the plant for the last three years. The turbine model study carried out before the manufacturing of the machine also clearly shows this reduction in MW capability. This issue covered in the model study was submitted to CEA for examination. CEA vide letter dated 30.9.2020, agreed to the outcome of the study. The study, inter alia, shows MW limitations as given below:

Sl. No.	Head (m)	Max. permissible MW per machine
1	59.7	31.05



2	56.7	31.05
3	53	31.05
4	44.7	25.30
5	34.2	17.00

(iii) As the reservoir level is directly related to the Plant Availability Factor (PAF) of the plant, additional letup is due for the Normative Annual Plant Availability Factor (NAPAF).

Regulation 50(A) (1) (b) of the Tariff Regulations, 2019 and Regulation 37

(1) (b) of the Tariff Regulations, 2014 reads as :

"In case of storage and pondage type of plants with head variation between full reservoir level and minimum draw down level is more than 8% and when plant availability is not affected by silt, the month wise peaking capability as provided by the project authorities in the DPR (approved by CEA or the State Government) shall form basis of fixation of NAPAF"

(iv) DPR for the plant prepared by CEA/CWC was very old (1991), and the discussed characteristic was not covered in month-wise peaking capability; nonetheless, the plant's head variation between full reservoir level and minimum draw-down level is more than 8% and plant availability has not been affected by silt. Because of the inadequacy of DPR, the Corporation has not been able to get the benefit of lower NAPAF under the above provision.

Regulation 50(A) (2) of the Tariff Regulations, 2019 and Regulation 37 (2)

of the Tariff Regulations, 2014 reads as :

"A further allowance may be made by the Commission in NAPAF determination under special circumstances, e.g. abnormal silt problem or other operating conditions, and known plant limitations."

The reduction in MW output, as discussed above, is a known and established plant limitation in operating conditions. Therefore, the plant deserves lower NAPAF by virtue of the above-referenced regulation.



Further, Regulation 50 (3) of the Tariff Regulations, 2019 and Regulation 37 (3) of the Tariff Regulations, 2014 states:

"A further allowance of 5% may be allowed for difficulties in North East Region."

(v) Reduced NAPAF is calculated based on model study output vetted by CEA and actual reservoir level for the last three years since the commissioning of the plant. Month-wise maximum MW capability is calculated corresponding to the average monthly reservoir level based on model study output.

PAF, without considering the discussed limitation, is 85% for the plant, and therefore, the proposed reduced **NAPAF is 70%** with a 15% reduction (10 % for outage + 5 % for N. E. Region) from the calculated value of 85 %.

13. In view of the facts and circumstances mentioned above, it is humbly submitted that the Commission may be pleased to revise the NAPAF of the 60 MW Tuirial Hydro Electric Power Plant in accordance with the opinion of CEA with effect from the Date of Commercial Operation of the Plant invoking the powers vested in it under Regulations 54 (Power to Relax) and 55 (Power to Remove Difficulties) of the Tariff Regulations, 2014, and Regulations 76 (Power to Relax) and 77 (Power to Remove Difficulties) of the Tariff Regulations, 2019.

(B) Auxiliary Energy consumption (AEC)

14. It is humbly submitted that vide the orders aforementioned in paragraph 8 the Commission has allowed Auxiliary Energy Consumption (AEC) @ 1% for the period 2014-19 and @ 1.2 % for the 2019-24 control period.

15. However, it has been observed from the actual operational data that the auxiliary energy consumption is in excess of the normative of 1.0 % and 1.2 % and stands at 3.03



% in 2017-18 (1 unit running -3 months and 2 units running- 2 months), 4.48 % in 2018-19, 4.04 % in the year 2019-20 and 4.65 % in 2020-21 (up to Aug'2020). The above mentioned auxiliary consumption is tabulated as follows with respect to the gross generation of the plant:

Parameter	30.10.20 17 to 31.03.20 18	01.4.201 8 to 31.03.20 19	01.4.201 9 to 31.03.20 20	01.04.2020 to 31.08.2020 (5 months only)	Average Weighted AEC considering w.e.f.01.4.20 18.
Gross Energy generation (MU)	79.1057	168.435	177.0114	46.05	4.304 %
Total ex-bus energy generation (MU)	76.8697	160.7812	169.6915	43.9198	
Auxiliary Energy Consumption (MU)	2.3989	7.5529	7.1563	2.1421	
Auxiliary Energy Consumption (%)	3.03252	4.48416	4.04285	4.65168	

16. Petitioner has submitted that the reasons for the auxiliary energy consumption in Turrial Hydro Electric Plant exceeding the normative rates may be attributed to the following causes:

- (i) Power consumption by Electrical drives utilized for generation of power. A substantial quantum of power is required to maintain various auxiliary equipment and systems both when the units are running and when the units are not running
- (ii) The station is operated in isolation, not being connected with ISTS through 220 KV or 400 KV lines, but connected with 132 KV and 66 KV lines of STU



viz. Power & Electricity Department of Mizoram. Sufficient load is not available in the area to absorb the entire available capacity of the Plant.

- (iii) Operation of units in partial load due to frequent under-requisitioning of capacity by the sole beneficiary of the Plant, viz. Mizoram.
- (iv) Lighting of the project area.
- (v) Dam Auxiliaries.
- (vi) It is further mentioned that during the winters, load availability (demand) is there but generation is less as per availability of water; therefore, actual auxiliary consumption will be higher in terms of percentage (approx.4 - 5%).

17. In the context of the matter, the Petitioner has submitted the following for the kind consideration of the Commission:

- i. The Commission had approved Auxiliary Energy Consumption @ 6% for NHPC Limited's 45 MW (3 X 15 MW) Nimoo Bazgo Hydro Electric Project, Leh, Union Territory of Ladakh, in their special petition No.229/GT/2014 dated.22.09.2016 for the period of 01.04.2014 to 31.03.2019. The operative part of the approval order i.e. paragraph No.38 is reproduced below:

*"We have examined the matter. Considering the location of plant, the extreme weather condition and the data submitted by the petitioner, we, in exercise of the power under Regulation 54 of the 2009 Tariff Regulations, and as a special case relax the provisions of Clause (6) sub-clause (a)(ii) of Regulation 37 of the 2014 Tariff Regulations and **allow the auxiliary consumption of up to 6% based on average actual auxiliary consumption** for the period 2012-16 as against the claim of the petitioner for 9%. The relaxation granted for this generating station cannot be cited as precedent in future".*

- ii. The Commission had also allowed Auxiliary Energy Consumption @ 5% for NHPC Limited's 44 MW (4 X 11 MW) Chutak Hydro Electric Project, Jammu &



Kashmir, for the year 2012-13 to 2015-16 in the petition No. 252/GT/2014, dated.29.03.2017. Paragraph NO. 44 of the order is reproduced below:

"We have examined the matter. Considering the location of plant, the extreme weather condition and the data submitted by the petitioner, we, in exercise of the power under Regulation 54 of the 2009 Tariff Regulations, and as a special case relax the provisions of Clause (6) sub-clause (a)(ii) of Regulation 37 of the 2014 Tariff Regulations allow the auxiliary consumption of up to 5% based on average actual auxiliary consumption for the period 2013-16 as against the claim of the petitioner for 6%."

- iii. It is further submitted that recovery of auxiliary energy consumption in excess of the normative 2.5 % has also been allowed in thermal power stations in the tariff order in petition no 129/GT/2015, dated.30.03.2017, in respect of the Palatana Combined Cycle Gas-based Project (726.6 MW) of OTPC, Tripura for the period from 01.04.2014 to 31.03.2019, the auxiliary energy consumption of 3.50 % has been allowed under Regulation 54 of the 2014 Tariff Regulations, in the exercise of the Power to Relax.
- iv. In the verdict of the Appellate Tribunal of Electricity in reference to Appeal No. 41 of 2012 dated 21st November 2012 between Puducherry Power Corporation Limited vs Joint Electricity Regulatory Commission, Govt. of Haryana, Gurgaon, Haryana, the Appellate Tribunal allowed Auxiliary Power Consumption of 5.5% of gross power generation for the FY 2011-12.

In view of the peculiar facts and circumstances mentioned above, Petitioner has submitted that the Commission may relax the norms as a special case for the 60 MW Turrial Hydro Electric Power Plant and allow Auxiliary Energy Consumption @ 4.3 %, which is the actual average consumption with effect from the Date of Commercial Operation of the Plant invoking the powers vested in it under Regulations 54 (Power to Relax) and 55 (Power to Remove Difficulties) of the Tariff



Regulations, 2014, and Regulations 76 (Power to Relax) and 77 (Power to Remove Difficulties) of the Tariff Regulations, 2019.

Reply and Rejoinder

18. No reply has been filed to the petition by the Respondent.

Hearing dated 14.10.2021

19. The matter was heard on 14.10.2021, and the Commission directed the Petitioner to submit the following information:

- (a) Status of approval of CEA for reduction of NAPAF to 82% for the instant generating station submitted by the Petitioner in Petition No. 329/GT/2019 (true-up petition for 2014-19) and Petition No. 390/GT/2020 (tariff petition for 2019-24);
- (b) The Petitioner in its prayer, has requested for relaxed NAPAF norms for 72%, whereas in the submissions, it has indicated 70%. The same may be clarified;
- (c) Calculation for relaxed NAPAF claimed (in M S Excel) correlating with the model study as approved by CEA;
- (d) Calculation of Design Energy (in M S Excel) approved by CEA;
- (e) Actual PAF achieved till date (duly certified);
- (f) Status of load provided by the beneficiary State and steps taken by the Petitioner to improve the same;
- (g) Impact on PAF and auxiliary consumption once full load is being scheduled from the instant generating station;
- (h) Complete model study report approved by CEA.

20. The Petitioner vide affidavit dated 27.10.2021 in reply to the above ROP of the hearing dated 14.10.2021 has submitted as under:



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a. The Petitioner submitted the proposal of NAPAF to CEA vide letter no. NEEPCO/GHY/D&E/T58/2019-20/696 dated 20-08-2019. CEA examined the model study report and the Report was found to be generally in agreement with the specifications & relevant IEC Codes.

b. Regarding the Petitioner, in its prayer, has requested for relaxed NAPAF norms for 72% was inadvertently mentioned instead of "70%" in the petition and prayer and begs pardon for the inconvenience thus caused.

c. The revised calculation of relaxed NAPAF correlating with the model study. Based on the revised calculation, the Petitioner has requested approval of the relaxation of the Normative Plant Availability Factor (NAPAF) to 70 % for the 60 MW (2 X 30 MW) Tuirial Hydro Electric Plant for the recovery of full capacity charges with effect from COD till completion of the useful life of the plant.

d. Annual Plant Availability Factor of Tuirial Hydro Electric Plant since Commercial operations of the Plant are as follows :

SL No.	Y E A R	ANNUAL PAF
1	2018 19	50.916
2	2019-20	75.011
3	2020-21	74.259
4	2021-22 (Up to Sept 21)	60.666

e. Status of load provided by the beneficiary State and step taken by the Petitioner to improve the same.

The following Table reflects the Schedule made by SLDC, Mizoram against Declared Capacity in MU of 60 MW Tuirial HEP



SL No.	YEAR	DECLARED CAPACITY (MU)	SCHEDULED ENERGY (MU)
1	2018-19	183.772	165.41
2	2019-20	230.533	172.098
3	2020-21	215.754	150.476
4	2021-22 (Up to Sept 21)	72.568	37.381

From the above data, it is seen that the scheduling is less than the declaration. SLDC Mizoram is persuaded to draw power as per DC on a regular basis. It is worth mentioning here that, although the schedule made by SLDC, Mizoram is less than Declared Capacity, there had been no Spillage of Water from the Reservoir during 2019-20, 2020-21 and 2021-22 (up to September). The lean season had already started.

It is further seen that because of the rainfall pattern in Mizoram, which generally occurs from August to Nov, the RWL increases and then starts decreasing. In the remaining period, the generation is maintained by utilizing the reservoir water with available minimum water flow in the reservoir. In order to ensure optimum utilization of reservoir water, the generation from the plant is declared accordingly so that reservoir water can be maintained near MDDL with some margin.

f. Regarding the Impact on PAF and Auxiliary consumption once a full load is scheduled from the instant Generating Station, the Petitioner has submitted the following facts for perusal:

(A) Impact of full loading on PAF:

(i) The rainfall pattern during the last 3 ½ years at the catchment areas of Tuirial Reservoir was such that full loading of Tuirial Power Station was possible during the months of August, September, October and November



only. In the remaining months, due to the depletion of the Reservoir Water level, plant had to be run on part load.

(ii) The PAF achieved during the last 3 ½ years has been as follows:

From the table, it may be observed that the maximum Annual PAF achieved in respect of Tuirial HEP during the previous 3 ½ years was **75.011** and the average Annual PAF during the same period has been **66.605 (up to Sept 2021)**.

PAF of TrHEP From 2018-19 to 2021-22

Month	PLANT AVAILABILITY FACTORS				Average PAF
	2018-19	2019-20	2020-21	2021-22	
April	29.798	64.327	61.516	43.860	49.875
May	37.254	58.770	60.728	28.677	46.357
June	63.244	68.601	61.966	47.627	60.360
July	71.304	72.156	53.655	63.776	65.223
August	30.303	91.528	74.061	84.128	70.005
September	30.303	96.829	83.446	95.929	76.627
October	50.722	89.951	95.011		78.561
November	60.157	76.389	96.042		77.529
December	53.438	84.345	89.787		75.857
January	53.220	79.339	82.822		71.794
February	63.913	71.315	71.453		68.894
March	67.340	46.580	60.620		58.180
Annual PAF	50.916	75.011	74.259	60.666	66.605

As PAF depends on Declared Capacity (3 Hrs. Maximum Capability of the Plant) and Declared Capacity depends on Available Reservoir Water level and Machine availability, full loading (when Reservoir Water level permits full loading) or Part loading of the plant by SLDC shall have no impact on PAF.



PAF has a direct relationship with Machine availability and Reservoir water level. Since our Machine availability during 2018-19, 2019-20, 2020-21 and 2021-22 (Up to September 2021) were 72.50%, 94.68%, 98.20% and 92.01% (Up to Sept 2021) respectively, the only factor that restricted in the achievement of NAPAF of Tuirial HEP is Reservoir Water Level that depends on Rainfall in the Catchment Area of the Reservoir.

(B) Impact of full loading on auxiliary consumption:

The percentage of auxiliary consumption reduces with an increase in generation. The average auxiliary consumption observed is as follows:

Year 2018-19 =4.84%
Year 2019-20 =4.50%
Year 2020-21 =4.32%

Hearing dated 13.6.2023

21. The matter was heard on 13.6.2023 and Commission directed the Petitioner to submit the following information:

- (a) Actual PAF for the period 2021-22 and 2022-23.
- (b) Status of revision of design energy by CEA.
- (c) The month wise 10 daily discharge data as per design and as per actual for the period 2014-19 and 2019-24.
- (d) Calculations in support of relaxation sought for Auxiliary Energy Consumption giving a breakup of design auxiliary load with actual auxiliary load and reason for the difference, if any.

22. The Petitioner vide affidavit dated 13.7.2023 in reply to the above ROP of the hearing dated 13.6.203 has submitted as under:

A. The actual PAF for period 2021-22 and 2022-23 are mentioned below:



MONTHLY PAF (IN PERCENTAGE)				
2021-2022			2022-2023	
Month	PAF (%)		Month	PAF (%)
Apr-21	43.86		Apr-22	50.49
May-21	28.68		May-22	34.06
Jun-21	47.63		Jun-23	66.75
Jul-21	63.78		Apr-22	78.63
Aug-21	84.13		May-22	97.24
Sep-21	95.93		Jun-23	90.87
Oct-21	97.51		Apr-22	97.62
Nov-21	97.84		May-22	96.55
Dec-21	93.71		Jun-23	93.05
Jan-22	82.82		Apr-22	87.23
Feb-22	77.60		May-22	77.00
Mar-22	65.14		Jun-23	69.22
YEARLY (21-22)	73.217869		YEARLY (22-23)	78.2259983

- B. The Status of revision of design energy by CEA as mentioned below:
- In the DPR of Tuirial HP Station of NEEPCO, a long term runoff series from 1956 to 1984 was developed by CWC using observed discharge data at Baghkhal, Checkersham, Monierkhal, Tuirial GD site on Tuirial/Sonai River and Lakhipur site on Barak river. To update the hydrological series, daily discharge data of Fulertal G& D Site of CWC was collected and an updated Hydrological Study Note was submitted to Hydrology Directorate (NE), CWC vide letter No. CA/63/406 dated 26.10.2021.
 - Hydrology (NE) Directorate, CWC vide letter no. File No. T-11034/1/2022-HYD(NE) dated 13.01.2022 made some observations like exploring the possibility of using the discharge data available at any other G&D site of comparable area located in the vicinity of the project.



- iii. Chief Engineer, BOBO, CWC Shillong office was contacted for recent hydrological Data of Tuirial/Sonai River, and an online application was submitted on 8.6.2023.
 - iv. Chief Engineer, BOBO, CWC Shillong called for a PPT presentation on the purpose of utilization of the hydrological data of Barak River vide File No.T-36055(11)/2/2023/BBBO-SHILLONG dated 23.6.2023. A Power Point Presentation was delivered to the Chief Engineer and his team, BOBO, CWC, Shillong on 4.7.2023. The Chief Engineer agreed to recommend to the Committee to provide 10 daily discharge data of the Monierkhal G & D site and Tuirial G&D site to NEEPCO. Accordingly, re-application for the above-mentioned G&D Sites has been submitted on 10.7.2023.
 - v. Once 10 daily discharge data of Monierkhal and Tuirial GD sites of CWC over Tuirial/ Sonai River is available, the Updated Water availability study will be submitted to the Hydrology Directorate of CWC for their approval.
- C. Regarding the month-wise 10 daily discharge data as per design and as per actual for the period 2014-19 and 2019-24, Petitioner placed before the following points for kind perusal:
- i. In the DPR of Tuirial HP Station of NEEPCO, a long term runoff series from 1956 to 1984 was developed by CWC using observed discharge data at Baghkhal, Checkersham, Monierkhal, Tuirial GD site on Tuirial/Sonai River and Lakhipur site on Barak river. These data are on monthly format.
 - ii. G & D Site established by the Project Authority at the Dam site has collected data up to 14th Nov. 2016 and shut down the G & D Site on account of Reservoir



Impounding for the commissioning of the Project. These data are in 10 daily formats.

D. The connected load while the unit is operating is itself 2.93%. Further, the Auxillary consumption in the hydro Power stations also occurs when the Plant is non-operating/shut down. These loads that consume power when the plant is non-operating/shut down are Generator Heaters, Ventilation and air-conditioning System, drainage and dewatering system, Compressed Air System, OPU's, lighting loads, Transformation loss in the Station Service Transformer, etc. In winter months, plants operate hardly for 3 hours, and during the rest of the 21 hours in a day, the above loads consume energy, shooting up the overall percentage of auxiliary consumption. Further, to sort out the excess auxiliary energy consumption issue, the petitioner also engaged Central Power Research Institute, Bangalore.

The Actual Auxillary consumption for the year 2021-22 & 2022-23 is mentioned below:

MONTHLY APC (IN PERCENTAGE)				
2021-2022			2022-2023	
Month	APC (%)		Month	APC (%)
Apr-21	7.18504662		Apr-22	6.897530179
May-21	9.23062204		May-22	7.046142383
Jun-21	7.92392577		Jun-23	4.810981806
Jul-21	5.97477742		Apr-22	3.772093418
Aug-21	4.44041824		May-22	4.052512015
Sep-21	4.43371364		Jun-23	4.130365761
Oct-21	3.93247372		Apr-22	3.866079918
Nov-21	4.36869271		May-22	4.157003653
Dec-21	4.06374471		Jun-23	4.306008396
Jan-22	4.09281979		Apr-22	4.076584503
Feb-22	4.40366204		May-22	4.201059133
Mar-22	4.42791683		Jun-23	4.602812000
YEARLY (21-22)	5.37315113		YEARLY (22-23)	4.659931097



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23. Based on the above submissions and documents on record, we now proceed to deal with the prayer of the Petitioner in the following paragraphs.

Analysis and Decision

24. We have considered the submissions.. The Petitioner has prayed for relaxation of NAPAF and relaxation of Auxiliary consumption w.r.t. to Tuirial Hydro Electric Plant in the given peculiar facts and circumstances:

(A). Normative Plant Availability Factor (NAPAF)

25. The Commission, vide order dated 9.10.2018 in petition no. 15/GT/2018 and vide order dated 10.3.2021 in petition no. 329/GT/2019 had allowed NAPAF of 85% for the 2014-19 tariff period for the instant generating station. Similarly, for the 2019-24 tariff period, the Commission vide order dated 16.4.2021 in petition no. 390/GT/20220 had allowed NAPAF of 85%. The Petitioner in the above petitions had requested for relaxation of NAPAF for the instant generating station and claimed NAPAF of 82% for both the tariff periods i.e., 2014-19 and 2019-24. However, the Commission, in above stated orders, had not considered the prayer of the Petitioner for relaxation of NAPAF, The Commission in its order dated 9.10.2018 in Petition No.15/GT/2018 had allowed NAPAF of the generating station as under:

"80. The petitioner vide Form-2 has claimed NAPAF of 85%. Subsequently vide affidavit dated 13.7.2018 the petitioner has claimed NAPAF as 82% based on the following justification.



Calculation of Normative Annual Plant Availability Factor (NAPAF)

81. The Salient features for Tr HEP are as follows:

FRL:	90.5m
MDDL:	68.0m
Normal TWL at Full Load:	30.7m
TWL at 1 unit running:	29.3m

82. From the above it has been observed that the Head Variation between FRL and MDDL is more than 8% for the instant case. Hence month wise peaking capability shall form the basis of fixation of NAPAF. However, as confirmed by the model studies carried out by the E&M Contractor, the load generation (MW) is reduced with lowering of reservoir level/ head. The aforesaid machine characteristic was not considered by CWC while carrying out the Power Potential Study for the DPR.

83. However, while determining monthly peaking capability, the net head calculated in the DPR has been considered. The net head has further been reduced by another 2.0m considering existing TWL. Tail water Level gets raised by approximately 2.0m due to raising of river bed level in downstream of the project which is beyond the control of NEEPCO. From the calculated Monthly Peaking Capability, the obtained NAPAF is 96%. Considering 10% allowance for outage & 5% for North- eastern region, the final NAPAF is $0.85 \times 96\% = 82\%$

84. Regulation 37 (1) (b) of the 2014 Tariff Regulations provides that in case of storage and pondage type plants with head variation between full reservoir level and minimum draw down level is more than 8% and when plant availability is not affected by silt, the month wise peaking capability as provided by the project authorities in the DPR (approved by CEA or the State Government) shall form basis of fixation of NAPAF. The submission of petitioner for consideration of NAPAF of 82% cannot be accepted at this stage. The monthly peaking capability based on which NAPAF of 85% has been furnished in Form-2 of original tariff petition is based on the net head furnished in the DPR. If there is any reduction in the net head subsequently due to rise in water level in the tail raise then the petitioner should approach the authority / government body which has approved the DPR.

85. In view of the above, NAPAF of 85% is allowed for the year 2018-19. However the petitioner is granted liberty to approach the Commission at the time of truing up along with revision, if any, in the net head duly approved by the competent authority as the same will be in accordance with the law."

26. Similarly, the Commission, in an order dated 16.4.2021 in petition no. 390/GT/20220 with regard to NAPAF observed as under:



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*"42. As against the claim of the Petitioner for NAPAF of 82%, the Commission vide its Orders dated 9.10.2018 in Petition No. 15/GT/2018 and dated 10.3.2021 in Petition No.329/GT/2019 had allowed NAPAF of 85% subject to revision if any, based on approval of CEA on the request of the Petitioner. Considering the fact that the request of the Petitioner for NAPAF of 82% is still pending before CEA, we consider the NAPAF of 85% in this order. **The Petitioner is, however, granted liberty to approach the Commission after obtaining approval of CEA with regard to revision of NAPAF.**"*

27. In view of the above backdrop, the Petitioner, in the instant petition, has submitted that:

- (i) The Tulrial Hydro Electric Plant is operated in a wide variation of reservoir level with full reservoir level at El. 90.5m and minimum draw-down level at El. 68.0 m. Maximum reservoir level (MRL) and Normal Maximum Operating Level (FSL) are El. 95.2m and El. 90.5m respectively. Here FSL is considered as full reservoir level. This variation of 22.5m is 42.4% of the rated net head of 53.0m. This significant variation has put certain limitations in the design and subsequent operation of machines. The machines of the plant have been designed for a 53m design head, and thus, the demonstration of a rated installed capacity of 30 MW per machine is possible only when the reservoir level is El. 84.38m or above. Below El. 84.38m, the machine rating gets reduced gradually commensurate to the available head and it reduces even up to 17MW against the rated nameplate capacity of 30MW.



(ii) This characteristic has become evident during the operation of the plant for the last three years. The turbine model study carried out before the manufacturing of the machine also clearly shows this reduction in MW capability. This issue covered in the model study was submitted to CEA for examination. CEA, vide letter dated 30.9.2020, agreed to the outcome of the study. The study, inter alia, shows MW limitations as given below:

Sl. No.	Head (m)	Max. permissible MW per machine
1	59.7	31.05
2	56.7	31.05
3	53.0	31.05
4	44.7	25.30
5	34.2	17.00

(iii) As the reservoir level is directly related to the Plant Availability Factor (PAF) of the plant, additional letup is due for the Normative Annual Plant Availability Factor (NAPAF).

(iv) DPR for the plant prepared by CEA/CWC was very old (1991), and the discussed characteristic was not covered in month-wise peaking capability nonetheless the plant's head variation between full reservoir level and minimum draw down level is more than 8% and plant availability has not been affected by silt. Because of the inadequacy of DPR, the Corporation has not been able to get the benefit of lower NAPAF under the above provision.

(v) The reduction in MW output, as discussed above, is a known and established plant limitation in operating conditions. Therefore, the plant deserves lower NAPAF by virtue of the above-referenced regulation.



(vi) Reduced NAPAF is calculated based on model study output vetted by CEA and actual reservoir level for the last three years since commissioning of the plant. Month wise maximum MW capability is calculated corresponding to the average monthly reservoir level based on model study output. PAF, without considering the discussed limitation is 85% for the plant and therefore proposed reduced NAPAF is 70% with a 15% reduction (10 % for outage + 5 % for N. E. Region) from the calculated value of 85 %.

(vii) In view of the facts and circumstances mentioned above, Commission may be pleased to revise the NAPAF of the 60 MW Turrial Hydro Electric Power Plant in accordance with the opinion of CEA with effect from the Date of Commercial Operation of the Plant by invoking the powers vested in it under Regulations 54 (Power to Relax) and 55 (Power to Remove Difficulties) of the Tariff Regulations, 2014, and Regulations 76 (Power to Relax) and 77 (Power to Remove Difficulties) of the Tariff Regulations, 2019.

28. With regard to NAPAF of the instant generating station, CEA vide its letter dated 20.10.2020 had conveyed its observation on the Model Study submitted by the Petitioner to CEA. The following is the average PAF submitted by the petitioner from January 2018 to October, 2020:

Year	Month	Average Reservoir Level (m)	Net Head (m)	Maximum MW capability (As per Model Study)	Installed Capacity (MW)	PAF	Average Annual PAF	Average Weighted PAF
2017-18	Jan-18	83.56	50.22	59.50	60	99%	89%	85%




	Feb-18	78.67	45.57	52.64	60	88%	
	Mar-18	76.25	43.28	48.72	60	81%	
2018-19	Apr-18	74.33	41.45	45.53	60	76%	85%
	May-18	72.05	39.29	41.78	60	70%	
	Jun-18	74.48	41.59	45.77	60	76%	
	Jul-18	77.80	44.75	51.26	60	85%	
	Aug-18	83.17	49.85	59.03	60	98%	
	Sep-18	87.58	54.04	62.10	60	104%	
	Oct-18	86.15	52.68	62.11	60	104%	
	Nov-18	83.08	49.76	58.92	60	98%	
	Dec-18	78.18	45.10	51.86	60	86%	
	Jan-19	74.74	41.84	46.21	60	77%	
	Feb-19	74.18	41.30	45.27	60	75%	
	Mar-19	73.11	40.29	43.50	60	73%	
	2019-20	Apr-19	72.21	39.44	42.04	60	
May-19		71.58	38.84	41.02	60	68%	
Jun-19		73.18	40.35	43.61	60	73%	
Jul-19		77.78	44.73	51.23	60	85%	
Aug-19		83.74	50.39	59.70	60	100%	
Sep-19		88.18	54.61	62.10	60	104%	
Oct-19		88.76	55.16	62.10	60	104%	
Nov-19		86.23	52.76	62.17	60	104%	
Dec-19		81.46	48.22	56.79	60	95%	
Jan-20		78.07	45.00	51.69	60	86%	
Feb-20		75.97	43.01	48.26	60	80%	
Mar-20		74.00	41.13	44.97	60	75%	
2020-21		Apr-20	71.86	39.10	41.47	60	69%
	May-20	70.85	38.14	39.87	60	66%	
	Jun-20	72.25	39.48	42.11	60	70%	
	Jul-20	74.33	41.44	45.52	60	76%	
	Aug-20	79.34	46.21	53.69	60	89%	
	Sep-20	81.77	48.51	57.22	60	95%	



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	Oct-20	86.14	52.67	62.10	60	104%		
Annual Average Weighted PAF =		85%						
Considering another 15% allowance								
NAPAF for the plant=		85% - 15%= 70%						

29. Further, the Petitioner in the main petition and in reply to ROP dated 13.6.2023 has submitted the following actual PAF for the period from 2018-19 to 2022-23:

2018-19	2019-20	2020-21	2021-22	2022-23	Average
50.92	75.01	74.26	73.22	78.22	70.33

30. We have anxiously considered the matter. It is noticed that the actual PAF of the generating station is less than the NAPAF of 85% allowed for the generating station. The Petitioner has submitted that the Machine availability during 2018-19, 2019-20, 2020-21 and 2021-22 (Up to September 2021) were 72.50%, 94.68%, 98.20% and 92.01% (Up to Sept 2021), respectively. Further, it is also noticed that the DPR for the plant prepared by CEA/CWC was very old (1991) and the head variation between full reservoir level and minimum draw-down level of more than 8%. With regard to the relaxation of NAPAF, the Petitioner was granted liberty to approach the Commission after obtaining approval of competent authority/ CEA. The same was also allowed by the Commission for the instant generating station in tariff orders for the period 2014-19 and 2019-24 with liberty to approach the Commission. The petitioner has filed the instant petition based on the letter of CEA in this regard.

31. On perusal of the letter dated 30.9.2020 from CEA, it is noticed that CEA has not categorically provided a revised NAPAF. Accordingly, in the absence of the same, we



hereby consider the average actual PAF achieved by the generating station from the period 2019-20 to 2022-23, which comes out to 75%.

32. In view of the above, we are of the view that it is a fit case to invoke our power to relax. Accordingly, we hereby relax the NAPAF to 75% based on of actual PAF achieved by the generating station from the period 2019-20 to 2022-23 invoking the powers vested under Regulations 54 of the Tariff Regulations, 2014, and Regulations 76 of the Tariff Regulations, 2019 from the Date of Commercial Operation of the Plant the instant generating station i.e. for the 2014-19 tariff period and 2019-24 tariff period. This is to further clarify that the above relaxed NAPAF of 75% is for the purpose of recovery of capacity charges for the generating station. However, the calculation of incentive on capacity charges shall be considered for NAPAF above 85% on an annual basis. The relaxed norms for the 2019-24 period are subject to the final recommendation of CEA, which will be considered at the time of true-up.

(B) Auxiliary Energy consumption (AEC)

33. Commission vide order dated 9.10.2018 in petition no. 15/GT/2018 and vide order dated 10.3.2021 in petition no. 329/GT/2019 had allowed a normative AEC of 1% for the 2014-19 tariff period for the instant generating station. Similarly, for the 2019-24 tariff period, the Commission, vide order dated 16.4.2021 in petition no. 390/GT/20220 had allowed a normative AEC of 1.2%.

34. The Petitioner has submitted as per the actual operational data the auxiliary energy consumption is in excess of the normative of 1.0 % and 1.2 % and stands at 3.03 % in 2017-18 (1 unit running -3 months and 2 units running- 2 months), 4.48 % in 2018-19, 4.04 % in the year 2019-20 and 4.65 % in 2020-21 (up to Aug'2020). This above-



mentioned auxiliary consumption is tabulated as follows with respect to the gross generation of the plant:

Parameter	30.10.2017 to 31.03.2018	01.4.2018 to 31.03.2019	01.4.2019 to 31.03.2020	01.04.2020 to 31.08.2020 (5 months only)	Average Weighted AEC considering w.e.f.01.4.2018.
Gross Energy generation (MU)	79.1057	168.435	177.0114	46.05	4.304 %
Total ex-bus energy generation (MU)	76.8697	160.7812	169.6915	43.9198	
Auxiliary Energy Consumption (MU)	2.3989	7.5529	7.1563	2.1421	
Auxiliary Energy Consumption (%)	3.03252	4.48416	4.04285	4.65168	

35. Petitioner has stated that the auxiliary energy consumption in Tuirial Hydro Electric Plant exceeding the normative rates may be attributed to the following causes:

- (i) Power consumption by Electrical drives utilized for generation of power. A substantial quantum of power is required to maintain various auxiliary equipment and systems both when the units are running and when units are not running
- (ii) The station is operating in isolation, not being connected with ISTS through 220 KV or 400 KV lines, but connected with 132 KV and 66 KV lines of STU viz. Power & Electricity Department of Mizoram. Sufficient load is not available in the area to absorb the entire available capacity of the Plant.



- (iii) Operation of units in partial load due to frequent under-requisitioning of capacity by the sole beneficiary of the Plant, viz. Mizoram.
- (iv) Lighting of the project area.
- (v) Dam Auxiliaries.
- (vi) It is further mentioned that during the winters, load availability (demand) is there, but generation is less as per availability of water therefore, actual auxiliary consumption will be higher in terms of percentage (approx.4 - 5%).

36. With regard to AEC, Commission, vide ROP of the hearing dated 13.6.2023 directed the Petitioner to submit '*Calculations in support of relaxation sought for Auxiliary Energy Consumption giving breakup of design auxiliary load with actual auxiliary load and reason for the difference, if any*'. The Petitioner, in reply to the above has submitted that the connected load while the unit is operating is 2.93%. Further, the Auxiliary consumption in the hydro Power station also occurs when the Plant is non - operating/shutdown. These loads that consume power when the plant is non-operating/shut down are Generator Heaters, Ventilation & Air-conditioning System, drainage and dewatering system, Compressed Air System, OPU's, lighting loads, Transformation loss in the Station Service Transformer, etc. In winter months, plants operate hardly for 3 hours, and during the rest of 21 hours in a day the above loads consume energy, shooting up the overall percentage of auxiliary consumption. Further, to sort out the excess auxiliary energy consumption issue the Central Power Research Institute, Bangalore has been engaged. The Petitioner has also submitted that the Actual Auxiliary consumption for the year 2021-22 & 2022-23 is 5.37% and 4.66%, respectively.

37. We have examined the matter. It is noticed that the AEC is much more than the normative AEC allowed to the instant generating station. In support of the same, the



Petitioner has submitted the energy audit report of Central Power Research Institute, Bangalore. The following are the observations in the report:

(i) As per the scheme of the complete energy generation and distribution system, the incoming 132 kV from local grid is stepped down to 33 KV by a 5 MVA station service transformer (SST) and then stepped down to 433 V by two 1000 kVA station auxiliary transformers (SAT) and distributed to various loads. The 415 V supply from 2 x 500 kVA DG sets is fed to various loads during grid power supply failure. The generated power from Units at 11 kV is fed to GT, UAT & excitation transformer. When units are under generation, UAT caters to unit auxiliary loads through the UAB bus. Grid supply is used for station loads in the power house and colony.

(ii) Power is measured at the generator output and at the generator transformer output to get the total unit auxiliary power consumption. Difference of these two measurements includes power consumption by excitation system and unit auxiliaries. Generator transformer loss is found by further deducting power consumption by the excitation system and unit auxiliaries. Transformer loss, thus estimated, is within a measurement accuracy of 1 %, and it may vary depending on test conditions.

(iii) The typical auxiliary power usage in the plant at various test loads is computed considering the two units in operation. It is seen that the station auxiliary power including common loads is 1.51 % to 1.92 % at various test loads when Unit#1 alone is in operation whereas auxiliary power consumption when Unit#2 alone is operating is 2.94 % to 3.99 % at various test loads. There is a common station load (Imported energy from the grid for plant operation) of 117.6 kW which will get distributed for two units when both are in operation. When two units are in operation, effective auxiliary consumption varies from 2.01 to 2.64 % at different loads. However, when entire year operation of Units and auxiliaries are considered, this value may be different. Auxiliary power consumptions (APC) on monthly basis for the plant from the past data which is



higher than the APC observed during the audit time. This is due to change in the operational duration of units based on variation in the seasonal availability of water and demand by the grid. APC can vary even if the plant is operated at a particular generation depending on the pattern in which both the units operates. This happens due to high APC observed in the Unit #2.

(iv) It is found that difference between measured power at generator output and generator transformer secondary side varies from 622 kW to 760 kW at different loads. Consumption by unit auxiliaries is nearly 120 kW and by excitation system is 55 kW — 65 kW during different loads. Taking consumption by excitation system and unit auxiliaries into account, rest of the difference cannot be attributed to transformer loss without completely ruling out the possibilities for measurement error. Since there are no abnormalities observed in the transformer such as unusual temperature rises of GT cooling water, noise etc., this difference can be due to improper instrumentation for metering. This leads to further scope of work to converge on the exact cause for the loss which is an implementation measure. Further, higher loss of Generator transformer # 2 is prevailing since commissioning. Hence, this need to be studied by competent agency or OEM to curtail the existing high loss for identifying whether the issue is with GT or with the measurement system, transformer bank of Unit #1 and Unit #2 can be swapped and the energy meter readings is to be observed for both the units. By this way, exact cause of the issue can be identified.

38. The conclusion of above report is as under:

- (i) The operating net head and water flow to turbines are at par with design.
- (ii) The efficiencies of all the turbines and generators are good.
- (iii) Primary and secondary cooling water flow to various purposes needs to be reduced to ensure the optimum temperature rise. The use of an AC variable frequency drive with motors of secondary CWP will save 153.1 MWh/year, which is equivalent to Rs.9.03 Lakhs/year. As the head available is sufficient to circulate



- the primary CW water, primary pumps in the line may be bypassed to save 217 MW/year (Rs.12.8 Lakhs/year).
- (iv) Reduction of contract demand with Electricity Department to optimum level will lead to considerable savings in Energy bill which saves Rs.34.56 Lakhs/year.
- (v) It is found that the difference between measured power at generator output and generator transformer secondary side for Unit #2 varies from 622 kW to 760 KW at different loads which is very high. Auxilliary power consumption was found on par with Unit #1. It is either due to GT loss or due to an error in the measurement system. For identifying whether the issue is with GT or with the measurement system, the transformer bank of Unit # 1 and Unit # 2 can be swapped, and the energy meter readings are to be observed for both the units.
- (vi) As the energy loss is identified on the GT # 2 or due to metering system, this leads to further scope of work to converge on the exact cause for the loss, which is an implementation measure. Further, higher loss of Generator transformer # 2 is prevailing since commissioning. Hence, this needs to be studied by a competent agency or OEM to curtail the existing high loss.

39. The petitioner has submitted that the connected load while the unit is in operation is around 2.93%. The above report also observed that when two units are in operation, effective auxilliary consumption varies from 2.01 to 2.64 % at different loads. On perusal of the above report, it is noticed that AEC is more than the normative AEC of 1% for the period 2014-19 and 1.2% for the 2019-24 tariff period. Further, with regard to high APC observed in Unit # 2, the above report opined that *'this need to be studied by competent agency or OEM to curtail the existing high loss for identifying whether the issue is with GT or with the measurement system, transformer bank of Unit # 1 and Unit # 2 can be swapped and the energy meter readings is to be observed for both the units. By this way, exact cause of the issue can be identified'*.



40. The Petitioner has also submitted that a review of design energy is under consideration before the CEA. Accordingly, as per the recommendation in the above energy audit report of CPRI, the Petitioner is directed to approach the CEA with regard to fixing AEC. However, considering the fact that the connected load is more than the normative AEC, we allow an AEC of 4.304% of for the 2014-19 period based on the average weighted AEC data (para 34 above) as submitted by the petitioner by invoking the powers vested in it under Regulations 54 of the Tariff Regulations, 2014 from the Date of Commercial Operation of the Plant the instant generating station i.e. for the 2014-19 tariff period. For the 2019-24 tariff period, AEC will be decided based on the recommendation by the CEA.

41. Petition No. 125/MP/2021 is disposed of in terms of the above.

Sd/-
(P. K. Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(I. S. Jha)
Member

Sd/-
(Jishnu Barua)
Chairperson



FORM-I

Particulars																																		
1. Name of the Petitioner/Applicant	NORTH EASTERN ELECTRIC POWER CORPORATION Ltd. (NEEPCO Ltd.)																																	
2. Address of the Petitioner/Applicant	Brookland Compound, Lower New Colony, Shillong - 793003																																	
3. Subject Matter	CERC Application Fees for Financial Year 2024-25																																	
4. Petition No., or Application No, if any	As applicable																																	
5. Details of generation assets																																		
(a) Generating station/unit	<table border="1"> <tbody> <tr> <td>1. Kapili Hydro Electric Plant</td> <td>200 MW</td> <td>12.07.1997</td> </tr> <tr> <td>2. Kapili - II Hydro Electric Plant</td> <td>25 MW</td> <td>26.07.2004</td> </tr> <tr> <td>3. Khandong Hydro Electric Plant</td> <td>50 MW</td> <td>04.05.1984</td> </tr> <tr> <td>4. Doyang Hydro Electric Plant</td> <td>75 MW</td> <td>08.07.2000</td> </tr> <tr> <td>5. Fanyor Lower Hydro Electric Plant</td> <td>405 MW</td> <td>12.04.2002</td> </tr> <tr> <td>6. Fare Hydro Electric Plant</td> <td>110 MW</td> <td>28.05.2018</td> </tr> <tr> <td>7. Tuirial Hydro Electric Plant</td> <td>60 MW</td> <td>30.01.2018</td> </tr> <tr> <td>8. Kameng Hydro Electric Plant</td> <td>600 MW</td> <td>12.02.2021</td> </tr> <tr> <td>9. Assam Gas Based Power Plant</td> <td>291 MW</td> <td>01.04.1999</td> </tr> <tr> <td>10. Agartala Gas Turbine Combined Cycle Power Plant</td> <td>135 MW</td> <td>01.09.2015</td> </tr> <tr> <td>11. Tripura Gas Based Power Plant</td> <td>101 MW</td> <td>31.3.2017</td> </tr> </tbody> </table>	1. Kapili Hydro Electric Plant	200 MW	12.07.1997	2. Kapili - II Hydro Electric Plant	25 MW	26.07.2004	3. Khandong Hydro Electric Plant	50 MW	04.05.1984	4. Doyang Hydro Electric Plant	75 MW	08.07.2000	5. Fanyor Lower Hydro Electric Plant	405 MW	12.04.2002	6. Fare Hydro Electric Plant	110 MW	28.05.2018	7. Tuirial Hydro Electric Plant	60 MW	30.01.2018	8. Kameng Hydro Electric Plant	600 MW	12.02.2021	9. Assam Gas Based Power Plant	291 MW	01.04.1999	10. Agartala Gas Turbine Combined Cycle Power Plant	135 MW	01.09.2015	11. Tripura Gas Based Power Plant	101 MW	31.3.2017
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11. Tripura Gas Based Power Plant	101 MW	31.3.2017																																
(b) Capacity in MW	2052 MW																																	
(c) Date of commercial operation	As mentioned at Sl. 5(a) above.																																	
(d) Period for which fee paid	Financial Year 2024-25																																	
(e) Amount of fee paid	Rs. 30,28,800.00 (Rupees Ninety Lakhs Twenty Eight Thousand Eight Hundred) only																																	
(f) Surcharge, if any																																		
6. Details of transmission assets																																		
(a) Transmission line and sub-stations																																		
(b) Date of commercial operation																																		
(c) Period for which fee paid	Not Applicable																																	
(d) Amount of fee paid																																		
(e) Surcharge, if any																																		
7. Fee paid for Adoption of tariff for																																		
(a) Generation asset	Generation asset																																	
(b) Transmission asset																																		
8. Application fee for licence																																		
(a) Trading licence																																		
(b) Transmission licence	Not Applicable																																	
(c) Period for which paid																																		
(d) Amount of fee paid																																		
9. Fees paid for Miscellaneous Petition	Not Applicable																																	
10. Fees paid for Interlocutory Application	Not Applicable																																	
11. Fees paid for Regulatory Compliance	Not Applicable																																	
12. Fees paid for Review Application	Not Applicable																																	
13. Licence fees for Inter-State Trading																																		
(a) Category																																		
(b) Period	Not Applicable																																	
(c) Amount of fee paid																																		
(d) Surcharge, if any																																		
14. Licence fees for Inter-State Transmission																																		
(a) Expected/Actual transmission charge																																		
(b) Period	Not Applicable																																	
(c) Amount of fee calculated as a percentage of transmission charge.																																		
(d) Surcharge, if any																																		
15. Annual Registration Charge for Power Exchange/OTC Platform																																		
(a) Period																																		
(b) Amount of turnover	Not Applicable																																	
(c) Fee paid																																		
(d) Surcharge, if any																																		
16. Details of fee remitted																																		
(a) Transaction Id, Reference no./Payment Id	Payment through the SAUDAMINI e-billing portal																																	
(b) Date of remittance	10th April 2024																																	
(c) Amount remitted	Rs. 30,28,800.00 (Rupees Ninety Lakhs Twenty Eight Thousand Eight Hundred) only																																	
Note: While Sl. No. 1 to Sl. No. 3 and Sl. No. 15 are compulsory, the rest may be filled up as applicable.																																		
Signature of the authorized signatory with date																																		



10.04.2024
 कार्यपालक निदेशक (वाणिज्यिक)
 Executive Director (Comm)
 नीपको लि., शिलांग
 NEEPCO Ltd., Shillong



ISO 9001 : 2015
ISO 14001 : 2015
ISO 45001 : 2018

नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लिमिटेड

(मिनि रत्न, कैटेगरी-1, भारत सरकार का उद्यम)

NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

(A Mini Ratna, Category-I, A Govt. of India Enterprise)

COMMERCIAL DEPARTMENT

No.: NEEPCO/ED(COMML)/F-41/2024-25/ 42

Dated 10.04.2024

The Secretary,
Central Electricity Regulatory Commission,
3rd and 4th Floor, Chanderlok Building,
36, Janpath, New Delhi - 110001. Date: 20.04.2023

Sub : Payment of Annual Application Fees for Determination of Tariff for Financial Year 2024 - 25.

Sir/Madam,

In compliance of Regulation 3 (Fee for Application for Determination of Tariff) of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012, the Application Fees of amount of Rs.90,28,800.00 (Rupees Ninety Lakhs Twenty-Eight Thousand Eight Hundred) only payable for the Financial Year 2024 - 24 in respect of the following generating stations of N EEP CO:

Name of Generating Station	Installed Capacity (MW)	Applicable fees (Rs.)
Kopili Hydro Electric Plant	200	8,80,000
Kopili II Hydro Electric Plant	25	1,10,000
Khandong Hydro Electric Plant	50	2,20,000
Doyang Hydro Electric Plant	75	3,30,000
Ranganadi Hydro Electric Plant	405	17,82,000
Pare Hydro Electric Plant	110	4,84,000
Tuirial Hydro Electric Plant	60	2,64,000
Kameng Hydro Electric Plant	600	26,40,000
Assam Gas Based Power Plant	291	12,80,400
Agartala Gas Turbine Combined Cycle Power Plant	135	5,94,000
Tripura Gas Based Power Plant	101	4,44,400
Total	2052	90,28,800

The duly filled in Form - I is enclosed herewith and the application fees deposited through the SAUDAMINI e-filing portal as stipulated vide Public Notice of the CERC dated 27.5.2021.

Thanking you,

(Signature)
10.04.2024

Executive Director

O/o the Executive Director (Commercial),

NEEPCO Ltd., Shillong-793008. (व्यवसायिक)

Executive Director (Comm)

कॉर्पोरेट कार्यालय : ब्रुकलैंड कंपाउण्ड, लोअर न्यू कॉलोनी, शिलांग

Corporate Office : Brookland Compound, Lower New Colony, Shillong - 793008

दूरभाष/Tel. : 0364-2226091 | 2505879 | 2501903 | 2502216 | फैक्स नं./Fax No. : 0364-2226095

वेबसाइट/Website : www.neepco.com | ई-मेल/E-mail : neepcocommercial@gmail.com | CIN : U4010ML1976GOI001658

समृद्धि एवं राष्ट्रहित में ऊर्जा बचाएँ / Save Energy for Benefit of Self and Nation



**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 390/GT/2020

Coram:

**Shri P.K. Pujari, Chairperson
Shri I.S Jha, Member
Shri Arun Goyal, Member**

Date of Order: 16th April, 2021

IN THE MATTER OF

Petition for determination of tariff of Tuirial Hydro Electric Power Plant (60 MW) for the period from 1.4.2019 to 31.3.2024

AND

IN THE MATTER OF

North Eastern Electric Power Corporation Limited
Corporate Office: Brookland Compound
Lower New Colony, Shillong-793003
Meghalaya

...Petitioner

Vs

1. Power & Electricity Department
Government of Mizoram, New Secretariat Complex,
Kawlphetha, Aizawl-796006

2. North Eastern Regional Power Committee
NERPC Complex, Dong Parmaw, Lapalang,
Shillong-793006, Meghalaya

3. North Eastern Regional Load Despatch Centre
Dongtieh, Lower Nongrah, Lapalang,
Shillong-793006, Meghalaya

4. State Load Despatch Centre
Power & Electricity Department,
Government of Mizoram, Power House Complex,
Electric Veng, Aizawl – 796006

...Respondents

Parties Present:

Shri Prabal Mukhopadhaya, NEEPCO
Shri Devapriya Choudhury, NEEPCO
Ms. Elizabeth Pyrbot, NEEPCO



Order in Petition No. 390/GT/2020

Page 1 of 23

ORDER

This Petition has been filed by the Petitioner, NEEPCO for approval of tariff of Tuirial Hydro Electric Plant (2 x 30 MW) (hereinafter referred to as "the generating station" or "the Project") for the period from 1.4.2019 to 31.3.2024 in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as 'the 2019 Tariff Regulations').

2. The Petitioner, NEEPCO has set up the project in the Kolasib District of Mizoram to harness power from Tuirial river. The DPR (Detailed Project Report) for the project was prepared by the Central Water Commission in 1991 and Techno-Economic Clearance (TEC) was granted for execution of the project. The Government of Mizoram initiated discussion with the then Japan Bank for International Cooperation (JBIC) (earlier Overseas Economic Cooperation Fund - OECF) for availing the debt component in order to execute the Project under State sector. JBIC expressed its inability to fund the Project under the State sector. Subsequently, the Ministry of Power, Government of India, in consultation with the Government of Mizoram, invited the Petitioner to undertake the Project under Central sector in the early part of 1996 and accordingly an MOU (Memorandum of Understanding) was signed between the Government of Mizoram and the Petitioner in May 1996. The Petitioner took up the work of pre-construction survey and development of infrastructure after taking over the Project in 1996. The original CCEA clearance of the Project was accorded on 16th July 1998 at an estimated cost of ₹368.72 crore with a completion schedule of 8 years.

3. The Project works commenced in 2001 as per drawn up plan and was progressing. However, work of the Project came to a halt from June 2004 due to law



& order problem on account of an agitation launched by Tuirial Crop Compensation Claimant Association, claiming payment of crop compensation for the standing crops in the Riverine Reserve Forest. Prior to the suspension of work, about 30% of the Project work and 95% of design & engineering work of the Project were completed.

4. With support of the Government of Mizoram, the Project was revived and the Public Investment Board (PIB) accorded approval for the Revised Cost Estimate (RCE) of ₹913.63 crore (including IDC of ₹36.57 crore) at March 2010 Price Level on 4.6.2010. The revised CCEA clearance for the Project was accorded on 14.1.2011 with RCE of ₹913.63 crore and with a completion period of 36 months. It was discussed in the PIB meeting that with normal funding pattern of debt-equity ratio of 70:30, tariff of the project would be high. However, with the debt-equity ratio of 85:15 and with 2% depreciation applied for the first 15 years, the tariff would become affordable. The Joint Adviser, Project Appraisal and Management Division (PAMD), Planning Commission, GOI suggested that tariff as determined by the Central Commission may be acceptable to the Government of Mizoram. However, it was observed by PIB that the tariff for the project is to be worked out on the basis of funding of the project as approved by PIB. Accordingly, the Government of Mizoram signed Power Purchase Agreement (PPA) with the Petitioner on 2.7.2010 for the purchase of entire power from the project.

5. The following are the stipulations of the revised Investment Approval accorded by CCEA on 14.1.2011:

- (a) Revised cost estimate at ₹913.63 crore at March 2010 PL (Hard cost: ₹877.06 crore; IDC& FC: ₹36.57 crore)
- (b) Debt equity ratio at 85:15
- (c) Financial pattern:

Equity	-	₹137.04 crore
Loan from Financial Institution	-	₹184.63 crore
Subordinate loan from Govt. of India	-	₹291.96 crore



Order in Petition No. 390/GT/2020

Page 3 of 23

Grant from DoNER Ministry	-	₹300.00 crore
Total	-	₹913.63 crore

(d) Subordinate loan from GOI will be charged @1% per annum from COD and repayment of principal to start from 16th year after commissioning and will continue till 30th year.

(e) Any further increase over the cost as approved above, except on account of indexation would be borne by the Petitioner. Further, the Government of Mizoram will sort out crop compensation issues, if any, separately without having any financial implication on the Project cost.

(f) The Project will be commissioned in 36 months from the date of investment approval.

6. RCE of the Project was again updated by the Petitioner at December 2015 price level for ₹1441.52 crore (including IDC & FC of ₹110.99 crore) with revised COD as June 2017, wherein the 1st year tariff of the Project was projected as ₹10.44 per unit and levelized tariff as ₹10.54 per unit. Central Electricity Authority (CEA) on 20.1.2017 had vetted RCE of the generating station at ₹1263.32 crore (hard cost) at December 2015 price level, while recommending IDC & FC up to December 2015 price level at actuals, and from January 2016 to September 2017, on estimation basis.

7. The Secretary, Power & Electricity Department, Government of Mizoram, vide letter dated 20.1.2017 informed MOP, GOI regarding intention of Government of Mizoram to surrender the power of the generating station, other than the 12% free power.

8. CEA vide letter dated 8.3.2017 addressed to MOP, GOI observed that an amount of ₹203.64 crore (price escalation ₹196.34 crore + taxes on escalated price ₹7.30 crore) due to indexation may only be added in the approved cost of the project for calculating the energy tariff and the balance increased amount of ₹182.62 crore (₹1263.32 crore – ₹877.06 crore – ₹203.64 crore) may be met by the Petitioner from



its own resources as agreed by it at the time of the revival of the project. However, the same was subject to approval of MOP, GOI, which is awaited. Thereafter, CEA vide its letter dated 18.4.2017 mentioned two scenarios as under:

- (i) With fixed grant and subordinate loan as per Investment approval: ₹66.10 crore.
- (ii) With financing pattern in terms of percentage (%) as per Investment approval: ₹58.20 crore.

Thus, RCE with the stipulation (i) will be ₹1263.32 crore + ₹66.10 crore = ₹1329.42 crore and RCE with the stipulation (ii) will be ₹1263.32 crore + ₹58.20 crore = ₹1321.52 crore.

9. Petition No. 15/GT/2018 was filed by the Petitioner for approval of tariff of the generating station for the period from COD to 31.3.2019 in accordance with the 2014 Tariff Regulations. The Commission vide its order dated 9.10.2018 determined the tariff of the generating station from COD of the units till 31.3.2019 based on the capital cost of ₹111727.32 lakh (including IDC) as recommended by CEA. Thereafter, Petition No. 329/GT/2019 was filed by the Petitioner for revision of tariff of the generating station, based on true-up exercise for the period from 30.10.2017 till 31.3.2019 and the Commission vide order dated 10.3.2021 had approved the fixed charges, based on the capital cost of ₹65806.56 lakh for Unit-I (as on 30.10.2017) and ₹81727.32 lakh for Unit-II (as on 30.1.2018). The capital cost of ₹81727.32 lakh as on 30.1.2018 was allowed after deducting grant from DoNER, GOI of ₹30000 lakh from the capital cost (₹111727.32 lakh) of the Project. The fixed charges approved for the period from COD (30.10.2017) of Unit-I to 31.3.2019 in respect of the generating station are extracted hereunder:



(₹ in lakh)

	30.10.2017 to 29.1.2018	30.1.2018 to 31.3.2018	1.4.2018 to 26.4.2018	27.4.2018 to 31.3.2019
Return on Equity	531.02	430.09	172.52	2394.53
Interest on Loan	705.66	569.40	282.31	3637.14
Depreciation	331.74	268.69	116.43	1518.01
Interest on Working Capital	69.05	54.10	23.77	312.13
O & M Expenses	805.56	600.61	239.96	3128.68
Fixed Charges (pro-rata)	2443.03	1922.89	834.99	10990.50

10. The Commission in the said order dated 10.3.2021 in Petition No.329/GT/2019 has granted liberty to the Petitioner to approach the Commission for revision of capital cost based on approval of RCE by CCEA and with the concurrence of the sole beneficiary of the project. The Petitioner has also been granted liberty to approach the Commission for revision of NAPAF, based on the decision by CEA on the request of the Petitioner.

11. The Petitioner vide affidavit dated 16.1.2020 has filed the present petition for determination of tariff of the generating station for the period from 1.4.2019 to 31.3.2024 in terms of the provisions of the 2019 Tariff Regulations. The capital cost and the annual fixed charges claimed by the Petitioner in the present petition are as under:

Capital Cost

(₹ in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	86995.78	88222.97	88222.97	88222.97	88222.97
Add: Addition during the year/period	0.00	0.00	0.00	0.00	0.00
Less: Reversal during the year/period					
Less: De-capitalisation during the year/period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year/period	1227.18	0.00	0.00	0.00	0.00
Closing Capital Cost	88222.97	88222.97	88222.97	88222.97	88222.97



Annual Fixed Charges

	(in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Return on Equity	2627.36	2645.76	2645.76	2645.76	2645.76
Interest on Loan	4027.56	3893.69	3662.13	3424.13	3178.68
Depreciation	1752.19	1764.46	1764.46	1764.46	1764.46
Interest on Working Capital	258.29	250.66	253.40	266.33	259.46
O & M Expenses	2926.42	3086.01	3212.26	3365.48	3526.01
Total	11591.82	11620.58	11538.01	11456.16	11374.37

12. The petition was heard on 13.8.2020 through video conferencing and the Commission after directing the Petitioner to file certain additional information, reserved its order. None appeared on behalf of the Respondents. In compliance with the directions of the Commission, the Petitioner has filed additional information vide affidavit dated 11.9.2020 and has served the same on the Respondents. The Respondents 1 and 4 have filed their common reply vide affidavit dated 24.9.2020 and the Petitioner vide affidavit dated 5.10.2020 has filed its rejoinder to the said reply. Based on the submissions of the parties and the documents available on record and on prudence check, we proceed to determine the tariff of the generating station for the 2019-24 tariff period, as stated in the subsequent paragraphs.

Capital Cost

13. Clause (1) of Regulation 19 of the 2019 Tariff Regulations provides that the capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects. However, capital cost for an existing project is governed as per clause (3) of Regulation 19 of the 2019 Tariff Regulations, which is provided as under:

**The Capital cost of an existing project shall include the following:*

(a) Capital cost admitted by the Commission prior to 1.4.2019 duly tried up by excluding liability, if any, as on 1.4.2019;

(b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;

(c) Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;



(d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;

(e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and

(f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries....”

14. The Petitioner vide Form-1i of the petition has claimed capital cost as follows:

	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	86995.78	88222.97	88222.97	88222.97	88222.97
Add: Addition during the year/period	0.00	0.00	0.00	0.00	0.00
Less: De-capitalisation during the year/period	0.00	0.00	0.00	0.00	0.00
Less: Reversal during the year/period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year/period	1227.18	0.00	0.00	0.00	0.00
Closing Capital Cost	88222.97	88222.97	88222.97	88222.97	88222.97

15. The Commission in its order dated 10.3.2021 in Petition No.329/GT/2019 had allowed the closing capital cost of ₹81721.90 lakh as on 31.3.2019. Accordingly, in terms of Regulation 19 of the 2019 Tariff Regulations, the capital cost of ₹81721.90 lakh as on 31.3.2019 has been considered as the opening capital cost as on 1.4.2019, for the purpose of determination of tariff for the period 2019-24.

Additional Capital Expenditure

16. The Petitioner has submitted that actual additional capital expenditure for the 2019-24 tariff period shall be claimed/ submitted at the time of truing-up of tariff for the generating station for 2019-24 tariff period. Since no additional capital expenditure has been claimed by the Petitioner for 2019-24 in the present petition, no additional capitalization has been considered in this order.

Discharge of liabilities

17. As regards discharge of liabilities, the Petitioner has claimed an amount of ₹1227.18 lakh in the year 2019-20. As stated, the capital cost of ₹111727.32 lakh has



A.

been approved vide order dated 10.3.2021 in Petition No. 329/GT/2019, based on mutually agreed ceiling cost, which is the maximum permissible cost for assets/works related to the original scope of work of the project. The same has been allowed as on COD after adjusting the DoNER grant of ₹30000.00 lakh amount received by the Petitioner i.e. ₹81727.32 lakh (₹111727.32 lakh - ₹30000.00 lakh). As such, the limit for further additional capital expenditure pertaining to assets/works within the original scope of work of the project has been exhausted. Also, the capital cost allowed vide order dated 10.3.2021 in Petition No. 329/GT/2019 is without deduction of any undischarged liabilities. Accordingly, the discharge of liability amounting to ₹1227.18 lakh, as claimed by the Petitioner, which are related to assets/ works within the original scope of work of the project, are not allowed for the purpose of tariff.

Deletions

18. The Petitioner has not claimed any de-capitalization of assets/ works for the 2019-24 tariff period. The Petitioner is, however, granted liberty to claim de-capitalization of assets/ works at the time of truing-up of tariff and the same will be considered in accordance with law.

Capital Cost for 2019-24

19. Based on the above, the capital cost allowed for the purpose of tariff for the 2019-24 tariff period is as under:

	(₹m lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	81721.90	81721.90	81721.90	81721.90	81721.90
Additional Capital expenditure allowed	-	-	-	-	-
Closing Capital Cost	81721.90	81721.90	81721.90	81721.90	81721.90

Return on Equity

20. Regulations 30 and 31 of the 2019 tariff Regulations provides as under:

**30. Return on Equity:*



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(1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-of river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run-of river generating station with pondage:

Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope excluding additional capitalization due to Change in Law, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;

Provided further that:

i. In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;

ii. in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

iii. in case of a thermal generating station, with effect from 1.4.2020:

a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;

b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:

Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.

31. Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax paid on income from other businesses including deferred tax liability (i.e. income from business other than business of generation or transmission, as the case may be) shall be excluded for the calculation of effective tax rate.

(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where "t" is the effective tax rate in accordance with clause (1) of this Regulation and shall be calculated at the beginning of every financial year based on the estimated



profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rate basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), "Y" shall be considered as MAT rate including surcharge and cess.

Illustration-

(i) In case of a generating company or a transmission licensee paying Minimum Alternate Tax (MAT) @ 21.55% including surcharge and cess:

Rate of return on equity = $15.50 / (1 - 0.2155) = 19.758\%$

(ii) In case of a generating company or a transmission licensee paying normal corporate tax including surcharge and cess:

(a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs. 1,000 crore;

(b) Estimated Advance Tax for the year on above is Rs. 240 crore;

(c) Effective Tax Rate for the year 2019-20 = Rs. 240 Crore / Rs. 1000 Crore = 24%;

(d) Rate of return on equity = $15.50 / (1 - 0.24) = 20.395\%$.

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee, as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after trueing up, shall be recovered or refunded to beneficiaries or the long term customers, as the case may be, on year to year basis."

21. The Respondents 1 and 4 have submitted that the Minimum Alternate Tax (MAT) rate got reduced in the year 2019-20 from 18.5% to 15% and the same should be factored in the computation of Return on Equity (ROE) and the annual fixed charges. The Petitioner has clarified that it has considered MAT rate of 15% in the calculation of annual fixed charges for the year 2019-20 and thereafter. The Petitioner has further submitted that its bill dated 8.1.2020 was based on the MAT rate of 15% but other parameters were taken from the Commission's order dated 9.10.2018. The Petitioner has added that MAT rates are subject to variation and any change in the same will be considered at the time of trueing-up of tariff.



22. The matter has been examined. For grossing up of ROE during the 2019-24 tariff period, the Petitioner has applied the MAT rate of 17.472% for the year 2019-20. The same has been allowed. This is however subject to revision, if any, at the time of triuing up of tariff. Accordingly, ROE has been worked out and allowed as under:

	(Rs Lakhs)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Notional Equity	12258.29	12258.29	12258.29	12258.29	12258.29
Addition due to additional capitalization	0.00	0.00	0.00	0.00	0.00
Closing Notional Equity	12258.29	12258.29	12258.29	12258.29	12258.29
Average Equity	12258.29	12258.29	12258.29	12258.29	12258.29
Return on Equity (Base Rate)	16.500%	16.500%	16.500%	16.500%	16.500%
Tax rate for the year	17.472%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity	19.993%	19.993%	19.993%	19.993%	19.993%
Return on Equity	2450.83	2450.83	2450.83	2450.83	2450.83

Interest on loan

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

**32. Interest on loan capital:*

(1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

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

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

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.



(7) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.*

24. The salient features of computation of interest on loan are summarized as under:

- The gross normative loan amounting to ₹69463.62 lakh has been considered as on 1.4.2019;
- Cumulative repayment amounting to ₹2234.86 lakh as on 31.3.2019 as considered vide Commission's order dated 10.3.2021 in Petition No.329/GT/2019 has been considered as on 1.4.2019;
- The repayment for the year of the 2019-24 tariff period has been considered equal to the depreciation allowed for that year;
- Interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest as claimed by the Petitioner. This is subject to true-up.

25. Accordingly, Interest on loan has been worked out as under:

	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative loan	69463.62	69463.62	69463.62	69463.62	69463.62
Cumulative Repayment up to Previous year	2234.86	3869.30	5503.74	7138.18	8772.61
Net loan-Opening	67228.75	65594.31	63959.88	62325.44	60691.00
Repayment during the year	1634.44	1634.44	1634.44	1634.44	1634.44
Addition due to additional capitalization	0.00	0.00	0.00	0.00	0.00
Net loan-Closing	65594.31	63959.88	62325.44	60691.00	59056.56
Average loan	66411.53	64777.10	63142.66	61508.22	59873.78
Weighted Average Rate of Interest on loan	5.70%	5.61%	5.42%	5.20%	4.96%
Interest (pro-rata)	3787.18	3634.87	3419.43	3197.94	2969.42

Depreciation

26. Regulation 33 of the 2019 tariff Regulations provides as under:

*33. Depreciation:

(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units:

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the



units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of a transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

Provided that the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

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

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

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

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

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

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

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

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

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

27. Accordingly, the cumulative depreciation amounting to ₹2234.82 lakh as on 31.3.2019 as considered in order dated 10.3.2021 in Petition No.329/GT/2019 has been considered for the purpose of tariff. As discussed in the PIB meeting and



mutually agreed by the parties, the Petitioner has claimed depreciation at the rate of 2% per annum in the instant petition. The same has been considered for the purpose of tariff.

28. The Petitioner in Form 12 of the petition has submitted the value of freehold land included in the gross block as 'nil'. It is noticed that the Petitioner in Petition No. 15/GT/2018 had indicated the value of freehold land as ₹972.00 lakh and the Commission vide its order dated 9.10.2018 in Petition No.15/GT/2018 and in Order dated 10.3.2021 in Petition No. 329/GT/2019 had considered the said value i.e. ₹972.00 lakh towards freehold land while allowing depreciation. In line with these orders, the value of freehold land included in the gross block has been considered as ₹972.00 lakh in this order also.

29. In terms of the 2014 Tariff Regulations, the useful life of the hydro generating station is 35 years. As stated in the Commission's order dated 10.3.2021 in Petition No.329/GT/2019, the expired life of the generating station till 31.3.2019 is 1.49 years and the balance useful life of the generating station, as on 31.3.2019, is 33.51 years. However, in contrast to the 2014 Tariff Regulations, the 2019 Tariff Regulations stipulates the useful life of the hydro generating station as 40 years. Accordingly, the balance useful life of the generating station as on 1.4.2019 has been considered as 38.51 years in line with the 2019 Tariff Regulations. Accordingly, depreciation has been worked out and allowed as under:

	(In lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	81721.90	81721.90	81721.90	81721.90	81721.90
Addition due to Projected additional capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	81721.90	81721.90	81721.90	81721.90	81721.90
Average Gross Block	81721.90	81721.90	81721.90	81721.90	81721.90
Value of Freehold Land included in Gross Block	972.00	972.00	972.00	972.00	972.00
Depreciable value including amortisation of lease land	72674.91	72674.91	72674.91	72674.91	72674.91

Remaining Depreciable Value at the beginning of the year	70440.09	68805.65	67171.21	65536.78	63902.34
Number of completed years at the beginning of the year	1.49	2.49	3.49	4.49	5.49
Balance useful life(Years) at the beginning of the year	38.51	37.51	36.51	35.51	34.51
Rate of Depreciation	2.00%	2.00%	2.00%	2.00%	2.00%
Depreciation	1634.44	1634.44	1634.44	1634.44	1634.44
Cumulative Depreciation at the end of the year (before adjustment for de-capitalization)	3869.26	5503.70	7138.13	8772.57	10407.01
Less: Depreciation adjustment on account of de-capitalization	0.00	0.00	0.00	0.00	0.00
Net Cumulative Depreciation	3869.26	5503.70	7138.13	8772.57	10407.01

O&M Expenses

30. Regulation 35(2)(c) of the 2019 Tariff Regulations provides as follows:

"35(2)(c) In case of hydro generating stations which have not completed a period of three years as on 1.4.2019, operation and maintenance expenses for 2019-20 shall be worked out by applying escalation rate of 4.77% on the applicable operation and maintenance expenses as on 31.3.2019. The operation and maintenance expenses for subsequent years of the tariff period shall be worked out by applying escalation rate of 4.77% per annum..."

31. The Petitioner has submitted that the O&M expenses for the period 2019-24 have been determined on the basis of the O&M expenses claimed for the year 2018-19 with an escalation rate of 4.77% per annum, in terms of Regulation 35(2)(c) of the 2019 Tariff Regulations. Accordingly, the Petitioner's claim for O&M expenses vide affidavit 11.9.2020 is as under :

(₹ in lakh)				
2019-20	2020-21	2021-22	2022-23	2023-24
2926.42	3066.01	3212.26	3365.48	3526.01

32. As stated, the capital cost of ₹81721.90 lakh allowed as on COD of the generating station is after exclusion of the DoNER grant of ₹30000 lakh received by Petitioner from DoNER and the same has been allowed as on the cut-off date of the generating station (31.3.2020). As such, O&M expenses have been calculated based on closing capital cost of ₹111721.90 lakh as on 31.3.2020, including the grant from DoNER. The Petitioner has stated that the Rehabilitation & Resettlement (R&R) cost



is 'nil'. Accordingly, the admissible O&M expenses for the base year 2018-19 is worked out is as follows:

(₹ in lakh)	
Total capital expenditure up to cutoff date i.e 31.3.2020 (a)	111721.90
R & R Expenditure (b)	0.00
Capital Cost considered for O&M expenses (excluding R&R expenses) (c)=(a)-(b)	111721.90
Annualized O&M Expenses (2017-18) @2.5% for 2 machines (d)= 2.5% of (c)	2793.05
Annualized O&M Expenses (2018-19) @6.64% of (d) for 2 machines (e)=6.64*(d)	2978.51

33. The above said O&M expenses of ₹2978.51 lakh for 2018-19 has been allowed by the Commission vide its order dated 10.3.2021 in Petition No. 329/GT/2019 based on the mutually agreed O&M expenses @ 2.5% of the mutually agreed capital cost (₹111721.90 lakh) instead of 4% as provided in the 2019 Tariff Regulations. As against the O&M expenses of ₹2978.51 lakh allowed for the year 2018-19, the actual O&M expenses incurred was ₹4953.28 lakh, including security expenses of ₹82.37 lakh. As such, the reduced normative O&M expenses allowed includes security expenses of ₹49.53 lakh, on pro-rata basis. Accordingly, from the above annualised O&M expenses of ₹2978.51 lakh for the year 2018-19, pro-rated security expenses (₹49.53 lakh) have been deducted and the remaining O&M expenses of ₹2928.98 lakh (excluding security expenses) have been escalated @4.77% per annum to arrive at the O&M expenses for the period 2019-24. Accordingly, the allowable O&M expenses, excluding Security expenses, are as under:

(₹ in lakh)				
2019-20	2020-21	2021-22	2022-23	2023-24
3068.69	3215.07	3368.43	3529.10	3697.44

34. As regards security expenses and capital spares for O&M expenses, Regulation 35(2)(c) of 2019 Tariff Regulations provides as under:



"(c) The Security Expenses and Capital Spares for hydro generating stations shall be allowed separately after prudence check:

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

35. The Petitioner has claimed security expenses as additional O&M expenses in terms of Regulations 35(2)(c) of the 2019 Tariff Regulations. The Respondents 1 and 4 have submitted that the security of electrical installations was in the interest of the home State (Mizoram) as the Indian Reserve Police and Central Reserve Police Force were deployed at the generating station. They have further submitted that the commencement of the project aimed at economic and employment upliftment. The Respondents have also submitted that the State security forces and other private security forces can be arranged through the State Government for the benefit of the State. The Petitioner vide its rejoinder affidavit dated 5.10.2020 has stated that the submissions of the Respondents are irrelevant and the same may not be considered.

36. As regards capital spares, the Petitioner has submitted that the details of the same shall be submitted at the time of truing up of tariff. The Commission vide ROP of the hearing dated 13.8.2020 had directed the Petitioner to submit the security expenses for 2018-19. In compliance with the said direction, the Petitioner vide affidavit dated 11.9.2020 has submitted that security expenses for 2018-19 is ₹82.37 lakh. However, the Petitioner has claimed security expenses, on projection basis, for the 2019-24 tariff period as under :

(₹ in lakh)				
2019-20	2020-21	2021-22	2022-23	2023-24
50.00	50.00	50.00	50.00	50.00

37. Though the Petitioner has not furnished any documentary evidence indicating the security assessment for the generating station, in terms of Regulations 35(2)(c) of the 2019 Tariff Regulations, it has submitted vide affidavit dated 11.9.2020 that the



actual security expenses for the year 2018-19 towards the deployment of Indian Reserve Battalions (IRBN) and Meghalaya Home Gaurds was ₹82.37 lakh. It is observed that the details regarding security expenses for the year 2018-19 has not been certified by the Auditor, as mandated under the 2019 Tariff Regulations. However, considering the fact that the generating station is located in North Eastern Region, we are inclined to allow the projected security expenses of ₹50 lakh for each year of the 2019-24 tariff period. The Petitioner is, however, directed to submit the actual expenditure, duly audited, at the time of truing up of the tariff. Accordingly, the O&M expenses, (including Security expenses) allowed for the 2019-24 tariff period is as follows:

	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M expenses	3068.69	3215.07	3368.43	3529.10	3697.44
Security expenses	50.00	50.00	50.00	50.00	50.00
Total O&M expenses including security expenses	3118.69	3265.07	3418.43	3579.10	3747.44

Interest on working capital

38. Sub-section (c) of clause (1) of Regulation 34 of the 2019 Tariff Regulations provides as under:

*"34. Interest on Working Capital: (1) The working capital shall cover:
(c) For Hydro generating station (Including Pumped Storage Hydro Generating Station) and transmission system:
(i) Receivables equivalent to 45 days of annual fixed cost;
(ii) Maintenance spares @ 15% of operation and maintenance expense including security expenses; and
(iii) Operation and maintenance expenses including security expenses for one month"*

39. As regards the rate of interest on working capital, Clause (3) of Regulation 34 of the 2019 Tariff Regulations provides as under:

"34(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later."

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



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40. In accordance with Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital considered on projection basis, for the 2019-24 tariff period is 12.05% (i.e. 1 year SBI MCLR of 8.55% as on 1.4.2019 + 350 basis points). As the tariff of the generating station for 2019-24 tariff period is being determined during the year 2020-21, the SBI MCLR as on 1.4.2020 (7.75%) is also available which is lower in comparison of the same, as on 1.4.2019 (8.55%). Since the rate of interest on working capital is subject to revision at the time of truing-up of tariff, based on the bank rate as on 1st April of each financial year, we find it prudent to allow the rate of interest as on 1.4.2020, for the subsequent financial years. Accordingly, the rate of interest for the year 2019-20 is 12.05% and for the subsequent years the rate of interest of 11.25% has been considered (i.e. 1 year SBI MCLR of 7.75% as on 1.4.2020 + 350 basis points). Accordingly, Interest on working capital is allowed as under:

	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Maintenance Spares	467.80	489.76	512.76	536.87	562.12
O & M expenses	259.89	272.09	284.87	298.26	312.29
Receivables	1884.31	1880.41	1870.55	1860.93	1851.46
Total	2612.01	2642.26	2668.18	2696.06	2725.87
Rate of interest	12.05%	11.25%	11.25%	11.25%	11.25%
Interest on working capital	314.75	297.25	300.17	303.31	306.66

Annual Fixed Charges

41. Based on the above, the annual fixed charges approved for the 2019-24 tariff period in respect of the generating station are summarized as under:

	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Return on Equity	2450.83	2450.83	2450.83	2450.83	2450.83
Interest on Loan	3787.18	3634.87	3419.43	3197.94	2969.42
Depreciation	1634.44	1634.44	1634.44	1634.44	1634.44
Interest on Working Capital	314.75	297.25	300.17	303.31	306.66
O & M Expenses	3118.69	3265.07	3418.43	3579.10	3747.44
Annual Fixed Charges	11305.88	11282.45	11223.29	11165.61	11108.78



Normative Annual Plant Availability Factor (NAPAF)

42. As against the claim of the Petitioner for NAPAF of 82%, the Commission vide its Orders dated 9.10.2018 in Petition No. 15/GT/2018 and dated 10.3.2021 in Petition No.329/GT/2019 had allowed NAPAF of 85% subject to revision if any, based on approval of CEA on the request of the Petitioner. Considering the fact that the request of the Petitioner for NAPAF of 82% is still pending before CEA, we consider the NAPAF of 85% in this order. The Petitioner is, however, granted liberty to approach the Commission after obtaining approval of CEA with regard to revision of NAPAF.

Auxiliary Energy Consumption

43. Regulation 50(C) of the 2019 Tariff Regulations provides as follows:

Type of Station	Auxiliary Energy Consumption	
	Installed Capacity above 200 MW	Installed Capacity up to 200 MW
Surface		
Rotating Excitation	0.7%	0.7%
Static	1.0%	1.2%
Underground		
Rotating Excitation	0.9%	0.9%
Static	1.2%	1.3%

44. The Petitioner has claimed Auxiliary Energy Consumption (AEC) of 4% for the generating station. The Commission vide its order dated 9.10.2018 in Petition No. 15/GT/2018 and Order dated 10.3.2021 in Petition No.329/GT/2019 had considered AEC of 1% with liberty to the Petitioner to approach the Commission for enhancement of AEC by way of a separate application.

45. The Respondents 1 and 4 have submitted that the maximum permissible limit for surface hydro generating station with static excitation system is 1.2% in terms of Regulation 50(C) of the 2019 Tariff Regulations. They have further submitted that the Petitioner had pilfered more energy in and around power house due to inefficient

operations in the generating station and accordingly, the Petitioner has to rectify the same. The Petitioner has submitted that the Commission vide ROP of hearing dated 13.8.2020 had granted liberty to the Petitioner to approach the Commission through a separate application towards the enhancement of normative AEC from 1.2% to 4%. Having considered the submissions of the Petitioner and the Respondents, AEC of 1.2% is allowed for the 2019-24 tariff period in terms of Regulation 50(C) of the 2019 Tariff Regulations.

Design Energy

46. As regards Design Energy (DE), the Commission vide its order dated 9.10.2018 in Petition No. 15/GT/2018 had observed the following:

*"88. As per the original DPR of the project, the annual Design Energy (DE) of the station is 240.89 MUs. However, the petitioner has claimed annual design Energy of 250.63 MUs for the generating station and has submitted that the same is yet to be approved by CEA. Considering the fact that this is beneficial to the beneficiary, we consider annual Design Energy of 250.63MUs. However, the petitioner is directed to submit the Design Energy of the station to the Commission as on when approved by CEA, the month-wise break-up the allowed Design Energy of 250.63Mus of the same is as under...:
xxxx"*

47. The Petitioner has claimed DE for 250.63 MU and has furnished copy of the CEA letter dated 3.11.2005, which has authenticated the DE as 250.63 MU for the generating station. In view of this, DE of 250.63 MU as approved by CEA is considered for the generating station. The month-wise details are as under:

Month	Design Energy (MU)
April	14.37
May	17.37
June	20.79
July	27.24
August	35.17
September	36.23
October	26.08
November	17.77
December	14.61
January	13.73
February	13.60
March	13.67
Total	250.63



Application Fee and Publication Expenses

48. The Petitioner has sought reimbursement of fees paid by it for filing the petition and for publication expenses. The Respondents 1 and 4 have submitted that presently communication is sent through electronic means, instead of paper format to abridge the expenses. Accordingly, the Respondents have prayed that the claim of the Petitioner regarding publication expenses may be disallowed. The Petitioner has, however, submitted that reimbursement towards filing fees and publication expenses are in accordance in terms of the Regulation 70(1) of the 2019 Tariff Regulations. In view of the above, the Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries, on pro-rata basis, in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

49. Summary

(a) The annual fixed charges allowed for the generating station in this order is as below:

(Rs. lacs)				
2019-20	2020-21	2021-22	2022-23	2023-24
11305.88	11282.45	11223.29	11165.61	11108.78

(b) The Petitioner is granted liberty to approach the Commission for revision of capital cost, if any, based on the approval of RCE by CCEA and with the concurrence of the sole beneficiary of this project.

(c) The Petitioner is also granted liberty to approach the Commission with regard to NAPAF, based on decision of the CEA on the request of the Petitioner.

50. Petition No. 390/GT/2020 is disposed of in terms of the above.

Sd/-
(Arun Goyal)
Member

Sd/-
(I.S Jha)
Member

Sd/-
(P.K. Pujari)
Chairperson

To,
 Tuirial Hydro Power Station,
 North Eastern Electric Power Corporation Limited,
 Valrengte, Kolasib,
 Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the Year-wise Statement of Additional Capitalization after COD for the period 01.04.2019 to 31.03.2024 (extract of Form 9A of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as follows:

For FY 2019-20				
Sl. No.	Head of Work/Equipment	ACE Claimed (Actual/Projected)		
		Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5 = 3 - 4)
1	Main Plant Buildings-Civil Works	324.91	0.00	324.91
2	Furniture & Fixture	1.51	0.00	1.51
3	Office Equipment	14.16	0.00	14.16
4	Other EDP Equipment	9.11	0.00	9.11
5	Fire Fitting Equipment	43.94	0.00	43.94
6	Hospital Equipment	0.12	0.00	0.12
7	Guest House & Transit Camp Equipment	0.20	0.00	0.20
8	Water Treatment Plant	0.25	0.00	0.25
9	Miscellaneous Equipment	0.61	0.00	0.61
10	Interior Communication Equipment	0.48	0.00	0.48
Total		395.30	0.00	395.29

For FY 2020-21				
Sl. No.	Head of Work/Equipment	ACE Claimed (Actual/Projected)		
		Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5 = 3 - 4)
1	Main Plant Buildings -Civil Works	35.91	0.00	35.91
2	Diesel Generating Station	40.35	0.00	40.35
3	Office Equipment	0.69	0.00	0.69



Naveen Bhartia
 Chartered Accountant
 Guwahati
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4	Other EDP Equipment	11.11	0.00	11.11
5	Hospital Equipment	2.23	0.00	2.23
6	Guest House & Transit Camp Equipment	0.77	0.00	0.77
7	33 KV Transmission Line	3.23	0.00	3.23
8	Miscellaneous Equipment	1.02	0.00	1.02
9	Fixed-Assets Minor Value	0.87	0.00	0.87
Total		96.18	0.00	96.18

For FY 2021-22				
Sl. No.	Head of Work/Equipment	ACE Claimed (Actual/Projected)		
		Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5 = 3 - 4)
1	Main Plant Buildings - Civil Works	113.82	0.00	113.82
2	Plant & Machinery in Generating Station	37.88	0.00	37.88
3	Diesel Generating Station	54.49	0.00	54.49
4	Audio Visual Equipment	65.68	0.00	65.68
Total		271.88	0.00	271.88

For FY 2022-23				
Sl. No.	Head of Work/Equipment	ACE Claimed (Actual/Projected)		
		Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5 = 3 - 4)
1	Reservoir & Dam	45.28	0.00	45.28
2	Steel Liner & Penstock	2.95	0.00	2.95
3	Plant & Machinery in Generating Station	8.24	0.00	8.24
4	Permanent Residential Building	481.59	0.00	481.59
5	Permanent Non-Residential Building	238.95	0.00	238.95
6	Other Service Building -Township	7.43	0.00	7.43
Total		784.44	0.00	784.44

For FY 2023-24				
Sl. No.	Head of Work/Equipment	ACE Claimed (Actual/Projected)		
		Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5 = 3 - 4)
1	400/220/132 KV Switchyard at Site	386.99	0.00	386.99
2	Dam Safety Monitoring System	26.68	0.00	26.68



Chartered Accountant
Gurdeep Singh

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3	Main Plant Buildings -Civil Works	9.54	0.00	9.54
4	Permanent Residential Building	447.11	0.00	447.11
5	Other Service Building -Township	3.23	0.00	3.23
6	Boundary Wall	3.28	0.00	3.28
Total		876.83	0.00	876.83

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 243119148KFLFE1092

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To,
 Tuirial Hydro Power Station,
 North Eastern Electric Power Corporation Limited,
 Vairengte, Kolasib,
 Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the Details of Assets de-capitalized during the period 01.04.2019 to 31.03.2024 (extract of Form 9B(i) of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" are as follows:

For FY 2019-20					
Sl. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalized (₹ in Lakhs)	Year Put to use	Depreciation recovered till date of de-capitalization (₹ in Lakhs)
1	Main Plant Building - Power House	Additional capital expenditure	34.54	2017	1.56
2	Temporary Non-Residential Building	Additional capital expenditure	11.44	2009	11.44
3	Water Supply and Sanitation	Additional capital expenditure	0.19	2018	0.01
4	Fire Fitting Equipment	Additional capital expenditure	4.98	2003	4.97
5	Camp Equipment	Additional capital expenditure	0.94	2012	0.85
6	Furniture & Fixtures	Additional capital expenditure	0.22	2010	0.22
7	Other EDP Equipment	Additional capital expenditure	0.60	2010	0.54
8	Indoor Electrification	Additional capital expenditure	1.78	2008	1.63
9	Fixed Assets-Minor value	Additional capital expenditure	0.14	2011	0.14
Total			54.83		21.36

For FY 2020-21					
Sl. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalized (₹ in Lakhs)	Year Put to use	Depreciation recovered till date of de-capitalization (₹ in Lakhs)
1	Guest House Equipment	Additional capital expenditure	0.77	2004	0.77
2	Water Treatment Plant	Additional capital expenditure	0.08	2015	0.02
3	Ordinary Tools & Plants	Additional capital expenditure	8.02	2010	7.07




4	Survey Equipment	Additional capital expenditure	1.45	1999	1.45
5	Laboratory & Metre Testing Equipment	Additional capital expenditure	4.36	2004	3.66
6	Audio Visual Equipment	Additional capital expenditure	8.05	2004	8.05
7	Furniture & Fixture	Additional capital expenditure	4.73	2010	4.72
8	Other EDP Equipment	Additional capital expenditure	0.11	2016	0.11
9	Office Equipment	Additional capital expenditure	4.72	2010	4.72
10	Miscellaneous Equipment	Additional capital expenditure	0.12	2010	0.12
Total			32.40		30.68

For FY 2021-22					
Sl. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalized (₹ in Lakhs)	Year Put to use	Depreciation recovered till date of de-capitalization (₹ in Lakhs)
1	Dam & Spillway	Additional capital expenditure	29.10	2017	6.02
2	Guest House Equipment	Additional capital expenditure	0.45	2004	0.34
3	Special Tools & Plants	Additional capital expenditure	811.59	2003	730.51
4	Fire Fitting Equipment	Additional capital expenditure	0.05	2003	0.05
5	Main Frame Computer	Additional capital expenditure	6.80	2010	6.12
6	Furniture & Fixture	Additional capital expenditure	5.31	2010	5.30
7	Other EDP Equipment	Additional capital expenditure	11.14	2010	10.52
8	Audio Visual Equipment	Additional capital expenditure	3.25	2001	3.25
9	Office Equipment	Additional capital expenditure	5.28	2010	5.05
10	Miscellaneous Equipment	Additional capital expenditure	4.91	2010	4.82
11	Fixed Assets-Minor value	Additional capital expenditure	1.19	2012	1.19
Total			879.06		773.17

For FY 2022-23					
Sl. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalized (₹ in Lakhs)	Year Put to use	Depreciation recovered till date of de-capitalization (₹ in Lakhs)
1	Steel Liner & Penstock	Withdrawal of Excess Provision on Finalization of Bill	67.96	2018	0.00
2	Reservoir & Dam	Write-off Seepage measuring Device	15.13	2017	4.06
3	Guest House Equipment	Additional capital expenditure	0.19	2014	0.09
4	Special Tools & Plants	Additional capital expenditure	0.21	2000	0.21
5	Temporary Non-Residential Building	Additional capital expenditure	24.01	2005	24.01
6	Water Treatment Plant	Additional capital expenditure	0.16	2015	0.07




 Navin Sharma & Associates
 Chartered Accountants
 Guwahati

7	Furniture & Fixtures	Additional capital expenditure	2.87	2010	2.82
8	Other EDP Equipment	Additional capital expenditure	1.06	2018	1.06
9	Audio Visual Equipment	Additional capital expenditure	2.59	2012	1.35
10	Indoor Electrification	Additional capital expenditure	0.74	2008	0.67
11	Hospital Equipment	Additional capital expenditure	0.35	2015	0.13
12	Office Equipment	Additional capital expenditure	1.15	2012	0.72
13	Miscellaneous Equipment	Additional capital expenditure	0.04	2010	0.04
14	Fixed Assets-Minor Value	Additional capital expenditure	0.37	2011	0.37
Total			116.84		35.59

For FY 2023-24					
Sl. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalized (₹ in Lakhs)	Year Put to use	Depreciation recovered till date of de-capitalization (₹ in Lakhs)
1	Special Tools & Plants	Additional capital expenditure	0.01	1999	0.01
2	Furniture & Fixtures	Additional capital expenditure	0.08	2010	0.08
3	Miscellaneous Equipment	Additional capital expenditure	0.01	2010	0.01
4	Fixed Assets-Minor Value	Additional capital expenditure	0.01	2012	0.01
Total			0.11		0.11

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFF4318



To,
 Tuirial Hydro Power Station,
 North Eastern Electric Power Corporation Limited,
 Vairengte, Kolasib,
 Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the Statement showing reconciliation of Additional Capital Expenditure (ACE) claimed with the capital additions as per books (extract of Form 9C of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as follows:

Sl. No.	Particulars	As on	As on	As on	As on	As on
		31-03-2020	31-03-2021	31-03-2022	31-03-2023	31-03-2024
		(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)
a)	Closing Gross Block as per IND AS	144489.35	144553.14	144091.60	144799.45	148137.97
b)	Add/Less: Adjustments					
c)	Closing Gross Block as per IGAAP	144489.35	144553.14	144091.60	144799.45	148137.97
d)	Opening Gross Block as per IND AS	143974.68	144489.35	144553.14	144091.60	144799.45
e)	Add/Less: Adjustments					
f)	Opening Gross Block as per IGAAP	143974.68	144489.35	144553.14	144091.60	144799.45
g)	Total Additions as per books (g = c - f)	514.68	63.78	(461.53)	707.84	3338.53
h)	Less: Additions pertaining to other Stages (give Stage wise breakup)	0.00	0.00	0.00	0.00	0.00
i)	Net Additions pertaining to instant project/Unit/Stage	514.68	63.78	(461.53)	707.84	3338.53
j)	Less: Exclusions (items not allowable / not claimed)	109.08	0.00	28.96	33.79	2398.44
k)	Net Additional Capital Expenditure Claimed (on accrual basis)	405.59	63.78	(490.49)	674.05	940.09
l)	Less: Un-discharged Liabilities	0.00	0.00	0.00	0.00	0.00



Naveen Bhartia
 Chartered Accountants
 Guwahati

m)	Add: Discharges of un-discharged liabilities, corresponding to admitted assets/works	0.00	0.00	0.00	0.00	0.00
n)	Net Additional Capital Expenditure Claimed (on cash basis)	405.59	63.78	(490.49)	674.05	940.09

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFG6474

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To,
Tuirial Hydro Power Station,
North Eastern Electric Power Corporation Limited,
Vairengte, Kolasib,
Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the Statement of Capital Cost (extract of Form 9E of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as follows:

Sl. No.	Particulars	As on	As on	As on	As on	As on
		31-03-2020	31-03-2021	31-03-2022	31-03-2023	31-03-2024
		(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)
a)	Opening Gross Block	143974.68	144489.35	144553.14	144091.60	144799.45
b)	Addition in Gross Block (Direct Purchases)	155.60	15.66	65.86	66.88	2391.08
c)	Addition in Gross Block (Transferred from CWIP)	413.91	80.52	351.67	757.80	947.56
d)	Deletion in Gross Block	(54.83)	(32.40)	(879.06)	(116.84)	(0.11)
e)	Closing Gross Block	144489.35	144553.14	144091.60	144799.45	148137.97

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914

[Signature]



To,
Tuirial Hydro Power Station,
North Eastern Electric Power Corporation Limited,
Vairengte, Kolasib,
Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the Statement of Capital Work in Progress (CWIP) (extract of Form 9F of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as follows:

Sl. No.	Particulars	As on	As on	As on	As on	As on
		31-03-2020	31-03-2021	31-03-2022	31-03-2023	31-03-2024
		(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)
a)	Opening Capital Work-in-Progress	303.83	188.69	269.20	586.86	518.09
b)	Addition in Capital Work-in-Progress	302.75	161.11	672.09	849.58	464.45
c)	Transferred to Gross Block	(413.91)	(80.52)	(351.67)	(757.80)	(947.56)
d)	Deletion in Capital Work-in-Progress	(3.98)	(0.07)	(2.77)	(160.54)	0.00
e)	Closing Capital Work-in-Progress	188.69	269.20	586.86	518.09	34.98

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati

Date: 7th November, 2024

UDIN: 243119148KFLFJ5518



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To,
Tuirial Hydro Power Station,
North Eastern Electric Power Corporation Limited,
Vairengte, Kolasib,
Tuirial, Mizoram - 796091

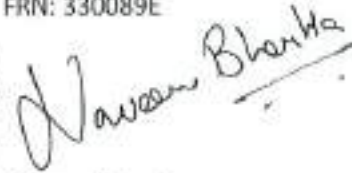
INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, Calculation of Depreciation as per Form - 11 (without apportionment) of "North Eastern Electric Power Corporation Limited - Tuirial Hydro Power Station" is as per Annexure - I attached herewith:

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFK1746



for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia
Proprietor
M. No.: 311914





Annexure - I

Name of the Petitioner :: NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED
 Name of the Generating Station :: TUIRIAL HYDRO POWER STATION

		PART - II FORM - 11 (without apportionment) (Amount in ₹ Lakhs)											
Sl No.	Name of Assets	Gross Block					Depreciation Rates	Depreciation Amount for each year					
		[To be submitted on relevant dates]						As per CERC's Depreciation Rate Schedule	For FY				
		As on 31-03-2020	As on 31-03-2021	As on 31-03-2022	As on 31-03-2023	As on 31-03-2024			2019-20	2020-21	2021-22	2022-23	2023-24
1	Forest Land (Right to Use)	1933.25	1933.25	1933.25	1933.25	1933.25	Amortization for 40 Years	48.33	48.33	48.33	48.33	48.33	48.33
2	Permanent Road -Township	427.88	427.88	427.88	427.88	475.76	3.34%	14.29	14.29	14.29	14.29	14.29	15.89
3	Aerodrome, Helipad - Temporary	56.32	56.32	56.32	56.32	56.32	3.34%	1.88	1.88	1.88	1.88	1.88	1.88
4	Main Plant -Building - Power House	22526.03	22561.94	22675.76	22675.76	22731.68	3.34%	752.37	753.57	757.37	757.37	757.37	759.24
5	Permanent Residential Building	0.00	0.00	0.00	481.59	928.70	3.34%	0.00	0.00	0.00	0.00	16.09	31.02
6	Other Service Building-Township	0.00	0.00	0.00	7.43	10.66	3.34%	0.00	0.00	0.00	0.00	0.25	0.36
7	Boundary Wall	17.31	17.31	17.31	17.31	20.59	3.34%	0.58	0.58	0.58	0.58	0.58	0.69
8	Permanent Non-Residential Building	548.27	548.27	548.27	787.22	787.22	3.34%	18.31	18.31	18.31	18.31	26.29	26.29
9	Temporary Fencing - Township	12.49	12.49	12.49	12.49	12.49	100%	12.49	12.49	12.49	12.49	12.49	12.49



H. Hayden Grubb

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10	Temporary Residential Building	409.48	409.48	409.48	409.48	409.48	409.48	409.48	409.48	100%	409.48	409.48	409.48	409.48	409.48	409.48	409.48
11	Temporary Non-Residential Building	206.32	206.32	208.59	184.58	184.58	206.32	206.32	208.59	100%	184.58	184.58	206.32	208.59	184.58	184.58	184.58
12	Water Supply and Sanitation	160.16	160.16	160.16	160.16	170.63	160.16	160.16	160.16	3.34%	170.63	170.63	5.35	5.35	5.35	5.35	5.70
13	Dam Safety Monitoring System	0.00	0.00	0.00	0.00	26.68	0.00	0.00	0.00	5.28%	26.68	26.68	0.00	0.00	0.00	0.00	1.41
14	Reservoir & Dam	62553.10	62553.10	62523.99	62554.14	62770.51	62553.10	62554.14	62770.51	5.28%	62770.51	62770.51	3302.80	3301.27	3302.86	3302.86	3314.28
15	Tunnels	19642.05	19642.05	19642.05	19642.05	21651.56	19642.05	19642.05	21651.56	5.28%	21651.56	21651.56	1037.10	1037.10	1037.10	1037.10	1143.20
16	Steel Liner & Penstock	9491.19	9491.19	9491.19	9426.18	9426.18	9491.19	9426.18	9426.18	5.28%	9426.18	9426.18	501.13	501.13	497.70	497.70	497.70
17	Cooling Water System	0.00	0.00	0.00	6.45	6.45	0.00	6.45	6.45	5.28%	6.45	6.45	0.00	0.00	0.34	0.34	0.34
18	Control & Instrumentation Equipment	0.00	0.00	0.00	0.00	31.68	0.00	0.00	31.68	5.28%	31.68	31.68	0.00	0.00	0.00	0.00	1.67
19	Service & General Station Equipment	0.00	0.00	0.00	0.00	24.31	0.00	0.00	24.31	5.28%	24.31	24.31	0.00	0.00	0.00	0.00	1.28
20	Water Treatment Plant	4.66	4.57	4.57	4.41	4.41	4.57	4.41	4.41	5.28%	4.41	4.41	0.25	0.24	0.23	0.23	0.23
21	Fire Fighting Equipment	44.76	44.76	44.70	44.70	42.46	44.70	44.70	42.46	5.28%	42.46	42.46	2.36	2.36	2.36	2.36	2.24
22	Survey Equipment	18.24	16.80	16.80	16.80	16.80	16.80	16.80	16.80	5.28%	16.80	16.80	0.96	0.89	0.89	0.89	0.89
23	Laboratory & Meter Testing Equipment	4.66	0.30	1.27	1.27	1.27	1.27	1.27	1.27	5.28%	1.27	1.27	0.25	0.02	0.07	0.07	0.07
24	Diesel Generating Station (DPH)	193.86	234.21	288.70	288.70	296.08	288.70	288.70	296.08	5.28%	296.08	296.08	10.24	12.37	15.24	15.24	15.63
25	Transformer Rating 100KVA Above	19.05	19.05	129.42	129.42	129.42	129.42	129.42	129.42	5.28%	129.42	129.42	1.01	1.01	6.83	6.83	6.83
26	Ordinary Tools & Plant	8.75	0.73	0.73	0.73	0.66	0.73	0.73	0.66	5.28%	0.66	0.66	0.46	0.04	0.04	0.04	0.03
27	400/220/132 KV Switchyard at Site	11.59	11.59	17.91	17.91	404.91	17.91	17.91	404.91	5.28%	404.91	404.91	0.61	0.61	0.95	0.95	21.38
28	Plant & Machinery in Generating Station	24688.91	24688.91	24726.80	24735.04	24735.04	24735.04	24735.04	24735.04	5.28%	24735.04	24735.04	1303.57	1303.57	1306.01	1306.01	1306.01

Chartered Accountants
 CHAVEN BHATTIA & ASSOCIATES
 GUWAHATI

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51	Audio Visual Equipment	75.55	67.51	129.94	131.18	131.10	5.28%	3.99	3.56	6.86	6.93	6.92
52	Intangible Assets (Software)	6.30	6.30	6.30	6.30	6.30	33.33%	2.10	2.10	2.10	2.10	2.10
53	Fixed Assets Minor Value	4.79	5.66	4.47	4.58	14.87	100%	4.79	5.66	4.47	4.58	14.87
	Total	144489.35	144553.14	144091.60	144799.45	148137.97		7748.74	7755.22	7724.78	7725.70	7904.05

Note:

1. The depreciation mentioned above represent amount calculated for full year on the Gross Block value without considering the actual duration (from the date of addition till end of financial year) of asset added during the year.

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia
Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 243119148KFLFK1746

To,
Tuirial Hydro Power Station,
North Eastern Electric Power Corporation Limited,
Vairengte, Kolasib,
Tuirial, Mizoram – 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the **Statement of Capital Liability** (extract of Form 16 of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as per **Annexure – I** attached herewith.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFL5931



Annexure-I

Sl. No.	Name of the Party	Nature	As on 31-03-2020	As on 31-03-2021	As on 31-03-2022	As on 31-03-2023	As on 31-03-2024	Discharges FY 19-20	Discharges FY 19-20	Discharges FY 19-20	Discharges FY 19-20	
			(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)
1	M/s BHEL (LOT-V)	Plant & Machinery in Generation Station	1233.31	918.27	918.27	528.20	354.90	554.18	315.04	0.00	390.06	173.30
2	M/s Patel Engg Ltd. (LOT-II)	Reservoir & Dam (Lot-II)	64.23	64.23	35.13	35.13	251.50	116.12	0.00	29.10	0.00	0.00
3	M/s Patel Engg Ltd. (LOT-III)	Main Plant - Power House (Lot-III)	402.19	136.32	98.75	98.75	145.12	0.00	265.87	37.57	0.00	0.00
4	M/s Patel Engg Ltd. (LOT-III)	Tunnels (Lot-I)	0.00	0.00	0.00	0.00	2009.50	0.00	0.00	0.00	0.00	0.00
5	M/s SEW PES (LOT-IV)	Steel Liner & Penstock	93.27	93.27	93.27	0.00	0.00	31.80	0.00	0.00	93.27	0.00
	Total		1792.99	1212.08	1145.41	662.08	2761.02	702.10	580.91	66.67	483.33	173.30

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia
Naveen Bhartia
Proprietor
M. No.: 311914

[Handwritten Signature]

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFL5931

To,
Tuirial Hydro Power Station,
North Eastern Electric Power Corporation Limited,
Vairengte, Kolasib,
Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the **Statement of Security Expenses Incurred** for the period 01.04.2019 to 31.03.2024 of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as follows:

Sl. No.	Financial Year	(Amount in ₹ Lakhs)
a)	2019-20	83.57
b)	2020-21	88.91
c)	2021-22	110.14
d)	2022-23	73.18
e)	2023-24	102.24
Total		458.04

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFM9943



for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E

Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914

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To,
 Tuirial Hydro Power Station,
 North Eastern Electric Power Corporation Limited,
 Vairengte, Kolasib,
 Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the Year-wise Statement of Capital Spares for the period 01.04.2019 to 31.03.2024 of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as follows:

For FY 2019-20				
Sl. No.	Head of Work/Equipment	Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5)
1	Diesel Generating Station	55.51	0.00	55.51
2	Transformer-Having 100 KV Above	9.62	0.00	9.62
Total		65.13	0.00	65.13

For FY 2020-21				
Sl. No.	Head of Work/Equipment	Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5)
NIL				
Total		0.00	0	0.00

For FY 2021-22				
Sl. No.	Head of Work/Equipment	Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5)
1	400/220/132 KV Switchyard at Site	6.32	0.00	6.32
2	Transformer Rating 100 KVA and Above	110.37	0.00	110.37
Total		116.69	0.00	116.69



Naveen Bhartia
 Chartered Accountant
 Guwahati
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For FY 2022-23				
Sl. No.	Head of Work/Equipment	Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5)
1	Cooling Water System	6.45	0.00	6.45
Total		6.45	0.00	6.45

For FY 2023-24				
Sl. No.	Head of Work/Equipment	Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5)
1	Service & General Station Equipment	24.31	0.00	24.31
2	Control & Instrumentation Equipment	31.68	0.00	31.68
3	Diesel Generating Station	7.38	0.00	7.38
Total		63.37	0.00	63.37

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFH7137

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To,
Tuirial Hydro Power Station,
North Eastern Electric Power Corporation Limited,
Vairengte, Kolasib,
Tuirial, Mizoram – 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the **Statement of Capital Liability** (extract of Form 16 of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as per **Annexure – I** attached herewith.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFL5931



Annexure-I

Sl. No.	Name of the Party	Nature	As on 31-03-2020	As on 31-03-2021	As on 31-03-2022	As on 31-03-2023	As on 31-03-2024	Discharges FY 19-20	Discharges FY 20-21	Discharges FY 21-22	Discharges FY 22-23	Discharges FY 23-24
			(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)
1	M/s BHEL (LOT-V)	Plant & Machinery in Generation Station	1233.31	918.27	918.27	528.20	354.90	554.18	315.04	0.00	390.06	173.30
2	M/s Patel Engg Ltd. (LOT-II)	Reservoir & Dam (Lot-II)	64.23	64.23	35.13	35.13	251.50	116.12	0.00	29.10	0.00	0.00
3	M/s Patel Engg Ltd. (LOT-III)	Main Plant - Power House (Lot-III)	402.19	136.32	98.75	98.75	145.12	0.00	265.87	37.57	0.00	0.00
4	M/s Patel Engg Ltd. (LOT-III)	Tunnels (Lot-I)	0.00	0.00	0.00	0.00	2009.50	0.00	0.00	0.00	0.00	0.00
5	M/s SEW PES (LOT-IV)	Steel Liner & Penstock	93.27	93.27	93.27	0.00	0.00	31.80	0.00	0.00	93.27	0.00
	Total		1792.99	1212.08	1145.41	662.08	2761.02	702.10	580.91	66.67	483.33	173.30

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants

FRN: 330089E



Naveen Bhartia
Naveen Bhartia
Proprietor

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Place: Guwahati

Date: 7th November, 2024

UDIN: 243119148KFLFL5931

To,
 Tuirial Hydro Power Station,
 North Eastern Electric Power Corporation Limited,
 Valrengte, Kolasib,
 Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the Year-wise Statement of Additional Capitalization after COD for the period 01.04.2019 to 31.03.2024 (extract of Form 9A of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as follows:

For FY 2019-20				
Sl. No.	Head of Work/Equipment	ACE Claimed (Actual/Projected)		
		Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5 = 3 - 4)
1	Main Plant Buildings-Civil Works	324.91	0.00	324.91
2	Furniture & Fixture	1.51	0.00	1.51
3	Office Equipment	14.16	0.00	14.16
4	Other EDP Equipment	9.11	0.00	9.11
5	Fire Fitting Equipment	43.94	0.00	43.94
6	Hospital Equipment	0.12	0.00	0.12
7	Guest House & Transit Camp Equipment	0.20	0.00	0.20
8	Water Treatment Plant	0.25	0.00	0.25
9	Miscellaneous Equipment	0.61	0.00	0.61
10	Interior Communication Equipment	0.48	0.00	0.48
Total		395.30	0.00	395.29

For FY 2020-21				
Sl. No.	Head of Work/Equipment	ACE Claimed (Actual/Projected)		
		Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5 = 3 - 4)
1	Main Plant Buildings -Civil Works	35.91	0.00	35.91
2	Diesel Generating Station	40.35	0.00	40.35
3	Office Equipment	0.69	0.00	0.69



Naveen Bhartia & Associates
 Chartered Accountants
 Guwahati
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4	Other EDP Equipment	11.11	0.00	11.11
5	Hospital Equipment	2.23	0.00	2.23
6	Guest House & Transit Camp Equipment	0.77	0.00	0.77
7	33 KV Transmission Line	3.23	0.00	3.23
8	Miscellaneous Equipment	1.02	0.00	1.02
9	Fixed-Assets Minor Value	0.87	0.00	0.87
Total		96.18	0.00	96.18

For FY 2021-22				
Sl. No.	Head of Work/Equipment	ACE Claimed (Actual/Projected)		
		Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5 = 3 - 4)
1	Main Plant Buildings - Civil Works	113.82	0.00	113.82
2	Plant & Machinery in Generating Station	37.88	0.00	37.88
3	Diesel Generating Station	54.49	0.00	54.49
4	Audio Visual Equipment	65.68	0.00	65.68
Total		271.88	0.00	271.88

For FY 2022-23				
Sl. No.	Head of Work/Equipment	ACE Claimed (Actual/Projected)		
		Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5 = 3 - 4)
1	Reservoir & Dam	45.28	0.00	45.28
2	Steel Liner & Penstock	2.95	0.00	2.95
3	Plant & Machinery in Generating Station	8.24	0.00	8.24
4	Permanent Residential Building	481.59	0.00	481.59
5	Permanent Non-Residential Building	238.95	0.00	238.95
6	Other Service Building -Township	7.43	0.00	7.43
Total		784.44	0.00	784.44

For FY 2023-24				
Sl. No.	Head of Work/Equipment	ACE Claimed (Actual/Projected)		
		Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5 = 3 - 4)
1	400/220/132 KV Switchyard at Site	386.99	0.00	386.99
2	Dam Safety Monitoring System	26.68	0.00	26.68



Chartered Accountants
Gurwada

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3	Main Plant Buildings -Civil Works	9.54	0.00	9.54
4	Permanent Residential Building	447.11	0.00	447.11
5	Other Service Building -Township	3.23	0.00	3.23
6	Boundary Wall	3.28	0.00	3.28
Total		876.83	0.00	876.83

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFE1092



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To,
 Tuirial Hydro Power Station,
 North Eastern Electric Power Corporation Limited,
 Vairengte, Kolasib,
 Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the Details of Assets de-capitalized during the period 01.04.2019 to 31.03.2024 (extract of Form 98(i) of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" are as follows:

For FY 2019-20					
Sl. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalized (₹ in Lakhs)	Year Put to use	Depreciation recovered till date of de-capitalization (₹ in Lakhs)
1	Main Plant Building - Power House	Additional capital expenditure	34.54	2017	1.56
2	Temporary Non-Residential Building	Additional capital expenditure	11.44	2009	11.44
3	Water Supply and Sanitation	Additional capital expenditure	0.19	2018	0.01
4	Fire Fitting Equipment	Additional capital expenditure	4.98	2003	4.97
5	Camp Equipment	Additional capital expenditure	0.94	2012	0.85
6	Furniture & Fixtures	Additional capital expenditure	0.22	2010	0.22
7	Other EDP Equipment	Additional capital expenditure	0.60	2010	0.54
8	Indoor Electrification	Additional capital expenditure	1.78	2008	1.63
9	Fixed Assets-Minor value	Additional capital expenditure	0.14	2011	0.14
Total			54.83		21.36

For FY 2020-21					
Sl. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalized (₹ in Lakhs)	Year Put to use	Depreciation recovered till date of de-capitalization (₹ in Lakhs)
1	Guest House Equipment	Additional capital expenditure	0.77	2004	0.77
2	Water Treatment Plant	Additional capital expenditure	0.08	2015	0.02
3	Ordinary Tools & Plants	Additional capital expenditure	8.02	2010	7.07



Naveen Bhartia
 Chartered Accountants
 Guwahati

4	Survey Equipment	Additional capital expenditure	1.45	1999	1.45
5	Laboratory & Metre Testing Equipment	Additional capital expenditure	4.36	2004	3.66
6	Audio Visual Equipment	Additional capital expenditure	8.05	2004	8.05
7	Furniture & Fixture	Additional capital expenditure	4.73	2010	4.72
8	Other EDP Equipment	Additional capital expenditure	0.11	2016	0.11
9	Office Equipment	Additional capital expenditure	4.72	2010	4.72
10	Miscellaneous Equipment	Additional capital expenditure	0.12	2010	0.12
Total			32.40		30.68

For FY 2021-22					
Sl. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalized (₹ in Lakhs)	Year Put to use	Depreciation recovered till date of de-capitalization (₹ in Lakhs)
1	Dam & Spillway	Additional capital expenditure	29.10	2017	6.02
2	Guest House Equipment	Additional capital expenditure	0.45	2004	0.34
3	Special Tools & Plants	Additional capital expenditure	811.59	2003	730.51
4	Fire Fitting Equipment	Additional capital expenditure	0.05	2003	0.05
5	Main Frame Computer	Additional capital expenditure	6.80	2010	6.12
6	Furniture & Fixture	Additional capital expenditure	5.31	2010	5.30
7	Other EDP Equipment	Additional capital expenditure	11.14	2010	10.52
8	Audio Visual Equipment	Additional capital expenditure	3.25	2001	3.25
9	Office Equipment	Additional capital expenditure	5.28	2010	5.05
10	Miscellaneous Equipment	Additional capital expenditure	4.91	2010	4.82
11	Fixed Assets-Minor value	Additional capital expenditure	1.19	2012	1.19
Total			879.06		773.17

For FY 2022-23					
Sl. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalized (₹ in Lakhs)	Year Put to use	Depreciation recovered till date of de-capitalization (₹ in Lakhs)
1	Steel Liner & Penstock	Withdrawal of Excess Provision on Finalization of Bill	67.96	2018	0.00
2	Reservoir & Dam	Write-off Seepage measuring Device	15.13	2017	4.06
3	Guest House Equipment	Additional capital expenditure	0.19	2014	0.09
4	Special Tools & Plants	Additional capital expenditure	0.21	2000	0.21
5	Temporary Non-Residential Building	Additional capital expenditure	24.01	2005	24.01
6	Water Treatment Plant	Additional capital expenditure	0.16	2015	0.07



Chartered Accountants
Guwahati, Assam

7	Furniture & Fixtures	Additional capital expenditure	2.87	2010	2.82
8	Other EDP Equipment	Additional capital expenditure	1.06	2018	1.06
9	Audio Visual Equipment	Additional capital expenditure	2.59	2012	1.35
10	Indoor Electrification	Additional capital expenditure	0.74	2008	0.67
11	Hospital Equipment	Additional capital expenditure	0.35	2015	0.13
12	Office Equipment	Additional capital expenditure	1.15	2012	0.72
13	Miscellaneous Equipment	Additional capital expenditure	0.04	2010	0.04
14	Fixed Assets-Minor Value	Additional capital expenditure	0.37	2011	0.37
Total			116.84		35.59

For FY 2023-24					
Sl. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalized (₹ in Lakhs)	Year Put to use	Depreciation recovered till date of de-capitalization (₹ in Lakhs)
1	Special Tools & Plants	Additional capital expenditure	0.01	1999	0.01
2	Furniture & Fixtures	Additional capital expenditure	0.08	2010	0.08
3	Miscellaneous Equipment	Additional capital expenditure	0.01	2010	0.01
4	Fixed Assets-Minor Value	Additional capital expenditure	0.01	2012	0.01
Total			0.11		0.11

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFF4318



To,
 Tuirial Hydro Power Station,
 North Eastern Electric Power Corporation Limited,
 Vairengte, Kolasib,
 Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the Statement showing reconciliation of Additional Capital Expenditure (ACE) claimed with the capital additions as per books (extract of Form 9C of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as follows:

Sl. No.	Particulars	As on	As on	As on	As on	As on
		31-03-2020	31-03-2021	31-03-2022	31-03-2023	31-03-2024
		(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)
a)	Closing Gross Block as per IND AS	144489.35	144553.14	144091.60	144799.45	148137.97
b)	Add/Less: Adjustments					
c)	Closing Gross Block as per IGAAP	144489.35	144553.14	144091.60	144799.45	148137.97
d)	Opening Gross Block as per IND AS	143974.68	144489.35	144553.14	144091.60	144799.45
e)	Add/Less: Adjustments					
f)	Opening Gross Block as per IGAAP	143974.68	144489.35	144553.14	144091.60	144799.45
g)	Total Additions as per books (g = c - f)	514.68	63.78	(461.53)	707.84	3338.53
h)	Less: Additions pertaining to other Stages (give Stage wise breakup)	0.00	0.00	0.00	0.00	0.00
i)	Net Additions pertaining to instant project/Unit/Stage	514.68	63.78	(461.53)	707.84	3338.53
j)	Less: Exclusions (Items not allowable / not claimed)	109.08	0.00	28.96	33.79	2398.44
k)	Net Additional Capital Expenditure Claimed (on accrual basis)	405.59	63.78	(490.49)	674.05	940.09
l)	Less: Un-discharged Liabilities	0.00	0.00	0.00	0.00	0.00

0.00
 Naveen Bhartia & Associates
 Chartered Accountants
 Guwahati

Naveen Bhartia
[Signature]



m)	Add: Discharges of un-discharged liabilities, corresponding to admitted assets/works	0.00	0.00	0.00	0.00	0.00
n)	Net Additional Capital Expenditure Claimed (on cash basis)	405.59	63.78	(490.49)	674.05	940.09

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFG6474



[Handwritten signature]



To,
Tuirial Hydro Power Station,
North Eastern Electric Power Corporation Limited,
Vairengte, Kolasib,
Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the Statement of Capital Cost (extract of Form 9E of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as follows:

Sl. No.	Particulars	As on	As on	As on	As on	As on
		31-03-2020	31-03-2021	31-03-2022	31-03-2023	31-03-2024
		(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)
a)	Opening Gross Block	143974.68	144489.35	144553.14	144091.60	144799.45
b)	Addition in Gross Block (Direct Purchases)	155.60	15.66	65.86	66.88	2391.08
c)	Addition in Gross Block (Transferred from CWIP)	413.91	80.52	351.67	757.80	947.56
d)	Deletion in Gross Block	(54.83)	(32.40)	(879.06)	(116.84)	(0.11)
e)	Closing Gross Block	144489.35	144553.14	144091.60	144799.45	148137.97

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914

[Handwritten signature]

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLF18438



To,
Tuirial Hydro Power Station,
North Eastern Electric Power Corporation Limited,
Vairengte, Kolasib,
Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the **Statement of Capital Work in Progress (CWIP)** (extract of Form 9F of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as follows:

Sl. No.	Particulars	As on	As on	As on	As on	As on
		31-03-2020	31-03-2021	31-03-2022	31-03-2023	31-03-2024
		(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)
a)	Opening Capital Work-in-Progress	303.83	188.69	269.20	586.86	518.09
b)	Addition in Capital Work-in-Progress	302.75	161.11	672.09	849.58	464.45
c)	Transferred to Gross Block	(413.91)	(80.52)	(351.67)	(757.80)	(947.56)
d)	Deletion in Capital Work-in-Progress	(3.98)	(0.07)	(2.77)	(160.54)	0.00
e)	Closing Capital Work-in-Progress	188.69	269.20	586.86	518.09	34.98

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914



Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFJ5518



To,
Tuirial Hydro Power Station,
North Eastern Electric Power Corporation Limited,
Vairengte, Kolasib,
Tuirial, Mizoram - 796091

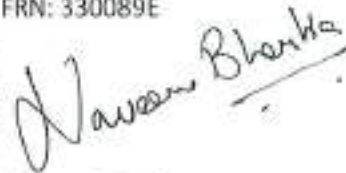
INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, Calculation of Depreciation as per Form – 11 (without apportionment) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as per Annexure – I attached herewith:

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFK1746



for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia
Proprietor
M. No.: 311914





Annexure - I

Name of the Petitioner :: NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED
 Name of the Generating Station :: TUIRIAL HYDRO POWER STATION

Sl No.	Name of Assets	Gross Block					Depreciation Rates	Depreciation Amount for each year					PART - II FORM - 11 (without apportionment (Amount in ₹ Lakhs)					
		As on 31-03- 2020	As on 31-03- 2021	As on 31-03- 2022	As on 31-03- 2023	As on 31-03- 2024		For FY 2019-20	For FY 2020-21	For FY 2021-22	For FY 2022-23	For FY 2023-24						
		[To be submitted on relevant dates]						As per CERC's Depreciation Rate Schedule	Amortization for 40 Years	3.34%	3.34%	3.34%		100%				
1	Forest Land (Right to Use)	1933.25	1933.25	1933.25	1933.25	1933.25	As per CERC's Depreciation Rate Schedule	Amortization for 40 Years	3.34%	3.34%	3.34%	100%	48.33	48.33	48.33	48.33	48.33	48.33
2	Permanent Road -Township	427.88	427.88	427.88	427.88	427.88	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	14.29	14.29	14.29	14.29	14.29	15.89
3	Aerodrome, Helipad - Temporary	56.32	56.32	56.32	56.32	56.32	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	1.88	1.88	1.88	1.88	1.88	1.88
4	Main Plant -Building - Power House	22526.03	22561.94	22675.76	22675.76	22731.68	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	752.37	753.57	757.37	757.37	757.37	759.24
5	Permanent Residential Building	0.00	0.00	0.00	481.59	928.70	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	0.00	0.00	0.00	0.00	16.09	31.02
6	Other Service Building- Township	0.00	0.00	0.00	7.43	10.66	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	0.00	0.00	0.00	0.00	0.25	0.36
7	Boundary Wall	17.31	17.31	17.31	17.31	20.59	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	0.58	0.58	0.58	0.58	0.58	0.69
8	Permanent Non-Residential Building	548.27	548.27	787.22	787.22	787.22	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	18.31	18.31	18.31	18.31	26.29	26.29
9	Temporary Fencing - Township	12.49	12.49	12.49	12.49	12.49	100%	100%	100%	100%	100%	100%	12.49	12.49	12.49	12.49	12.49	12.49



HANOVER ASSOCIATES
 Chartered Accountants



10	Temporary Residential Building	409.48	409.48	409.48	409.48	409.48	409.48	409.48	409.48	100%	409.48	409.48	409.48	409.48	409.48	409.48	409.48
11	Temporary Non-Residential Building	206.32	206.32	208.59	184.58	184.58	206.32	206.32	208.59	100%	184.58	184.58	206.32	208.59	184.58	184.58	184.58
12	Water Supply and Sanitation	160.16	160.16	160.16	160.16	160.16	160.16	160.16	160.16	3.34%	170.63	170.63	5.35	5.35	5.35	5.35	5.70
13	Dam Safety Monitoring System	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.28%	26.68	26.68	0.00	0.00	0.00	0.00	1.41
14	Reservoir & Dam	62553.10	62553.10	62523.99	62554.14	62770.51	62553.10	62770.51	62523.99	5.28%	62770.51	62770.51	3302.80	3301.27	3302.86	3302.86	3314.28
15	Tunnels	19642.05	19642.05	19642.05	19642.05	21651.56	19642.05	21651.56	19642.05	5.28%	21651.56	21651.56	1037.10	1037.10	1037.10	1037.10	1143.20
16	Steel Liner & Penstock	9491.19	9491.19	9491.19	9426.18	9426.18	9491.19	9426.18	9491.19	5.28%	9426.18	9426.18	501.13	501.13	497.70	497.70	497.70
17	Cooling Water System	0.00	0.00	0.00	6.45	6.45	0.00	6.45	0.00	5.28%	6.45	6.45	0.00	0.00	0.34	0.34	0.34
18	Control & Instrumentation Equipment	0.00	0.00	0.00	0.00	31.68	0.00	31.68	0.00	5.28%	31.68	31.68	0.00	0.00	0.00	0.00	1.67
19	Service & General Station Equipment	0.00	0.00	0.00	0.00	24.31	0.00	24.31	0.00	5.28%	24.31	24.31	0.00	0.00	0.00	0.00	1.28
20	Water Treatment Plant	4.66	4.57	4.57	4.41	4.41	4.57	4.41	4.57	5.28%	4.41	4.41	0.25	0.24	0.23	0.23	0.23
21	Fire Fighting Equipment	44.76	44.76	44.70	44.70	42.46	44.70	42.46	44.70	5.28%	42.46	42.46	2.36	2.36	2.36	2.36	2.24
22	Survey Equipment	18.24	16.80	16.80	16.80	16.80	16.80	16.80	16.80	5.28%	16.80	16.80	0.96	0.89	0.89	0.89	0.89
23	Laboratory & Meter Testing Equipment	4.66	0.30	1.27	1.27	1.27	1.27	1.27	1.27	5.28%	1.27	1.27	0.25	0.02	0.07	0.07	0.07
24	Diesel Generating Station (DPH)	193.86	234.21	288.70	288.70	296.08	288.70	296.08	288.70	5.28%	296.08	296.08	10.24	12.37	15.24	15.24	15.63
25	Transformer Rating 100KVA Above	19.05	19.05	129.42	129.42	129.42	129.42	129.42	129.42	5.28%	129.42	129.42	1.01	1.01	6.83	6.83	6.83
26	Ordinary Tools & Plant	8.75	0.73	0.73	0.73	0.66	0.73	0.66	0.73	5.28%	0.66	0.66	0.46	0.04	0.04	0.04	0.03
27	400/220/132 KV Switchyard at Site	11.59	11.59	17.91	17.91	404.91	17.91	404.91	17.91	5.28%	404.91	404.91	0.61	0.61	0.95	0.95	21.38
28	Plant & Machinery in Generating Station	24688.91	24688.91	24726.80	24735.04	24735.04	24735.04	24735.04	24735.04	5.28%	24735.04	24735.04	1303.57	1303.57	1306.01	1306.01	1306.01





51	Audio Visual Equipment	75.55	67.51	129.94	131.18	131.10	5.28%	3.99	3.56	6.86	6.93	6.92
52	Intangible Assets (Software)	6.30	6.30	6.30	6.30	6.30	33.33%	2.10	2.10	2.10	2.10	2.10
53	Fixed Assets Minor Value	4.79	5.66	4.47	4.58	14.87	100%	4.79	5.66	4.47	4.58	14.87
	Total	144489.35	144553.14	144091.60	144799.45	148137.97		7748.74	7755.22	7724.78	7725.70	7904.05

Note:

1. The depreciation mentioned above represent amount calculated for full year on the Gross Block value without considering the actual duration (from the date of addition till end of financial year) of asset added during the year.

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia
Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFK1746

To,
Tuirial Hydro Power Station,
North Eastern Electric Power Corporation Limited,
Vairengte, Kolasib,
Tuirial, Mizoram – 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the **Statement of Capital Liability** (extract of Form 16 of Tariff Filing Forms-Hydro) of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as per **Annexure – I** attached herewith.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFL5931

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Annexure-I

Sl. No.	Name of the Party	Nature	As on 31-03-2020	As on 31-03-2021	As on 31-03-2022	As on 31-03-2023	As on 31-03-2024	Discharges FY 19-20	Discharges FY 19-20	Discharges FY 19-20	Discharges FY 19-20	
			(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)	(Amount in ₹ Lakhs)
1	M/s BHEL (LOT-V)	Plant & Machinery in Generation Station	1233.31	918.27	918.27	528.20	354.90	554.18	315.04	0.00	390.06	173.30
2	M/s Patel Engg Ltd. (LOT-II)	Reservoir & Dam (Lot-II)	64.23	64.23	35.13	35.13	251.50	116.12	0.00	29.10	0.00	0.00
3	M/s Patel Engg Ltd. (LOT-III)	Main Plant - Power House (Lot-III)	402.19	136.32	98.75	98.75	145.12	0.00	265.87	37.57	0.00	0.00
4	M/s Patel Engg Ltd. (LOT-III)	Tunnels (Lot-I)	0.00	0.00	0.00	0.00	2009.50	0.00	0.00	0.00	0.00	0.00
5	M/s SEW PES (LOT-IV)	Steel Liner & Penstock	93.27	93.27	93.27	0.00	0.00	31.80	0.00	0.00	93.27	0.00
	Total		1792.99	1212.08	1145.41	662.08	2761.02	702.10	580.91	66.67	483.33	173.30

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia
Naveen Bhartia
Proprietor
M. No.: 311914

[Signature]

Place: Guwahati
Date: 7th November, 2024
UDIN: 243119148KFLFL5931

To,
Tuirial Hydro Power Station,
North Eastern Electric Power Corporation Limited,
Vairengte, Kolasib,
Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the Statement of Security Expenses Incurred for the period 01.04.2019 to 31.03.2024 of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as follows:

Sl. No.	Financial Year	(Amount in ₹ Lakhs)
a)	2019-20	83.57
b)	2020-21	88.91
c)	2021-22	110.14
d)	2022-23	73.18
e)	2023-24	102.24
Total		458.04

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

Place: Guwahati
Date: 7th November, 2024
UDIN: 243119148KFLFM9943



for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E

Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914

[Handwritten signature]



To,
 Tuirial Hydro Power Station,
 North Eastern Electric Power Corporation Limited,
 Vairengte, Kolasib,
 Tuirial, Mizoram - 796091

INDEPENDENT PRACTITIONER'S CERTIFICATE

This is to certify that as per the trial balance and calculations produced before us, the Year-wise Statement of Capital Spares for the period 01.04.2019 to 31.03.2024 of "North Eastern Electric Power Corporation Limited – Tuirial Hydro Power Station" is as follows:

For FY 2019-20				
Sl. No.	Head of Work/Equipment	Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5)
1	Diesel Generating Station	55.51	0.00	55.51
2	Transformer-Having 100 KV Above	9.62	0.00	9.62
Total		65.13	0.00	65.13

For FY 2020-21				
Sl. No.	Head of Work/Equipment	Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5)
NIL				
Total		0.00	0	0.00

For FY 2021-22				
Sl. No.	Head of Work/Equipment	Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5)
1	400/220/132 KV Switchyard at Site	6.32	0.00	6.32
2	Transformer Rating 100 KVA and Above	110.37	0.00	110.37
Total		116.69	0.00	116.69



Naveen Bhartia
 Chartered Accountant
 Guwahati
 176

[Signature]

For FY 2022-23				
Sl. No.	Head of Work/Equipment	Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5)
1	Cooling Water System	6.45	0.00	6.45
Total		6.45	0.00	6.45

For FY 2023-24				
Sl. No.	Head of Work/Equipment	Accrual basis (₹ in lakh)	Un-discharged Liability included in col.3 (₹ in lakh)	Cash basis (₹ in lakh)
(1)	(2)	(3)	(4)	(5)
1	Service & General Station Equipment	24.31	0.00	24.31
2	Control & Instrumentation Equipment	31.68	0.00	31.68
3	Diesel Generating Station	7.38	0.00	7.38
Total		63.37	0.00	63.37

Restriction on use: This certificate is addressed to and provided to the Company solely for the purpose of filing Tariff Petition and should not be used by any other person or for any other purpose.

for Naveen Bhartia & Associates
Chartered Accountants
FRN: 330089E



Naveen Bhartia

Naveen Bhartia
Proprietor
M. No.: 311914

Place: Guwahati
Date: 7th November, 2024
UDIN: 24311914BKFLFH7137

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Name of the Company: NORTH EASTERN ELECTRIC POWER CORPORATION LTD
Name of the Power Station: Tuirial Hydro Power Station (60 MW)
(hereinafter referred to as TrHPS)

Funding of Additional Capital Expenditure incurred during the period of 2019-24

No new loan/external funding taken and proposed to be taken for the Tuirial Hydro Power Station (60 MW) (hereinafter referred to as TrHPS) during the period under reference. The additional capital expenditure incurred during the period of 2019-24 has been met from the internal resources of the Company.



(Debjani Dey)
ED(Commercial)
NEEPCO Ltd., Shillong

कार्यपालक निदेशक (वाणिज्यिक)
Executive Director (Comml)
नीपको लि. शिलांग
NEEPCO Ltd. Shillong



नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लिमिटेड
NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

भारत सरकार का उद्यम / (A GOVT. OF INDIA ENTERPRISE)



कार्यपालक निदेशक (ओ एंड एम) का कार्यालय
OFFICE OF THE EXECUTIVE DIRECTOR (O&M)

नीपको भवन, आर. जी. बरुआ रोड, गुवाहाटी-781005
NEEPCO BHAWAN, R.G.BARUAH ROAD, GUWAHATI-781005
E-mail: edonm@neepco.co.in / neepco.edonm@gmail.com

No.NEEPCO/ED(O&M)/OPR-38/2023-24/110

Dtd:17.01.2024

To

The Chief Engineer
Hydro Project Appraisal Division
Central Electricity Authority
Sewa Bhawan, R. K. Puram-1
New Delhi 100066
Email: hpaonc-eca@gov.in

Sub: Request for approval of relaxed NAPAF and Auxiliary Energy Consumption of Turrial Hydro Power Station (THPS) of NEEPCO.

Ref: CERC Order dtd. 10th December 2023 against Petition no 125/MP/2021

Sir,

This is to draw your kind attention to Order dtd. 10th December 2023 of CERC regarding Normative Plant Availability Factor (NAPAF) and Auxiliary Energy Consumption (AEC) in respect of 60 MW Turrial Hydro Power Station (THPS) of NEEPCO. In inviting reference to the above order, the following points are submitted for your kind appraisal:

Normative Plant Availability Factor (NAPAF):

1. Hon'ble Commission, while fixing the Annual Fixed Cost of the plant in tariff order dtd. 10.3.2021 against Petition No 329/GT/2019, had allowed 85% as NAPAF for the period 2019-24.
2. Vide affidavit dtd. 13.7.2018, NEEPCO approached CERC for reduction of NAPAF to 82%. Detailed data on the subject was also submitted to CEA vide letter dtd 20.8.2019. CERC granted liberty to NEEPCO to submit petition after approval of CEA.
3. The model study report submitted by NEEPCO was agreed by CEA vide letter dated 30/09/2020.
4. Subsequently, field data of monthly PAF for three and half years from 2018 -19 to Sept, 2021 was submitted by NEEPCO before Hon'ble Commission, and requested for approval of NAPAF as 70%. The same can be seen at Page No. 13 and 15 of the Order dated 10/12/2023 of Hon'ble Commission.
5. Hon'ble Commission, in its order dated 10/12/2023, has relaxed the NAPAF of the plant as 75% from the Date of Commercial Operation of the plant for full recovery of Capacity Charge subject to the recommendation of CEA. Para 32 of the Order may kindly be seen in the context.



Registered Office: Brookland Compound, Lower New Colony, Shillong-793003
CIN: U40101ML1976GOI001658, Website: www.neepco.co.in

नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लिमिटेड

NORTH EASTERN ELECTRIC POWER CORPORATION LTD.



भारत सरकार का उद्यम (A GOVT. OF INDIA ENTERPRISE)

कार्यपालक निदेशक (ओ एंड एम) का कार्यालय

OFFICE OF THE EXECUTIVE DIRECTOR (O&M)

नीपको भवन, आर. जी. बरुआ रोड, गुवाहाटी-781005

NEEPCO BHAWAN, R.G. BARUAH ROAD, GUWAHATI-781005

E-mail: edonm@neepco.co.in / neepco.edonm@gmail.com

In this regard we are enclosing the actual month wise NAPAF and Machine Availability data from 2019-20 to 2023-24 (upto December 2023) for your kind reference. It is seen that in spite of maintaining optimum Machine Availability and no spilling from the reservoir, the average yearly PAF achieved has been 74.49 %. It is also pertinent to mention here that during the ensuing months from January 2024 to March 2024, the PAF will be further reduced with lowering of the reservoir level as has been observed in the previous years.

Keeping in view the above facts, we would request you for kind consideration and recommendation of 75% as NAPAF for the plant from the Date of Commercial Operation of the plant.

Auxiliary Energy Consumption:

1. Regarding Auxiliary Energy Consumption, Hon'ble Commission vide order dtd 16.4.2021 in petition no 390/GT/2020 had allowed 1.2% as Normative AEC. However, as the actual AEC was much in excess of 1.2%, actual auxiliary consumption data from October 2017 - 18 to August, 2021 was submitted to CERC. The average AEC in this period was observed to be 4.304%. The relevant data as had been submitted by NEEPCO can be seen under tables at Page No. 27 and 28 of Order dated 10/12/2023. On deliberation of the issue and by invoking power to relax, CERC had allowed AEC as 4.304% for tariff period 2014-19 since Date of Commercial Operation of the plant. For the period 2019-24, CERC observed that AEC will be decided based on the recommendation of CEA.
2. In this connection, data on AEC from April 2019 to December 2023 are attached herewith for your kind reference please. The same is tabulated as below:

Year	AEC (%)
2019-20	4.49
2020-21	4.47
2021-22	5.37
2022-23	4.65
2023-24 (upto Dec 2023)	5.09
Average 2019 -2023 (up to Dec 23)	4.81

The data on AEC as furnished for the period from April 2019 to December 2023 may kindly be given due consideration by CEA and recommend AEC of the plant for 2019-24 as 4.81%.



Registered Office: Brookland Compound, Lower New Colony, Shillong-793003
GIN: U40101ML1976GC001658, Website: www.neepco.co.in

नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लिमिटेड
NORTH EASTERN ELECTRIC POWER CORPORATION LTD.



भारत सरकार का उद्यम (A GOVT. OF INDIA ENTERPRISE)
कार्यपालक निदेशक (ओ एंड एम) का कार्यालय
OFFICE OF THE EXECUTIVE DIRECTOR (O&M)
नीपको भवन, आर. जी. बरुआ रोड, गुवाहाटी-781005
NEEPCO BHAWAN, R. G. BARUAH ROAD, GUWAHATI-781005
E-mail: edonm@neepco.co.in / neepco.edonm@gmail.com

In this regard, it is further mentioned here that necessary action towards rectification of the metering circuit of Unit # 2 has been taken in October 2023, and marginal improvement in AEC has since been observed as can be seen from the attached data on AEC from October 2023 to December 2023.

The above matters are placed for kind consideration and recommendation of CEA.

Thanking you

Yours faithfully

/
(B. K. Goswami)
Executive Director (O&M)

Memo No. NEEPCO/ED(O&M)/OPR-38/2023-24/111-13

Dtd:17.01.2024

Copy to:

1. Director (Finance), NEEPCO, for favour of kind information please.
2. Director (Technical), NEEPCO, for favour of kind information please.
3. Executive Director (Commercial), NEEPCO, Shillong, for favour of information and needful please.

Rajomran
17/01/24
Executive Director (O&M)



Registered Office: Brookland Compound, Lower New Colony, Shillong-793003
CIN: U40101ML1975GOI001658, Website: www.neepco.co.in

Fwd: Request for approval of relaxed NAPAF and Auxiliary Energy Consumption of Tuirial Hydro Power Station (THPS) of NEEPCO.

From : ED ONM <edonm@neepco.co.in> Wed, Aug 07, 2024 01:43 PM
Subject : Fwd: Request for approval of relaxed NAPAF and Auxiliary Energy Consumption of Tuirial Hydro Power Station (THPS) of NEEPCO. 5 attachments
To : Commercial Department <commercial@neepco.co.in>

Madam,

For information please.

Regards,

O/o of Executive Director (O&M)
NEEPCO, Guwahati

From: "ED ONM" <edonm@neepco.co.in>
To: "CEA HPII" <cea-hppi@gov.in>, "HPA DIVISION" <hpaone-cea@gov.in>
Cc: "neepco edonm" <neepco.edonm@gmail.com>, "ED ONM" <edonm@neepco.co.in>
Sent: Wednesday, August 7, 2024 11:51:45 AM
Subject: Fwd: Request for approval of relaxed NAPAF and Auxiliary Energy Consumption of Tuirial Hydro Power Station (THPS) of NEEPCO.

Sir,

This is in continuation to our letter dated 17/01/2024 along with relevant documents on the subject, as attached to the trailing mail.

It is requested for approval of relaxed of NAPAF and Auxiliary Energy Consumption of Tuirial Hydro Power Station (THPS) of NEEPCO.

Regards.

Bijit Kumar Goswami,
Executive Director (O&M)
NEEPCO, Guwahati

From: "ED ONM" <edonm@neepco.co.in>
To: "HPA DIVISION" <hpaone-cea@gov.in>
Sent: Thursday, January 18, 2024 12:58:18 PM
Subject: Request for approval of relaxed NAPAF and Auxiliary Energy Consumption of Tuirial Hydro Power Station (THPS) of NEEPCO.



Kindly find attached herewith our letter dated 17/01/2024, along with the relevant documents, requesting for approval of relaxed NAPAF and Auxiliary Energy Consumption of Tuirial Hydro Power Station (THPS) of NEEPCO.

Regards.

Bijit Kumar Goswami,
Executive Director (O&M)
NEEPCO, Guwahati

Req

-
- **Tuirial_PAF_AEC Order (1).pdf**
392 KB
 - **PAF_Data 2019-23(up to Dec 23).xlsx**
12 KB
 - **Machine availability 2019-23 (up to Dec 23) (1).xlsx**
13 KB
 - **Data_APC_CEA_ (Final) (3).xlsx**
18 KB
 - **Letter to Chief Engineer HPADCEA.pdf**
780 KB
-





Table-II

2019-2020	M/C Availability %				RWL	
	U#1	U#2	Avg	Max	Min	
April	99.97	98.61	99.29	72.55	71.55	
May	100.00	100.00	100.00	72.30	71.15	
June	100.00	100.00	100.00	74.10	72.10	
July	99.93	99.80	99.87	81.30	73.95	
August	100.00	100.00	100.00	87.00	81.35	
September	97.30	99.80	98.55	89.30	86.70	
October	99.91	84.70	92.30	89.40	87.75	
November	97.39	61.43	79.41	87.70	84.00	
December	99.94	100.00	99.97	83.75	79.35	
January	100.00	98.54	99.27	79.25	76.85	
February	99.98	99.91	99.95	76.80	75.05	
March	43.21	99.98	71.59	74.95	72.80	

Table-II

2020-2021	M/C Availability %				RWL	
	U#1	U#2	Avg	Max	Min	
April	100.00	100.00	100.00	72.75	71.45	
May	100.00	100.00	100.00	71.45	70.00	
June	100.00	100.00	100.00	72.95	71.40	
July	100.00	70.92	85.46	76.10	72.45	
August	99.91	100.00	99.96	81.00	76.20	
September	100.00	100.00	100.00	82.50	80.80	
October	99.97	100.00	99.98	87.15	82.55	
November	99.99	99.92	99.95	86.80	83.85	
December	99.87	99.87	99.87	83.75	79.35	
January	100.00	99.82	99.91	81.50	77.60	
February	97.53	98.22	97.87	77.50	74.50	
March	92.28	99.84	96.06	74.40	71.25	

Table-II

2022-2023	M/C Availability %				RWL	
	U#1	U#2	Avg	Max	Min	
April	78.46	99.21	88.83	71.13	70.08	
May	71.74	55.33	63.54	71.96	69.97	
June	99.27	98.92	99.10	79.65	72.05	
July	99.38	76.11	87.75	85.48	79.71	
August	99.79	99.81	99.80	88.04	85.65	
September	86.37	99.89	93.13	88.16	86.24	
October	99.82	98.05	98.93	88.92	86.88	
November	100.00	99.83	99.91	86.88	85.14	
December	99.15	99.33	99.24	86.08	83.2	
January	99.68	98.92	99.30	83.09	79.76	
February	99.95	99.96	99.96	79.64	76.34	
March	98.59	97.53	98.06	76.24	73.95	

Table-II

2023-2024	M/C Availability %				RWL	
	U#1	U#2	Avg	Max	Min	
April	98.37	53.81	76.09	73.89	70.59	
May	22.99	100.00	61.50	70.41	69.83	
June	100.00	100.00	100.00	72.36	69.54	
July	99.03	99.95	99.49	77.19	72.2	
August	99.82	99.94	99.88	81.67	77.31	
September	98.00	97.88	97.84	86.39	81.81	
October	99.47	99.49	99.48	86.85	84.44	
November	99.50	99.50	99.50	84.39	83.61	
December	98.94	99.02	98.98	83.77	82.76	
January						
February						
March						

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Table-II

2021-2022	M/C Availability %			RWL	
	U#1	U#2	Avg	Max	Min
April	99.33	99.32	76.32	71.2	70.05
May	99.06	93.15	76.11	70.05	69.9
June	99.95	99.95	99.95	71.98	69.89
July	99.97	99.78	99.88	76.9	71.63
August	99.94	99.99	99.97	82.5	76.95
September	99.93	99.97	99.95	87.8	83
October	99.84	99.76	99.80	87.9	85.5
November	99.07	99.91	99.49	85.5	84.2
December	99.70	99.16	99.43	84.2	82.05
January	98.08	99.51	98.79	82.45	78.75
February	96.08	94.54	95.31	78.6	76.2
March	98.58	98.32	98.45	76.15	71.25

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Table III
Page 1/5

Auxiliary power Consumption Data of Turtial Power Station

Parameter	2019-20											
	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March
Gross Energy Gen(MU)	4.03340	3.89650	5.84040	9.55340	22.52540	25.00270	31.40540	27.11030	22.10190	11.86090	6.99440	7.18070
Total Ex bus Energy Gen(MU)	3.89700	3.70800	5.56800	9.16000	21.60200	23.97400	30.17100	26.09000	21.22100	10.86400	6.66900	6.82100
Auxiliary Energy Consumption (MU)	0.22420	0.23881	0.31543	0.43145	0.89654	0.97456	1.16876	0.96490	0.80530	0.46661	0.31123	0.35647
Auxiliary Energy Consumption (% of Gross Gen)	5.58421	6.14347	5.40088	4.51637	3.98195	3.89848	3.72171	3.55688	3.64819	4.10355	4.45583	4.96494
Average Auxiliary consumption of the year(%)												
	4.45770											

Table III
Page 2/5

Auxiliary power Consumption Data of Turtial Power Station

Parameter	2020-21											
	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March
Gross Energy Gen(MU)	5.21980	5.61470	9.53800	11.40390	14.25800	15.59480	23.97700	23.33000	15.13260	24.48190	11.32920	8.93310
Total Ex bus Energy Gen(MU)	4.99200	5.34300	9.09000	10.85100	13.61500	14.92500	22.99200	22.38800	14.51900	11.88000	10.86500	8.54900



Auxiliary Energy Consumption (MJ)	0.275397	0.295349	0.445913	0.506752	0.619834	0.64539	0.627178	0.617306	0.570998	0.639659	0.436858	0.40102
Auxiliary Energy Consumption (% of Gross Gen)	3.38893	5.26352	4.67912	4.43474	4.34726	4.13813	3.67011	3.52857	3.77328	5.68894	3.80920	4.48203
Average Auxiliary consumption of the year(%)												
	4.47160											

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Table III
Page 3/5

Auxiliary power Consumption Data of Turial Power Station

Parameter	2021-22											
	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March
Gross Energy Gen (MU)	3.22890	1.67250	2.99200	5.10820	10.59780	15.09790	25.75920	44.60370	15.38660	17.72610	9.67440	14.57470
Total Ex bus Energy Gen (MU)	3.05400	1.58900	2.84700	4.87200	10.53100	15.05800	24.72500	34.00200	14.72700	16.90700	9.29800	13.93300
Auxiliary Energy Consumption (MU)	0.232003	0.154372	0.240194	0.307094	0.488331	0.69836	1.013566	0.64065	0.625008	0.725765	0.426027	0.645991
Auxiliary Energy Consumption (% of Gross Gen)	7.18505	9.23052	7.92393	5.97478	4.64042	4.63371	3.93247	4.56869	4.00374	4.09282	4.40366	4.42792
Average Auxiliary consumption of the year (%)												
	5.37315											

Table III
Page 4/5

Auxiliary power Consumption Data of Turial Power Station

Parameter	2022-23											
	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March
Gross Energy Gen (MU)	4.4150	2.81840	7.12840	25.13090	39.12770	27.30740	88.65570	13.83060	11.80060	16.14000	13.17710	8.31470
Total Ex bus Energy Gen (MU)	3.0300	2.89000	6.83200	14.14800	37.54600	26.18200	84.42400	13.29400	11.30100	15.44400	12.59100	7.93800

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Average Auxiliary consumption of the year[%]												
Auxiliary Energy Consumption (kWh)	0.139923	0.198592	0.542794	0.947594	1.588391	1.129780	1.366247	0.577074	0.50889	0.487964	0.545856	0.38271
Auxiliary Energy Consumption (% of Gross Gen)	6.89733	7.06614	4.85288	3.77209	4.05251	4.13037	3.86608	4.25700	4.30601	4.07688	4.20106	4.50281
Average Auxiliary consumption of the year[%]												
4.05093												

Table III
Page 5/5

Auxiliary power Consumption Data of Turial Power Station

Parameter	2023-24											
	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March
Gross Energy Gen (MWh)	10.41890	2.04418	4.16437	6.61801	9.12246	12.17241	21.13694	7.63878	8.54672			
Total Ex bus Energy Gen (MWh)	9.95600	1.92700	3.92500	6.17900	8.65100	11.65100	20.40900	7.37400	8.242			
Auxiliary Energy Consumption (MWh)	0.45334	0.18704	0.26485	0.360545	0.504224	0.520984	0.7386	0.29105	0.31714			
Auxiliary Energy Consumption (% of Gross Gen)	4.35213	8.93785	6.36231	5.44794	5.52728	4.32112	3.39974	3.81029	3.710663			
Average Auxiliary consumption of the year[%] up to Dec 4.1699												
5.097												

Average APC from 2019 -2024 (upto Dec 2023) is 4.8198%



THPS
2023-24

Date	Calculated Avg Inflow	Usefull Inflow	Possible Gen as per Inflow (MU)	Actual Gen (MU)	Excess Gen (MU)	Short Gen (MU)	MAXIOP Possible gen & Actual Gen
1 Apr 23	14.150	14.150	0.1589	0.2581	0.0992	0.0000	0.2581
2 Apr 23	13.930	13.930	0.1565	0.2563	0.0998	0.0000	0.2563
3 Apr 23	25.060	25.060	0.2815	0.2568	0.0000	-0.0347	0.281485
4 Apr 23	24.890	24.890	0.2796	0.2584	0.0000	-0.0242	0.279576
5 Apr 23	21.810	21.810	0.2450	0.2605	0.0155	0.0000	0.2605
6 Apr 23	21.290	21.290	0.2391	0.2570	0.0179	0.0000	0.257
7 Apr 23	6.470	6.470	0.0727	0.2563	0.1836	0.0000	0.2563
8 Apr 23	0.000	0.000	0.0000	0.2602	0.2602	0.0000	0.2602
9 Apr 23	2.780	2.780	0.0312	0.2575	0.2263	0.0000	0.2575
10 Apr 23	0.000	0.000	0.0000	0.2572	0.2572	0.0000	0.2572
11 Apr 23	0.000	0.000	0.0000	0.2565	0.2565	0.0000	0.2565
12 Apr 23	0.000	0.000	0.0000	0.2583	0.2583	0.0000	0.2583
13 Apr 23	0.000	0.000	0.0000	0.2606	0.2606	0.0000	0.2606
14 Apr 23	0.000	0.000	0.0000	0.2624	0.2624	0.0000	0.2624
15 Apr 23	0.000	0.000	0.0000	0.2656	0.2656	0.0000	0.2656
16 Apr 23	3.380	3.380	0.0504	0.4687	0.4683	0.0000	0.4687
17 Apr 23	0.000	0.000	0.0000	0.4638	0.4638	0.0000	0.4638
18 Apr 23	0.000	0.000	0.0000	0.4737	0.4737	0.0000	0.4737
19 Apr 23	0.000	0.000	0.0000	0.4638	0.4638	0.0000	0.4638
20 Apr 23	20.680	20.680	0.3323	0.4150	0.1817	0.0000	0.415
21 Apr 23	2.970	2.970	0.0334	0.2590	0.2216	0.0000	0.259
22 Apr 23	0.980	0.980	0.0065	0.3303	0.3238	0.0000	0.3303
23 Apr 23	4.190	4.190	0.0471	0.4295	0.3824	0.0000	0.4295
24 Apr 23	0.000	0.000	0.0000	0.4656	0.4656	0.0000	0.4656
25 Apr 23	0.000	0.000	0.0000	0.4557	0.4557	0.0000	0.4557
26 Apr 23	0.000	0.000	0.0000	0.4616	0.4616	0.0000	0.4616
27 Apr 23	0.000	0.000	0.0000	0.4402	0.4402	0.0000	0.4402
28 Apr 23	0.000	0.000	0.0000	0.4429	0.4429	0.0000	0.4429
29 Apr 23	0.000	0.000	0.0000	0.4380	0.4380	0.0000	0.438
30 Apr 23	0.000	0.000	0.0000	0.4427	0.4427	0.0000	0.4427
1 May 23	0.000	0.000	0.0000	0.1158	0.1158	0.0000	0.1158
2 May 23	30.420	30.420	0.3417	0.0576	0.0000	-0.2841	0.341651
3 May 23	0.000	0.000	0.0000	0.0579	0.0579	0.0000	0.0579
4 May 23	4.550	4.550	0.0511	0.0581	0.0070	0.0000	0.0581
5 May 23	4.580	4.580	0.0514	0.0578	0.0064	0.0000	0.0578
6 May 23	0.850	0.850	0.0095	0.0582	0.0487	0.0000	0.0582
7 May 23	0.870	0.870	0.0098	0.0578	0.0480	0.0000	0.0578
8 May 23	0.950	0.950	0.0104	0.0586	0.0482	0.0000	0.0586
9 May 23	0.860	0.860	0.0097	0.0583	0.0486	0.0000	0.0583



10 May 23	0.000	0.000	0.0000	0.0582	0.0582	0.0000	0.0582	0.0000	0.0582
11 May 23	0.850	0.850	0.0055	0.0583	0.0488	0.0000	0.0488	0.0000	0.0583
12 May 23	0.790	0.790	0.0089	0.0576	0.0487	0.0000	0.0487	0.0000	0.0576
13 May 23	0.870	0.870	0.0098	0.0582	0.0484	0.0000	0.0484	0.0000	0.0582
14 May 23	4.510	4.510	0.0507	0.0581	0.0074	0.0000	0.0074	0.0000	0.0581
15 May 23	4.420	4.420	0.0495	0.0580	0.0084	0.0000	0.0084	0.0000	0.0580
16 May 23	0.000	0.000	0.0000	0.0580	0.0580	0.0000	0.0580	0.0000	0.0580
17 May 23	8.080	8.082	0.0508	0.0581	0.0000	-0.0327	0.290758	0.0000	0.0581
18 May 23	11.720	11.720	0.1310	0.0576	0.0000	-0.0740	0.131644	0.0000	0.0576
19 May 23	0.000	0.000	0.0000	0.0566	0.0566	0.0000	0.0566	0.0000	0.0566
20 May 23	15.010	15.010	0.1686	0.0573	0.0000	-0.1113	0.168599	0.0000	0.0573
21 May 23	0.000	0.000	0.0000	0.0578	0.0578	0.0000	0.0578	0.0000	0.0578
22 May 23	8.130	8.130	0.0913	0.0577	0.0000	-0.0336	0.09132	0.0000	0.0577
23 May 23	0.000	0.000	0.0000	0.0571	0.0571	0.0000	0.0571	0.0000	0.0571
24 May 23	1.660	1.660	0.0185	0.0580	0.0584	0.0000	0.0584	0.0000	0.0580
25 May 23	0.000	0.000	0.0000	0.0559	0.0559	0.0000	0.0559	0.0000	0.0559
26 May 23	27.980	27.980	0.3098	0.0580	0.0000	-0.2518	0.309791	0.0000	0.0580
27 May 23	11.210	11.210	0.1259	0.0571	0.0000	-0.0688	0.125916	0.0000	0.0571
28 May 23	1.260	1.260	0.0142	0.1052	0.0910	0.0000	0.1052	0.0000	0.1052
29 May 23	1.200	1.200	0.0135	0.1059	0.0924	0.0000	0.1059	0.0000	0.1059
30 May 23	7.670	7.670	0.0861	0.1053	0.0191	0.0000	0.1053	0.0000	0.1053
31 May 23	0.000	0.000	0.0000	0.1062	0.1062	0.0000	0.1062	0.0000	0.1062
1 Jun 23	3.370	3.370	0.0379	0.0987	0.0608	0.0000	0.0987	0.0000	0.0987
2 Jun 23	6.430	6.430	0.0722	0.0977	0.0255	0.0000	0.0977	0.0000	0.0977
3 Jun 23	4.550	4.550	0.0511	0.1082	0.0571	0.0000	0.1082	0.0000	0.1082
4 Jun 23	1.030	1.030	0.0116	0.1067	0.0951	0.0000	0.1067	0.0000	0.1067
5 Jun 23	0.630	0.630	0.0093	0.1050	0.0957	0.0000	0.1050	0.0000	0.1050
6 Jun 23	7.550	7.550	0.0826	0.1054	0.0228	0.0000	0.1054	0.0000	0.1054
7 Jun 23	1.160	1.160	0.0130	0.1073	0.0543	0.0000	0.1073	0.0000	0.1073
8 Jun 23	7.830	7.830	0.0823	0.1050	0.0227	0.0000	0.1050	0.0000	0.1050
9 Jun 23	13.810	13.810	0.1551	0.1080	0.0000	-0.0501	0.15512	0.0000	0.1080
10 Jun 23	72.450	72.450	0.8138	0.1075	0.0000	-0.7069	0.813791	0.0000	0.1075
11 Jun 23	39.720	39.720	0.4852	0.1049	0.0000	-0.3413	0.446153	0.0000	0.1049
12 Jun 23	14.260	14.260	0.1602	0.1083	0.0000	-0.0521	0.160175	0.0000	0.1083
13 Jun 23	13.930	13.930	0.1555	0.1060	0.0000	-0.0505	0.156468	0.0000	0.1060
14 Jun 23	36.700	36.700	0.4122	0.1074	0.0000	-0.3048	0.412231	0.0000	0.1074
15 Jun 23	70.830	70.830	0.7955	0.1057	0.0000	-0.6895	0.795594	0.0000	0.1057
16 Jun 23	214.040	214.040	1.4400	0.1068	0.0000	-1.3332	1.44	0.0000	0.1068
17 Jun 23	154.120	128.300	1.4400	0.1026	0.0000	-1.3374	1.44	0.0000	0.1026
18 Jun 23	91.820	91.820	1.0314	0.1077	0.0000	-0.9257	1.031363	0.0000	0.1077
19 Jun 23	96.060	96.060	1.0790	0.1115	0.0000	-0.9675	1.078869	0.0000	0.1115
20 Jun 23	73.820	73.820	0.8292	0.1712	0.0000	-0.6580	0.829479	0.0000	0.1712
21 Jun 23	84.470	84.470	0.9488	0.1676	0.0000	-0.7812	0.948805	0.0000	0.1676
22 Jun 23	81.060	81.060	0.9105	0.1697	0.0000	-0.7408	0.910502	0.0000	0.1697
23 Jun 23	69.970	69.970	0.7839	0.1465	0.0000	-0.6154	0.783934	0.0000	0.1465
24 Jun 23	65.570	65.570	0.7565	0.1552	0.0000	-0.5713	0.756512	0.0000	0.1552

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25 Jun 23	47,010	47,050	0.5280	0.2106	0.0000	-0.3174	0.528087
26 Jun 23	55,430	55,230	0.6204	0.2328	0.0000	-0.3876	0.620368
27 Jun 23	55,140	55,140	0.6194	0.2376	0.0000	-0.4818	0.619957
28 Jun 23	37,790	37,750	0.4245	0.2951	0.0000	-0.3894	0.424474
29 Jun 23	30,370	30,370	0.3411	0.2353	0.0000	-0.1058	0.341129
30 Jun 23	19,210	19,210	0.2158	0.2346	0.0188	0.0000	0.2346
1 Jul 23	18,960	18,960	0.2130	0.2325	0.0195	0.0000	0.2325
2 Jul 23	19,350	19,350	0.2179	0.2348	0.0175	0.0000	0.2348
3 Jul 23	23,030	23,030	0.2587	0.2352	0.0000	-0.0235	0.258883
4 Jul 23	12,090	12,090	0.1358	0.2344	0.1006	0.0000	0.2364
5 Jul 23	110,820	110,820	1.2448	0.2278	0.0000	-1.0170	1.24478
6 Jul 23	222,350	228,200	1.4400	0.2301	0.0000	-1.2099	1.44
7 Jul 23	100,730	100,730	1.1314	0.2349	0.0000	-0.8965	1.131445
8 Jul 23	63,590	63,590	0.7143	0.2341	0.0000	-0.4802	0.714271
9 Jul 23	41,190	41,190	0.4627	0.2328	0.0000	-0.2301	0.462665
10 Jul 23	34,540	34,540	0.3980	0.2462	0.0000	-0.1418	0.397969
11 Jul 23	20,740	20,740	0.2330	0.2459	0.0129	0.0000	0.2459
12 Jul 23	19,790	19,790	0.2229	0.2370	0.0147	0.0000	0.237
13 Jul 23	21,870	21,870	0.2457	0.2260	0.0000	-0.0197	0.245654
14 Jul 23	23,000	23,000	0.2583	0.2349	0.0000	-0.0334	0.258346
15 Jul 23	25,180	25,180	0.3278	0.2268	0.0000	-0.1010	0.327763
16 Jul 23	25,170	25,170	0.2827	0.2245	0.0000	-0.0582	0.282721
17 Jul 23	183,580	128,200	1.4400	0.1585	0.0000	-1.2815	1.44
18 Jul 23	75,940	75,940	0.8530	0.1562	0.0000	-0.6968	0.852992
19 Jul 23	64,840	64,840	0.7283	0.1570	0.0000	-0.5713	0.728312
20 Jul 23	68,580	68,580	0.7703	0.1564	0.0000	-0.6139	0.770321
21 Jul 23	65,360	65,350	0.7340	0.1920	0.0000	-0.5420	0.734041
22 Jul 23	82,360	82,360	0.9251	0.2103	0.0000	-0.7148	0.925105
23 Jul 23	98,270	98,270	1.1038	0.2185	0.0000	-0.8853	1.103813
24 Jul 23	208,080	128,200	1.4400	0.2176	0.0000	-1.2224	1.44
25 Jul 23	278,970	128,200	1.4400	0.2111	0.0000	-1.2289	1.44
26 Jul 23	244,750	128,200	1.4400	0.2047	0.0000	-1.2353	1.44
27 Jul 23	152,820	128,200	1.4400	0.2057	0.0000	-1.2303	1.44
28 Jul 23	93,440	93,440	1.0496	0.2087	0.0000	-0.8409	1.04956
29 Jul 23	66,490	66,490	0.7468	0.1971	0.0000	-0.5497	0.746846
30 Jul 23	65,210	65,210	0.7915	0.1877	0.0000	-0.5448	0.732468
31 Jul 23	67,720	67,720	0.7607	0.1720	0.0000	-0.5887	0.760561
1 Aug 23	48,610	48,610	0.4898	0.1827	0.0000	-0.3071	0.489847
2 Aug 23	61,570	61,570	0.6916	0.2373	0.0000	-0.4543	0.691582
3 Aug 23	48,790	48,790	0.5480	0.2827	0.0000	-0.3653	0.548031
4 Aug 23	37,780	37,780	0.4244	0.2824	0.0000	-0.1420	0.424362
5 Aug 23	35,020	35,020	0.4035	0.2968	0.0000	-0.1067	0.40347
6 Aug 23	72,230	72,230	0.8113	0.2276	0.0000	-0.5837	0.81132
7 Aug 23	190,050	128,200	1.4400	0.2279	0.0000	-1.2121	1.44
8 Aug 23	188,410	128,200	1.4400	0.2346	0.0000	-1.2054	1.44
9 Aug 23	151,240	128,200	1.4400	0.2340	0.0000	-1.2060	1.44

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10 Aug 23	105,000	1,1794	0.2338	0.0000	-0.9455	1.175407
11 Aug 23	137,370	1,4400	0.2352	0.0000	-1.2048	1.44
12 Aug 23	97,740	1,0379	0.2496	0.0000	-0.8483	1.03786
13 Aug 23	82,070	0.9218	0.3328	0.0000	-0.5850	0.921847
14 Aug 23	75,430	0.8473	0.3487	0.0000	-0.4986	0.847264
15 Aug 23	69,790	0.7839	0.3448	0.0000	-0.4352	0.783813
16 Aug 23	120,180	1,3499	0.3471	0.0000	-1.0028	1.349916
17 Aug 23	136,750	1,4400	0.3625	0.0000	-1.1771	1.44
18 Aug 23	137,350	1,4400	0.2758	0.0000	-1.1642	1.44
19 Aug 23	118,320	1,3290	0.2751	0.0000	-1.0539	1.329023
20 Aug 23	80,070	0.8994	0.2740	0.0000	-0.6254	0.899382
21 Aug 23	91,790	1,0310	0.2753	0.0000	-0.7597	1.031027
22 Aug 23	109,000	1,2243	0.2967	0.0000	-0.9276	1.224337
23 Aug 23	79,620	0.8943	0.2984	0.0000	-0.5959	0.894328
24 Aug 23	72,900	0.8188	0.2737	0.0000	-0.5451	0.818846
25 Aug 23	57,550	0.6464	0.3274	0.0000	-0.3190	0.646427
26 Aug 23	97,600	1,0963	0.3465	0.0000	-0.7498	1.096267
27 Aug 23	150,460	1,4400	0.3268	0.0000	-1.1132	1.44
28 Aug 23	151,570	1,4400	0.3284	0.0000	-1.1116	1.44
29 Aug 23	92,040	1,0388	0.3612	0.0000	-0.5726	1.038835
30 Aug 23	88,880	0.9983	0.3834	0.0000	-0.6349	0.99834
31 Aug 23	113,280	1,2724	0.4537	0.0000	-0.8187	1.272412
1 Sep 23	342,150	1,4400	0.4817	0.0000	-0.5583	1.44
2 Sep 23	99,980	1,1230	0.4842	0.0000	-0.6388	1.12302
3 Sep 23	85,730	0.9630	0.4859	0.0000	-0.4771	0.962958
4 Sep 23	78,090	0.8771	0.5428	0.0000	-0.3343	0.877142
5 Sep 23	61,100	0.6869	0.5384	0.0000	-0.1492	0.686303
6 Sep 23	54,370	0.6107	0.5426	0.0000	-0.0723	0.610708
7 Sep 23	52,900	0.5942	0.5426	0.0000	-0.0516	0.594197
8 Sep 23	76,690	0.8634	0.5428	0.0000	-0.3186	0.861417
9 Sep 23	68,790	0.7727	0.5389	0.0000	-0.2338	0.77268
10 Sep 23	54,610	0.6134	0.4251	0.0000	-0.1843	0.613404
11 Sep 23	89,070	1,0005	0.2464	0.0000	-0.7551	1.000474
12 Sep 23	283,420	1,4400	0.3141	0.0000	-1.1259	1.44
13 Sep 23	217,730	1,4400	0.3167	0.0000	-1.1233	1.44
14 Sep 23	165,050	1,4400	0.4271	0.0000	-1.0129	1.44
15 Sep 23	132,020	1,28200	0.5406	0.0000	-0.8994	1.44
16 Sep 23	102,580	1,02580	0.5346	0.0000	-0.6178	1.025225
17 Sep 23	86,300	0.86300	0.5713	0.0000	-0.3981	0.86336
18 Sep 23	70,010	0.7864	0.3580	0.0000	-0.4284	0.786384
19 Sep 23	156,410	1,4400	0.2326	0.0000	-1.2074	1.44
20 Sep 23	239,590	1,4400	0.2273	0.0000	-1.2127	1.44
21 Sep 23	423,280	1,4400	0.2357	0.0000	-1.2063	1.44
22 Sep 23	325,210	1,4400	0.2301	0.0000	-1.2099	1.44
23 Sep 23	147,590	1,28200	0.2396	0.0000	-1.2064	1.44
24 Sep 23	109,780	1,2331	0.2721	0.0000	-0.9610	1.233098

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25 Sep 23	84,840	0.9530	0.2762	0.0000	-0.4768	0.952951
26 Sep 23	66,270	0.7484	0.2718	0.0000	-0.4726	0.744374
27 Sep 23	137,730	1.4400	0.4324	0.0000	-1.0076	1.44
28 Sep 23	92,670	1.0409	0.4347	0.0000	-0.8062	1.040211
29 Sep 23	74,160	0.8330	0.4414	0.0000	-0.3916	0.832998
30 Sep 23	73,410	0.8246	0.4459	0.0000	-0.3787	0.824574
1 Oct 23	100,210	1.1256	0.4346	0.0000	-0.5910	1.125604
2 Oct 23	124,870	1.4026	0.8271	0.0000	-0.5755	1.402596
3 Oct 23	128,840	1.4400	0.6965	0.0000	-0.8035	1.44
4 Oct 23	104,180	1.1702	0.5759	0.0000	-0.5907	1.170197
5 Oct 23	89,240	1.0024	0.5166	0.0000	-0.4856	1.002384
6 Oct 23	65,200	0.7324	0.6284	0.0000	-0.1040	0.732356
7 Oct 23	53,520	0.6012	0.7210	0.1198	0.0000	0.721
8 Oct 23	62,940	0.7070	0.8107	0.1097	0.0000	0.8107
9 Oct 23	50,420	0.1170	0.8009	0.6839	0.0000	0.8009
10 Oct 23	43,270	0.4850	1.0933	0.6073	0.0000	1.0933
11 Oct 23	34,250	0.3847	1.0910	0.7053	0.0000	1.091
12 Oct 23	22,910	0.2573	1.0956	0.8383	0.0000	1.0956
13 Oct 23	22,120	0.2485	1.0956	0.8453	0.0000	1.0958
14 Oct 23	18,900	0.2088	1.0916	0.8028	0.0000	1.0916
15 Oct 23	13,940	0.1566	1.0892	0.9326	0.0000	1.0892
16 Oct 23	15,150	0.1702	0.9849	0.8147	0.0000	0.9849
17 Oct 23	10,750	0.1209	0.9993	0.8784	0.0000	0.9993
18 Oct 23	19,750	0.2218	0.9965	0.1747	0.0000	0.9965
19 Oct 23	14,710	0.1652	0.4293	0.2641	0.0000	0.4293
20 Oct 23	15,900	0.1494	0.4259	0.2826	0.0000	0.4259
21 Oct 23	12,660	0.1422	0.4241	0.2824	0.0000	0.4246
22 Oct 23	19,130	0.3149	0.4285	0.2134	0.0000	0.4285
23 Oct 23	23,570	0.2647	0.4285	0.1638	0.0000	0.4285
24 Oct 23	12,850	0.1448	0.4613	0.3170	0.0000	0.4613
25 Oct 23	22,670	0.2546	0.4628	0.2082	0.0000	0.4628
26 Oct 23	21,890	0.2439	0.5396	0.2937	0.0000	0.5396
27 Oct 23	13,940	0.1458	0.5781	0.4283	0.0000	0.5781
28 Oct 23	18,870	0.2063	0.5759	0.3706	0.0000	0.5759
29 Oct 23	17,590	0.1976	0.5682	0.3706	0.0000	0.5682
30 Oct 23	13,640	0.1532	0.5754	0.4222	0.0000	0.5754
31 Oct 23	17,250	0.1936	0.5433	0.1495	0.0000	0.5433
1 Nov 23	19,850	0.2356	0.2886	0.1390	0.0000	0.2886
2 Nov 23	15,530	0.1744	0.2887	0.1153	0.0000	0.2887
3 Nov 23	16,770	0.1884	0.3419	0.1595	0.0000	0.3419
4 Nov 23	20,960	0.2354	0.3271	0.0617	0.0000	0.3271
5 Nov 23	16,130	0.1812	0.3052	0.1250	0.0000	0.3052
6 Nov 23	15,720	0.1766	0.3057	0.1201	0.0000	0.3057
7 Nov 23	12,940	0.1453	0.3609	0.2156	0.0000	0.3609
8 Nov 23	8,780	0.0986	0.3655	0.1669	0.0000	0.3655
9 Nov 23	4,010	0.0450	0.3646	0.3195	0.0000	0.3646

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10 Nov 23	4.360	0.0490	0.3670	0.1180	0.0000	0.367
11 Nov 23	8.740	0.0582	0.8442	0.2560	0.0000	0.3642
12 Nov 23	7.800	0.0876	0.3555	0.2879	0.0000	0.1955
13 Nov 23	7.970	0.0855	0.9583	0.2588	0.0000	0.3583
14 Nov 23	13.220	0.1373	0.2471	0.1098	0.0000	0.2471
15 Nov 23	9.210	0.1035	0.1864	0.0519	0.0000	0.1364
16 Nov 23	14.130	0.1598	0.3028	0.0000	-0.0570	0.159838
17 Nov 23	71.200	0.7958	0.0000	0.0000	-0.7998	0.79975
18 Nov 23	87.200	0.9801	0.1823	0.0000	-0.8178	0.980144
19 Nov 23	28.750	0.3230	0.1737	0.0000	-0.1493	0.323045
20 Nov 23	20.790	0.2335	0.1175	0.0000	-0.1160	0.233523
21 Nov 23	20.880	0.2288	0.2796	0.0507	0.0000	0.2796
22 Nov 23	19.200	0.2157	0.2026	0.0000	-0.0131	0.215663
23 Nov 23	18.150	0.2035	0.1932	0.0000	-0.0107	0.203869
24 Nov 23	12.200	0.1370	0.3848	0.0478	0.0000	0.1848
25 Nov 23	0.000	0.0000	0.3965	0.3969	0.0000	0.3969
26 Nov 23	10.060	0.1130	0.3022	0.1891	0.0000	0.3022
27 Nov 23	11.100	0.1247	0.2480	0.1233	0.0000	0.248
28 Nov 23	12.950	0.1388	0.1649	0.0261	0.0000	0.1649
29 Nov 23	17.820	0.2002	0.1626	0.0000	-0.0376	0.200162
30 Nov 23	9.580	0.1076	0.1690	0.0614	0.0000	0.169
1 Dec 23	12.070	0.1356	0.1537	0.0201	0.0000	0.1537
2 Dec 23	11.920	0.1335	0.1544	0.0203	0.0000	0.1544
3 Dec 23	13.030	0.1464	0.1623	0.0139	0.0000	0.1623
4 Dec 23	8.980	0.1009	0.1340	0.0831	0.0000	0.134
5 Dec 23	11.800	0.1325	0.1538	0.0213	0.0000	0.1538
6 Dec 23	7.580	0.0851	0.1573	0.0722	0.0000	0.1573
7 Dec 23	87.380	0.9815	0.1654	0.0000	-0.8161	0.981491
8 Dec 23	88.050	0.9890	0.2426	0.0000	-0.7474	0.989017
9 Dec 23	31.260	0.3511	0.2456	0.0000	-0.1015	0.351126
10 Dec 23	17.350	0.2945	0.2510	0.0561	0.0000	0.251
11 Dec 23	12.270	0.3378	0.2493	0.1115	0.0000	0.2493
12 Dec 23	0.000	0.0000	0.2804	0.2804	0.0000	0.2804
13 Dec 23	23.700	0.2662	0.3238	0.0576	0.0000	0.3238
14 Dec 23	20.790	0.2335	0.2666	0.1331	0.0000	0.2666
15 Dec 23	22.400	0.2516	0.2791	0.1275	0.0000	0.2791
16 Dec 23	3.220	0.0362	0.2855	0.3493	0.0000	0.2855
17 Dec 23	11.690	0.1313	0.2787	0.2474	0.0000	0.2787
18 Dec 23	23.200	0.2000	0.3233	0.0687	0.0000	0.3233
19 Dec 23	23.880	0.2526	0.2870	0.0244	0.0000	0.287
20 Dec 23	19.410	0.1180	0.3014	0.0834	0.0000	0.3014
21 Dec 23	9.850	0.1105	0.3096	0.1990	0.0000	0.3096
22 Dec 23	17.680	0.1987	0.3264	0.1277	0.0000	0.3264
23 Dec 23	7.810	0.0877	0.3228	0.2346	0.0000	0.3223
24 Dec 23	9.050	0.1021	0.3062	0.2041	0.0000	0.3062
25 Dec 23	18.400	0.2007	0.3063	0.0996	0.0000	0.3063

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26 Dec 23	14.740	0.1656	0.3128	0.1482	0.0000	0.3128
27 Dec 23	9.890	0.1111	0.5125	0.2014	0.0000	0.3125
28 Dec 23	15.000	0.1685	0.3137	0.1451	0.0000	0.3137
29 Dec 23	13.510	0.1518	0.8016	0.1498	0.0000	0.8016
30 Dec 23	8.840	0.0908	0.3018	0.2025	0.0000	0.3018
31 Dec 23	13.930	0.1565	0.3270	0.1705	0.0000	0.327
1 Jan 24	9.250	0.1039	0.3043	0.2000	0.0000	0.3043
2 Jan 24	13.300	0.1464	0.3252	0.1758	0.0000	0.3252
3 Jan 24	8.590	0.0965	0.3226	0.2261	0.0000	0.3226
4 Jan 24	10.310	0.1158	0.3220	0.2052	0.0000	0.322
5 Jan 24	14.180	0.1593	0.3231	0.1830	0.0000	0.3231

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6 Jan 24	14.010	0.1374	0.3222	0.1548	0.0000	0.3222
7 Jan 24	14.380	0.1415	0.3241	0.1626	0.0000	0.3241
8 Jan 24	10.820	0.1215	0.3236	0.2021	0.0000	0.3236
9 Jan 24	15.830	0.1778	0.3332	0.1554	0.0000	0.3332
10 Jan 24	10.210	0.1147	0.2877	0.1730	0.0000	0.2877
11 Jan 24	14.680	0.1645	0.3798	0.2149	0.0000	0.3798
12 Jan 24	27.880	0.3132	0.6055	0.2923	0.0000	0.6055
13 Jan 24	31.380	0.3525	0.6975	0.2450	0.0000	0.6975
14 Jan 24	29.780	0.3345	0.5964	0.2619	0.0000	0.5964
15 Jan 24	28.030	0.3148	0.6159	0.3011	0.0000	0.6159
16 Jan 24	29.110	0.3270	0.6020	0.2750	0.0000	0.6020
17 Jan 24	25.720	0.2889	0.5069	0.2204	0.0000	0.5069
18 Jan 24	25.040	0.2813	0.3329	0.2526	0.0000	0.3329
19 Jan 24	29.300	0.3391	0.5863	0.2572	0.0000	0.5863
20 Jan 24	27.540	0.3093	0.6949	0.3856	0.0000	0.6949
21 Jan 24	26.830	0.3238	0.6861	0.3623	0.0000	0.6861
22 Jan 24	28.730	0.3227	0.6844	0.3617	0.0000	0.6844
23 Jan 24	28.060	0.3152	0.5852	0.3710	0.0000	0.5852
24 Jan 24	22.650	0.2542	0.6678	0.4136	0.0000	0.6678
25 Jan 24	24.920	0.2799	0.6785	0.3985	0.0000	0.6785
26 Jan 24	34.650	0.1646	0.6789	0.5143	0.0000	0.6789
27 Jan 24	35.920	0.1788	0.6807	0.5019	0.0000	0.6807
28 Jan 24	10.670	0.1199	0.6794	0.5555	0.0000	0.6794
29 Jan 24	4.380	0.0692	0.6701	0.6209	0.0000	0.6701
30 Jan 24	9.250	0.1039	0.6707	0.5668	0.0000	0.6707
31 Jan 24	13.710	0.1540	0.6507	0.4967	0.0000	0.6507
1 Feb 24	6.580	0.0739	0.6523	0.5784	0.0000	0.6523
2 Feb 24	14.920	0.1676	0.6402	0.4726	0.0000	0.6402
3 Feb 24	5.850	0.0657	0.6409	0.5752	0.0000	0.6409
4 Feb 24	6.330	0.0711	0.5400	0.4685	0.0000	0.5400
5 Feb 24	6.560	0.0737	0.5436	0.4699	0.0000	0.5436
6 Feb 24	5.880	0.0660	0.5345	0.4585	0.0000	0.5345
7 Feb 24	1.130	0.0127	0.5337	0.5210	0.0000	0.5337
8 Feb 24	6.030	0.0677	0.5339	0.4682	0.0000	0.5339
9 Feb 24	5.470	0.0592	0.5307	0.4715	0.0000	0.5307
10 Feb 24	0.050	0.0005	0.4268	0.4262	0.0000	0.4268
11 Feb 24	6.290	0.0707	0.4256	0.3548	0.0000	0.4256
12 Feb 24	10.480	0.1177	0.4271	0.3094	0.0000	0.4271
13 Feb 24	10.790	0.1212	0.4309	0.3097	0.0000	0.4309
14 Feb 24	12.830	0.1407	0.4302	0.2895	0.0000	0.4302
15 Feb 24	15.470	0.1738	0.3214	0.1476	0.0000	0.3214
16 Feb 24	8.230	0.0924	0.3206	0.2282	0.0000	0.3206
17 Feb 24	11.230	0.1261	0.3198	0.1937	0.0000	0.3198
18 Feb 24	7.700	0.0885	0.3213	0.2348	0.0000	0.3213
19 Feb 24	1.130	0.0127	0.3231	0.3104	0.0000	0.3231
20 Feb 24	15.670	0.1760	0.3263	0.1503	0.0000	0.3263

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21 Feb 24	18.430	18.430	0.2070	0.3263	0.1192	0.0000	0.3262
22 Feb 24	20.790	20.790	0.2335	0.2924	0.0000	-0.1411	0.233523
23 Feb 24	57.250	57.250	0.6431	0.2456	0.0000	-0.3975	0.643058
24 Feb 24	9.080	9.080	0.1020	0.3310	0.2290	0.0000	0.331
25 Feb 24	16.560	16.560	0.1860	0.3307	0.1447	0.0000	0.3307
26 Feb 24	8.890	8.890	0.0969	0.3291	0.2292	0.0000	0.3291
27 Feb 24	30.090	30.090	0.1133	0.3145	0.2012	0.0000	0.3145
28 Feb 24	9.200	9.200	0.1033	0.2767	0.1734	0.0000	0.2767
29 Feb 24	8.950	8.950	0.0960	0.2721	0.1761	0.0000	0.2721
1 Mar 24	5.460	5.460	0.0613	0.2752	0.2139	0.0000	0.2752
2 Mar 24	9.400	9.400	0.1056	0.2776	0.1720	0.0000	0.2776
3 Mar 24	5.850	5.850	0.0657	0.2778	0.2121	0.0000	0.2778
4 Mar 24	9.050	9.050	0.1017	0.2760	0.1743	0.0000	0.276
5 Mar 24	4.060	4.060	0.0456	0.3194	0.2738	0.0000	0.3194
6 Mar 24	7.550	7.550	0.0848	0.3203	0.2355	0.0000	0.3203
7 Mar 24	4.030	4.030	0.0439	0.3202	0.2749	0.0000	0.3202
8 Mar 24	7.300	7.300	0.0820	0.3220	0.2400	0.0000	0.322
9 Mar 24	3.450	3.450	0.0388	0.3166	0.2778	0.0000	0.3166
10 Mar 24	1.160	1.160	0.0130	0.3269	0.3139	0.0000	0.3269
11 Mar 24	8.670	8.670	0.0974	0.3278	0.2304	0.0000	0.3278
12 Mar 24	0.000	0.000	0.0000	0.2890	0.2890	0.0000	0.289
13 Mar 24	8.240	8.240	0.0926	0.3247	0.2321	0.0000	0.3247
14 Mar 24	3.760	3.760	0.0422	0.3175	0.2753	0.0000	0.3175
15 Mar 24	4.540	4.540	0.0510	0.3258	0.2748	0.0000	0.3258
16 Mar 24	3.380	3.380	0.0380	0.3202	0.2821	0.0000	0.3202
17 Mar 24	0.230	0.230	0.0026	0.3185	0.3159	0.0000	0.3185
18 Mar 24	5.740	5.740	0.0645	0.2752	0.2107	0.0000	0.2752
19 Mar 24	0.000	0.000	0.0000	0.3221	0.3221	0.0000	0.3221
20 Mar 24	5.360	5.360	0.0602	0.3236	0.2634	0.0000	0.3236
21 Mar 24	2.230	2.230	0.0249	0.3212	0.2863	0.0000	0.3212
22 Mar 24	4.670	4.670	0.0525	0.3217	0.2892	0.0000	0.3217
23 Mar 24	6.780	6.780	0.0762	0.3113	0.2391	0.0000	0.3113
24 Mar 24	3.380	3.380	0.0380	0.2779	0.1899	0.0000	0.2779
25 Mar 24	3.520	3.520	0.0395	0.3131	0.2736	0.0000	0.3131
26 Mar 24	13.160	13.160	0.1478	0.1907	0.0429	0.0000	0.1907
27 Mar 24	2.400	2.400	0.0270	0.1929	0.1659	0.0000	0.1929
28 Mar 24	6.090	6.090	0.0684	0.1990	0.1246	0.0000	0.199
29 Mar 24	2.420	2.420	0.0272	0.1993	0.1661	0.0000	0.1993
30 Mar 24	7.460	7.460	0.0838	0.2009	0.1171	0.0000	0.2009
31 Mar 24	0.000	0.000	0.0000	0.2002	0.2002	0.0000	0.2002
Tot-2023-24	40.0811	35.1197	144.3758	118.63020	54.7702	-80.5198	199.15

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THPS	2022-23						
Date	Calculated Avg Inflow	Usefull Inflow	Possible Gen as per Inflow (MU)	Actual Gen (MU)	Excess Gen (MU)	Short Gen (MU)	MAXOF Possible gen & Actual Gen)
1 Apr 22	0.000	0.000	0.0000	0.3283	0.3283	0.0000	0.3283
2 Apr 22	0.000	0.000	0.0000	0.2202	0.2202	0.0000	0.2202
3 Apr 22	0.000	0.000	0.0000	0.2202	0.2202	0.0000	0.2202
4 Apr 22	0.000	0.000	0.0000	0.2213	0.2213	0.0000	0.2213
5 Apr 22	0.000	0.000	0.0000	0.1110	0.1110	0.0000	0.111
6 Apr 22	0.000	0.000	0.0000	0.1133	0.1133	0.0000	0.1133
7 Apr 22	0.000	0.000	0.0000	0.1094	0.1094	0.0000	0.1094
8 Apr 22	0.000	0.000	0.0000	0.1116	0.1116	0.0000	0.1116
9 Apr 22	0.000	0.000	0.0000	0.1103	0.1103	0.0000	0.1103
10 Apr 22	0.000	0.000	0.0000	0.1121	0.1121	0.0000	0.1121
11 Apr 22	0.000	0.000	0.0000	0.1115	0.1115	0.0000	0.1115
12 Apr 22	7.320	7.320	0.0672	0.1122	0.0300	0.0000	0.1122
13 Apr 22	0.000	0.000	0.0000	0.1715	0.1715	0.0000	0.1715
14 Apr 22	3.680	3.680	0.0413	0.1130	0.0717	0.0000	0.113
15 Apr 22	0.000	0.000	0.0000	0.1046	0.1046	0.0000	0.1046
16 Apr 22	8.880	8.880	0.0997	0.0649	0.0000	-0.0348	0.099744
17 Apr 22	6.050	6.050	0.0680	0.1029	0.0349	0.0000	0.1029
18 Apr 22	6.440	6.440	0.0723	0.1056	0.0333	0.0000	0.1056
19 Apr 22	0.000	0.000	0.0000	0.1045	0.1045	0.0000	0.1045
20 Apr 22	17.420	17.420	0.1957	0.1043	0.0000	-0.0914	0.195669
21 Apr 22	6.510	6.510	0.0731	0.1062	0.0331	0.0000	0.1062
22 Apr 22	20.970	20.970	0.2355	0.1038	0.0000	-0.1317	0.235544
23 Apr 22	6.450	6.450	0.0724	0.1057	0.0333	0.0000	0.1057
24 Apr 22	0.000	0.000	0.0000	0.1042	0.1042	0.0000	0.1042
25 Apr 22	3.250	3.250	0.0365	0.0490	0.0175	0.0000	0.049
26 Apr 22	3.340	3.340	0.0375	0.0497	0.0122	0.0000	0.0497
27 Apr 22	2.810	2.810	0.0316	0.0143	0.0000	-0.0173	0.031563
28 Apr 22	0.520	0.520	0.0058	0.0569	0.0511	0.0000	0.0569
29 Apr 22	3.740	3.740	0.0420	0.0527	0.0107	0.0000	0.0527
30 Apr 22	0.460	0.460	0.0052	0.0563	0.0511	0.0000	0.0563
1 May 22	4.380	4.380	0.0492	0.0572	0.0080	0.0000	0.0572
2 May 22	19.180	19.180	0.2154	0.0570	0.0000	-0.1584	0.215438
3 May 22	8.020	8.020	0.0901	0.0564	0.0000	-0.0337	0.090084
4 May 22	11.780	11.780	0.1323	0.0572	0.0000	-0.0751	0.132318
5 May 22	7.820	7.820	0.0878	0.0561	0.0000	-0.0317	0.087838
6 May 22	0.000	0.000	0.0000	0.0568	0.0568	0.0000	0.0568
7 May 22	0.000	0.000	0.0000	0.0558	0.0558	0.0000	0.0558
8 May 22	5.520	5.520	0.0620	0.1147	0.0527	0.0000	0.1147
9 May 22	19.250	19.250	0.2162	0.0384	0.0000	-0.1778	0.216225
10 May 22	46.480	46.480	0.5221	0.0378	0.0000	-0.4843	0.522084
11 May 22	71.360	71.360	0.8015	0.0906	0.0000	-0.7109	0.801548
12 May 22	36.720	36.720	0.4125	0.0797	0.0000	-0.3328	0.412456
13 May 22	15.800	15.800	0.1775	0.0906	0.0000	-0.0889	0.177473
14 May 22	15.770	15.770	0.1771	0.0904	0.0000	-0.0867	0.177136
15 May 22	8.000	8.000	0.0899	0.0876	0.0000	-0.0023	0.08986
16 May 22	4.820	4.820	0.0541	0.0917	0.0376	0.0000	0.0917
17 May 22	71.420	71.420	0.8022	0.0910	0.0000	-0.7112	0.802222
18 May 22	67.590	67.590	0.7592	0.0908	0.0000	-0.6684	0.759201
19 May 22	63.530	63.530	0.7136	0.0870	0.0000	-0.6266	0.713598
20 May 22	120.300	120.300	1.3513	0.0970	0.0000	-1.2543	1.351264
21 May 22	122.080	122.080	1.3713	0.1116	0.0000	-1.2597	1.371257
22 May 22	82.780	82.780	0.9298	0.0927	0.0000	-0.8371	0.929822
23 May 22	78.990	78.990	0.8873	0.0919	0.0000	-0.7954	0.887251
24 May 22	41.850	41.850	0.4701	0.0911	0.0000	-0.3790	0.470078
25 May 22	43.930	43.930	0.4934	0.1084	0.0000	-0.3850	0.493441



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26 May 22	26.570	26.570	0.2984	0.1161	0.0000	-0.1823	0.298446
27 May 22	29.430	29.430	0.3306	0.1410	0.0000	-0.1896	0.330571
28 May 22	15.610	15.610	0.1753	0.1496	0.0000	-0.0257	0.175339
29 May 22	15.970	15.970	0.1794	0.1556	0.0000	-0.0238	0.179382
30 May 22	16.360	16.360	0.1838	0.1565	0.0000	-0.0273	0.183763
31 May 22	60.250	60.250	0.6768	0.1201	0.0000	-0.5567	0.676755
1 Jun 22	126.910	126.910	1.4255	0.1197	0.0000	-1.3058	1.42551
2 Jun 22	126.970	126.970	1.4262	0.1201	0.0000	-1.3061	1.426184
3 Jun 22	74.450	74.450	0.8363	0.1150	0.0000	-0.7213	0.836256
4 Jun 22	67.640	67.640	0.7598	0.1192	0.0000	-0.6406	0.759763
5 Jun 22	56.790	56.790	0.6379	0.1219	0.0000	-0.5160	0.637891
6 Jun 22	35.100	35.100	0.3943	0.1261	0.0000	-0.2682	0.394259
7 Jun 22	33.380	33.380	0.3749	0.1970	0.0000	-0.1779	0.374939
8 Jun 22	31.520	31.520	0.3540	0.1264	0.0000	-0.2276	0.354047
9 Jun 22	23.290	23.290	0.2616	0.1200	0.0000	-0.1416	0.261604
10 Jun 22	26.530	26.530	0.2980	0.2088	0.0000	-0.0892	0.297997
11 Jun 22	21.420	21.420	0.2406	0.1617	0.0000	-0.0789	0.240599
12 Jun 22	15.030	15.030	0.1688	0.1139	0.0000	-0.0549	0.168824
13 Jun 22	41.030	41.030	0.4609	0.1142	0.0000	-0.3467	0.460867
14 Jun 22	44.890	44.890	0.5042	0.1147	0.0000	-0.3895	0.504225
15 Jun 22	44.640	44.640	0.5014	0.1131	0.0000	-0.3883	0.501417
16 Jun 22	52.100	52.100	0.5852	0.1141	0.0000	-0.4711	0.585211
17 Jun 22	78.720	78.720	0.8842	0.1185	0.0000	-0.7657	0.884218
18 Jun 22	326.000	128.200	1.4400	0.1178	0.0000	-1.3222	1.44
19 Jun 22	509.190	128.200	1.4400	0.1254	0.0000	-1.3146	1.44
20 Jun 22	509.190	128.200	1.4400	0.1339	0.0000	-1.3061	1.44
21 Jun 22	206.260	128.200	1.4400	0.3935	0.0000	-1.0465	1.44
22 Jun 22	332.970	128.200	1.4400	0.3911	0.0000	-1.0489	1.44
23 Jun 22	261.990	128.200	1.4400	0.4124	0.0000	-1.0276	1.44
24 Jun 22	210.960	128.200	1.4400	0.4106	0.0000	-1.0294	1.44
25 Jun 22	219.020	128.200	1.4400	0.4332	0.0000	-1.0068	1.44
26 Jun 22	144.590	128.200	1.4400	0.4887	0.0000	-0.9513	1.44
27 Jun 22	111.710	111.710	1.2548	0.4880	0.0000	-0.7668	1.254777
28 Jun 22	95.960	95.960	1.0779	0.5036	0.0000	-0.5743	1.077866
29 Jun 22	100.300	100.300	1.1266	0.5026	0.0000	-0.6240	1.126615
30 Jun 22	95.810	95.810	1.0762	0.5032	0.0000	-0.5730	1.076181
1 Jul 22	87.570	87.570	0.9836	0.5101	0.0000	-0.4735	0.983626
2 Jul 22	91.410	91.410	1.0268	0.5054	0.0000	-0.5214	1.026758
3 Jul 22	364.780	128.200	1.4400	0.5075	0.0000	-0.9325	1.44
4 Jul 22	177.580	128.200	1.4400	0.5190	0.0000	-0.9210	1.44
5 Jul 22	132.800	128.200	1.4400	0.3589	0.0000	-1.0811	1.44
6 Jul 22	227.370	128.200	1.4400	0.2137	0.0000	-1.2263	1.44
7 Jul 22	334.520	128.200	1.4400	0.3867	0.0000	-1.0533	1.44
8 Jul 22	253.550	128.200	1.4400	0.6541	0.0000	-0.7859	1.44
9 Jul 22	206.210	128.200	1.4400	0.4951	0.0000	-0.9449	1.44
10 Jul 22	201.740	128.200	1.4400	0.4950	0.0000	-0.9450	1.44
11 Jul 22	248.300	128.200	1.4400	0.4971	0.0000	-0.9429	1.44
12 Jul 22	209.870	128.200	1.4400	0.4826	0.0000	-0.9574	1.44
13 Jul 22	153.820	128.200	1.4400	0.5534	0.0000	-0.8866	1.44
14 Jul 22	115.600	115.600	1.2985	0.7360	0.0000	-0.5625	1.298471
15 Jul 22	106.790	106.790	1.1995	1.0792	0.0000	-0.1203	1.199513
16 Jul 22	126.530	126.530	1.4212	0.9535	0.0000	-0.4677	1.421242
17 Jul 22	124.770	124.770	1.4015	1.0402	0.0000	-0.3613	1.401473
18 Jul 22	147.310	128.200	1.4400	1.0329	0.0000	-0.4071	1.44
19 Jul 22	115.290	115.290	1.2950	1.0690	0.0000	-0.2260	1.294989
20 Jul 22	97.670	97.670	1.0971	1.0705	0.0000	-0.0266	1.097073
21 Jul 22	115.270	115.270	1.2948	1.0699	0.0000	-0.2249	1.294764
22 Jul 22	129.320	128.200	1.4400	1.0695	0.0000	-0.3705	1.44
23 Jul 22	145.610	128.200	1.4400	0.9991	0.0000	-0.4409	1.44
24 Jul 22	269.010	128.200	1.4400	1.0453	0.0000	-0.3947	1.44
25 Jul 22	306.450	128.200	1.4400	1.0570	0.0000	-0.3880	1.44
26 Jul 22	276.210	128.200	1.4400	1.0691	0.0000	-0.3709	1.44

27 Jul 22	192.450	128.200	1.4400	1.0906	0.0000	-0.3494	1.44
28 Jul 22	181.260	128.200	1.4400	1.1332	0.0000	-0.3068	1.44
29 Jul 22	174.150	128.200	1.4400	1.1457	0.0000	-0.2943	1.44
30 Jul 22	212.090	128.200	1.4400	1.1491	0.0000	-0.2909	1.44
31 Jul 22	237.660	128.200	1.4400	1.1471	0.0000	-0.2928	1.44
1 Aug 22	177.180	128.200	1.4400	1.1522	0.0000	-0.2878	1.44
2 Aug 22	160.560	128.200	1.4400	1.0125	0.0000	-0.4275	1.44
3 Aug 22	426.920	128.200	1.4400	1.0605	0.0000	-0.3795	1.44
4 Aug 22	253.650	128.200	1.4400	1.0613	0.0000	-0.3787	1.44
5 Aug 22	304.320	128.200	1.4400	0.9930	0.0000	-0.4470	1.44
6 Aug 22	520.560	128.200	1.4400	1.1803	0.0000	-0.2597	1.44
7 Aug 22	258.200	128.200	1.4400	1.4562	0.0162	0.0000	1.4562
8 Aug 22	181.220	128.200	1.4400	1.4561	0.0161	0.0000	1.4561
9 Aug 22	169.660	128.200	1.4400	1.4544	0.0144	0.0000	1.4544
10 Aug 22	164.360	128.200	1.4400	1.4569	0.0169	0.0000	1.4569
11 Aug 22	155.370	128.200	1.4400	1.4008	0.0000	-0.0392	1.44
12 Aug 22	133.890	128.200	1.4400	1.4573	0.0173	0.0000	1.4573
13 Aug 22	186.860	128.200	1.4400	1.4588	0.0188	0.0000	1.4588
14 Aug 22	311.800	128.200	1.4400	1.3993	0.0000	-0.0407	1.44
15 Aug 22	286.470	128.200	1.4400	1.4569	0.0169	0.0000	1.4569
16 Aug 22	213.910	128.200	1.4400	1.4568	0.0168	0.0000	1.4568
17 Aug 22	169.640	128.200	1.4400	1.4579	0.0179	0.0000	1.4579
18 Aug 22	147.700	128.200	1.4400	1.4576	0.0176	0.0000	1.4576
19 Aug 22	140.570	128.200	1.4400	1.2769	0.0000	-0.1631	1.44
20 Aug 22	110.980	110.980	1.2466	1.1234	0.0000	-0.1232	1.246577
21 Aug 22	129.891	128.200	1.4400	1.1429	0.0000	-0.2971	1.44
22 Aug 22	117.580	117.580	1.3207	1.1398	0.0000	-0.1809	1.320711
23 Aug 22	107.650	107.650	1.2092	1.0945	0.0000	-0.1147	1.209173
24 Aug 22	91.380	91.380	1.0264	1.1133	0.0869	0.0000	1.1133
25 Aug 22	86.910	86.910	0.9762	1.1139	0.1377	0.0000	1.1139
26 Aug 22	110.370	110.370	1.2397	1.4564	0.2167	0.0000	1.4564
27 Aug 22	227.190	128.200	1.4400	1.4212	0.0000	-0.0188	1.44
28 Aug 22	135.680	128.200	1.4400	1.0903	0.0000	-0.3497	1.44
29 Aug 22	135.730	128.200	1.4400	1.0352	0.0000	-0.4048	1.44
30 Aug 22	114.840	114.840	1.2899	1.1291	0.0000	-0.1608	1.289934
31 Aug 22	116.040	116.040	1.3034	1.1620	0.0000	-0.1414	1.303413
1 Sep 22	109.960	109.960	1.2351	1.1591	0.0000	-0.0760	1.23512
2 Sep 22	113.910	113.910	1.2795	1.0395	0.0000	-0.2400	1.279488
3 Sep 22	98.760	98.760	1.1093	1.0387	0.0000	-0.0706	1.109317
4 Sep 22	90.230	90.230	1.0135	1.0297	0.0162	0.0000	1.0297
5 Sep 22	99.110	98.110	1.1132	1.0412	0.0000	-0.0720	1.113248
6 Sep 22	94.040	94.040	1.0563	1.0554	0.0000	-0.0009	1.0563
7 Sep 22	88.680	88.680	0.9961	1.0538	0.0577	0.0000	1.0538
8 Sep 22	78.460	78.460	0.8813	1.0521	0.1708	0.0000	1.0521
9 Sep 22	55.740	55.740	0.6261	0.9652	0.3391	0.0000	0.9652
10 Sep 22	144.800	128.200	1.4400	0.9920	0.0000	-0.4480	1.44
11 Sep 22	229.120	128.200	1.4400	0.9775	0.0000	-0.4625	1.44
12 Sep 22	235.160	128.200	1.4400	0.9845	0.0000	-0.4555	1.44
13 Sep 22	205.430	128.200	1.4400	0.9427	0.0000	-0.4973	1.44
14 Sep 22	174.330	128.200	1.4400	0.9390	0.0000	-0.5010	1.44
15 Sep 22	136.850	128.200	1.4400	0.7363	0.0000	-0.7037	1.44
16 Sep 22	123.060	123.060	1.3823	0.8106	0.0000	-0.5717	1.382265
17 Sep 22	110.590	110.590	1.2422	0.8631	0.0000	-0.3791	1.242197
18 Sep 22	83.390	83.390	0.9367	0.5781	0.0000	-0.3586	0.936674
19 Sep 22	96.450	96.450	1.0834	0.4084	0.0000	-0.6750	1.08337
20 Sep 22	80.580	80.580	0.9051	0.4835	0.0000	-0.4216	0.905111
21 Sep 22	76.530	76.530	0.8596	0.6323	0.0000	-0.2723	0.859619
22 Sep 22	65.080	65.080	0.7310	0.6009	0.0000	-0.1301	0.731008
23 Sep 22	162.690	128.200	1.4400	0.8659	0.0000	-0.5741	1.44
24 Sep 22	218.130	128.200	1.4400	0.8656	0.0000	-0.5744	1.44
25 Sep 22	199.770	128.200	1.4400	0.7638	0.0000	-0.6762	1.44
26 Sep 22	140.480	128.200	1.4400	0.8626	0.0000	-0.5774	1.44



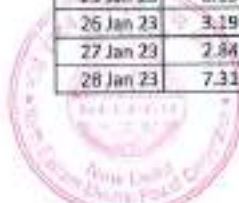
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27 Sep 22	330.980	128.200	1.4400	0.9854	0.0000	-0.4546	1.44
28 Sep 22	251.100	128.200	1.4400	1.0491	0.0000	-0.3909	1.44
29 Sep 22	176.160	128.200	1.4400	1.2630	0.0000	-0.1770	1.44
30 Sep 22	137.360	128.200	1.4400	1.2634	0.0000	-0.1766	1.44
1 Oct 22	108.680	108.680	1.2207	1.2372	0.0165	0.0000	1.2372
2 Oct 22	134.300	128.200	1.4400	1.2629	0.0000	-0.1771	1.44
3 Oct 22	197.570	128.200	1.4400	1.2365	0.0000	-0.2035	1.44
4 Oct 22	442.610	128.200	1.4400	1.4613	0.0213	0.0000	1.4613
5 Oct 22	371.640	128.200	1.4400	1.4329	0.0000	-0.0071	1.44
6 Oct 22	268.930	128.200	1.4400	1.4584	0.0184	0.0000	1.4584
7 Oct 22	207.690	128.200	1.4400	1.4576	0.0176	0.0000	1.4576
8 Oct 22	197.980	128.200	1.4400	1.2689	0.0000	-0.1711	1.44
9 Oct 22	168.080	128.200	1.4400	1.4572	0.0172	0.0000	1.4572
10 Oct 22	151.310	128.200	1.4400	1.4566	0.0166	0.0000	1.4566
11 Oct 22	146.450	128.200	1.4400	1.4588	0.0188	0.0000	1.4588
12 Oct 22	96.530	96.530	1.0843	0.9173	0.0000	-0.1670	1.084268
13 Oct 22	97.620	97.620	1.0965	1.1924	0.0959	0.0000	1.1924
14 Oct 22	106.950	106.950	1.2013	1.2205	0.0192	0.0000	1.2205
15 Oct 22	89.940	89.940	1.0102	1.2209	0.2107	0.0000	1.2209
16 Oct 22	84.290	84.290	0.9468	1.2224	0.2756	0.0000	1.2224
17 Oct 22	62.420	62.420	0.7011	1.0500	0.3489	0.0000	1.05
18 Oct 22	97.100	97.100	1.0907	1.1543	0.0636	0.0000	1.1543
19 Oct 22	141.540	128.200	1.4400	1.1600	0.0000	-0.2800	1.44
20 Oct 22	86.910	86.910	0.9762	1.1629	0.1867	0.0000	1.1629
21 Oct 22	83.780	83.780	0.9411	1.1561	0.2150	0.0000	1.1561
22 Oct 22	63.680	63.680	0.7153	1.1544	0.4391	0.0000	1.1544
23 Oct 22	82.690	82.690	0.9288	1.1584	0.2296	0.0000	1.1584
24 Oct 22	108.540	108.540	1.2192	1.1554	0.0000	-0.0638	1.21917
25 Oct 22	150.950	128.200	1.4400	1.1603	0.0000	-0.2797	1.44
26 Oct 22	119.680	119.680	1.3443	0.9217	0.0000	-0.4226	1.3443
27 Oct 22	90.580	90.580	1.0174	0.7999	0.0000	-0.2175	1.017435
28 Oct 22	68.350	68.350	0.7677	0.7090	0.0000	-0.0647	0.767738
29 Oct 22	68.290	68.290	0.7671	0.7315	0.0000	-0.0356	0.767064
30 Oct 22	60.240	60.240	0.6766	0.7046	0.0280	0.0000	0.7046
31 Oct 22	56.390	56.390	0.6334	0.7214	0.0880	0.0000	0.7214
1 Nov 22	59.720	59.720	0.6708	0.8006	0.1298	0.0000	0.8006
2 Nov 22	41.560	41.560	0.4668	0.5704	0.1036	0.0000	0.5704
3 Nov 22	40.250	40.250	0.4521	0.5422	0.0901	0.0000	0.5422
4 Nov 22	38.770	38.770	0.4355	0.5393	0.1038	0.0000	0.5393
5 Nov 22	39.390	39.390	0.4424	0.5439	0.1015	0.0000	0.5439
6 Nov 22	34.160	34.160	0.3837	0.5452	0.1615	0.0000	0.5452
7 Nov 22	35.210	35.210	0.3955	0.4974	0.1019	0.0000	0.4974
8 Nov 22	31.530	31.530	0.3542	0.5949	0.2407	0.0000	0.5949
9 Nov 22	32.950	32.950	0.3701	0.5990	0.2289	0.0000	0.599
10 Nov 22	30.270	30.270	0.3400	0.6160	0.2760	0.0000	0.616
11 Nov 22	32.270	32.270	0.3625	0.6313	0.2688	0.0000	0.6313
12 Nov 22	36.060	36.060	0.4050	0.6319	0.2269	0.0000	0.6319
13 Nov 22	24.040	24.040	0.2700	0.4686	0.1986	0.0000	0.4686
14 Nov 22	27.900	27.900	0.3134	0.5328	0.2194	0.0000	0.5328
15 Nov 22	20.870	20.870	0.2344	0.2780	0.0436	0.0000	0.278
16 Nov 22	21.250	21.250	0.2387	0.2804	0.0417	0.0000	0.2804
17 Nov 22	21.240	21.240	0.2386	0.2810	0.0424	0.0000	0.281
18 Nov 22	16.350	16.350	0.1837	0.2823	0.0986	0.0000	0.2823
19 Nov 22	21.980	21.980	0.2469	0.2862	0.0393	0.0000	0.2862
20 Nov 22	20.860	20.860	0.2343	0.2780	0.0437	0.0000	0.278
21 Nov 22	16.290	16.290	0.1830	0.2806	0.0976	0.0000	0.2806
22 Nov 22	18.960	18.960	0.2130	0.3450	0.1320	0.0000	0.345
23 Nov 22	23.690	23.690	0.2661	0.3422	0.0761	0.0000	0.3422
24 Nov 22	22.550	22.550	0.2533	0.3314	0.0781	0.0000	0.3314
25 Nov 22	11.700	11.700	0.1314	0.3275	0.1961	0.0000	0.3275
26 Nov 22	23.660	23.660	0.2658	0.3414	0.0756	0.0000	0.3414
27 Nov 22	27.370	27.370	0.3074	0.5160	0.2086	0.0000	0.516



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28 Nov 22	26.900	26.900	0.3022	0.5147	0.2125	0.0000	0.5147
29 Nov 22	28.190	28.190	0.3166	0.5223	0.2057	0.0000	0.5223
30 Nov 22	36.530	36.530	0.4109	0.5101	0.0998	0.0000	0.5101
1 Dec 22	28.420	28.420	0.3192	0.5284	0.2092	0.0000	0.5284
2 Dec 22	12.400	12.400	0.1393	0.1241	0.0000	-0.0152	0.139282
3 Dec 22	11.840	11.840	0.1330	0.1970	0.0640	0.0000	0.197
4 Dec 22	17.840	17.840	0.2004	0.2092	0.0088	0.0000	0.2092
5 Dec 22	18.570	18.570	0.2086	0.2540	0.0454	0.0000	0.254
6 Dec 22	21.710	21.710	0.2439	0.3527	0.1088	0.0000	0.3527
7 Dec 22	17.350	17.350	0.1949	0.3539	0.1590	0.0000	0.3539
8 Dec 22	19.950	19.950	0.2241	0.3680	0.1439	0.0000	0.368
9 Dec 22	19.460	19.460	0.2186	0.3708	0.1522	0.0000	0.3708
10 Dec 22	19.790	19.790	0.2223	0.4102	0.1879	0.0000	0.4102
11 Dec 22	23.800	23.800	0.2673	0.4044	0.1371	0.0000	0.4044
12 Dec 22	20.580	20.580	0.2312	0.3799	0.1487	0.0000	0.3799
13 Dec 22	18.470	18.470	0.2075	0.3915	0.1840	0.0000	0.3915
14 Dec 22	16.120	16.120	0.1811	0.3415	0.1604	0.0000	0.3415
15 Dec 22	18.640	18.640	0.2094	0.3317	0.1223	0.0000	0.3317
16 Dec 22	12.860	12.860	0.1444	0.3165	0.1721	0.0000	0.3165
17 Dec 22	14.810	14.810	0.1664	0.3325	0.1661	0.0000	0.3325
18 Dec 22	16.720	16.720	0.1878	0.3860	0.1982	0.0000	0.386
19 Dec 22	25.690	25.690	0.2886	0.3464	0.0678	0.0000	0.3464
20 Dec 22	14.930	14.930	0.1677	0.3720	0.2043	0.0000	0.372
21 Dec 22	24.840	24.840	0.2790	0.6511	0.3721	0.0000	0.6511
22 Dec 22	19.800	19.800	0.2224	0.4109	0.1885	0.0000	0.4109
23 Dec 22	18.990	18.990	0.2133	0.4051	0.1918	0.0000	0.4051
24 Dec 22	23.620	23.620	0.2653	0.5708	0.3055	0.0000	0.5708
25 Dec 22	16.380	16.380	0.1840	0.4283	0.2443	0.0000	0.4283
26 Dec 22	17.720	17.720	0.1990	0.3928	0.1938	0.0000	0.3928
27 Dec 22	21.340	21.340	0.2397	0.3858	0.1461	0.0000	0.3858
28 Dec 22	20.840	20.840	0.2341	0.3815	0.1474	0.0000	0.3815
29 Dec 22	9.460	9.460	0.1063	0.4391	0.3328	0.0000	0.4391
30 Dec 22	23.980	23.980	0.2694	0.4342	0.1848	0.0000	0.4342
31 Dec 22	10.850	10.850	0.1219	0.5303	0.4084	0.0000	0.5303
1 Jan 23	18.720	18.720	0.2103	0.3664	0.1561	0.0000	0.3664
2 Jan 23	12.940	12.940	0.1453	0.3591	0.2138	0.0000	0.3591
3 Jan 23	13.950	13.950	0.1567	0.3733	0.2166	0.0000	0.3733
4 Jan 23	14.780	14.780	0.1660	0.3873	0.2213	0.0000	0.3873
5 Jan 23	12.850	12.850	0.1443	0.3944	0.2501	0.0000	0.3944
6 Jan 23	12.890	12.890	0.1448	0.3950	0.2502	0.0000	0.395
7 Jan 23	20.450	20.450	0.2297	0.4171	0.1874	0.0000	0.4171
8 Jan 23	19.310	19.310	0.2169	0.4091	0.1922	0.0000	0.4091
9 Jan 23	17.020	17.020	0.1912	0.4123	0.2211	0.0000	0.4123
10 Jan 23	19.310	19.310	0.2169	0.5235	0.3066	0.0000	0.5235
11 Jan 23	38.940	38.940	0.4374	0.7027	0.2653	0.0000	0.7027
12 Jan 23	19.730	19.730	0.2216	0.4218	0.2002	0.0000	0.4218
13 Jan 23	25.790	25.790	0.2857	0.4398	0.1501	0.0000	0.4398
14 Jan 23	22.680	22.680	0.2548	0.4982	0.2434	0.0000	0.4982
15 Jan 23	25.700	25.700	0.2887	0.4655	0.1788	0.0000	0.4655
16 Jan 23	22.580	22.580	0.2536	0.5227	0.2691	0.0000	0.5227
17 Jan 23	30.730	30.730	0.3452	0.5589	0.2137	0.0000	0.5589
18 Jan 23	26.180	26.180	0.2941	0.5639	0.2698	0.0000	0.5639
19 Jan 23	33.320	33.320	0.3743	0.6896	0.3153	0.0000	0.6896
20 Jan 23	24.330	24.330	0.2733	0.6797	0.4064	0.0000	0.6797
21 Jan 23	13.990	13.990	0.1571	0.6205	0.4634	0.0000	0.6205
22 Jan 23	4.880	4.880	0.0548	0.6113	0.5565	0.0000	0.6113
23 Jan 23	5.190	5.190	0.0583	0.6157	0.5574	0.0000	0.6157
24 Jan 23	31.010	31.010	0.3483	0.6192	0.2709	0.0000	0.6192
25 Jan 23	8.150	8.150	0.0915	0.6137	0.5222	0.0000	0.6137
26 Jan 23	3.190	3.190	0.0358	0.5475	0.5117	0.0000	0.5475
27 Jan 23	2.840	2.840	0.0319	0.5981	0.5662	0.0000	0.5981
28 Jan 23	7.310	7.310	0.0821	0.6054	0.5233	0.0000	0.6054



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29 Jan 23	0.000	0.000	0.0000	0.6023	0.6023	0.0000	0.6023
30 Jan 23	0.000	0.000	0.0000	0.5619	0.5619	0.0000	0.5619
31 Jan 23	0.000	0.000	0.0000	0.5641	0.5641	0.0000	0.5641
1 Feb 23	0.000	0.000	0.0000	0.5479	0.5479	0.0000	0.5479
2 Feb 23	0.000	0.000	0.0000	0.5428	0.5428	0.0000	0.5428
3 Feb 23	0.000	0.000	0.0000	0.5515	0.5515	0.0000	0.5515
4 Feb 23	0.000	0.000	0.0000	0.5536	0.5536	0.0000	0.5536
5 Feb 23	0.000	0.000	0.0000	0.5578	0.5578	0.0000	0.5578
6 Feb 23	0.000	0.000	0.0000	0.5436	0.5436	0.0000	0.5436
7 Feb 23	0.000	0.000	0.0000	0.5374	0.5374	0.0000	0.5374
8 Feb 23	0.000	0.000	0.0000	0.5925	0.5925	0.0000	0.5925
9 Feb 23	0.000	0.000	0.0000	0.5420	0.5420	0.0000	0.5420
10 Feb 23	0.000	0.000	0.0000	0.5874	0.5874	0.0000	0.5874
11 Feb 23	0.000	0.000	0.0000	0.5808	0.5808	0.0000	0.5808
12 Feb 23	0.000	0.000	0.0000	0.5416	0.5416	0.0000	0.5416
13 Feb 23	0.000	0.000	0.0000	0.4959	0.4959	0.0000	0.4959
14 Feb 23	0.000	0.000	0.0000	0.4933	0.4933	0.0000	0.4933
15 Feb 23	0.000	0.000	0.0000	0.4246	0.4246	0.0000	0.4246
16 Feb 23	0.000	0.000	0.0000	0.4333	0.4333	0.0000	0.4333
17 Feb 23	0.000	0.000	0.0000	0.4181	0.4181	0.0000	0.4181
18 Feb 23	0.000	0.000	0.0000	0.4142	0.4142	0.0000	0.4142
19 Feb 23	0.000	0.000	0.0000	0.4180	0.4180	0.0000	0.4180
20 Feb 23	0.000	0.000	0.0000	0.3722	0.3722	0.0000	0.3722



21 Feb 23	0.000	0.000	0.0000	0.3847	0.3847	0.0000	0.3847
22 Feb 23	0.000	0.000	0.0000	0.3815	0.3815	0.0000	0.3815
23 Feb 23	0.000	0.000	0.0000	0.3861	0.3861	0.0000	0.3861
24 Feb 23	0.000	0.000	0.0000	0.3780	0.3780	0.0000	0.378
25 Feb 23	0.000	0.000	0.0000	0.3780	0.3780	0.0000	0.378
26 Feb 23	0.000	0.000	0.0000	0.3728	0.3728	0.0000	0.3728
27 Feb 23	0.000	0.000	0.0000	0.3777	0.3777	0.0000	0.3777
28 Feb 23	0.000	0.000	0.0000	0.3698	0.3698	0.0000	0.3698
							0
1 Mar 23	0.000	0.000	0.0000	0.2767	0.2767	0.0000	0.2767
2 Mar 23	0.000	0.000	0.0000	0.2767	0.2767	0.0000	0.2767
3 Mar 23	0.000	0.000	0.0000	0.2787	0.2787	0.0000	0.2787
4 Mar 23	0.000	0.000	0.0000	0.2780	0.2780	0.0000	0.278
5 Mar 23	0.000	0.000	0.0000	0.2756	0.2756	0.0000	0.2756
6 Mar 23	9.700	9.700	0.1090	0.2729	0.1639	0.0000	0.2729
7 Mar 23	5.590	5.590	0.0628	0.2743	0.2115	0.0000	0.2743
8 Mar 23	2.690	2.690	0.0302	0.2791	0.2489	0.0000	0.2791
9 Mar 23	5.760	5.760	0.0647	0.2763	0.2116	0.0000	0.2763
10 Mar 23	5.320	5.320	0.0598	0.2769	0.2171	0.0000	0.2769
11 Mar 23	4.360	4.360	0.0490	0.2660	0.2170	0.0000	0.266
12 Mar 23	6.390	6.390	0.0718	0.2752	0.2034	0.0000	0.2752
13 Mar 23	2.270	2.270	0.0255	0.2733	0.2478	0.0000	0.2733
14 Mar 23	6.350	6.350	0.0713	0.2746	0.2033	0.0000	0.2746
15 Mar 23	2.640	2.640	0.0297	0.2760	0.2463	0.0000	0.276
16 Mar 23	8.120	8.120	0.0912	0.2724	0.1812	0.0000	0.2724
17 Mar 23	7.240	7.240	0.0813	0.2562	0.1749	0.0000	0.2562
18 Mar 23	4.580	4.580	0.0514	0.2646	0.2132	0.0000	0.2646
19 Mar 23	3.690	3.690	0.0414	0.2585	0.2171	0.0000	0.2585
20 Mar 23	15.270	15.270	0.1715	0.2623	0.0908	0.0000	0.2623
21 Mar 23	7.200	7.200	0.0809	0.2596	0.1787	0.0000	0.2596
22 Mar 23	7.680	7.680	0.0863	0.2640	0.1777	0.0000	0.264
23 Mar 23	8.850	8.850	0.0994	0.2433	0.1439	0.0000	0.2433
24 Mar 23	3.990	3.990	0.0448	0.2637	0.2189	0.0000	0.2637
25 Mar 23	3.280	3.280	0.0368	0.2609	0.2241	0.0000	0.2609
26 Mar 23	4.120	4.120	0.0463	0.2662	0.2199	0.0000	0.2662
27 Mar 23	10.930	10.930	0.1228	0.2587	0.1359	0.0000	0.2587
28 Mar 23	4.110	4.110	0.0462	0.2653	0.2191	0.0000	0.2653
29 Mar 23	9.710	9.710	0.1091	0.2599	0.1508	0.0000	0.2599
30 Mar 23	0.000	0.000	0.0000	0.2655	0.2655	0.0000	0.2655
31 Mar 23	8.640	8.640	0.0970	0.2633	0.1663	0.0000	0.2633
Tot-2022-23	75.0409	54.3314	222.7501	204.09770	45.9852	-64.6376	268.7353

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THPS	2021-22	Calculated AVE Inflow	Useful Inflow	Possible Gen as per Inflow (MU)	Actual Gen (MU)	Excess Gen (MU)	Short Gen (MU)	MAXOF Possible gen & Actual Gen)
	1 Apr 21	14.560	14.560	0.1635	0.1170	0.0000	-0.0465	0.163544
	2 Apr 21	0.000	0.000	0.0000	0.1096	0.1096	0.0000	0.1096
	3 Apr 21	0.000	0.000	0.0000	0.1167	0.1167	0.0000	0.1167
	4 Apr 21	19.150	19.150	0.2151	0.1526	0.0000	-0.0625	0.215101
	5 Apr 21	0.000	0.000	0.0000	0.1558	0.1558	0.0000	0.1558
	6 Apr 21	14.600	14.600	0.1640	0.1148	0.0000	-0.0492	0.163994
	7 Apr 21	0.000	0.000	0.0000	0.1166	0.1166	0.0000	0.1166
	8 Apr 21	0.000	0.000	0.0000	0.1145	0.1145	0.0000	0.1145
	9 Apr 21	0.000	0.000	0.0000	0.1166	0.1166	0.0000	0.1166
	10 Apr 21	0.000	0.000	0.0000	0.1141	0.1141	0.0000	0.1141
	11 Apr 21	0.000	0.000	0.0000	0.1172	0.1172	0.0000	0.1172
	12 Apr 21	0.000	0.000	0.0000	0.1137	0.1137	0.0000	0.1137
	13 Apr 21	14.670	14.670	0.1648	0.1171	0.0000	-0.0477	0.16478
	14 Apr 21	0.000	0.000	0.0000	0.1125	0.1125	0.0000	0.1125
	15 Apr 21	0.000	0.000	0.0000	0.1149	0.1149	0.0000	0.1149
	16 Apr 21	0.000	0.000	0.0000	0.1162	0.1162	0.0000	0.1162
	17 Apr 21	0.000	0.000	0.0000	0.1140	0.1140	0.0000	0.114
	18 Apr 21	0.000	0.000	0.0000	0.1142	0.1142	0.0000	0.1142
	19 Apr 21	15.030	15.030	0.1688	0.1128	0.0000	-0.0560	0.168824
	20 Apr 21	0.000	0.000	0.0000	0.1140	0.1140	0.0000	0.114
	21 Apr 21	0.000	0.000	0.0000	0.1148	0.1148	0.0000	0.1148
	22 Apr 21	0.000	0.000	0.0000	0.1136	0.1136	0.0000	0.1136
	23 Apr 21	0.000	0.000	0.0000	0.1136	0.1136	0.0000	0.1136
	24 Apr 21	15.010	15.010	0.1686	0.1178	0.0000	-0.0508	0.168599
	25 Apr 21	0.000	0.000	0.0000	0.1134	0.1134	0.0000	0.1134
	26 Apr 21	0.000	0.000	0.0000	0.0569	0.0569	0.0000	0.0569
	27 Apr 21	0.000	0.000	0.0000	0.0557	0.0557	0.0000	0.0557
	28 Apr 21	8.270	8.270	0.0929	0.0559	0.0000	-0.0370	0.092892
	29 Apr 21	0.000	0.000	0.0000	0.0558	0.0558	0.0000	0.0558
	30 Apr 21	7.120	7.120	0.0800	0.0565	0.0000	-0.0235	0.079975

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1 May 21	8.270	8.270	0.0929	0.0564	0.0000	-0.0365	0.092892
2 May 21	0.000	0.000	0.0000	0.0556	0.0556	0.0000	0.0556
3 May 21	7.460	7.460	0.0838	0.0559	0.0000	-0.0279	0.083794
4 May 21	7.580	7.580	0.0851	0.0562	0.0000	-0.0289	0.085142
5 May 21	8.960	8.960	0.0782	0.0559	0.0000	-0.0223	0.078178
6 May 21	7.680	7.680	0.0863	0.0551	0.0000	-0.0312	0.086265
7 May 21	8.120	8.120	0.0912	0.0556	0.0000	-0.0356	0.091207
8 May 21	8.360	8.360	0.0939	0.0555	0.0000	-0.0384	0.093903
9 May 21	7.640	7.640	0.0858	0.0557	0.0000	-0.0301	0.085816
10 May 21	0.000	0.000	0.0000	0.0557	0.0557	0.0000	0.0557
11 May 21	7.260	7.260	0.0815	0.0557	0.0000	-0.0258	0.081548
12 May 21	3.360	3.360	0.0377	0.0183	0.0000	-0.0194	0.037741
13 May 21	6.980	6.980	0.0784	0.0546	0.0000	-0.0238	0.078402
14 May 21	23.930	23.930	0.2688	0.0551	0.0000	-0.2137	0.268793
15 May 21	26.240	26.240	0.2947	0.0549	0.0000	-0.2398	0.294739
16 May 21	7.730	7.730	0.0868	0.0547	0.0000	-0.0321	0.086827
17 May 21	0.000	0.000	0.0000	0.0562	0.0562	0.0000	0.0562
18 May 21	7.720	7.720	0.0867	0.0575	0.0000	-0.0292	0.086715
19 May 21	8.420	8.420	0.0946	0.0548	0.0000	-0.0398	0.094577
20 May 21	8.150	8.150	0.0915	0.0577	0.0000	-0.0338	0.091544
21 May 21	0.000	0.000	0.0000	0.0574	0.0574	0.0000	0.0574
22 May 21	7.650	7.650	0.0859	0.0558	0.0000	-0.0301	0.085928
23 May 21	7.810	7.810	0.0877	0.0551	0.0000	-0.0326	0.087725
24 May 21	8.340	8.340	0.0937	0.0433	0.0000	-0.0504	0.093679
25 May 21	7.930	7.930	0.0891	0.0554	0.0000	-0.0337	0.089073
26 May 21	8.130	8.130	0.0913	0.0569	0.0000	-0.0344	0.09132
27 May 21	7.970	7.970	0.0895	0.0558	0.0000	-0.0337	0.089523
28 May 21	8.080	8.080	0.0908	0.0564	0.0000	-0.0344	0.090758
29 May 21	7.750	7.750	0.0871	0.0540	0.0000	-0.0331	0.087051
30 May 21	0.000	0.000	0.0000	0.0554	0.0554	0.0000	0.0554
31 May 21	16.980	16.980	0.1907	0.0499	0.0000	-0.1408	0.190727
1 Jun 21	4.900	4.900	0.0550	0.0569	0.0019	0.0000	0.0569
2 Jun 21	7.950	7.950	0.0893	0.0558	0.0000	-0.0335	0.089298
3 Jun 21	1.500	1.500	0.0168	0.0559	0.0391	0.0000	0.0559
4 Jun 21	4.610	4.610	0.0518	0.0550	0.0032	0.0000	0.055
5 Jun 21	14.430	14.430	0.1621	0.0556	0.0000	-0.1065	0.162084
6 Jun 21	14.380	14.380	0.1615	0.0554	0.0000	-0.1061	0.161523



7 Jun 21	17.720	17.720	0.1990	0.0560	0.0000	-0.1430	0.199039
8 Jun 21	11.320	11.320	0.1272	0.0569	0.0000	-0.0703	0.127151
9 Jun 21	8.020	8.020	0.0901	0.0562	0.0000	-0.0339	0.090084
10 Jun 21	64.190	64.190	0.7210	0.0428	0.0000	-0.6782	0.721011
11 Jun 21	52.500	52.500	0.5897	0.0564	0.0000	-0.5333	0.589704
12 Jun 21	100.440	100.440	1.1282	0.0548	0.0000	-1.0734	1.128187
13 Jun 21	74.318	74.318	0.8348	0.0897	0.0000	-0.7451	0.834771
14 Jun 21	61.792	61.792	0.6941	0.1031	0.0000	-0.5910	0.694078
15 Jun 21	107.330	107.330	1.2056	0.1026	0.0000	-1.1030	1.205579
16 Jun 21	48.860	48.860	0.5488	0.1114	0.0000	-0.4374	0.548817
17 Jun 21	33.770	33.770	0.3793	0.1104	0.0000	-0.2589	0.379332
18 Jun 21	44.930	44.930	0.5047	0.1096	0.0000	-0.3951	0.504674
19 Jun 21	26.437	26.437	0.2969	0.1121	0.0000	-0.1848	0.296948
20 Jun 21	22.024	22.024	0.2474	0.1109	0.0000	-0.1365	0.247378
21 Jun 21	33.320	33.320	0.3743	0.1123	0.0000	-0.2620	0.374265
22 Jun 21	97.140	97.140	1.0911	0.1675	0.0000	-0.9236	1.09112
23 Jun 21	71.740	71.740	0.8058	0.1570	0.0000	-0.6488	0.805816
24 Jun 21	47.953	47.953	0.5386	0.1569	0.0000	-0.3817	0.538628
25 Jun 21	29.344	29.344	0.3296	0.1540	0.0000	-0.1756	0.329602
26 Jun 21	34.110	34.110	0.3831	0.1078	0.0000	-0.2753	0.383139
27 Jun 21	20.310	20.310	0.2281	0.1549	0.0000	-0.0732	0.228131
28 Jun 21	19.450	19.450	0.2185	0.1458	0.0000	-0.0727	0.218471
29 Jun 21	5.780	5.780	0.0649	0.1664	0.1015	0.0000	0.1664
30 Jun 21	9.220	9.220	0.1036	0.1619	0.0583	0.0000	0.1619
1 Jul 21	12.620	12.620	0.1418	0.1672	0.0254	0.0000	0.1672
2 Jul 21	1.470	1.470	0.0165	0.1650	0.1485	0.0000	0.165
3 Jul 21	0.000	0.000	0.0000	0.1662	0.1662	0.0000	0.1662
4 Jul 21	0.000	0.000	0.0000	0.1648	0.1648	0.0000	0.1648
5 Jul 21	9.370	9.370	0.1052	0.1660	0.0608	0.0000	0.166
6 Jul 21	0.000	0.000	0.0000	0.1657	0.1657	0.0000	0.1657
7 Jul 21	91.020	91.020	1.0224	0.1643	0.0000	-0.8581	1.022378
8 Jul 21	64.920	64.920	0.7292	0.1153	0.0000	-0.6139	0.729211
9 Jul 21	42.990	42.990	0.4829	0.1151	0.0000	-0.3678	0.482883
10 Jul 21	105.892	105.892	1.1894	0.1155	0.0000	-1.0739	1.189423
11 Jul 21	53.985	53.985	0.6064	0.1376	0.0000	-0.4688	0.606385
12 Jul 21	52.450	52.450	0.5891	0.1096	0.0000	-0.4795	0.589142
13 Jul 21	167.280	167.280	1.4400	0.1624	0.0000	-1.2776	1.44



14 Jul 21	168.710	128.200	1.4400	0.1721	0.0000	-1.2679	1.44
15 Jul 21	76.530	76.530	0.8596	0.1745	0.0000	-0.6851	0.859616
16 Jul 21	124.680	124.680	1.4005	0.1746	0.0000	-1.2259	1.400462
17 Jul 21	83.970	83.970	0.9432	0.1752	0.0000	-0.7680	0.943189
18 Jul 21	75.960	75.960	0.8532	0.1740	0.0000	-0.6792	0.853217
19 Jul 21	298.730	128.200	1.4400	0.1770	0.0000	-1.2630	1.44
20 Jul 21	242.840	128.200	1.4400	0.1736	0.0000	-1.2664	1.44
21 Jul 21	129.330	128.200	1.4400	0.1721	0.0000	-1.2679	1.44
22 Jul 21	93.820	93.820	1.0538	0.1666	0.0000	-0.8872	1.053828
23 Jul 21	55.690	55.690	0.6255	0.1823	0.0000	-0.4432	0.625535
24 Jul 21	68.650	68.650	0.7711	0.1290	0.0000	-0.5421	0.771108
25 Jul 21	23.748	23.748	0.2668	0.1823	0.0000	-0.0845	0.266752
26 Jul 21	42.010	42.010	0.4719	0.1842	0.0000	-0.2877	0.471875
27 Jul 21	113.840	113.840	1.2787	0.1826	0.0000	-1.0961	1.278702
28 Jul 21	94.360	94.360	1.0599	0.2234	0.0000	-0.8365	1.059894
29 Jul 21	74.590	74.590	0.8378	0.1842	0.0000	-0.6538	0.837828
30 Jul 21	56.050	56.050	0.6296	0.1842	0.0000	-0.4454	0.629579
31 Jul 21	37.340	37.340	0.4194	0.1818	0.0000	-0.2376	0.41942
1 Aug 21	56.170	56.170	0.6309	0.1834	0.0000	-0.4475	0.630927
2 Aug 21	111.700	111.700	1.2547	0.1832	0.0000	-1.0715	1.254655
3 Aug 21	671.940	128.200	1.4400	0.1842	0.0000	-1.2558	1.44
4 Aug 21	294.000	128.200	1.4400	0.1574	0.0000	-1.2826	1.44
5 Aug 21	178.521	128.200	1.4400	0.1829	0.0000	-1.2571	1.44
6 Aug 21	231.070	128.200	1.4400	0.2271	0.0000	-1.2129	1.44
7 Aug 21	241.830	128.200	1.4400	0.2856	0.0000	-1.1544	1.44
8 Aug 21	136.490	128.200	1.4400	0.3399	0.0000	-1.1001	1.44
9 Aug 21	101.360	101.360	1.1385	0.3717	0.0000	-0.7668	1.138521
10 Aug 21	47.310	47.310	0.5314	0.3824	0.0000	-0.1490	0.531407
11 Aug 21	47.350	47.350	0.5319	0.3834	0.0000	-0.1485	0.531856
12 Aug 21	28.850	28.850	0.3241	0.3847	0.0606	0.0000	0.3847
13 Aug 21	25.630	25.630	0.2879	0.3835	0.0956	0.0000	0.3835
14 Aug 21	28.790	28.790	0.3234	0.3841	0.0607	0.0000	0.3841
15 Aug 21	28.700	28.700	0.3224	0.3832	0.0608	0.0000	0.3832
16 Aug 21	121.410	121.410	1.3637	0.3819	0.0000	-0.9818	1.363732
17 Aug 21	85.160	85.160	0.9566	0.3928	0.0000	-0.5638	0.956555
18 Aug 21	30.170	30.170	0.3389	0.4011	0.0622	0.0000	0.4011
19 Aug 21	48.700	48.700	0.5470	0.3972	0.0000	-0.1498	0.54702



20 Aug 21	11.640	11.640	0.1307	0.3985	0.2678	0.0000	0.0000	0.3985
21 Aug 21	48.620	48.620	0.5461	0.3960	0.0000	-0.1501	0.546122	
22 Aug 21	30.210	30.210	0.3393	0.4089	0.0696	0.0000	0.4089	
23 Aug 21	27.040	27.040	0.3037	0.4096	0.1059	0.0000	0.4096	
24 Aug 21	62.440	62.440	0.7014	0.4129	0.0000	-0.2885	0.701354	
25 Aug 21	11.700	11.700	0.1314	0.4126	0.2812	0.0000	0.4126	
26 Aug 21	61.570	61.570	0.6916	0.4130	0.0000	-0.2786	0.691582	
27 Aug 21	31.600	31.600	0.3549	0.4369	0.0820	0.0000	0.4369	
28 Aug 21	87.830	87.830	0.9865	0.4391	0.0000	-0.5474	0.986546	
29 Aug 21	80.650	80.650	0.9059	0.4402	0.0000	-0.4657	0.905897	
30 Aug 21	106.130	106.130	1.1921	0.4384	0.0000	-0.7537	1.1921	
31 Aug 21	183.410	128.200	1.4400	0.4020	0.0000	-1.0380	1.44	
1 Sep 21	264.240	128.200	1.4400	0.4392	0.0000	-1.0008	1.44	
2 Sep 21	179.040	128.200	1.4400	0.4448	0.0000	-0.9952	1.44	
3 Sep 21	48.490	48.490	0.5447	0.4348	0.0000	-0.1099	0.544661	
4 Sep 21	213.080	128.200	1.4400	0.4364	0.0000	-1.0036	1.44	
5 Sep 21	188.300	128.200	1.4400	0.1715	0.0000	-1.2685	1.44	
6 Sep 21	95.230	95.230	1.0697	0.3801	0.0000	-0.6896	1.069666	
7 Sep 21	48.410	48.410	0.5438	0.4581	0.0000	-0.0857	0.543763	
8 Sep 21	106.810	106.810	1.1997	0.4605	0.0000	-0.7392	1.199738	
9 Sep 21	256.690	128.200	1.4400	0.4600	0.0000	-0.9800	1.44	
10 Sep 21	163.525	128.200	1.4400	0.4617	0.0000	-0.9783	1.44	
11 Sep 21	76.200	76.200	0.8559	0.4591	0.0000	-0.3968	0.855913	
12 Sep 21	88.290	88.290	0.9917	0.4613	0.0000	-0.5304	0.991713	
13 Sep 21	27.450	27.450	0.3083	0.7840	0.4757	0.0000	0.784	
14 Sep 21	27.450	27.450	0.3083	0.7868	0.4785	0.0000	0.7868	
15 Sep 21	47.430	47.430	0.5328	0.3989	0.0000	-0.1339	0.532755	
16 Sep 21	66.726	66.726	0.7495	0.3995	0.0000	-0.3500	0.749499	
17 Sep 21	94.550	94.550	1.0620	0.3973	0.0000	-0.6647	1.062028	
18 Sep 21	178.960	128.200	1.4400	0.4353	0.0000	-1.0047	1.44	
19 Sep 21	200.230	128.200	1.4400	0.4813	0.0000	-0.9587	1.44	
20 Sep 21	310.020	128.200	1.4400	0.4527	0.0000	-0.9873	1.44	
21 Sep 21	340.100	128.200	1.4400	0.5581	0.0000	-0.8819	1.44	
22 Sep 21	190.360	128.200	1.4400	0.6478	0.0000	-0.7922	1.44	
23 Sep 21	139.370	128.200	1.4400	0.7112	0.0000	-0.7288	1.44	
24 Sep 21	111.590	111.590	1.2534	0.7091	0.0000	-0.5443	1.253429	
25 Sep 21	83.470	83.470	0.9376	0.7050	0.0000	-0.2326	0.937573	

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26 Sep 21	69.920	69.920	0.7854	0.7050	0.0000	-0.0804	0.785373
27 Sep 21	98.190	98.190	1.1029	0.7093	0.0000	-0.3936	1.102914
28 Sep 21	139.250	128.200	1.4400	0.6067	0.0000	-0.8333	1.44
29 Sep 21	80.360	80.360	0.9026	0.5916	0.0000	-0.3110	0.90264
30 Sep 21	133.000	128.200	1.4400	0.5508	0.0000	-0.8892	1.44
1 Oct 21	74.940	74.940	0.8418	0.5343	0.0000	-0.3075	0.84176
2 Oct 21	76.830	76.830	0.8630	0.6554	0.0000	-0.2076	0.862989
3 Oct 21	30.140	30.140	0.3385	0.8091	0.4706	0.0000	0.8091
4 Oct 21	51.060	51.060	0.5735	0.7833	0.2098	0.0000	0.7833
5 Oct 21	23.810	23.810	0.2674	0.8861	0.6187	0.0000	0.8861
6 Oct 21	31.890	31.890	0.3582	0.9151	0.5569	0.0000	0.9151
7 Oct 21	34.880	34.880	0.3918	0.9865	0.5947	0.0000	0.9865
8 Oct 21	37.270	37.270	0.4186	1.0150	0.5964	0.0000	1.015
9 Oct 21	36.800	36.800	0.4134	0.7917	0.3783	0.0000	0.7917
10 Oct 21	45.370	45.370	0.5096	0.8933	0.3837	0.0000	0.8933
11 Oct 21	11.570	11.570	0.1300	0.9179	0.7879	0.0000	0.9179
12 Oct 21	39.470	39.470	0.4433	0.8542	0.4109	0.0000	0.8542
13 Oct 21	0.000	0.000	0.0000	0.7374	0.7374	0.0000	0.7374
14 Oct 21	8.850	8.850	0.0994	0.7297	0.6303	0.0000	0.7297
15 Oct 21	0.000	0.000	0.0000	0.7443	0.7443	0.0000	0.7443
16 Oct 21	45.110	45.110	0.5067	0.7203	0.2136	0.0000	0.7203
17 Oct 21	62.970	62.970	0.7073	0.6647	0.0000	-0.0426	0.707307
18 Oct 21	64.370	64.370	0.7230	0.4584	0.0000	-0.2646	0.723033
19 Oct 21	65.420	65.420	0.7348	0.6770	0.0000	-0.0578	0.734827
20 Oct 21	91.560	91.560	1.0284	0.6818	0.0000	-0.3466	1.028443
21 Oct 21	141.870	128.200	1.4400	0.6747	0.0000	-0.7653	1.44
22 Oct 21	95.280	95.280	1.0702	0.7193	0.0000	-0.3509	1.070228
23 Oct 21	83.580	83.580	0.9388	0.6236	0.0000	-0.3152	0.938808
24 Oct 21	34.150	34.150	0.3836	0.6272	0.2436	0.0000	0.6272
25 Oct 21	73.880	73.880	0.8299	0.5405	0.0000	-0.2894	0.829853
26 Oct 21	45.240	45.240	0.5082	0.5119	0.0037	0.0000	0.5119
27 Oct 21	70.930	70.930	0.7967	1.4588	0.6621	0.0000	1.4588
28 Oct 21	96.500	96.500	1.0839	1.3822	0.2983	0.0000	1.3822
29 Oct 21	89.130	89.130	1.0011	1.1871	0.1860	0.0000	1.1871
30 Oct 21	66.290	66.290	0.7446	1.3898	0.6452	0.0000	1.3898
31 Oct 21	63.670	63.670	0.7152	1.1826	0.4674	0.0000	1.1826
1 Nov 21	45.160	45.160	0.5073	0.5110	0.0037	0.0000	0.511



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2 Nov 21	47.660	47.660	0.5353	0.5137	0.0000	-0.0216	0.535339
3 Nov 21	14.020	14.020	0.1575	0.4611	0.3036	0.0000	0.4611
4 Nov 21	67.700	67.700	0.7604	0.5011	0.0000	-0.2593	0.760437
5 Nov 21	67.830	67.830	0.7619	0.5026	0.0000	-0.2593	0.761897
6 Nov 21	0.000	0.000	0.0000	0.5240	0.5240	0.0000	0.524
7 Nov 21	36.950	36.950	0.4150	0.5260	0.1110	0.0000	0.526
8 Nov 21	21.640	21.640	0.2431	0.5338	0.2907	0.0000	0.5338
9 Nov 21	40.010	40.010	0.4494	0.4827	0.0333	0.0000	0.4827
10 Nov 21	11.580	11.580	0.1301	0.4790	0.3489	0.0000	0.479
11 Nov 21	34.770	34.770	0.3906	0.4900	0.0894	0.0000	0.48
12 Nov 21	36.850	36.850	0.4139	0.4926	0.0787	0.0000	0.4926
13 Nov 21	37.110	37.110	0.4168	0.4762	0.0594	0.0000	0.4762
14 Nov 21	36.940	36.940	0.4149	0.4712	0.0563	0.0000	0.4712
15 Nov 21	62.050	62.050	0.6970	0.4880	0.0000	-0.2090	0.696973
16 Nov 21	153.750	128.200	1.4400	0.4826	0.0000	-0.9574	1.44
17 Nov 21	82.430	82.430	0.9259	0.4656	0.0000	-0.4603	0.925891
18 Nov 21	62.550	62.550	0.7026	0.4884	0.0000	-0.2142	0.70259
19 Nov 21	38.200	38.200	0.4291	0.4817	0.0526	0.0000	0.4817
20 Nov 21	62.540	62.540	0.7025	0.4922	0.0000	-0.2103	0.702477
21 Nov 21	39.130	39.130	0.4395	0.4901	0.0506	0.0000	0.4901
22 Nov 21	37.150	37.150	0.4173	0.4881	0.0708	0.0000	0.4881
23 Nov 21	32.740	32.740	0.3678	0.4667	0.0969	0.0000	0.4667
24 Nov 21	30.670	30.670	0.3645	0.4546	0.1101	0.0000	0.4546
25 Nov 21	34.000	34.000	0.3819	0.4799	0.0980	0.0000	0.4799
26 Nov 21	10.070	10.070	0.1131	0.4799	0.3668	0.0000	0.4799
27 Nov 21	34.130	34.130	0.3834	0.4779	0.0945	0.0000	0.4779
28 Nov 21	10.560	10.560	0.1186	0.4758	0.3572	0.0000	0.4758
29 Nov 21	17.690	17.690	0.1987	0.4557	0.2610	0.0000	0.4597
30 Nov 21	27.820	27.820	0.3125	0.4775	0.1650	0.0000	0.4775
1 Dec 21	27.210	27.210	0.3056	0.4668	0.1612	0.0000	0.4668
2 Dec 21	8.420	8.420	0.0946	0.4639	0.3693	0.0000	0.4639
3 Dec 21	30.480	30.480	0.3424	0.4655	0.1231	0.0000	0.4655
4 Dec 21	0.000	0.000	0.0000	0.2359	0.2359	0.0000	0.2359
5 Dec 21	34.690	34.690	0.3897	0.4869	0.0972	0.0000	0.4869
6 Dec 21	51.210	51.210	0.5752	0.4649	0.0000	-0.1103	0.575214
7 Dec 21	191.470	128.200	1.4400	0.4677	0.0000	-0.9723	1.44
8 Dec 21	74.200	74.200	0.8334	0.4597	0.0000	-0.3737	0.833448

9 Dec 21	74.440	74.440	0.8361	0.4591	0.0000	-0.3770	0.836144
10 Dec 21	24.520	24.520	0.2754	0.4318	0.1564	0.0000	0.4318
11 Dec 21	48.020	48.020	0.5394	0.4356	0.0000	-0.1038	0.539382
12 Dec 21	24.310	24.310	0.2731	0.4317	0.1586	0.0000	0.4317
13 Dec 21	25.060	25.060	0.2815	0.4341	0.1526	0.0000	0.4341
14 Dec 21	24.630	24.630	0.2767	0.4310	0.1543	0.0000	0.431
15 Dec 21	26.180	26.180	0.2941	0.4439	0.1498	0.0000	0.4439
16 Dec 21	25.500	25.500	0.2864	0.4392	0.1528	0.0000	0.4392
17 Dec 21	2.960	2.960	0.0332	0.4428	0.4096	0.0000	0.4428
18 Dec 21	31.970	31.970	0.3591	0.4396	0.0805	0.0000	0.4396
19 Dec 21	32.630	32.630	0.3665	0.4433	0.0768	0.0000	0.4433
20 Dec 21	9.210	9.210	0.1035	0.4448	0.3413	0.0000	0.4448
21 Dec 21	32.250	32.250	0.3622	0.4396	0.0774	0.0000	0.4396
22 Dec 21	38.740	38.740	0.4351	0.4905	0.0554	0.0000	0.4905
23 Dec 21	25.300	25.300	0.2842	0.3588	0.2746	0.0000	0.3588
24 Dec 21	10.090	10.090	0.1133	0.6295	0.5162	0.0000	0.6295
25 Dec 21	39.320	39.320	0.4417	0.6563	0.2146	0.0000	0.6563
26 Dec 21	42.290	42.290	0.4750	0.6818	0.2088	0.0000	0.6818
27 Dec 21	5.220	5.220	0.0586	0.6035	0.5449	0.0000	0.6035
28 Dec 21	32.430	32.430	0.3643	0.6171	0.2528	0.0000	0.6171
29 Dec 21	7.120	7.120	0.0800	0.6218	0.5418	0.0000	0.6218
30 Dec 21	37.950	37.950	0.4263	0.6510	0.2247	0.0000	0.651
31 Dec 21	42.440	42.440	0.4767	0.6485	0.1716	0.0000	0.6485
1 Jan 22	28.200	28.200	0.3168	0.6550	0.3382	0.0000	0.655
2 Jan 22	13.130	13.130	0.1475	0.5399	0.3924	0.0000	0.5399
3 Jan 22	27.190	27.190	0.3054	0.5072	0.2018	0.0000	0.5072
4 Jan 22	43.350	43.350	0.4869	0.5044	0.0175	0.0000	0.5044
5 Jan 22	26.080	26.080	0.2929	0.4987	0.2058	0.0000	0.4987
6 Jan 22	26.720	26.720	0.3001	0.5061	0.2060	0.0000	0.5061
7 Jan 22	26.190	26.190	0.2942	0.4998	0.2056	0.0000	0.4998
8 Jan 22	29.640	29.640	0.3329	0.5253	0.1924	0.0000	0.5253
9 Jan 22	10.260	10.260	0.1152	0.5189	0.4037	0.0000	0.5189
10 Jan 22	44.460	44.460	0.4994	0.4995	0.0001	0.0000	0.4995
11 Jan 22	13.990	13.990	0.1571	0.5464	0.3893	0.0000	0.5464
12 Jan 22	26.600	26.600	0.2988	0.5010	0.2022	0.0000	0.501
13 Jan 22	33.890	33.890	0.3807	0.5566	0.1759	0.0000	0.5566
14 Jan 22	33.530	33.530	0.3766	0.5548	0.1782	0.0000	0.5548

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15 Jan 22	18.080	18.080	0.2031	0.5760	0.3729	0.0000	0.576
16 Jan 22	19.120	19.120	0.2148	0.5838	0.3690	0.0000	0.5838
17 Jan 22	41.230	41.230	0.4631	0.6106	0.1475	0.0000	0.6106
18 Jan 22	41.270	41.270	0.4636	0.6100	0.1464	0.0000	0.61
19 Jan 22	22.740	22.740	0.2554	0.6100	0.3546	0.0000	0.61
20 Jan 22	22.070	22.070	0.2479	0.6066	0.3587	0.0000	0.6066
21 Jan 22	21.370	21.370	0.2400	0.6014	0.3614	0.0000	0.6014
22 Jan 22	30.960	30.960	0.3478	0.6116	0.2638	0.0000	0.6116
23 Jan 22	8.970	8.970	0.1008	0.6098	0.5090	0.0000	0.6098
24 Jan 22	8.860	8.860	0.0995	0.6101	0.5106	0.0000	0.6101
25 Jan 22	33.310	33.310	0.3742	0.6181	0.2439	0.0000	0.6181
26 Jan 22	7.190	7.190	0.0808	0.6012	0.5204	0.0000	0.6012
27 Jan 22	6.740	6.740	0.0757	0.5914	0.5157	0.0000	0.5914
28 Jan 22	23.990	23.990	0.2695	0.5499	0.2804	0.0000	0.5499
29 Jan 22	5.330	5.330	0.0599	0.5772	0.5173	0.0000	0.5772
30 Jan 22	0.000	0.000	0.0000	0.6765	0.6765	0.0000	0.6765
31 Jan 22	17.280	17.280	0.1941	0.6683	0.4742	0.0000	0.6683
1 Feb 22	0.000	0.000	0.0000	0.6727	0.6727	0.0000	0.6727
2 Feb 22	0.000	0.000	0.0000	0.6547	0.6547	0.0000	0.6547
3 Feb 22	16.020	16.020	0.1799	0.6573	0.4774	0.0000	0.6573
4 Feb 22	4.790	4.790	0.0538	0.3984	0.3446	0.0000	0.3984
5 Feb 22	4.480	4.480	0.0503	0.4010	0.3507	0.0000	0.401
6 Feb 22	31.200	31.200	0.3505	0.4337	0.0832	0.0000	0.4337
7 Feb 22	3.300	3.300	0.0371	0.3855	0.3484	0.0000	0.3855
8 Feb 22	5.450	5.450	0.0612	0.4078	0.3466	0.0000	0.4078
9 Feb 22	0.000	0.000	0.0000	0.4463	0.4463	0.0000	0.4463
10 Feb 22	21.450	21.450	0.2409	0.4612	0.2203	0.0000	0.4612
11 Feb 22	21.640	21.640	0.2431	0.4629	0.2198	0.0000	0.4629
12 Feb 22	1.960	1.960	0.0220	0.4552	0.4332	0.0000	0.4552
13 Feb 22	21.160	21.160	0.2377	0.4592	0.2215	0.0000	0.4592
14 Feb 22	20.320	20.320	0.2282	0.4511	0.2229	0.0000	0.4511
15 Feb 22	6.260	6.260	0.0703	0.1944	0.1241	0.0000	0.1944
16 Feb 22	4.180	4.180	0.0470	0.1782	0.1312	0.0000	0.1782
17 Feb 22	16.600	16.600	0.1865	0.1271	0.0000	-0.0594	0.186459
18 Feb 22	16.550	16.550	0.1859	0.1266	0.0000	-0.0593	0.185897
19 Feb 22	4.360	4.360	0.0490	0.1774	0.1284	0.0000	0.1774
20 Feb 22	4.590	4.590	0.0516	0.1793	0.1277	0.0000	0.1793

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21 Feb 22	0.000	0.000	0.000	0.000	0.2076	0.2076	0.0000	0.0000	0.2076
22 Feb 22	3.520	3.520	0.0395	0.3216	0.2821	0.3216	0.0000	0.0000	0.3216
23 Feb 22	12.480	12.480	0.1402	0.2418	0.1016	0.2418	0.0000	0.0000	0.2418
24 Feb 22	13.570	13.570	0.1524	0.2498	0.0974	0.2498	0.0000	0.0000	0.2498
25 Feb 22	10.830	10.830	0.1216	0.2309	0.1093	0.2309	0.0000	0.0000	0.2309
26 Feb 22	5.240	5.240	0.0589	0.1874	0.1285	0.1874	0.0000	0.0000	0.1874
27 Feb 22	0.000	0.000	0.0000	0.2232	0.2232	0.0000	0.0000	0.0000	0.2232
28 Feb 22	16.600	16.600	0.1865	0.2821	0.0956	0.2821	0.0000	0.0000	0.2821
									0
1 Mar 22	6.200	6.200	0.0696	0.1952	0.1256	0.1952	0.0000	0.0000	0.1952
2 Mar 22	6.070	6.070	0.0682	0.1949	0.1267	0.1949	0.0000	0.0000	0.1949
3 Mar 22	11.180	11.180	0.1256	0.5281	0.4025	0.5281	0.0000	0.0000	0.5281
4 Mar 22	11.970	11.970	0.1345	0.5277	0.3932	0.5277	0.0000	0.0000	0.5277
5 Mar 22	12.050	12.050	0.1354	0.5288	0.3934	0.5288	0.0000	0.0000	0.5288
6 Mar 22	31.020	31.020	0.3484	0.5316	0.1832	0.5316	0.0000	0.0000	0.5316
7 Mar 22	0.000	0.000	0.0000	0.5226	0.5226	0.0000	0.0000	0.0000	0.5226
8 Mar 22	1.760	1.760	0.0198	0.3018	0.2820	0.3018	0.0000	0.0000	0.3018
9 Mar 22	10.150	10.150	0.1140	0.5190	0.4050	0.5190	0.0000	0.0000	0.5190
10 Mar 22	10.530	10.530	0.1183	0.5214	0.4031	0.5214	0.0000	0.0000	0.5214
11 Mar 22	10.320	10.320	0.1159	0.5198	0.4039	0.5198	0.0000	0.0000	0.5198
12 Mar 22	0.000	0.000	0.0000	0.5227	0.5227	0.0000	0.0000	0.0000	0.5227
13 Mar 22	10.380	10.380	0.1166	0.5198	0.4032	0.5198	0.0000	0.0000	0.5198
14 Mar 22	11.930	11.930	0.1340	0.5199	0.3859	0.5199	0.0000	0.0000	0.5199
15 Mar 22	0.000	0.000	0.0000	0.5162	0.5162	0.0000	0.0000	0.0000	0.5162
16 Mar 22	0.000	0.000	0.0000	0.5018	0.5018	0.0000	0.0000	0.0000	0.5018
17 Mar 22	0.000	0.000	0.0000	0.4885	0.4885	0.0000	0.0000	0.0000	0.4885
18 Mar 22	0.000	0.000	0.0000	0.4852	0.4852	0.0000	0.0000	0.0000	0.4852
19 Mar 22	0.000	0.000	0.0000	0.5197	0.5197	0.0000	0.0000	0.0000	0.5197
20 Mar 22	0.000	0.000	0.0000	0.4708	0.4708	0.0000	0.0000	0.0000	0.4708
21 Mar 22	0.000	0.000	0.0000	0.4649	0.4649	0.0000	0.0000	0.0000	0.4649
22 Mar 22	0.000	0.000	0.0000	0.4671	0.4671	0.0000	0.0000	0.0000	0.4671
23 Mar 22	0.000	0.000	0.0000	0.4673	0.4673	0.0000	0.0000	0.0000	0.4673
24 Mar 22	0.000	0.000	0.0000	0.4690	0.4690	0.0000	0.0000	0.0000	0.4690
25 Mar 22	0.000	0.000	0.0000	0.4766	0.4766	0.0000	0.0000	0.0000	0.4766
26 Mar 22	0.000	0.000	0.0000	0.5142	0.5142	0.0000	0.0000	0.0000	0.5142
27 Mar 22	0.000	0.000	0.0000	0.4850	0.4850	0.0000	0.0000	0.0000	0.4850
28 Mar 22	0.000	0.000	0.0000	0.4934	0.4934	0.0000	0.0000	0.0000	0.4934

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29 Mar 22	0.000	0.000	0.0000	0.4689	0.4689	0.0000	0.4689
30 Mar 22	0.000	0.000	0.0000	0.5041	0.5041	0.0000	0.5041
31 Mar 22	0.000	0.000	0.0000	0.3287	0.3287	0.0000	0.3287
Tot-21-22	44.8409	37.6364	154.3035	137.41600	58.6704	-71.5579	208.9739

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THPS 2020-21

Date	Calculated Avg Inflow	Usefull Inflow	Possible Gen as per Inflow (MU)	Actual Gen (MU)	Excess Gen (MU)	Short Gen (MU)	MAXOF Possible gen & Actual Gen)
1 Apr 20	11.876	11.876	0.1334	0.2764	0.1430	0.0000	0.2764
2 Apr 20	11.253	11.253	0.1264	0.2694	0.1430	0.0000	0.2694
3 Apr 20	18.486	18.486	0.2076	0.2733	0.0657	0.0000	0.2733
4 Apr 20	25.996	25.996	0.2920	0.2803	0.0000	-0.0117	0.292
5 Apr 20	0.000	0.000	0.0000	0.2664	0.2664	0.0000	0.2664
6 Apr 20	1.219	1.219	0.0137	0.1567	0.1430	0.0000	0.1567
7 Apr 20	1.353	1.353	0.0152	0.1582	0.1430	0.0000	0.1582
8 Apr 20	0.471	0.471	0.0059	0.1483	0.1430	0.0000	0.1483
9 Apr 20	0.000	0.000	0.0000	0.1396	0.1396	0.0000	0.1396
10 Apr 20	15.215	15.215	0.1709	0.1592	0.0000	-0.0117	0.1709
11 Apr 20	14.565	14.565	0.1636	0.1519	0.0000	-0.0117	0.1636
12 Apr 20	8.569	8.569	0.0962	0.1619	0.0657	0.0000	0.1619
13 Apr 20	15.055	15.055	0.1691	0.1574	0.0000	-0.0117	0.1691
14 Apr 20	8.400	8.400	0.0943	0.1600	0.0657	0.0000	0.16
15 Apr 20	6.806	6.806	0.0764	0.1421	0.0657	0.0000	0.1421
16 Apr 20	8.346	8.346	0.0937	0.1594	0.0657	0.0000	0.1594
17 Apr 20	21.389	21.389	0.2403	0.1512	0.0000	-0.0891	0.240254
18 Apr 20	15.072	15.072	0.1693	0.1576	0.0000	-0.0117	0.1693
19 Apr 20	8.319	8.319	0.0934	0.1591	0.0657	0.0000	0.1591
20 Apr 20	8.266	8.266	0.0928	0.1585	0.0657	0.0000	0.1585
21 Apr 20	8.213	8.213	0.0922	0.1579	0.0657	0.0000	0.1579
22 Apr 20	15.010	15.010	0.1686	0.1569	0.0000	-0.0117	0.1686
23 Apr 20	8.097	8.097	0.0909	0.1566	0.0657	0.0000	0.1566
24 Apr 20	15.251	15.251	0.1713	0.1596	0.0000	-0.0117	0.1713
25 Apr 20	5.675	5.675	0.0637	0.1794	0.0657	0.0000	0.1294
26 Apr 20	15.215	15.215	0.1709	0.1592	0.0000	-0.0117	0.1709
27 Apr 20	15.144	15.144	0.1701	0.1584	0.0000	-0.0117	0.1701
28 Apr 20	15.215	15.215	0.1709	0.1592	0.0000	-0.0117	0.1709
29 Apr 20	15.037	15.037	0.1689	0.1572	0.0000	-0.0117	0.1689
30 Apr 20	22.039	22.039	0.2476	0.1585	0.0000	-0.0891	0.247554

1 May 20	15.028	15.028	0.1688	0.1558	0.0000	-0.0130	0.168801
2 May 20	8.355	8.355	0.0938	0.1562	0.0644	0.0000	0.1582
3 May 20	7.919	7.919	0.0889	0.1533	0.0644	0.0000	0.1533
4 May 20	8.266	8.266	0.0928	0.1572	0.0644	0.0000	0.1572
5 May 20	8.195	8.195	0.0920	0.1564	0.0644	0.0000	0.1564
6 May 20	1.620	1.620	0.0182	0.1599	0.1417	0.0000	0.1599
7 May 20	25.155	25.155	0.2826	0.1922	0.0000	-0.0904	0.282554
8 May 20	4.121	4.121	0.0463	0.1880	0.1417	0.0000	0.188
9 May 20	11.124	11.124	0.1249	0.1893	0.0644	0.0000	0.1893
10 May 20	5.092	5.092	0.0572	0.1989	0.1417	0.0000	0.1989
11 May 20	11.017	11.017	0.1237	0.1881	0.0644	0.0000	0.1881
12 May 20	11.907	11.907	0.1337	0.1981	0.0644	0.0000	0.1981
13 May 20	11.800	11.800	0.1325	0.1969	0.0644	0.0000	0.1969
14 May 20	0.320	0.320	0.0036	0.1453	0.1417	0.0000	0.1453
15 May 20	11.453	11.453	0.1286	0.1930	0.0644	0.0000	0.193
16 May 20	11.676	11.676	0.1311	0.1955	0.0644	0.0000	0.1955
17 May 20	0.151	0.151	0.0017	0.1434	0.1417	0.0000	0.1434
18 May 20	11.809	11.809	0.1326	0.1970	0.0644	0.0000	0.197
19 May 20	12.441	12.441	0.1397	0.2041	0.0644	0.0000	0.2041
20 May 20	12.771	12.771	0.1434	0.2078	0.0644	0.0000	0.2078
21 May 20	12.335	12.335	0.1385	0.2029	0.0644	0.0000	0.2029
22 May 20	12.486	12.486	0.1402	0.2046	0.0644	0.0000	0.2046
23 May 20	11.026	11.026	0.1238	0.1882	0.0644	0.0000	0.1882
24 May 20	12.041	12.041	0.1352	0.1996	0.0644	0.0000	0.1996
25 May 20	7.380	7.380	0.0829	0.2246	0.1417	0.0000	0.2246
26 May 20	7.772	7.772	0.0873	0.2290	0.1417	0.0000	0.229
27 May 20	69.880	69.880	0.7849	0.1531	0.0000	-0.6318	0.784925
28 May 20	80.582	80.582	0.9051	0.1186	0.0000	-0.7865	0.905131
29 May 20	80.511	80.511	0.9043	0.1178	0.0000	-0.7865	0.904331
30 May 20	24.826	24.826	0.2789	0.1885	0.0000	-0.0904	0.278854
31 May 20	26.686	26.686	0.2998	0.2094	0.0000	-0.0904	0.299754
1 Jun 20	46.945	46.945	0.5273	0.2049	0.0000	-0.3224	0.527313
2 Jun 20	28.284	28.284	0.3177	0.3047	0.0000	-0.0130	0.317701
3 Jun 20	19.288	19.288	0.2166	0.2810	0.0644	0.0000	0.281
4 Jun 20	26.143	26.143	0.2937	0.2033	0.0000	-0.0904	0.293654
5 Jun 20	13.417	13.417	0.1507	0.1377	0.0000	-0.0130	0.150701
6 Jun 20	19.372	19.372	0.2176	0.3593	0.1417	0.0000	0.3593

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7 Jun 20	26.330	26.330	0.2957	0.3601	0.0644	0.0000	0.3601	0.0000	0.3601
8 Jun 20	25.208	25.208	0.2831	0.3475	0.0644	0.0000	0.3475	0.0000	0.3475
9 Jun 20	25.618	25.618	0.2877	0.3521	0.0644	0.0000	0.3521	0.0000	0.3521
10 Jun 20	24.745	24.745	0.2779	0.3423	0.0644	0.0000	0.3423	0.0000	0.3423
11 Jun 20	43.567	43.567	0.4894	0.2443	0.0000	-0.2451	0.48936	-0.2451	0.48936
12 Jun 20	63.074	63.074	0.7085	0.1540	0.0000	-0.5545	0.708472	-0.5545	0.708472
13 Jun 20	58.021	58.021	0.6517	0.3293	0.0000	-0.3224	0.651713	-0.3224	0.651713
14 Jun 20	64.823	64.823	0.7281	0.2510	0.0000	-0.4771	0.728119	-0.4771	0.728119
15 Jun 20	64.734	64.734	0.7271	0.2500	0.0000	-0.4771	0.727119	-0.4771	0.727119
16 Jun 20	63.887	63.887	0.7176	0.3952	0.0000	-0.3224	0.717613	-0.3224	0.717613
17 Jun 20	43.522	43.522	0.4889	0.3985	0.0000	-0.0904	0.488854	-0.0904	0.488854
18 Jun 20	30.434	30.434	0.3418	0.4062	0.0644	0.0000	0.4062	0.0000	0.4062
19 Jun 20	37.383	37.383	0.4199	0.4069	0.0000	-0.0130	0.419901	-0.0130	0.419901
20 Jun 20	29.668	29.668	0.3332	0.3976	0.0644	0.0000	0.3976	0.0000	0.3976
21 Jun 20	8.044	8.044	0.0904	0.0000	0.0000	-0.0904	0.090354	-0.0904	0.090354
22 Jun 20	14.058	14.058	0.1579	0.1449	0.0000	-0.0130	0.157901	-0.0130	0.157901
23 Jun 20	44.563	44.563	0.5006	0.4102	0.0000	-0.0904	0.500554	-0.0904	0.500554
24 Jun 20	36.777	36.777	0.4131	0.4001	0.0000	-0.0130	0.413101	-0.0130	0.413101
25 Jun 20	17.115	17.115	0.1922	0.4113	0.2191	0.0000	0.4113	0.0000	0.4113
26 Jun 20	37.570	37.570	0.4220	0.4090	0.0000	-0.0130	0.422001	-0.0130	0.422001
27 Jun 20	16.687	16.687	0.1874	0.4065	0.2191	0.0000	0.4065	0.0000	0.4065
28 Jun 20	24.028	24.028	0.2699	0.4116	0.1417	0.0000	0.4116	0.0000	0.4116
29 Jun 20	30.621	30.621	0.3439	0.4083	0.0644	0.0000	0.4083	0.0000	0.4083
30 Jun 20	30.790	30.790	0.3458	0.4102	0.0644	0.0000	0.4102	0.0000	0.4102
1 Jul 20	36.564	36.564	0.4107	0.3964	0.0000	-0.0143	0.410701	-0.0143	0.410701
2 Jul 20	35.709	35.709	0.4011	0.3868	0.0000	-0.0143	0.401101	-0.0143	0.401101
3 Jul 20	51.307	51.307	0.5763	0.4073	0.0000	-0.1690	0.576307	-0.1690	0.576307
4 Jul 20	44.269	44.269	0.4973	0.4056	0.0000	-0.0917	0.497254	-0.0917	0.497254
5 Jul 20	78.293	78.293	0.8794	0.4010	0.0000	-0.4784	0.879419	-0.4784	0.879419
6 Jul 20	37.507	37.507	0.4213	0.4070	0.0000	-0.0143	0.421301	-0.0143	0.421301
7 Jul 20	50.337	50.337	0.5654	0.3964	0.0000	-0.1690	0.565407	-0.1690	0.565407
8 Jul 20	37.494	37.494	0.4212	0.3295	0.0000	-0.0917	0.421154	-0.0917	0.421154
9 Jul 20	44.737	44.737	0.5025	0.3335	0.0000	-0.1690	0.502507	-0.1690	0.502507
10 Jul 20	37.477	37.477	0.4210	0.3293	0.0000	-0.0917	0.420954	-0.0917	0.420954
11 Jul 20	85.754	85.754	0.9632	0.3301	0.0000	-0.6331	0.963225	-0.6331	0.963225
12 Jul 20	97.364	97.364	1.0936	0.3058	0.0000	-0.7878	1.093632	-0.7878	1.093632
13 Jul 20	76.998	76.998	0.8649	0.3091	0.0000	-0.5558	0.864872	-0.5558	0.864872

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14 Jul 20	50.422	50.422	0.5664	0.3200	0.0000	-0.2464	0.56636
15 Jul 20	66.189	66.189	0.7435	0.3424	0.0000	-0.4011	0.743466
16 Jul 20	59.356	59.356	0.6667	0.3430	0.0000	-0.3237	0.666713
17 Jul 20	66.714	66.714	0.7494	0.3483	0.0000	-0.4011	0.749366
18 Jul 20	25.141	25.141	0.2824	0.4228	0.1404	0.0000	0.4228
19 Jul 20	52.269	52.269	0.5871	0.4181	0.0000	-0.1690	0.587107
20 Jul 20	38.531	38.531	0.4328	0.4185	0.0000	-0.0143	0.432801
21 Jul 20	36.617	36.617	0.4113	0.3970	0.0000	-0.0143	0.411301
22 Jul 20	31.943	31.943	0.3588	0.3445	0.0000	-0.0143	0.358801
23 Jul 20	44.817	44.817	0.5034	0.3344	0.0000	-0.1690	0.503407
24 Jul 20	39.052	39.052	0.4387	0.3470	0.0000	-0.0917	0.438654
25 Jul 20	29.300	29.300	0.3291	0.1601	0.0000	-0.1690	0.329107
26 Jul 20	31.137	31.137	0.3497	0.4128	0.0631	0.0000	0.4128
27 Jul 20	36.947	36.947	0.4150	0.4007	0.0000	-0.0143	0.415001
28 Jul 20	51.717	51.717	0.5909	0.4119	0.0000	-0.1690	0.580907
29 Jul 20	86.399	86.399	0.9705	0.4147	0.0000	-0.5558	0.970472
30 Jul 20	59.218	59.218	0.6652	0.4188	0.0000	-0.2464	0.66516
31 Jul 20	51.646	51.646	0.5801	0.4111	0.0000	-0.1690	0.580107
1 Aug 20	93.125	93.125	1.0460	0.4129	0.0000	-0.6331	1.046025
2 Aug 20	298.536	128.200	1.4400	0.4189	0.0000	-1.0211	1.44
3 Aug 20	219.719	128.200	1.4400	0.4152	0.0000	-1.0248	1.44
4 Aug 20	128.631	128.200	1.4400	0.4113	0.0000	-1.0287	1.44
5 Aug 20	60.504	60.504	0.6796	0.4105	0.0000	-0.2691	0.679611
6 Aug 20	62.828	62.828	0.7057	0.4366	0.0000	-0.2691	0.705711
7 Aug 20	85.095	85.095	0.9558	0.4319	0.0000	-0.5239	0.955821
8 Aug 20	41.353	41.353	0.4645	0.4502	0.0000	-0.0143	0.464501
9 Aug 20	64.030	64.030	0.7192	0.4501	0.0000	-0.2691	0.719211
10 Aug 20	109.774	109.774	1.2330	0.4543	0.0000	-0.7787	1.233031
11 Aug 20	86.599	86.599	0.9727	0.4488	0.0000	-0.5239	0.972721
12 Aug 20	42.582	42.582	0.4783	0.4640	0.0000	-0.0143	0.478301
13 Aug 20	65.890	65.890	0.7401	0.4710	0.0000	-0.2691	0.740111
14 Aug 20	179.833	128.200	1.4400	0.4768	0.0000	-0.9632	1.44
15 Aug 20	247.550	128.200	1.4400	0.4730	0.0000	-0.9670	1.44
16 Aug 20	88.478	88.478	0.9938	0.4699	0.0000	-0.5239	0.993821
17 Aug 20	43.446	43.446	0.4880	0.4737	0.0000	-0.0143	0.488001
18 Aug 20	43.641	43.641	0.4902	0.4759	0.0000	-0.0143	0.490201
19 Aug 20	43.446	43.446	0.4880	0.4737	0.0000	-0.0143	0.488001

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20 Aug 20	133.723	128.200	1.4400	0.4685	0.0000	-0.9715	1.44
21 Aug 20	42.760	42.760	0.4803	0.4660	0.0000	-0.0143	0.480301
22 Aug 20	91.344	91.344	1.0260	0.4657	0.0000	-0.5603	1.026022
23 Aug 20	43.481	43.481	0.4884	0.4741	0.0000	-0.0143	0.488401
24 Aug 20	187.739	128.200	1.4400	0.4564	0.0000	-0.9836	1.44
25 Aug 20	135.967	128.200	1.4400	0.4209	0.0000	-1.0191	1.44
26 Aug 20	141.540	128.200	1.4400	0.4835	0.0000	-0.9565	1.44
27 Aug 20	116.816	116.816	1.3121	0.4788	0.0000	-0.8333	1.312133
28 Aug 20	68.668	68.668	0.7713	0.4840	0.0000	-0.2873	0.771311
29 Aug 20	44.799	44.799	0.5032	0.4889	0.0000	-0.0143	0.503201
30 Aug 20	23.173	23.173	0.2603	0.5190	0.2587	0.0000	0.519
31 Aug 20	73.075	73.075	0.8208	0.5335	0.0000	-0.2873	0.820811
1 Sep 20	48.538	48.538	0.5452	0.5309	0.0000	-0.0143	0.545201
2 Sep 20	49.277	49.277	0.5535	0.5392	0.0000	-0.0143	0.553501
3 Sep 20	48.850	48.850	0.5487	0.5344	0.0000	-0.0143	0.548701
4 Sep 20	50.879	50.879	0.5715	0.5572	0.0000	-0.0143	0.571501
5 Sep 20	46.633	46.633	0.5238	0.5095	0.0000	-0.0143	0.523801
6 Sep 20	48.680	48.680	0.5468	0.5325	0.0000	-0.0143	0.546801
7 Sep 20	24.998	24.998	0.2808	0.5395	0.2587	0.0000	0.5395
8 Sep 20	0.221	0.221	0.0025	0.5342	0.5317	0.0000	0.5342
9 Sep 20	24.482	24.482	0.2750	0.5337	0.2587	0.0000	0.5337
10 Sep 20	239.769	128.200	1.4400	0.4948	0.0000	-0.9452	1.44
11 Sep 20	115.018	115.018	1.2919	0.4586	0.0000	-0.8333	1.291933
12 Sep 20	99.358	99.358	1.1160	0.2827	0.0000	-0.8333	1.116033
13 Sep 20	97.763	97.763	1.0981	0.5378	0.0000	-0.5603	1.098122
14 Sep 20	93.276	93.276	1.0477	0.4874	0.0000	-0.5603	1.047722
15 Sep 20	189.439	128.200	1.4400	0.4755	0.0000	-0.9645	1.44
16 Sep 20	170.653	128.200	1.4400	0.5375	0.0000	-0.9025	1.44
17 Sep 20	98.698	98.698	1.1086	0.5483	0.0000	-0.5603	1.108622
18 Sep 20	74.313	74.313	0.8347	0.5474	0.0000	-0.2873	0.834711
19 Sep 20	74.339	74.339	0.8350	0.5477	0.0000	-0.2873	0.835011
20 Sep 20	50.069	50.069	0.5624	0.5481	0.0000	-0.0143	0.562401
21 Sep 20	49.250	49.250	0.5532	0.5389	0.0000	-0.0143	0.553201
22 Sep 20	50.746	50.746	0.5700	0.5557	0.0000	-0.0143	0.570001
23 Sep 20	61.234	61.234	0.6878	0.4005	0.0000	-0.2873	0.687811
24 Sep 20	51.378	51.378	0.5771	0.5628	0.0000	-0.0143	0.577101
25 Sep 20	49.882	49.882	0.5603	0.5460	0.0000	-0.0143	0.560301

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26 Sep 20	25.105	25.105	0.2820	0.5407	0.2587	0.0000	0.5407	0.5407
27 Sep 20	49.642	49.642	0.5576	0.5433	0.0000	-0.0143	0.537601	0.537601
28 Sep 20	49.820	49.820	0.5596	0.5453	0.0000	-0.0143	0.559601	0.559601
29 Sep 20	49.001	49.001	0.5504	0.5361	0.0000	-0.0143	0.550401	0.550401
30 Sep 20	125.345	125.345	1.4079	0.5486	0.0000	-0.8593	1.407934	1.407934
1 Oct 20	75.461	75.461	0.8476	0.5486	0.0000	-0.2990	0.847612	0.847612
2 Oct 20	202.010	128.200	1.4400	0.5400	0.0000	-0.9000	1.44	1.44
3 Oct 20	279.049	128.200	1.4400	0.5473	0.0000	-0.8927	1.44	1.44
4 Oct 20	762.979	128.200	1.4400	0.5488	0.0000	-0.8912	1.44	1.44
5 Oct 20	446.321	128.200	1.4400	0.5385	0.0000	-0.9015	1.44	1.44
6 Oct 20	397.719	128.200	1.4400	0.5334	0.0000	-0.9066	1.44	1.44
7 Oct 20	237.685	128.200	1.4400	0.5455	0.0000	-0.8945	1.44	1.44
8 Oct 20	84.070	84.070	0.9443	0.6297	0.0000	-0.3146	0.944313	0.944313
9 Oct 20	110.094	110.094	1.2366	0.6204	0.0000	-0.6162	1.236625	1.236625
10 Oct 20	136.830	128.200	1.4400	0.6191	0.0000	-0.8209	1.44	1.44
11 Oct 20	113.343	113.343	1.2731	0.6569	0.0000	-0.6162	1.273125	1.273125
12 Oct 20	59.195	59.195	0.6649	0.6519	0.0000	-0.0130	0.664901	0.664901
13 Oct 20	67.439	67.439	0.7575	0.7445	0.0000	-0.0130	0.757501	0.757501
14 Oct 20	92.661	92.661	1.0408	0.7262	0.0000	-0.3146	1.040813	1.040813
15 Oct 20	43.382	43.382	0.4873	0.7759	0.2886	0.0000	0.7759	0.7759
16 Oct 20	16.548	16.548	0.1859	0.7761	0.5902	0.0000	0.7761	0.7761
17 Oct 20	33.695	33.695	0.3785	0.9687	0.5902	0.0000	0.9687	0.9687
18 Oct 20	60.894	60.894	0.6840	0.9726	0.2886	0.0000	0.9726	0.9726
19 Oct 20	34.149	34.149	0.3836	0.9738	0.5902	0.0000	0.9738	0.9738
20 Oct 20	87.808	87.808	0.9863	0.9733	0.0000	-0.0130	0.986301	0.986301
21 Oct 20	144.940	128.200	1.4400	0.7102	0.0000	-0.7298	1.44	1.44
22 Oct 20	88.334	88.334	0.9922	0.6776	0.0000	-0.3146	0.992213	0.992213
23 Oct 20	143.862	128.200	1.4400	0.9997	0.0000	-0.4403	1.44	1.44
24 Oct 20	170.527	128.200	1.4400	0.9976	0.0000	-0.4424	1.44	1.44
25 Oct 20	142.233	128.200	1.4400	0.9814	0.0000	-0.4586	1.44	1.44
26 Oct 20	87.301	87.301	0.9806	0.9676	0.0000	-0.0130	0.980601	0.980601
27 Oct 20	58.971	58.971	0.6624	0.9510	0.2886	0.0000	0.951	0.951
28 Oct 20	57.769	57.769	0.6489	0.9375	0.2886	0.0000	0.9375	0.9375
29 Oct 20	59.719	59.719	0.6708	0.9594	0.2886	0.0000	0.9594	0.9594
30 Oct 20	32.911	32.911	0.3697	0.9599	0.5902	0.0000	0.9599	0.9599
31 Oct 20	31.487	31.487	0.3537	0.9439	0.5902	0.0000	0.9439	0.9439
1 Nov 20	86.971	86.971	0.9769	0.9626	0.0000	-0.0143	0.976901	0.976901

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2 Nov 20	32.849	32.849	0.3690	0.9579	0.5889	0.0000	0.9579	0.0000	0.9579
3 Nov 20	87.194	87.194	0.9794	0.9651	0.0000	-0.0143	0.9794	0.0000	0.9794
4 Nov 20	32.653	32.653	0.3668	0.9557	0.5889	0.0000	0.9557	0.0000	0.9557
5 Nov 20	33.187	33.187	0.3728	0.9617	0.5889	0.0000	0.9617	0.0000	0.9617
6 Nov 20	59.737	59.737	0.6710	0.9583	0.2873	0.0000	0.9583	0.0000	0.9583
7 Nov 20	6.416	6.416	0.0721	0.9626	0.8905	0.0000	0.9626	0.0000	0.9626
8 Nov 20	32.609	32.609	0.3663	0.9552	0.5889	0.0000	0.9552	0.0000	0.9552
9 Nov 20	6.131	6.131	0.0689	0.9594	0.8905	0.0000	0.9594	0.0000	0.9594
10 Nov 20	58.579	58.579	0.6580	0.9453	0.2873	0.0000	0.9453	0.0000	0.9453
11 Nov 20	4.831	4.831	0.0543	0.9448	0.8905	0.0000	0.9448	0.0000	0.9448
12 Nov 20	5.899	5.899	0.0663	0.9568	0.8905	0.0000	0.9568	0.0000	0.9568
13 Nov 20	6.567	6.567	0.0738	0.9643	0.8905	0.0000	0.9643	0.0000	0.9643
14 Nov 20	0.000	0.000	0.0000	0.6627	0.6627	0.0000	0.6627	0.0000	0.6627
15 Nov 20	56.889	56.889	0.6390	0.6247	0.0000	-0.0143	0.6390	0.0000	0.6390
16 Nov 20	5.090	5.090	0.0572	0.6461	0.5889	0.0000	0.6461	0.0000	0.6461
17 Nov 20	0.000	0.000	0.0000	0.6475	0.6475	0.0000	0.6475	0.0000	0.6475
18 Nov 20	18.729	18.729	0.2104	0.7993	0.5889	0.0000	0.7993	0.0000	0.7993
19 Nov 20	9.622	9.622	0.1081	0.6814	0.5733	0.0000	0.6814	0.0000	0.6814
20 Nov 20	0.000	0.000	0.0000	0.6807	0.6807	0.0000	0.6807	0.0000	0.6807
21 Nov 20	11.055	11.055	0.1242	0.6819	0.5577	0.0000	0.6819	0.0000	0.6819
22 Nov 20	10.922	10.922	0.1227	0.6804	0.5577	0.0000	0.6804	0.0000	0.6804
23 Nov 20	10.717	10.717	0.1204	0.6781	0.5577	0.0000	0.6781	0.0000	0.6781
24 Nov 20	9.684	9.684	0.1088	0.6665	0.5577	0.0000	0.6665	0.0000	0.6665
25 Nov 20	9.426	9.426	0.1059	0.6636	0.5577	0.0000	0.6636	0.0000	0.6636
26 Nov 20	10.583	10.583	0.1189	0.6766	0.5577	0.0000	0.6766	0.0000	0.6766
27 Nov 20	0.000	0.000	0.0000	0.4403	0.4403	0.0000	0.4403	0.0000	0.4403
28 Nov 20	0.505	0.505	0.0057	0.5634	0.5577	0.0000	0.5634	0.0000	0.5634
29 Nov 20	0.000	0.000	0.0000	0.5461	0.5461	0.0000	0.5461	0.0000	0.5461
30 Nov 20	23.974	23.974	0.2693	0.5410	0.2717	0.0000	0.5410	0.0000	0.5410
1 Dec 20	0.000	0.000	0.0000	0.5433	0.5433	0.0000	0.5433	0.0000	0.5433
2 Dec 20	0.000	0.000	0.0000	0.5431	0.5431	0.0000	0.5431	0.0000	0.5431
3 Dec 20	0.000	0.000	0.0000	0.5443	0.5443	0.0000	0.5443	0.0000	0.5443
4 Dec 20	0.000	0.000	0.0000	0.5143	0.5143	0.0000	0.5143	0.0000	0.5143
5 Dec 20	0.000	0.000	0.0000	0.5438	0.5438	0.0000	0.5438	0.0000	0.5438
6 Dec 20	0.000	0.000	0.0000	0.5134	0.5134	0.0000	0.5134	0.0000	0.5134
7 Dec 20	0.444	0.444	0.0050	0.2806	0.2756	0.0000	0.2806	0.0000	0.2806
8 Dec 20	19.496	19.496	0.2190	0.4946	0.2756	0.0000	0.4946	0.0000	0.4946



9 Dec 20	0.000	0.000	0.000	0.0000	0.5198	0.5198	0.0000	0.5198	0.0000	0.5198
10 Dec 20	21.170	21.170	0.2378	0.5134	0.2756	0.5134	0.0000	0.2756	0.0000	0.5134
11 Dec 20	0.000	0.000	0.0000	0.5155	0.5155	0.5155	0.0000	0.5155	0.0000	0.5155
12 Dec 20	0.000	0.000	0.0000	0.5139	0.5139	0.5139	0.0000	0.5139	0.0000	0.5139
13 Dec 20	0.000	0.000	0.0000	0.5137	0.5137	0.5137	0.0000	0.5137	0.0000	0.5137
14 Dec 20	0.000	0.000	0.0000	0.5134	0.5134	0.5134	0.0000	0.5134	0.0000	0.5134
15 Dec 20	5.599	5.599	0.0629	0.3255	0.2626	0.3255	0.0000	0.2626	0.0000	0.3255
16 Dec 20	22.078	22.078	0.2480	0.5106	0.2626	0.5106	0.0000	0.2626	0.0000	0.5106
17 Dec 20	0.000	0.000	0.0000	0.4836	0.4836	0.4836	0.0000	0.4836	0.0000	0.4836
18 Dec 20	0.000	0.000	0.0000	0.5117	0.5117	0.5117	0.0000	0.5117	0.0000	0.5117
19 Dec 20	3.142	3.142	0.0353	0.2979	0.2626	0.2979	0.0000	0.2626	0.0000	0.2979
20 Dec 20	0.000	0.000	0.0000	0.5093	0.5093	0.5093	0.0000	0.5093	0.0000	0.5093
21 Dec 20	0.000	0.000	0.0000	0.4667	0.4667	0.4667	0.0000	0.4667	0.0000	0.4667
22 Dec 20	0.000	0.000	0.0000	0.4971	0.4971	0.4971	0.0000	0.4971	0.0000	0.4971
23 Dec 20	0.000	0.000	0.0000	0.4999	0.4999	0.4999	0.0000	0.4999	0.0000	0.4999
24 Dec 20	0.000	0.000	0.0000	0.5000	0.5000	0.5000	0.0000	0.5000	0.0000	0.5
25 Dec 20	0.000	0.000	0.0000	0.4936	0.4936	0.4936	0.0000	0.4936	0.0000	0.4936
26 Dec 20	0.000	0.000	0.0000	0.4983	0.4983	0.4983	0.0000	0.4983	0.0000	0.4983
27 Dec 20	0.000	0.000	0.0000	0.4917	0.4917	0.4917	0.0000	0.4917	0.0000	0.4917
28 Dec 20	0.000	0.000	0.0000	0.4839	0.4839	0.4839	0.0000	0.4839	0.0000	0.4839
29 Dec 20	0.000	0.000	0.0000	0.4983	0.4983	0.4983	0.0000	0.4983	0.0000	0.4983
30 Dec 20	0.000	0.000	0.0000	0.5054	0.5054	0.5054	0.0000	0.5054	0.0000	0.5054
31 Dec 20	0.000	0.000	0.0000	0.4920	0.4920	0.4920	0.0000	0.4920	0.0000	0.492
1 Jan 21	0.000	0.000	0.0000	0.4896	0.4896	0.4896	0.0000	0.4896	0.0000	0.4896
2 Jan 21	0.000	0.000	0.0000	0.4733	0.4733	0.4733	0.0000	0.4733	0.0000	0.4733
3 Jan 21	0.000	0.000	0.0000	0.4751	0.4751	0.4751	0.0000	0.4751	0.0000	0.4751
4 Jan 21	0.000	0.000	0.0000	0.4933	0.4933	0.4933	0.0000	0.4933	0.0000	0.4933
5 Jan 21	0.000	0.000	0.0000	0.4877	0.4877	0.4877	0.0000	0.4877	0.0000	0.4877
6 Jan 21	0.000	0.000	0.0000	0.4990	0.4990	0.4990	0.0000	0.4990	0.0000	0.499
7 Jan 21	0.000	0.000	0.0000	0.4912	0.4912	0.4912	0.0000	0.4912	0.0000	0.4912
8 Jan 21	0.000	0.000	0.0000	0.4997	0.4997	0.4997	0.0000	0.4997	0.0000	0.4997
9 Jan 21	0.000	0.000	0.0000	0.4884	0.4884	0.4884	0.0000	0.4884	0.0000	0.4884
10 Jan 21	0.000	0.000	0.0000	0.4970	0.4970	0.4970	0.0000	0.4970	0.0000	0.497
11 Jan 21	0.000	0.000	0.0000	0.4896	0.4896	0.4896	0.0000	0.4896	0.0000	0.4896
12 Jan 21	0.000	0.000	0.0000	0.4966	0.4966	0.4966	0.0000	0.4966	0.0000	0.4966
13 Jan 21	0.000	0.000	0.0000	0.4902	0.4902	0.4902	0.0000	0.4902	0.0000	0.4902
14 Jan 21	0.000	0.000	0.0000	0.4971	0.4971	0.4971	0.0000	0.4971	0.0000	0.4971

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15 Jan 21	0.000	0.000	0.000	0.000	0.4906	0.4906	0.0000	0.4906	0.0000	0.4906
16 Jan 21	0.000	0.000	0.0000	0.0000	0.4893	0.4893	0.0000	0.4893	0.0000	0.4893
17 Jan 21	0.000	0.000	0.0000	0.0000	0.4816	0.4816	0.0000	0.4816	0.0000	0.4816
18 Jan 21	0.000	0.000	0.0000	0.0000	0.4877	0.4877	0.0000	0.4877	0.0000	0.4877
19 Jan 21	0.000	0.000	0.0000	0.0000	0.4574	0.4574	0.0000	0.4574	0.0000	0.4574
20 Jan 21	0.000	0.000	0.0000	0.0000	0.4560	0.4560	0.0000	0.4560	0.0000	0.4560
21 Jan 21	18.962	18.962	0.2130	0.4587	0.2457	0.2457	0.0000	0.2457	0.0000	0.4587
22 Jan 21	0.000	0.000	0.0000	0.4612	0.4612	0.4612	0.0000	0.4612	0.0000	0.4612
23 Jan 21	0.000	0.000	0.0000	0.4567	0.4567	0.4567	0.0000	0.4567	0.0000	0.4567
24 Jan 21	0.000	0.000	0.0000	0.4404	0.4404	0.4404	0.0000	0.4404	0.0000	0.4404
25 Jan 21	15.258	15.258	0.1714	0.4171	0.2457	0.2457	0.0000	0.2457	0.0000	0.4171
26 Jan 21	0.000	0.000	0.0000	0.4223	0.4223	0.4223	0.0000	0.4223	0.0000	0.4223
27 Jan 21	0.000	0.000	0.0000	0.4162	0.4162	0.4162	0.0000	0.4162	0.0000	0.4162
28 Jan 21	0.000	0.000	0.0000	0.4231	0.4231	0.4231	0.0000	0.4231	0.0000	0.4231
29 Jan 21	0.000	0.000	0.0000	0.4174	0.4174	0.4174	0.0000	0.4174	0.0000	0.4174
30 Jan 21	0.000	0.000	0.0000	0.4145	0.4145	0.4145	0.0000	0.4145	0.0000	0.4145
31 Jan 21	0.000	0.000	0.0000	0.4252	0.4252	0.4252	0.0000	0.4252	0.0000	0.4252
1 Feb 21	31.306	31.306	0.3516	0.4173	0.0657	0.0657	0.0000	0.0657	0.0000	0.4173
2 Feb 21	17.364	17.364	0.1950	0.4154	0.2204	0.2204	0.0000	0.2204	0.0000	0.4154
3 Feb 21	24.909	24.909	0.2798	0.4228	0.1430	0.1430	0.0000	0.1430	0.0000	0.4228
4 Feb 21	24.536	24.536	0.2756	0.4186	0.1430	0.1430	0.0000	0.1430	0.0000	0.4186
5 Feb 21	16.777	16.777	0.1884	0.4088	0.2204	0.2204	0.0000	0.2204	0.0000	0.4088
6 Feb 21	24.723	24.723	0.2777	0.4207	0.1430	0.1430	0.0000	0.1430	0.0000	0.4207
7 Feb 21	24.927	24.927	0.2800	0.4230	0.1430	0.1430	0.0000	0.1430	0.0000	0.4230
8 Feb 21	22.719	22.719	0.2552	0.3982	0.1430	0.1430	0.0000	0.1430	0.0000	0.3982
9 Feb 21	23.111	23.111	0.2596	0.4026	0.1430	0.1430	0.0000	0.1430	0.0000	0.4026
10 Feb 21	21.375	21.375	0.2401	0.3831	0.1430	0.1430	0.0000	0.1430	0.0000	0.3831
11 Feb 21	20.129	20.129	0.2261	0.3691	0.1430	0.1430	0.0000	0.1430	0.0000	0.3691
12 Feb 21	23.351	23.351	0.2623	0.4053	0.1430	0.1430	0.0000	0.1430	0.0000	0.4053
13 Feb 21	15.610	15.610	0.1753	0.3957	0.2204	0.2204	0.0000	0.2204	0.0000	0.3957
14 Feb 21	22.773	22.773	0.2558	0.3988	0.1430	0.1430	0.0000	0.1430	0.0000	0.3988
15 Feb 21	23.075	23.075	0.2592	0.4022	0.1430	0.1430	0.0000	0.1430	0.0000	0.4022
16 Feb 21	23.227	23.227	0.2609	0.4039	0.1430	0.1430	0.0000	0.1430	0.0000	0.4039
17 Feb 21	22.773	22.773	0.2558	0.3988	0.1430	0.1430	0.0000	0.1430	0.0000	0.3988
18 Feb 21	22.675	22.675	0.2547	0.3977	0.1430	0.1430	0.0000	0.1430	0.0000	0.3977
19 Feb 21	15.975	15.975	0.1794	0.3998	0.2204	0.2204	0.0000	0.2204	0.0000	0.3998
20 Feb 21	15.717	15.717	0.1765	0.3969	0.2204	0.2204	0.0000	0.2204	0.0000	0.3969



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21 Feb 21	22.565	22.566	0.2546	0.3976	0.1430	0.0000	0.3976	0.0000	0.3976
22 Feb 21	22.497	22.497	0.2527	0.3957	0.1430	0.0000	0.3957	0.0000	0.3957
23 Feb 21	23.378	23.378	0.2626	0.4056	0.1430	0.0000	0.4056	0.0000	0.4056
24 Feb 21	22.808	22.808	0.2562	0.3992	0.1430	0.0000	0.3992	0.0000	0.3992
25 Feb 21	15.860	15.860	0.1781	0.3985	0.2204	0.0000	0.3985	0.0000	0.4027
26 Feb 21	16.233	16.233	0.1823	0.4027	0.2204	0.0000	0.4027	0.0000	0.4259
27 Feb 21	25.185	25.185	0.2829	0.4259	0.1430	0.0000	0.4259	0.0000	0.4259
28 Feb 21	25.132	25.132	0.2823	0.4253	0.1430	0.0000	0.4253	0.0000	0.4253
									0
1 Mar 21	11.216	11.216	0.1260	0.4224	0.2964	0.0000	0.4224	0.0000	0.4224
2 Mar 21	25.381	25.381	0.2851	0.4268	0.1417	0.0000	0.4268	0.0000	0.4268
3 Mar 21	18.708	18.708	0.2101	0.4292	0.2191	0.0000	0.4292	0.0000	0.4292
4 Mar 21	18.085	18.085	0.2031	0.4222	0.2191	0.0000	0.4222	0.0000	0.4222
5 Mar 21	25.364	25.364	0.2849	0.4266	0.1417	0.0000	0.4266	0.0000	0.4266
6 Mar 21	11.368	11.368	0.1277	0.4241	0.2964	0.0000	0.4241	0.0000	0.4241
7 Mar 21	24.313	24.313	0.2731	0.4148	0.1417	0.0000	0.4148	0.0000	0.4148
8 Mar 21	11.301	11.301	0.1269	0.3460	0.2191	0.0000	0.3460	0.0000	0.3460
9 Mar 21	14.667	14.667	0.1647	0.2291	0.0644	0.0000	0.2291	0.0000	0.2291
10 Mar 21	7.148	7.148	0.0803	0.2220	0.1417	0.0000	0.2220	0.0000	0.2220
11 Mar 21	11.021	11.021	0.1238	0.2655	0.1417	0.0000	0.2655	0.0000	0.2655
12 Mar 21	17.979	17.979	0.2019	0.2663	0.0644	0.0000	0.2663	0.0000	0.2663
13 Mar 21	4.090	4.090	0.0459	0.2650	0.2191	0.0000	0.2650	0.0000	0.2650
14 Mar 21	11.048	11.048	0.1241	0.2658	0.1417	0.0000	0.2658	0.0000	0.2658
15 Mar 21	10.834	10.834	0.1217	0.2634	0.1417	0.0000	0.2634	0.0000	0.2634
16 Mar 21	17.801	17.801	0.1999	0.2643	0.0644	0.0000	0.2643	0.0000	0.2643
17 Mar 21	11.030	11.030	0.1239	0.2656	0.1417	0.0000	0.2656	0.0000	0.2656
18 Mar 21	17.739	17.739	0.1992	0.2636	0.0644	0.0000	0.2636	0.0000	0.2636
19 Mar 21	10.772	10.772	0.1210	0.2627	0.1417	0.0000	0.2627	0.0000	0.2627
20 Mar 21	10.594	10.594	0.1190	0.2607	0.1417	0.0000	0.2607	0.0000	0.2607
21 Mar 21	11.066	11.066	0.1243	0.2660	0.1417	0.0000	0.2660	0.0000	0.2660
22 Mar 21	3.316	3.316	0.0372	0.2563	0.2191	0.0000	0.2563	0.0000	0.2563
23 Mar 21	17.231	17.231	0.1935	0.2579	0.0644	0.0000	0.2579	0.0000	0.2579
24 Mar 21	10.594	10.594	0.1190	0.2607	0.1417	0.0000	0.2607	0.0000	0.2607
25 Mar 21	10.531	10.531	0.1183	0.2600	0.1417	0.0000	0.2600	0.0000	0.26
26 Mar 21	9.988	9.988	0.1122	0.2539	0.1417	0.0000	0.2539	0.0000	0.2539
27 Mar 21	2.888	2.888	0.0324	0.2515	0.2191	0.0000	0.2515	0.0000	0.2515
28 Mar 21	10.033	10.033	0.1127	0.2544	0.1417	0.0000	0.2544	0.0000	0.2544





29 Mar 21	10,015	10,015	0.1125	0.2542	0.1417	0.0000	0.2542
30 Mar 21	9,419	9,419	0.1058	0.0928	0.0000	-0.0130	0.105801
31 Mar 21	4,892	4,892	0.0549	0.1193	0.0644	0.0000	0.1193
Tot-20-21	40,7390	34,1945	140,1920	158,8343	65,0680	-46,4757	205.26

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THPS	Date	2019-20				Inflow Not Available					MAXOF Possible Gen & Actual Gen)
		Calculated Avg Inflow	Usefull Inflow	Possible Gen as per Inflow (MU)	Actual Gen (MU)	Excess Gen (MU)	Short Gen (MU)	MAKOF			
	1 Apr 19	12.651	12.651	0.1421	0.1304	0.0000	-0.0117	0.1421			
	2 Apr 19	18.985	18.985	0.2133	0.1242	0.0000	-0.0891	0.213254			
	3 Apr 19	23.877	23.877	0.2682	0.2565	0.0000	-0.0117	0.2682			
	4 Apr 19	6.022	6.022	0.0676	0.1333	0.0657	0.0000	0.1333			
	5 Apr 19	5.497	5.497	0.0617	0.1274	0.0657	0.0000	0.1274			
	6 Apr 19	6.112	6.112	0.0686	0.1343	0.0657	0.0000	0.1343			
	7 Apr 19	13.238	13.238	0.1487	0.1370	0.0000	-0.0117	0.1487			
	8 Apr 19	12.971	12.971	0.1457	0.1340	0.0000	-0.0117	0.1457			
	9 Apr 19	19.724	19.724	0.2216	0.1325	0.0000	-0.0891	0.221554			
	10 Apr 19	6.272	6.272	0.0704	0.1361	0.0657	0.0000	0.1361			
	11 Apr 19	12.971	12.971	0.1457	0.1340	0.0000	-0.0117	0.1457			
	12 Apr 19	6.316	6.316	0.0709	0.1366	0.0657	0.0000	0.1366			
	13 Apr 19	2.176	2.176	0.0244	0.0901	0.0657	0.0000	0.0901			
	14 Apr 19	5.818	5.818	0.0653	0.1310	0.0657	0.0000	0.131			
	15 Apr 19	5.444	5.444	0.0611	0.1268	0.0657	0.0000	0.1268			
	16 Apr 19	19.448	19.448	0.2185	0.1294	0.0000	-0.0891	0.218454			
	17 Apr 19	5.951	5.951	0.0668	0.1325	0.0657	0.0000	0.1325			
	18 Apr 19	12.945	12.945	0.1454	0.1337	0.0000	-0.0117	0.1454			
	19 Apr 19	12.784	12.784	0.1436	0.1319	0.0000	-0.0117	0.1436			
	20 Apr 19	13.052	13.052	0.1466	0.1349	0.0000	-0.0117	0.1466			
	21 Apr 19	5.844	5.844	0.0656	0.1313	0.0657	0.0000	0.1313			
	22 Apr 19	5.862	5.862	0.0658	0.1315	0.0657	0.0000	0.1315			
	23 Apr 19	0.000	0.000	0.0000	0.1319	0.1319	0.0000	0.1319			
	24 Apr 19	5.960	5.960	0.0669	0.1326	0.0657	0.0000	0.1326			
	25 Apr 19	0.000	0.000	0.0000	0.1323	0.1323	0.0000	0.1323			
	26 Apr 19	0.000	0.000	0.0000	0.1336	0.1336	0.0000	0.1336			
	27 Apr 19	6.094	6.094	0.0684	0.1341	0.0657	0.0000	0.1341			
	28 Apr 19	5.319	5.319	0.0597	0.1254	0.0657	0.0000	0.1254			
	29 Apr 19	0.000	0.000	0.0000	0.1306	0.1306	0.0000	0.1306			
	30 Apr 19	0.000	0.000	0.0000	0.1235	0.1235	0.0000	0.1235			



1 May 19	19.181	19.181	0.2155	0.1251	0.0000	-0.0904	0.215454
2 May 19	12.348	12.348	0.1387	0.1257	0.0000	-0.0130	0.138701
3 May 19	12.010	12.010	0.1349	0.1219	0.0000	-0.0130	0.134901
4 May 19	13.706	13.706	0.1540	0.0636	0.0000	-0.0904	0.153954
5 May 19	14.062	14.062	0.1580	0.0676	0.0000	-0.0904	0.157954
6 May 19	3.307	3.307	0.0371	0.1015	0.0644	0.0000	0.1015
7 May 19	0.000	0.000	0.0000	0.1215	0.1215	0.0000	0.1215
8 May 19	5.284	5.284	0.0593	0.1237	0.0644	0.0000	0.1237
9 May 19	12.206	12.206	0.1371	0.1241	0.0000	-0.0130	0.137101
10 May 19	4.883	4.883	0.0548	0.1192	0.0644	0.0000	0.1192
11 May 19	4.562	4.562	0.0512	0.1156	0.0644	0.0000	0.1156
12 May 19	11.743	11.743	0.1319	0.1189	0.0000	-0.0130	0.131901
13 May 19	5.275	5.275	0.0592	0.1236	0.0644	0.0000	0.1236
14 May 19	5.408	5.408	0.0607	0.1251	0.0644	0.0000	0.1251
15 May 19	5.542	5.542	0.0622	0.1266	0.0644	0.0000	0.1266
16 May 19	25.810	25.810	0.2899	0.1222	0.0000	-0.1677	0.289907
17 May 19	99.236	99.236	0.4407	0.1183	0.0000	-0.3224	0.440713
18 May 19	12.348	12.348	0.1387	0.1257	0.0000	-0.0130	0.138701
19 May 19	12.384	12.384	0.1391	0.1261	0.0000	-0.0130	0.139101
20 May 19	12.348	12.348	0.1387	0.1257	0.0000	-0.0130	0.138701
21 May 19	5.159	5.159	0.0579	0.1223	0.0644	0.0000	0.1223
22 May 19	12.482	12.482	0.1402	0.1272	0.0000	-0.0130	0.140201
23 May 19	23.704	23.704	0.2663	0.1759	0.0000	-0.0904	0.266254
24 May 19	12.339	12.339	0.1386	0.1256	0.0000	-0.0130	0.138601
25 May 19	122.133	122.133	1.3719	0.1212	0.0000	-1.2507	1.37185
26 May 19	18.896	18.896	0.2123	0.1219	0.0000	-0.0904	0.212254
27 May 19	18.375	18.375	0.2064	0.1934	0.0000	-0.0130	0.206401
28 May 19	11.876	11.876	0.1334	0.1204	0.0000	-0.0130	0.133401
29 May 19	12.215	12.215	0.1372	0.1242	0.0000	-0.0130	0.137201
30 May 19	16.283	16.283	0.1829	0.1699	0.0000	-0.0130	0.182901
31 May 19	2.768	2.768	0.0311	0.1728	0.1417	0.0000	0.1728
1 Jun 19	9.690	9.690	0.1088	0.1732	0.0644	0.0000	0.1732
2 Jun 19	10.091	10.091	0.1133	0.1777	0.0644	0.0000	0.1777
3 Jun 19	16.862	16.862	0.1894	0.1764	0.0000	-0.0130	0.189401
4 Jun 19	23.303	23.303	0.2618	0.1714	0.0000	-0.0904	0.261754
5 Jun 19	16.675	16.675	0.1873	0.1743	0.0000	-0.0130	0.187301
6 Jun 19	43.384	43.384	0.4873	0.1649	0.0000	-0.3224	0.487313

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7 Jun 19	64.329	64.329	0.7226	0.1681	0.0000	-0.5545	0.722572
8 Jun 19	29.211	29.211	0.3281	0.1604	0.0000	-0.1677	0.928107
9 Jun 19	16.363	16.363	0.1838	0.1708	0.0000	-0.0130	0.183801
10 Jun 19	17.031	17.031	0.1913	0.1783	0.0000	-0.0130	0.191301
11 Jun 19	17.227	17.227	0.1935	0.1805	0.0000	-0.0130	0.193501
12 Jun 19	17.067	17.067	0.1917	0.1787	0.0000	-0.0130	0.191701
13 Jun 19	37.887	37.887	0.4256	0.1805	0.0000	-0.2451	0.425556
14 Jun 19	58.591	58.591	0.6581	0.1810	0.0000	-0.4771	0.658119
15 Jun 19	45.067	45.067	0.5062	0.1838	0.0000	-0.3224	0.506213
16 Jun 19	17.316	17.316	0.1945	0.1815	0.0000	-0.0130	0.194501
17 Jun 19	24.505	24.505	0.2753	0.1849	0.0000	-0.0904	0.275254
18 Jun 19	24.496	24.496	0.2752	0.1848	0.0000	-0.0904	0.275154
19 Jun 19	17.494	17.494	0.1965	0.1835	0.0000	-0.0130	0.196501
20 Jun 19	23.045	23.045	0.2589	0.1685	0.0000	-0.0904	0.258954
21 Jun 19	24.452	24.452	0.2747	0.1843	0.0000	-0.0904	0.274654
22 Jun 19	66.083	66.083	0.7423	0.1878	0.0000	-0.5545	0.742272
23 Jun 19	31.490	31.490	0.3537	0.1860	0.0000	-0.1677	0.353707
24 Jun 19	22.186	22.186	0.2492	0.2362	0.0000	-0.0130	0.249201
25 Jun 19	19.996	19.996	0.2246	0.2116	0.0000	-0.0130	0.224601
26 Jun 19	25.141	25.141	0.2824	0.2694	0.0000	-0.0130	0.282401
27 Jun 19	18.397	18.397	0.2066	0.2710	0.0544	0.0000	0.271
28 Jun 19	25.168	25.168	0.2827	0.2697	0.0000	-0.0130	0.282701
29 Jun 19	11.582	11.582	0.1301	0.2718	0.1417	0.0000	0.2718
30 Jun 19	21.580	21.580	0.2424	0.2294	0.0000	-0.0130	0.242401
1 Jul 19	46.113	46.113	0.5180	0.2716	0.0000	-0.2464	0.51795
2 Jul 19	46.042	46.042	0.5172	0.2708	0.0000	-0.2464	0.51716
3 Jul 19	53.071	53.071	0.5961	0.2724	0.0000	-0.3237	0.596113
4 Jul 19	58.016	58.016	0.6517	0.2506	0.0000	-0.4011	0.651666
5 Jul 19	59.699	59.699	0.6706	0.2695	0.0000	-0.4011	0.670566
6 Jul 19	38.737	38.737	0.4351	0.2661	0.0000	-0.1690	0.435107
7 Jul 19	25.328	25.328	0.2845	0.2702	0.0000	-0.0143	0.284501
8 Jul 19	27.617	27.617	0.3102	0.1412	0.0000	-0.1690	0.310207
9 Jul 19	46.887	46.887	0.5267	0.2803	0.0000	-0.2464	0.52666
10 Jul 19	101.838	101.838	1.1439	0.2787	0.0000	-0.8652	1.143885
11 Jul 19	101.829	101.829	1.1438	0.2786	0.0000	-0.8652	1.143785
12 Jul 19	121.072	121.072	1.3599	0.4174	0.0000	-0.9425	1.359938
13 Jul 19	140.651	140.651	1.4400	0.2824	0.0000	-1.1576	1.44

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14 Jul 19	277.082	128.200	1.4400	0.2951	0.0000	-1.1449	1.44
15 Jul 19	231.578	128.200	1.4400	0.2936	0.0000	-1.1464	1.44
16 Jul 19	163.363	128.200	1.4400	0.2918	0.0000	-1.1482	1.44
17 Jul 19	70.583	70.583	0.7928	0.2689	0.0000	-0.5239	0.792821
18 Jul 19	104.130	104.130	1.1696	0.3909	0.0000	-0.7787	1.169631
19 Jul 19	103.845	103.845	1.1664	0.3877	0.0000	-0.7787	1.166431
20 Jul 19	172.069	128.200	1.4400	0.3896	0.0000	-1.0504	1.44
21 Jul 19	88.532	88.532	0.9944	0.2157	0.0000	-0.7787	0.994431
22 Jul 19	111.413	111.413	1.2514	0.2179	0.0000	-1.0335	1.251441
23 Jul 19	68.536	68.536	0.7698	0.2277	0.0000	-0.5421	0.769822
24 Jul 19	44.551	44.551	0.5004	0.2131	0.0000	-0.2873	0.500411
25 Jul 19	111.938	111.938	1.2573	0.4240	0.0000	-0.8333	1.257333
26 Jul 19	159.080	128.200	1.4400	0.4075	0.0000	-1.0325	1.44
27 Jul 19	127.937	127.937	1.4370	0.3307	0.0000	-1.1063	1.437044
28 Jul 19	159.285	128.200	1.4400	0.4098	0.0000	-1.0302	1.44
29 Jul 19	134.934	128.200	1.4400	0.4093	0.0000	-1.0307	1.44
30 Jul 19	111.475	111.475	1.2521	0.4188	0.0000	-0.8333	1.252133
31 Jul 19	62.214	62.214	0.6988	0.4115	0.0000	-0.2873	0.698811
1 Aug 19	110.949	110.949	1.2462	0.4129	0.0000	-0.8333	1.246233
2 Aug 19	111.288	111.288	1.2500	0.4167	0.0000	-0.8333	1.250033
3 Aug 19	255.474	128.200	1.4400	0.3982	0.0000	-1.0418	1.44
4 Aug 19	207.567	128.200	1.4400	0.4106	0.0000	-1.0294	1.44
5 Aug 19	138.505	128.200	1.4400	0.4104	0.0000	-1.0296	1.44
6 Aug 19	89.163	89.163	1.0015	0.4152	0.0000	-0.5863	1.001523
7 Aug 19	166.006	128.200	1.4400	0.4203	0.0000	-1.0197	1.44
8 Aug 19	139.893	128.200	1.4400	0.4130	0.0000	-1.0270	1.44
9 Aug 19	89.012	89.012	0.9998	0.4135	0.0000	-0.5863	0.999823
10 Aug 19	70.662	70.662	0.7937	0.4934	0.0000	-0.3003	0.793712
11 Aug 19	15.472	15.472	0.1738	0.4455	0.2717	0.0000	0.4455
12 Aug 19	27.668	27.668	0.3108	0.8685	0.5577	0.0000	0.8685
13 Aug 19	53.665	53.665	0.6028	0.8745	0.2717	0.0000	0.8745
14 Aug 19	56.505	56.505	0.6347	0.9064	0.2717	0.0000	0.9064
15 Aug 19	56.630	56.630	0.6361	0.9078	0.2717	0.0000	0.9078
16 Aug 19	80.481	80.481	0.9040	0.8897	0.0000	-0.0143	0.904001
17 Aug 19	133.223	128.200	1.4400	0.9101	0.0000	-0.5299	1.44
18 Aug 19	107.484	107.484	1.2073	0.9070	0.0000	-0.3003	1.207312
19 Aug 19	82.636	82.636	0.9282	0.9139	0.0000	-0.0143	0.928201



20 Aug 19	31.380	31.380	0.3525	0.9102	0.5577	0.0000	0.9102	0.9102
21 Aug 19	30.766	30.766	0.3456	0.9033	0.5577	0.0000	0.9033	0.9033
22 Aug 19	231.986	128.200	1.4400	0.8754	0.0000	-0.5646	0.8754	1.44
23 Aug 19	464.197	128.200	1.4400	0.9096	0.0000	-0.5304	0.9096	1.44
24 Aug 19	1047.693	128.200	1.4400	0.2874	0.0000	-1.1526	0.2874	1.44
25 Aug 19	268.571	128.200	1.4400	0.2879	0.0000	-1.1521	0.2879	1.44
26 Aug 19	259.628	128.200	1.4400	1.3939	0.0000	-0.0461	1.3939	1.44
27 Aug 19	214.170	128.200	1.4400	1.1849	0.0000	-0.2551	1.1849	1.44
28 Aug 19	166.235	128.200	1.4400	1.2497	0.0000	-0.1903	1.2497	1.44
29 Aug 19	60.359	60.359	0.6780	1.2669	0.5889	0.0000	1.2669	1.2669
30 Aug 19	86.899	86.899	0.9761	1.2634	0.2873	0.0000	1.2634	1.2634
31 Aug 19	96.536	96.536	1.0843	0.1652	0.0000	-0.9191	0.1652	1.084337
1 Sep 19	14.928	14.928	0.1677	0.7566	0.5889	0.0000	0.7566	0.7566
2 Sep 19	25.361	25.361	0.2849	1.1754	0.8905	0.0000	1.1754	1.1754
3 Sep 19	47.629	47.629	0.5350	0.8223	0.2873	0.0000	0.8223	0.8223
4 Sep 19	194.808	128.200	1.4400	0.3642	0.0000	-1.0758	0.3642	1.44
5 Sep 19	206.559	128.200	1.4400	0.7978	0.0000	-0.6422	0.7978	1.44
6 Sep 19	243.007	128.200	1.4400	1.2072	0.0000	-0.2328	1.2072	1.44
7 Sep 19	311.455	128.200	1.4400	0.9464	0.0000	-0.4936	0.9464	1.44
8 Sep 19	170.718	128.200	1.4400	0.0000	0.0000	-1.4400	0.0000	1.44
9 Sep 19	67.458	67.458	0.7577	0.4262	0.0000	-0.3315	0.4262	0.757713
10 Sep 19	125.968	125.968	1.4149	0.7662	0.0000	-0.6487	0.7662	1.414926
11 Sep 19	97.326	97.326	1.0932	0.7617	0.0000	-0.3315	0.7617	1.093213
12 Sep 19	98.312	98.312	1.1043	1.4072	0.3029	0.0000	1.4072	1.4072
13 Sep 19	62.035	62.035	0.6968	0.6825	0.0000	-0.0143	0.6825	0.696801
14 Sep 19	63.352	63.352	0.7116	0.6973	0.0000	-0.0143	0.6973	0.711601
15 Sep 19	96.454	96.454	1.0834	0.7519	0.0000	-0.3315	0.7519	1.083413
16 Sep 19	88.777	88.777	0.9972	1.3001	0.3029	0.0000	1.3001	1.3001
17 Sep 19	88.866	88.866	0.9982	1.3011	0.3029	0.0000	1.3011	1.3011
18 Sep 19	78.434	78.434	0.8810	0.8567	0.0000	-0.0143	0.8567	0.881001
19 Sep 19	80.382	80.382	0.9029	1.2058	0.3029	0.0000	1.2058	1.2058
20 Sep 19	150.346	128.200	1.4400	0.4056	0.0000	-1.0344	0.4056	1.44
21 Sep 19	97.309	97.309	1.0930	0.7615	0.0000	-0.3315	0.7615	1.093013
22 Sep 19	151.662	128.200	1.4400	0.7376	0.0000	-0.7024	0.7376	1.44
23 Sep 19	122.647	122.647	1.3776	0.7289	0.0000	-0.6487	0.7289	1.377626
24 Sep 19	155.997	128.200	1.4400	1.1035	0.0000	-0.3365	1.1035	1.44
25 Sep 19	159.287	128.200	1.4400	1.1399	0.0000	-0.3001	1.1399	1.44

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26 Sep 19	75.494	75.494	0.8480	1.1509	0.3029	0.0000	1.1509
27 Sep 19	166.021	128.200	1.4400	1.2161	0.0000	-0.2239	1.44
28 Sep 19	142.477	128.200	1.4400	0.0000	0.0000	-1.4400	1.44
29 Sep 19	97.077	97.077	1.0904	0.7589	0.0000	-0.3315	1.090413
30 Sep 19	125.701	125.701	1.4119	0.7632	0.0000	-0.6487	1.411926
1 Oct 19	109.202	109.202	1.2266	1.2136	0.0000	-0.0130	1.226601
2 Oct 19	52.987	52.987	0.5952	1.2166	0.6214	0.0000	1.2166
3 Oct 19	52.916	52.916	0.5944	1.2158	0.6214	0.0000	1.2158
4 Oct 19	50.494	50.494	0.5672	1.1886	0.6214	0.0000	1.1886
5 Oct 19	37.889	37.889	0.4256	0.7298	0.3042	0.0000	0.7298
6 Oct 19	105.516	105.516	1.1852	1.1722	0.0000	-0.0130	1.185201
7 Oct 19	71.572	71.572	0.8039	0.1565	0.0000	-0.6474	0.803926
8 Oct 19	131.994	128.200	1.4400	1.1524	0.0000	-0.2876	1.44
9 Oct 19	104.964	104.964	1.1790	1.1660	0.0000	-0.0130	1.179001
10 Oct 19	108.596	108.596	1.2198	1.2068	0.0000	-0.0130	1.219801
11 Oct 19	109.691	109.691	1.2321	1.2191	0.0000	-0.0130	1.232101
12 Oct 19	81.130	81.130	0.9113	1.2155	0.3042	0.0000	1.2155
13 Oct 19	43.818	43.818	0.4922	0.7964	0.3042	0.0000	0.7964
14 Oct 19	51.794	51.794	0.5818	1.2032	0.6214	0.0000	1.2032
15 Oct 19	118.871	118.871	1.3352	1.0050	0.0000	-0.3302	1.335213
16 Oct 19	81.121	81.121	0.9112	1.2154	0.3042	0.0000	1.2154
17 Oct 19	79.430	79.430	0.8922	1.1964	0.3042	0.0000	1.1964
18 Oct 19	42.714	42.714	0.4798	0.7840	0.3042	0.0000	0.784
19 Oct 19	104.910	104.910	1.1784	1.1654	0.0000	-0.0130	1.178401
20 Oct 19	0.000	0.000	0.0000	1.1971	1.1971	0.0000	1.1971
21 Oct 19	23.803	23.803	0.2674	1.2060	0.9386	0.0000	1.206
22 Oct 19	24.025	24.025	0.2699	1.2085	0.9386	0.0000	1.2085
23 Oct 19	23.776	23.776	0.2671	1.2057	0.9386	0.0000	1.2057
24 Oct 19	24.577	24.577	0.2761	1.2147	0.9386	0.0000	1.2147
25 Oct 19	8.331	8.331	0.0936	0.7150	0.6214	0.0000	0.715
26 Oct 19	77.205	77.205	0.8672	0.8542	0.0000	-0.0130	0.867201
27 Oct 19	63.922	63.922	0.7180	0.7050	0.0000	-0.0130	0.718001
28 Oct 19	37.328	37.328	0.4193	0.7235	0.3042	0.0000	0.7235
29 Oct 19	36.705	36.705	0.4123	0.7165	0.3042	0.0000	0.7165
30 Oct 19	8.963	8.963	0.1007	0.7221	0.6214	0.0000	0.7221
31 Oct 19	36.874	36.874	0.4142	0.7184	0.3042	0.0000	0.7184
1 Nov 19	9.301	9.301	0.1045	0.7246	0.6201	0.0000	0.7246

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2 Nov 19	8.812	8.812	0.0990	0.7191	0.8201	0.0000	0.7191
3 Nov 19	38.584	38.584	0.4334	0.7207	0.2873	0.0000	0.7207
4 Nov 19	11.705	11.705	0.1315	0.7204	0.5889	0.0000	0.7204
5 Nov 19	11.669	11.669	0.1311	0.7200	0.5889	0.0000	0.72
6 Nov 19	11.767	11.767	0.1322	0.7211	0.5889	0.0000	0.7211
7 Nov 19	11.901	11.901	0.1337	0.7226	0.5889	0.0000	0.7226
8 Nov 19	38.450	38.450	0.4319	0.7192	0.2873	0.0000	0.7192
9 Nov 19	11.874	11.874	0.1334	0.7223	0.5889	0.0000	0.7223
10 Nov 19	92.314	92.314	1.0369	0.7210	0.0000	-0.3159	1.036913
11 Nov 19	65.605	65.605	0.7369	0.7226	0.0000	-0.0143	0.736901
12 Nov 19	12.649	12.649	0.1421	0.7310	0.5889	0.0000	0.731
13 Nov 19	13.975	13.975	0.1570	0.7459	0.5889	0.0000	0.7459
14 Nov 19	51.928	51.928	0.5833	1.1722	0.5889	0.0000	1.1722
15 Nov 19	0.000	0.000	0.0000	1.1654	1.1654	0.0000	1.1654
16 Nov 19	0.000	0.000	0.0000	1.1634	1.1634	0.0000	1.1634
17 Nov 19	0.000	0.000	0.0000	1.1661	1.1661	0.0000	1.1661
18 Nov 19	104.759	104.759	1.1767	1.1624	0.0000	-0.0143	1.176701
19 Nov 19	0.000	0.000	0.0000	1.1601	1.1601	0.0000	1.1601
20 Nov 19	24.284	24.284	0.2728	1.1633	0.8905	0.0000	1.1633
21 Nov 19	0.000	0.000	0.0000	0.4665	0.4665	0.0000	0.4665
22 Nov 19	0.000	0.000	0.0000	0.4145	0.4145	0.0000	0.4145
23 Nov 19	103.593	103.593	1.1636	1.1493	0.0000	-0.0143	1.163601
24 Nov 19	0.000	0.000	0.0000	1.1623	1.1623	0.0000	1.1623
25 Nov 19	0.000	0.000	0.0000	0.5908	0.5908	0.0000	0.5908
26 Nov 19	0.000	0.000	0.0000	1.1594	1.1594	0.0000	1.1594
27 Nov 19	2.560	2.560	0.0288	1.1585	1.1297	0.0000	1.1585
28 Nov 19	1.768	1.768	0.0199	1.1496	1.1297	0.0000	1.1496
29 Nov 19	0.000	0.000	0.0000	1.1497	1.1497	0.0000	1.1497
30 Nov 19	0.000	0.000	0.0000	1.1523	1.1523	0.0000	1.1523
1 Dec 19	15.302	15.302	0.1719	0.7335	0.5616	0.0000	0.7335
2 Dec 19	0.000	0.000	0.0000	0.3617	0.3617	0.0000	0.3617
3 Dec 19	2.784	2.784	0.0313	0.8789	0.8476	0.0000	0.8789
4 Dec 19	0.000	0.000	0.0000	0.8843	0.8843	0.0000	0.8843
5 Dec 19	0.000	0.000	0.0000	0.8971	0.8971	0.0000	0.8971
6 Dec 19	28.674	28.674	0.3221	0.8837	0.5616	0.0000	0.8837
7 Dec 19	0.000	0.000	0.0000	0.8891	0.8891	0.0000	0.8891
8 Dec 19	5.000	5.000	0.0562	0.9038	0.8476	0.0000	0.9038



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9 Dec 19	0.000	0.000	0.000	0.000	0.000	0.8876	0.8876	0.0000	0.8876
10 Dec 19	0.000	0.000	0.000	0.000	0.000	0.8819	0.8819	0.0000	0.8819
11 Dec 19	0.000	0.000	0.000	0.000	0.000	0.7970	0.7970	0.0000	0.797
12 Dec 19	0.000	0.000	0.000	0.000	0.000	0.8656	0.8656	0.0000	0.8656
13 Dec 19	6.398	6.398	0.0719	0.0000	0.0000	0.8805	0.8086	0.0000	0.8805
14 Dec 19	0.000	0.000	0.0000	0.0000	0.0000	0.8761	0.8761	0.0000	0.8761
15 Dec 19	0.000	0.000	0.0000	0.0000	0.0000	0.8688	0.8688	0.0000	0.8688
16 Dec 19	5.579	5.579	0.0627	0.0000	0.0000	0.8713	0.8086	0.0000	0.8713
17 Dec 19	0.000	0.000	0.0000	0.0000	0.0000	0.5831	0.5831	0.0000	0.5831
18 Dec 19	0.000	0.000	0.0000	0.0000	0.0000	0.5323	0.5323	0.0000	0.5323
19 Dec 19	4.334	4.334	0.0487	0.0000	0.0000	0.5843	0.5356	0.0000	0.5843
20 Dec 19	3.613	3.613	0.0406	0.0000	0.0000	0.5762	0.5356	0.0000	0.5762
21 Dec 19	0.000	0.000	0.0000	0.0000	0.0000	0.5848	0.5848	0.0000	0.5848
22 Dec 19	4.022	4.022	0.0452	0.0000	0.0000	0.5808	0.5356	0.0000	0.5808
23 Dec 19	0.000	0.000	0.0000	0.0000	0.0000	0.5815	0.5815	0.0000	0.5815
24 Dec 19	4.467	4.467	0.0502	0.0000	0.0000	0.5858	0.5356	0.0000	0.5858
25 Dec 19	0.000	0.000	0.0000	0.0000	0.0000	0.5982	0.5982	0.0000	0.5982
26 Dec 19	8.385	8.385	0.0942	0.0000	0.0000	0.5934	0.4992	0.0000	0.5934
27 Dec 19	7.610	7.610	0.0855	0.0000	0.0000	0.5847	0.4992	0.0000	0.5847
28 Dec 19	0.000	0.000	0.0000	0.0000	0.0000	0.5939	0.5939	0.0000	0.5939
29 Dec 19	0.000	0.000	0.0000	0.0000	0.0000	0.5919	0.5919	0.0000	0.5919
30 Dec 19	0.000	0.000	0.0000	0.0000	0.0000	0.5878	0.5878	0.0000	0.5878
31 Dec 19	7.396	7.396	0.0831	0.0000	0.0000	0.5823	0.4992	0.0000	0.5823
1 Jan 20	0.000	0.000	0.0000	0.0000	0.0000	0.5814	0.5814	0.0000	0.5814
2 Jan 20	7.503	7.503	0.0843	0.0000	0.0000	0.5848	0.5005	0.0000	0.5848
3 Jan 20	18.535	18.535	0.2082	0.0000	0.0000	0.4539	0.2457	0.0000	0.4539
4 Jan 20	6.764	6.764	0.0760	0.0000	0.0000	0.5765	0.5005	0.0000	0.5765
5 Jan 20	13.442	13.442	0.1510	0.0000	0.0000	0.3967	0.2457	0.0000	0.3967
6 Jan 20	11.742	11.742	0.1319	0.0000	0.0000	0.3776	0.2457	0.0000	0.3776
7 Jan 20	8.483	8.483	0.0953	0.0000	0.0000	0.3410	0.2457	0.0000	0.341
8 Jan 20	0.000	0.000	0.0000	0.0000	0.0000	0.3396	0.3396	0.0000	0.3396
9 Jan 20	9.009	9.009	0.1012	0.0000	0.0000	0.3469	0.2457	0.0000	0.3469
10 Jan 20	0.000	0.000	0.0000	0.0000	0.0000	0.3429	0.3429	0.0000	0.3429
11 Jan 20	0.000	0.000	0.0000	0.0000	0.0000	0.3393	0.3393	0.0000	0.3393
12 Jan 20	0.000	0.000	0.0000	0.0000	0.0000	0.3411	0.3411	0.0000	0.3411
13 Jan 20	8.644	8.644	0.0971	0.0000	0.0000	0.3428	0.2457	0.0000	0.3428
14 Jan 20	7.834	7.834	0.0880	0.0000	0.0000	0.3337	0.2457	0.0000	0.3337



15 Jan 20	6.801	6.801	0.0764	0.3221	0.2457	0.0000	0.3221
16 Jan 20	7.495	7.495	0.0842	0.3299	0.2457	0.0000	0.3299
17 Jan 20	7.896	7.896	0.0887	0.3344	0.2457	0.0000	0.3344
18 Jan 20	0.000	0.000	0.0000	0.3278	0.3278	0.0000	0.3278
19 Jan 20	8.653	8.653	0.0972	0.3429	0.2457	0.0000	0.3429
20 Jan 20	0.000	0.000	0.0000	0.3291	0.3291	0.0000	0.3291
21 Jan 20	7.914	7.914	0.0889	0.3346	0.2457	0.0000	0.3346
22 Jan 20	0.000	0.000	0.0000	0.3276	0.3276	0.0000	0.3276
23 Jan 20	0.000	0.000	0.0000	0.3301	0.3301	0.0000	0.3301
24 Jan 20	16.648	16.648	0.1870	0.3326	0.1456	0.0000	0.3326
25 Jan 20	17.048	17.048	0.1915	0.3371	0.1456	0.0000	0.3371
26 Jan 20	17.289	17.289	0.1942	0.3398	0.1456	0.0000	0.3398
27 Jan 20	16.950	16.950	0.1904	0.3360	0.1456	0.0000	0.3360
28 Jan 20	23.792	23.792	0.2672	0.3355	0.0683	0.0000	0.3355
29 Jan 20	17.226	17.226	0.1935	0.3391	0.1456	0.0000	0.3391
30 Jan 20	16.870	16.870	0.1895	0.3351	0.1456	0.0000	0.3351
31 Jan 20	23.214	23.214	0.2607	0.3290	0.0683	0.0000	0.3290
1 Feb 20	18.001	18.001	0.2022	0.3452	0.1430	0.0000	0.3452
2 Feb 20	24.166	24.166	0.2714	0.3371	0.0657	0.0000	0.3371
3 Feb 20	24.104	24.104	0.2707	0.3364	0.0657	0.0000	0.3364
4 Feb 20	16.479	16.479	0.1851	0.3281	0.1430	0.0000	0.3281
5 Feb 20	11.738	11.738	0.1318	0.1975	0.0657	0.0000	0.1975
6 Feb 20	12.094	12.094	0.1358	0.2015	0.0657	0.0000	0.2015
7 Feb 20	12.041	12.041	0.1352	0.2009	0.0657	0.0000	0.2009
8 Feb 20	5.163	5.163	0.0580	0.2010	0.1430	0.0000	0.2010
9 Feb 20	11.809	11.809	0.1326	0.1983	0.0657	0.0000	0.1983
10 Feb 20	11.676	11.676	0.1311	0.1968	0.0657	0.0000	0.1968
11 Feb 20	12.148	12.148	0.1364	0.2021	0.0657	0.0000	0.2021
12 Feb 20	12.094	12.094	0.1358	0.2015	0.0657	0.0000	0.2015
13 Feb 20	12.059	12.059	0.1354	0.2011	0.0657	0.0000	0.2011
14 Feb 20	18.687	18.687	0.2099	0.1982	0.0000	-0.0117	0.2099
15 Feb 20	12.041	12.041	0.1352	0.2009	0.0657	0.0000	0.2009
16 Feb 20	19.230	19.230	0.2160	0.2043	0.0000	-0.0117	0.2160
17 Feb 20	12.272	12.272	0.1378	0.2035	0.0657	0.0000	0.2035
18 Feb 20	11.827	11.827	0.1328	0.1985	0.0657	0.0000	0.1985
19 Feb 20	11.881	11.881	0.1334	0.1991	0.0657	0.0000	0.1991
20 Feb 20	18.112	18.112	0.2034	0.2691	0.0657	0.0000	0.2691



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21 Feb 20	11.021	11.021	0.1238	0.2568	0.1430	0.0000	0.2668
22 Feb 20	11.066	11.066	0.1243	0.2573	0.1430	0.0000	0.2673
23 Feb 20	11.760	11.760	0.1321	0.2751	0.1430	0.0000	0.2751
24 Feb 20	16.599	16.599	0.1864	0.2521	0.0657	0.0000	0.2521
25 Feb 20	17.133	17.133	0.1924	0.2581	0.0657	0.0000	0.2581
26 Feb 20	10.781	10.781	0.1211	0.2641	0.1430	0.0000	0.2641
27 Feb 20	10.781	10.781	0.1211	0.2641	0.1430	0.0000	0.2641
28 Feb 20	10.790	10.790	0.1212	0.2642	0.1430	0.0000	0.2642
29 Feb 20	10.549	10.549	0.1185	0.2615	0.1430	0.0000	0.2615
1 Mar 20	17.400	17.400	0.1954	0.2598	0.0644	0.0000	0.2598
2 Mar 20	19.462	19.462	0.2186	0.2056	0.0000	-0.0130	0.218601
3 Mar 20	12.806	12.806	0.1438	0.2082	0.0644	0.0000	0.2082
4 Mar 20	6.890	6.890	0.0774	0.2191	0.1417	0.0000	0.2191
5 Mar 20	14.160	14.160	0.1590	0.2234	0.0644	0.0000	0.2234
6 Mar 20	14.142	14.142	0.1588	0.2232	0.0644	0.0000	0.2232
7 Mar 20	7.246	7.246	0.0814	0.2231	0.1417	0.0000	0.2231
8 Mar 20	14.017	14.017	0.1574	0.2218	0.0644	0.0000	0.2218
9 Mar 20	20.930	20.930	0.2351	0.2221	0.0000	-0.0130	0.235101
10 Mar 20	7.950	7.950	0.0893	0.2310	0.1417	0.0000	0.231
11 Mar 20	12.984	12.984	0.1458	0.2102	0.0644	0.0000	0.2102
12 Mar 20	14.801	14.801	0.1662	0.2306	0.0644	0.0000	0.2306
13 Mar 20	5.840	5.840	0.0556	0.2073	0.1417	0.0000	0.2073
14 Mar 20	7.059	7.059	0.0793	0.2210	0.1417	0.0000	0.221
15 Mar 20	14.195	14.195	0.1594	0.2238	0.0644	0.0000	0.2238
16 Mar 20	7.656	7.656	0.0860	0.2277	0.1417	0.0000	0.2277
17 Mar 20	7.683	7.683	0.0863	0.2280	0.1417	0.0000	0.228
18 Mar 20	7.620	7.620	0.0856	0.2273	0.1417	0.0000	0.2273
19 Mar 20	14.498	14.498	0.1628	0.2272	0.0644	0.0000	0.2272
20 Mar 20	11.898	11.898	0.1336	0.1980	0.0644	0.0000	0.198
21 Mar 20	12.602	12.602	0.1415	0.2059	0.0644	0.0000	0.2059
22 Mar 20	12.067	12.067	0.1355	0.1999	0.0644	0.0000	0.1999
23 Mar 20	6.846	6.846	0.0769	0.2186	0.1417	0.0000	0.2186
24 Mar 20	13.848	13.848	0.1555	0.2199	0.0644	0.0000	0.2199
25 Mar 20	8.617	8.617	0.0968	0.2385	0.1417	0.0000	0.2385
26 Mar 20	11.627	11.627	0.1306	0.2723	0.1417	0.0000	0.2723
27 Mar 20	11.555	11.555	0.1298	0.2715	0.1417	0.0000	0.2715
28 Mar 20	12.570	12.570	0.1412	0.2829	0.1417	0.0000	0.2829



29 Mar 20	12.081	12.081	0.1357	0.2774	0.1417	0.0000	0.2774
30 Mar 20	12.446	12.446	0.1398	0.2815	0.1417	0.0000	0.2815
31 Mar 20	18.656	18.656	0.2095	0.2739	0.0644	0.0000	0.2739
Total-19-20	46.3045	37.8748	155.7062	177.0114	76.1762	-54.8710	231.8824

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FRL = 90.5 Mtr, MDDL = 68.0 Mtr

Date	Status of Spillage (Spilling/Not spilling)	Duration		Total
		from (hrs)	To (hrs.)	Hrs.
2019-20	No Spillage			



Outages of Turbine units for the year 2019-20

P=Planned, F= Forced

Project	From		To		Duration in Hrs	Duration in Decimal Hrs	Loss based on R/WL MU	Outage type	Reasons
	unit	Time mm/dd/yy hrs	Time mm/dd/yy hrs	Time mm/dd/yy hrs					
Turbine	I	4-14-19 18:25	4-14-19 18:47		0:18:00	0.30	0.0	F	Electrical S/D relay operated.
	I	7-6-19 6:30	7-6-19 6:43		0:13:00	0.22	0.0	F	Speed Fluctuation.
	I	7-17-19 6:30	7-17-19 6:47		0:17:00	0.28	0.0	F	Speed Fluctuation.
	I	7-23-19 0:00	7-24-19 19:34		43:34:00	43.57	0.0	F	S/D for HMC maintenance work.
	I	8-1-19 9:30	8-1-19 10:44		1:14:00	1.23	0.0	F	Oil leakage in OPU.
	I	8-20-19 16:01	8-21-19 12:59		45:58:00	45.97	0.0	F	S/D for HMC Governor problem.
	I	8-24-19 10:46	8-24-19 13:41		3:02:00	3.03	0.0	F	Tripped for Governor problem.
	I	8-25-19 10:52	8-25-19 13:09		2:17:00	2.28	0.0	F	Tripped for Governor problem.
	I	8-25-19 16:58	8-25-19 17:03		0:24:00	0.40	0.0	F	Tripped for excitation problem.
	I	8-26-19 16:43	8-26-19 16:59		0:16:00	0.27	0.0	F	Tripping of OPU display power supply MCB in UPS panel.
	I	10-27-19 6:44	10-27-19 7:26		0:42:00	0.70	0.0	F	High fluctuation of speed load and current.
	I	11-21-19 8:04	11-21-19 18:03		8:59:00	8.98	0.0	F	S/D for maintenance of common heat exchanger.
	I	11-25-19 8:04	11-25-19 17:53		9:49:00	9.82	0.0	F	S/D for various routine maintenance and rectification works.
	I	12-20-19 15:18	12-20-19 15:30		0:12:00	0.20	0.0	F	Gov. OPU sump tank oil level low.
	I	3-2-20 0:00	3-19-20 16:03		424:03:00	424.05	0.0	P	APM Works.
	I						0.0	F	
	II	5-12-19 0:00	5-14-19 0:00		48:00:00	48.00	0.0	F	S/D for AVR problem.
	II	7-21-19 0:00	7-22-19 9:05		33:05:00	33.08	0.0	F	S/D for HMC maintenance work.
	II	8-12-19 0:00	8-12-19 1:05		1:05:00	1.08	0.0	F	Tripping of UAB-2 Breaker of SSB.
	II	8-24-19 13:18	8-24-19 13:40		0:22:00	0.37	0.0	F	Tripped for Thyristor Fan failure.
	II	10-15-19 9:18	10-15-19 12:17		2:59:00	2.98	0.0	F	Tripped for GT Oil Differential Trip.
	II	10-27-19 0:00	10-27-19 5:59		5:59:00	5.98	0.0	F	Oil leakage of GT (Y-phase).
	II	10-27-19 8:00	11-12-19 18:56		396:47:00	396.78	0.0	F	S/D for fault in Gen Transformer.
	II	11-21-19 9:03	11-21-19 17:57		8:54:00	8.90	0.0	F	S/D for maintenance of common heat exchanger.
	II	11-25-19 8:03	11-25-19 17:00		9:53:00	9.88	0.0	F	S/D for various routine maintenance and rectification works.
	II	1-4-20 1:31	1-4-20 12:05		10:14:00	10.23	0.0	F	Control S/D relay operated.
II	1-31-20 12:53	1-31-20 13:20		0:37:00	0.62	0.0	F	Electrical Prot relay operated.	
II							F		



Planned & Forced Outage of Tuirial units for the year 2020-21

1	2	3	4	6	7			
Project	Unit	From		To		Duration in Hrs	Duration in Decimal Hrs	Loss based on RWL MU
		unit	Time mm/dd/yy hrs	Time mm/dd/yy hrs	Time mm/dd/yy hrs			
Tuirial	Unit # I	I	8-21-20 16:00	8-21-20 16:19		0:19:00	0.32	0.0
		I	8-24-20 14:56	8-24-20 15:56		1:00:00	1.00	0.0
		I	10-27-20 12:44	10-27-20 12:58		0:14:00	0.23	0.0
		I	11-24-20 16:06	11-24-20 16:20		0:14:00	0.23	0.0
		I	2-2-21 17:00	2-2-21 17:04		0:04:00	0.07	0.0
		I	2-11-21 19:54	2-11-21 21:24		1:30:00	1.50	0.0
		I	3-8-21 8:45	3-10-21 15:15		54:30:00	54.50	0.0
		I				0:00:00		
Tuirial	Unit # II	II	7-8-20 0:00	7-17-20 11:38		227:38:00	227.63	0.0
		II	7-27-20 16:25	7-27-20 16:47		0:22:00	0.37	0.0
		II	11-24-20 16:06	11-24-20 16:08		0:02:00	0.03	0.0
		II	2-2-21 6:18	2-2-21 6:27		0:09:00	0.15	0.0
		II	2-25-21 9:15	2-25-21 9:33		0:18:00	0.30	0.0
		II				0:00:00		



Up-dated upto 31/03/2021

9

10

Outage type	Reasons
F	Delayed for GT Buchholz relay operated.
F	Tripped for GT Buchholz relay operated.
F	Generator cold air O/L to air cooler temp. high.
F	Tripped for Gen. cold air to air cooler temp. High & Over current/over load in GRP panel.
F	Delayed for Speed fluctuation
F	Control system problem.
F	S/D for AVR problem
F	
P	APM works
F	OPU pump problem.
F	Tripped for Gen. cold air to air cooler temp. High & Over current/over load in GRP panel.
F	Electrical protection relay operated.
F	Speed fluctuation.
F	



Planned & Forced Outage of Turbine units for the year 2021-22

Project	Unit	From		To		Duration in Hrs	Duration in Decimal Hrs	Loss based on RWL MU	Outage type
		unit	Time mm/dd/yyyy hrs	unit	Time mm/dd/yyyy hrs				
Turbine	Unit # I	I	4-16-21 0:00	4-30-21 0:00	336:00:00	336.00	0.0	P	
		I	6-14-21 6:30	6-14-21 6:30	0:00:00	0.10	0.0	F	
		I	6-30-21 23:17	6-30-21 23:22	0:05:00	0.08	0.0	F	
		I	8-17-21 20:11	8-17-21 20:13	0:02:00	0.03	0.0	F	
		I	8-21-21 22:02	8-21-21 22:04	0:02:00	0.03	0.0	F	
		I	8-21-21 22:46	8-21-21 22:48	0:02:00	0.10	0.0	F	
		I	10-29-21 13:20	10-29-21 14:00	0:40:00	0.67	0.0	F	
		I	10-29-21 14:04	10-29-21 14:10	0:06:00	0.10	0.0	F	
		I	10-31-21 11:33	10-31-21 11:39	0:06:00	0.10	0.0	F	
		I	10-31-21 13:49	10-31-21 14:10	0:21:00	0.36	0.0	F	
		I	11-1-21 15:40	11-1-21 15:45	0:05:00	0.08	0.0	F	
		I	11-1-21 15:57	11-1-21 16:03	0:06:00	0.10	0.0	F	
		I	11-6-21 17:11	11-6-21 17:13	0:02:00	0.03	0.0	F	
		I	11-19-21 19:02	11-19-21 19:09	0:07:00	0.12	0.0	F	
	I			0:00:00	0.00		F		
	Turbine	Unit # II	II	5-3-21 17:00	5-18-21 14:32	357:52:00	357.87		P
			II	5-19-21 14:59	5-19-21 17:25	2:25:00	2.43	0.0	F
			II	6-27-21 21:30	6-27-21 21:36	0:06:00	0.10	0.0	F
			II	7-13-21 15:41	7-13-21 15:51	0:10:00	0.17	0.0	F
			II	8-22-21 15:00	8-22-21 15:41	0:41:00	0.68	0.0	F
II			10-29-21 23:57	10-29-21 0:33	0:36:00	0.60	0.0	F	
II			10-30-21 13:22	10-30-21 13:53	0:31:00	0.52	0.0	F	
II			10-31-21 13:07	10-31-21 13:30	0:23:00	0.38	0.0	F	
II			10-31-21 14:17	10-31-21 14:35	0:18:00	0.30	0.0	F	
II			11-13-21 15:00	11-13-21 15:39	0:39:00	0.65	0.0	F	
II			12-3-21 12:21	12-3-21 12:25	0:04:00	0.07	0.0	F	
II			12-21-21 17:03	12-21-21 17:12	0:09:00	0.15	0.0	F	
II			3-10-22 9:30	3-10-22 9:40	0:10:00	0.17	0.0	F	
II					0:00:00	0.00		F	

0.00



Up-dated upto 31/03/2022

Reasons
APM works
Electrical Shutdown Relay Operated.
EHGC problem.
EHGC problem.
EHGC problem.
EHGC problem.
Network connection with BHEL Bangalore for frequency response test
Network connection with BHEL Bangalore for frequency response test
Primary frequency response test.
Primary frequency response test.
Reverse power relay operated.
Reverse power relay operated.
Reverse power relay operated.
Reverse power relay operated.
APM works
Fault in excitation system
Delayed for speed fluctuation.
Excitation problem.
GCB spring discharging problem
Mechanical Over Speed Device & Electrical Protection Opt.
Primary frequency response test.
Primary frequency response test.
Primary frequency response test.
GT Ckt Breaker Power supply failure.
OPU pump power supply failure.
Mechanical limiter value comes to zero automatically.
Delayed for GT Breaker Spring Discharge.



Project	Unit	From		To		Duration in Hrs	Loss based on RWL MU	Outage type	Reasons
		unit	Time monthly hrs	Time monthly hrs	Time monthly hrs				
Turbine	Unit #1	I	4-26-22 9:00	5-6-22 12:30	524.50:00	324.90	0.0	P	APM works
		I	6-21-22 18:54	6-21-22 20:11	0:17:00	0.28	0.0	P	132 KV Switchyard breaker tripped for earth fault
		I	7-17-22 22:42	7-17-22 23:13	0:31:00	0.52	0.0	F	Excitation failure
		I	8-5-22 3:32	8-5-22 4:08	0:28:00	0.47	0.0	F	GI O/H Differential Protection Relay Operated
		I	9-18-22 15:15	9-22-22 17:25	08:10:00	99.17	0.0	F	Tripping of 24 DC volt charger 1 & 2 and further problem in Guide Vane operating Mechanism
		I	10-25-22 16:58	10-29-22 16:12	0:12:00	0.20	0.0	F	Over load
		I	2-20-23 6:26	2-20-23 6:44	0:18:00	0.27	0.0	F	MAT problem
		I			0:02:00	0.03	0.0	F	
		I			0:06:00	0.10	0.0	F	Delayed for Mechanical Limiter problem
		I			329:00:00	329.00	0.0	P	APM works
Turbine	Unit #2	II	4-23-22 16:45	4-29-22 16:51	0:06:00	0.10	0.0	F	Delayed for Mechanical Limiter problem
		II	6-10-22 0:00	6-20-22 17:00	329:00:00	329.00	0.0	P	APM works
		II	7-6-22 0:00	7-12-22 18:50	163:50:00	163.83	0.0	F	S/D for hike of vibration at Turbine Guide Bearing Pad
		II	7-17-22 22:42	7-17-22 23:08	0:26:00	0.43	0.0	F	High frequency following tripping of U-1
		II	8-5-22 3:32	8-5-22 3:45	0:14:00	0.23	0.0	F	Tripping of U-1
		II	9-19-22 15:15	9-19-22 16:04	0:49:00	0.82	0.0	F	Tripping of 24 DC volt charger 1 & 2
		II	2-8-23 17:48	2-8-23 18:04	0:16:00	0.26	0.0	F	Tripped for Guide Vane Position Reached upto its Maximum Position
		II			0:00:00	0.00	0.00	F	

0.60



Energy Generation and Loss During the Year 2023-24

Tutorial

Month	Design Energy		Actual Generation		Loss for Forced outage		Loss for Planned outage		Loss for System Constraint		Loss for Power Regulation /URS		Expected Generation		Loss of Generation for less inflow		Average RWL		RWL on 1st Day of month		Actual Plant Availability Factor (PAF)		MIC Availability	
	MU	2	MU	3	MU	4	MU	5	MU	6 A	MU	6 B	MU	7	MU	8=7-3-4-5-6	Mtr	9	Mtr	10	%	11	%	12
Apr-23	14.37		10.4212		0.0000		0.0000		0.2840		0.0000		14.3700		3.6648		72.63		73.89		47.91		77.30	
May-23	17.37		2.0403		0.0000		0.0000		0.0000		0.0000		17.3700		15.3297		70.08		70.41		32.87		61.56	
Jun-23	20.79		4.1334		0.0000		0.0000		0.0891		0.1807		20.7900		16.3869		70.68		69.78		55.89		100.00	
Jul-23	27.24		6.5872		0.0000		0.0000		0.0000		0.7588		27.2400		19.8961		73.94		72.33		64.54		99.97	
Aug-23	35.17		9.0373		0.0000		0.0000		0.0075		2.4993		35.1700		23.5260		79.33		77.31		76.52		99.94	
Sep-23	38.23		12.1629		0.0000		0.0000		0.1688		5.3685		36.2300		18.5299		83.67		81.81		88.79		100.00	
Oct-23	26.06		21.1369		0.0000		0.0000		0.0000		16.8150		26.0800				85.76		86.43		95.99		99.99	
Nov-23	17.77		7.6386		0.0000		0.0000		0.0000		25.7060		17.7700				83.89		84.39		92.27		100.00	
Dec-23	14.61		8.5474		0.0000		0.0000		0.0000		25.5035		14.61				83.38		83.59		90.93		100.00	
Jan-24	13.73		16.3390		0.0000		0.0000		0.0000		14.9903		13.7300				81.30		82.71		85.47		99.94	
Feb-24	13.6		11.7432		0.0000		0.0000		0.0000		0.4593		13.6000		1.3976		77.30		79.01		76.32		99.98	
Mar-24	13.67		8.6426		0.0000		0.0000		0.0000		0.9863		13.6700		3.8412		74.76		76.12		69.16		100.00	
Total	250.63		118.6302		0.00000		0.0000		0.5494		93.2655		250.63		102.6719		78.07		73.15		73.15		94.87	

- Notes:
1. The expected generation (Col-7) is as per the Design energy.
 2. There is no loss of generation for less inflow (Col-8) in the month of Oct, Nov, Dec as the actual generation including losses is more than the Expected Generation/Design energy.
 3. There is no Energy loss for Planned Shutdown (APM) as the SiD was availed in lean period
 4. No Energy loss considered for forced outages which are during non-spilling period and water saved were utilised for further generation.



**Customized Rainfall Information System
(CRIS)**

Hydromet Division

India Meteorological Department

Ministry Of Earth Sciences

New Delhi-110 002

Choose the States/UTs: **MIZORAM**

Select District: **KOLASIB**

GO

District : KOLASIB

Note : (1) The District Rainfall in millimeters (R/F) shown, below are the arithmetic averages of Rainfall of Stations under the District.

(2) % Dep. are the Departures of rainfall from the long period averages of rainfall for the District.

(3) Blank Spaces show non-availability of Data

YEAR	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEPT		OCT		NOV		DEC	
	R/F	%DEP R/F	R/F	%DEP R/F	R/F	%DEP R/F	R/F	%DEP R/F	R/F	%DEP R/F	R/F	%DEP R/F	R/F	%DEP R/F	R/F	%DEP R/F	R/F	%DEP R/F	R/F	%DEP R/F	R/F	%DEP R/F	R/F	%DEP R/F
2018											610.8	40	420.0	-3	579.5	28	128.8	-65	64.0	-71	13.4	-73	7.6	-41
2019	1.0	-68	3.1	-91					424.4	24	395.7	-16	466.0	4	597.5	22	426.5	16	117.4	-44	59.8	83	0.0	-100
2020	49.9	487	3.7	-89	0.1	-99	85.0	-59	259.3	-24	319.7	-32	396.4	-11	343.5	-30	224.6	-39	312.8	48	66.6	104	0.0	-100
2021	5.4	-36	0.0	-100	74.3	-20	61.4	-71	161.5	-53	379.5	-19	459.9	3	465.0	-5	375.2	2	108.2	-49	4.7	-86	106.5	629
2022	17.1	104%	21.3	-28%	10.8	-87%	126.3	-38%	540.4	49%	463.2	9%	675.1	51%	424.6	-14%	285.2	-24%	176.2	-13%	2.5	-92%	13.0	10%



ISO 9001 : 2015
ISO 14001 : 2015
ISO 45001 : 2018

नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लिमिटेड
(मिनि रत्न, कैटेगरी-1, भारत सरकार का उद्यम)
NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
(A Mini Ratna, Category-I, A Govt. of India Enterprise)
COMMERCIAL DEPARTMENT

NEEPCO/ED (Comm)/Mizoram/2024-25/ 68

Dated: 30/04/2024

To,
The Engineer in Chief,
Power & Electricity Department,
Govt. of Mizoram,
Electric Veng, Aizawl- 796 001

SUB: - Shortfall of Energy Charges for the period 2019-24.

Ref:- Bill No. NEEPCO/MIZO/2023-2024/1302/SUPP/01 Dated 30/04/2024.

Dear Sir,

Enclosed please find herewith shortfall energy bill for Rs. 105,70,30,025.00 (Rupees One Hundred Five Crore Seventy Lakh Thirty Thousand Twenty Five Only) calculated as per CERC Regulation 2024, clause 65 (7) & (8) where it is stated as follows: -

(7) In case the saleable scheduled energy (ex-bus) of a hydro generating station during a year is less than the saleable design energy (ex-bus) for reasons beyond the control of the generating station, the generating station may directly recover the shortfall in energy charges in six equal interest-free monthly instalments after adjusting for DSM Energy in the immediately following year and shall be subject to truing up at the end of the tariff period.
Provided that in case actual generation from a hydro generating station is less than the design energy for a continuous period of four years on account of hydrology factor, the generating station shall approach the Central Electricity Authority with relevant hydrology data for revision of design energy of the station.

(8) Any shortfall in the energy charges on account of saleable scheduled energy (ex-bus) being less than the saleable design energy (ex-bus) during the tariff period 2019-24, which was beyond the control of the generating station and which could not be recovered during the said tariff period shall be recovered in accordance with clause (7) of this Regulation.

The calculation sheet is enclosed herewith for ready reference.

Yours faithfully,

For NEEPCO LTD. Shillong

Authorised Signatory

Dated: 30/04/2024

NEEPCO/ED (Comm)/Mizoram/2024-25/

COPY FOR INFORMATION FORWARDED TO: -

1. The Sr. Executive Engineer, Mizoram SLDC Circle, Power and Electricity Dept., Govt. of Mizoram, Electric Veng, Aizawl- 796 001.

Authorised Signatory

कार्पोरेट कार्यालय : ब्रुकलैंड कम्पाउण्ड, लोअर न्यू कॉलोनी, शिल्लॉंग
Corporate Office : Brookland Compound, Lower New Colony, Shillong - 793 003
दूरभाष/Tel. : 0364-2226091 | 2505879 | 2501903 | 2502216 | फैक्स नं./Fax No. : 0364-2225836
वेबसाइट/Website : www.neepco.com | ई-मेल/E-mail : neepcocommercial@gmail.com | CIN : U4010ML1975GOI001538
स्वहित एवं राष्ट्रहित में ऊर्जा बचाएँ / Save Energy for Benefit of Self and Nation



ISO 9001 : 2015
ISO 14001 : 2015
ISO 45001 : 2018

नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लिमिटेड
(मिनि रत्न, कैटेगरी-1, भारत सरकार का उद्यम)
NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
(A Mini Ratna, Category-I, A Govt. of India Enterprise)
COMMERCIAL DEPARTMENT

Invoice No: NEEPCO/MIZO/2024-25/1500/SHRTH/01
Bill For: Shortfall of Energy for the period 2014-19.

Bill Date: 30-Apr-21
Bill Ref: Shortfall of Energy for the period 2014-19.
Other Ref:

From:
TUIRIAL HYDRO ELECTRIC PROJECT
NORTH EASTERN ELECTRIC POWER CORPORATION LTD.,
DISTRICT KOLASIB,
MIZORAM,
GST IN/UIN : 15AAACN9991122X

To:
The Executive Engineer
Mizoram SLDC Circle,
Power & Electricity Department, Govt. Mizoram,
Electric Veng,
Aizawl- 796 001.
GST IN/UIN:

S/No.	Particulars	HSN/SAC	GST Rate	Energy (in Kwh)	Capacity Charge (in Rs)	Rate/ %	Amount
	a) Shortfall of Energy FY 2019-20	27160000	0%	61735696		2.678	165328154.00
	b) Shortfall of Energy FY 2020-21	27160000	0%	77218320		2.673	206309237.00
	c) Shortfall of Energy FY 2021-22	27160000	0%	95304791		2.689	253415439.00
	d) Shortfall of Energy FY 2022-23	27160000	0%	38860935		2.645	102787173.00
	e) Shortfall of Energy FY 2023-24	27160000	0%	111237719		2.632	292777676.00
	TOTAL						1020707719.00

Total Amount Payable :

1020707719.00

Amount Payable (in words) :

Rupees Ten Crore Twenty Lakh Seventy Thousand Seven Hundred SeventyOne Only.

E & OE

For NEEPCO Limited

30/4/21
Authorized Signatory

Accounts Officer
O/OED (Comm) NEEPCO Ltd
Shillong



कारपोरेट कार्यालय : ब्रुकलैंड कम्पाउण्ड, लोअर न्यू कॉलोनी, शिलांग

Corporate Office : Brookland Compound, Lower New Colony, Shillong - 793 003

दूरभाष/Tel. : 0364-2226091 | 2505879 | 2501903 | 2502216 □ फैक्स नं./Fax No. : 0364-2225035

वेबसाइट/Website : www.neepco.com □ ई-मेल/E-mail : neepconcommercial@gmail.com | CIN : U4010ML1978GOI001658

स्वतंत्र एवं राष्ट्रहित में ऊर्जा बचाएँ / Save Energy for Benefit of Self and Nation

Annexure-B Revised Amount

ENERGY SHORTFALL BEYOND CONTROL OF THE GENERATING STATION

Name of the station:-THPS	Unit	Year					Total
		2019-20	2020-21	2021-22	2022-23	2023-24	
Uncontrollable factors	MU						
Maximum possible generation wrt to available flow	MU	231.882	205.260	208.974	268.735	199.150	
Design energy	MU	250.630	250.630	250.630	250.630	250.630	
Shortfall/Excess	MU	18.748	45.370	41.656	-18.105	51.480	139.148
Energy Loss Due To Silt Flushing	MU	0.000	0.000	0.000	0.000	0.000	
Energy Loss Due To High Silt	MU	0.000	0.000	0.000	0.000	0.000	
Energy Loss Due To Transmission Constraints	MU	0.068	0.984	0.335	0.846	0.549	
Less Schedule(i.e.URS -Difference between DC & Sch.)	MU	59.133	60.915	81.401	70.272	93.265	364.987
Total	MU	77.949	107.269	123.392	53.013	145.295	
Ex bus energy	MU	61.736	77.216	95.305	38.861	111.238	
DSM Energy	MU						
Net energy for shortfall calculation	MU	61.736	77.216	95.305	38.861	111.238	
ECR	Rs/kwh	2.678	2.673	2.659	2.645	2.632	
Recovery amount	Rs Cr.	16.533	20.640	25.342	10.279	29.278	102.071
Design Energy	MU	250.6	250.6	250.6	250.6	250.6	
Saleable Design Energy	MU	211.1	211.1	211.1	211.1	211.1	
Sch Energy	MU	169.7	152.1	131.5	195.6	114.0	
Free Power	MU	20.4	18.2	15.8	23.5	13.7	
Saleable sch Energy	MU	149.3	133.8	115.8	172.2	100.3	
Shortfall of energy	MU	61.73	77.25	95.31	38.90	110.72	383.9034
Recovery amount	Rs Cr.	16.5321	20.6492	25.3427	10.2878	29.1402	101.9520
Deduction of Trnsmission Constraints		0.0182	0.2630	0.0890	0.2238	0.1446	0.7386
Net Payable		16.5139	20.3862	25.2537	10.0639	28.9956	101.2134
As per REA ex bus shortfall	MU	61.74	77.25	95.31	38.90	111.59	
Shortfall in Rs Cr.	Rs Cr.	16.53	20.65	25.34	10.29	29.37	102.18



Annexure-A Reconciliation of Scheduled Generation (Sch)and Declared Capability (DC)of Tuirial Hydro Project

Reconciliation of Scheduled Energy and DC of Tuirial Power Station						
Year	As Per NEEPCO			As Per Mizoram		
	Sch	DC	Less Schedule	Sch	DC	Less Schedule
2019-20	171.40	230.47	59.07	169.69	228.85	59.16
2020-21	149.88	211.73	61.85	152.06	211.16	59.10
2021-22	130.36	212.09	81.74	131.54	212.24	80.70
2022-23	193.96	295.02	101.05	195.64	295.01	99.37
2023-24	111.29	204.91	93.62	114.03	205.38	91.35

All figures are in Mu





नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लिमिटेड
NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

भारत सरकार का उद्यम (A GOVT. OF INDIA ENTERPRISE)

कार्यपालक निदेशक (ओ एंड एम) का कार्यालय
OFFICE OF THE EXECUTIVE DIRECTOR (O&M)

नीपको भवन, आर. जी. बरुआ रोड, गुवाहाटी-781005
NEEPCO BHAWAN, R.G.BARUAH ROAD, GUWAHATI-781005
E-mail: edonm@neepco.co.in / neepco.edonm@gmail.com

No. NEEPCO/ED(O&M)/OPR-58/2024-25/

Date: 27/05/2024

To

The Chief Engineer (HP& I),
HP & I Division,
Central Electricity Authority,
7th Floor, Sewa Bhawan,
R.K. Puram, New Delhi-110086

Sub: Certification of Inflow series data by CEA/CWC.

Ref: Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024.

Sir,

This is with reference to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, as issued under Notification No. L-1/268/2022/CERC Dated 15th March, 2024.

Your kind attention is drawn to Clause No. 65 (Computation and Payment of Capacity Charge and Energy Charge for Hydro Generating Stations) under Chapter 11 of the said regulations. As per stipulations under sub clause 7 and 8 of Clause No. 65, any shortfall in energy charges on account of saleable scheduled energy being less than the saleable design energy during tariff period 2019-24, due to reasons beyond the control of the generating station, is recoverable (Page 119 and 120 of the referred Regulations are attached at Annexure-I)

In the above context, inflow data in respect of Doyang, Panyor Lower, Tuirial & Kameng HPS for the years 2019-20, 2020-21, 2021-22, 2022-23 & 2023-24 as measured/ calculated, are enclosed herewith (Annexure-II) along with rainfall maps from the Indian Meteorological Department (Annexure-III) for kind reference. It is requested for kind examination and certification by CEA in respect of the above, in order for submission of truing up petition to CERC for recovery of the shortfall energy charges.

Thanking you,

Encl: Annexures I, II and III

Yours faithfully,

(Bijit Kr. Goswami)
Executive Director (O&M)

Copy to:

Memo No. NEEPCO/ED(O&M)/OPR-58/2024-25/

Date: 27/05/2024

1. The Director (Hydrology), NE, CWC, New Delhi - for kind information, along with Annexures I, II and III.

(Bijit Kr. Goswami)
Executive Director (O&M)



Registered Office: Brookland Compound, Lower New Colony, Shillong-793003

CIN: U40101ML1976GOI001658, Website: www.neepco.co.in

Telephone No: +91 364 2224487 / 2226453 Fax No. +91 364 2226417



नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लिमिटेड
NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

भारत सरकार का उद्यम (A GOVT. OF INDIA, ENTERPRISE)

कार्यपालक निदेशक (ओ एंड एम) का कार्यालय
OFFICE OF THE EXECUTIVE DIRECTOR (O&M)

नीपको भवन, आर. जी. बरुआ रोड, गुवाहाटी-781005
NEEPCO BHAWAN, R.G. BARUAH ROAD, GUWAHATI-781005
E-mail: edonm@neepco.co.in / neepco.edonm@gmail.com

Not In Original

Memo No. NEEPCO/ED(O&M)/OPR-58/2024-25/ 38-39

Date: 27/05/2024

Copy to:

1. The Director (Technical), NEEPCO, for favour of kind information please.
2. The Executive Director (Commercial), NEEPCO, Shillong, for favour of information please.


Executive Director (O&M)



Registered Office: Brookland Compound, Lower New Colony, Shillong-793003
CIN: U40101ML1978GOI001658, Website: www.neepco.co.in
Telephone No. +91 364 2224487 / 2226453 Fax No. +91 364 2226417

Calculated Average Inflow (Cum/Sec) of Tulihal Hydro Power Station (THPS) for the year 2019-20

ANNEXURE - II

Date	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
1	12.651	19.161	9.690	46.113	110.949	14.928	109.202	9.301	15.302	0.000	16.001	17.400
2	18.985	12.348	10.091	46.042	111.288	25.361	52.987	8.812	0.000	7.503	24.166	19.462
3	23.877	12.010	16.862	53.071	255.474	47.629	52.916	38.584	2.784	18.535	24.104	12.806
4	6.022	13.706	23.303	58.016	207.967	194.808	50.494	11.705	0.000	6.784	16.479	6.890
5	5.497	14.062	16.675	59.699	138.505	206.559	37.889	11.669	0.000	13.442	11.738	14.160
6	6.112	3.307	43.384	38.737	89.163	243.007	105.516	11.767	28.674	11.742	12.064	14.142
7	13.238	0.000	54.329	26.328	166.006	311.455	71.572	11.901	0.000	8.483	12.041	7.246
8	12.971	5.284	29.211	27.617	139.893	170.718	131.994	38.450	5.000	0.000	5.163	14.017
9	19.724	12.206	16.363	46.867	89.012	67.458	104.964	11.874	0.000	9.009	11.809	20.930
10	6.272	4.883	17.031	101.838	70.662	125.969	108.596	92.314	0.000	0.000	11.876	7.950
11	12.971	4.562	17.227	101.829	15.472	97.326	109.691	65.605	0.000	0.000	12.148	12.984
12	6.316	11.743	17.067	121.072	27.668	98.312	81.130	12.649	0.000	0.000	12.094	14.801
13	2.176	5.275	37.887	140.651	53.665	62.035	43.816	13.975	6.398	8.644	12.059	5.840
14	5.818	5.408	58.591	277.082	56.505	63.352	51.794	51.928	0.000	7.834	18.667	7.058
15	5.444	5.542	45.067	231.578	56.630	96.454	118.871	0.000	0.000	6.801	12.041	14.195
16	19.448	25.810	17.316	163.363	80.481	86.777	81.121	0.000	5.579	7.495	19.230	7.656
17	5.951	39.235	24.505	70.583	133.223	88.866	79.430	0.000	0.000	7.896	12.272	7.683
18	12.945	12.348	24.496	104.130	107.484	78.434	42.714	104.759	0.000	0.000	11.827	7.620
19	12.784	12.384	17.494	103.845	82.535	80.362	104.910	0.000	4.334	8.653	11.881	14.498
20	13.062	12.348	23.045	172.069	31.380	150.346	0.000	24.284	3.613	0.000	18.112	11.898
21	5.844	5.159	24.452	88.532	30.766	97.309	23.803	0.000	0.000	7.814	11.021	12.602
22	5.862	12.482	66.083	111.413	231.986	151.662	24.025	0.000	4.022	0.000	11.066	12.067
23	0.000	23.704	31.490	68.536	464.197	122.647	23.776	103.593	0.000	0.000	11.780	6.846
24	5.960	12.339	22.186	44.551	1047.693	155.997	24.577	0.000	4.487	16.648	16.599	13.648
25	0.000	122.133	19.896	111.938	268.571	169.237	8.331	0.000	0.000	17.048	17.133	8.617
26	0.000	18.896	25.141	159.080	259.628	75.494	77.205	0.000	8.385	17.288	10.781	11.827
27	6.094	18.375	18.397	127.937	214.170	166.021	63.922	2.560	7.610	16.950	10.781	11.556
28	5.319	11.878	25.168	159.285	166.235	142.477	37.328	1.768	0.000	23.792	10.790	12.570
29	0.000	12.215	11.582	134.934	60.359	97.077	36.705	0.000	0.000	17.226	10.549	12.081
30	0.000	16.283	21.580	111.475	86.899	125.701	9.963	0.000	0.000	16.870		12.446
31		2.768		62.214	96.536		36.874		7.398	23.214		18.656

CS

 Chief General Manager (M)
 तहसिल प्रमुख, त्रिभुवन हायड्रो
 Chief Executive Director (M)




 R. Manjunath

Calculated Average Inflow (Cum/Sec) of Turrialba Hydro Power Station (THPS) for the year 2020-21

Date	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21
1	11.876	15.028	48.945	36.964	93.125	48.538	75.461	86.971	0.000	0.000	31.306	11.215
2	11.253	8.355	28.284	35.709	298.636	49.277	202.010	32.849	0.000	0.000	17.364	25.381
3	18.486	7.919	19.288	51.307	219.719	48.850	279.049	87.194	0.000	0.000	24.909	18.708
4	25.996	8.268	26.143	44.269	128.631	50.879	762.979	32.653	0.000	0.000	24.536	18.085
5	0.000	8.195	13.417	76.293	60.504	46.633	446.321	33.187	0.000	0.000	16.777	25.394
6	1.219	1.620	19.372	37.507	62.826	46.680	397.719	59.737	0.000	0.000	24.723	11.366
7	1.353	25.155	26.330	50.337	85.095	24.998	237.685	6.416	0.444	0.000	24.927	24.313
8	0.471	4.121	25.208	37.484	41.353	0.221	94.070	32.609	19.496	0.000	22.719	11.301
9	0.000	11.124	25.618	44.737	64.030	24.482	110.094	6.131	0.000	0.000	23.111	14.667
10	15.215	5.092	24.745	37.477	109.774	239.769	136.830	58.579	21.170	0.000	21.375	7.148
11	14.565	11.017	43.567	85.754	86.599	115.018	113.343	4.831	0.000	0.000	20.129	11.021
12	8.569	11.907	83.074	97.364	42.582	99.358	59.195	5.899	0.000	0.000	23.351	17.978
13	15.055	11.800	58.021	76.988	65.890	97.763	67.439	6.567	0.000	0.000	15.610	4.080
14	8.400	0.320	64.823	50.422	179.833	93.276	92.661	0.000	0.000	0.000	22.773	11.048
15	6.806	11.453	64.734	66.189	247.550	189.439	43.382	56.889	5.599	0.000	23.075	10.834
16	8.346	11.676	63.887	59.356	88.478	170.653	16.548	5.090	22.078	0.000	23.227	17.801
17	21.389	0.151	43.522	86.714	43.448	88.698	33.695	0.000	0.000	0.000	22.773	11.030
18	15.072	11.809	30.434	25.141	43.641	74.313	60.894	18.729	0.000	0.000	22.675	17.739
19	8.319	12.441	37.393	52.269	43.446	74.339	34.149	9.622	3.142	0.000	15.975	10.772
20	8.266	12.771	29.668	38.531	193.723	50.069	87.808	0.000	0.000	0.000	15.717	10.594
21	8.213	12.335	8.044	36.617	42.760	49.250	144.940	11.055	0.000	0.000	22.666	11.066
22	15.010	12.486	14.058	31.943	91.344	50.746	88.334	10.922	0.000	0.000	22.497	3.316
23	8.097	11.026	44.563	44.817	43.481	61.234	143.662	10.717	0.000	0.000	23.378	17.231
24	15.251	12.041	36.777	39.052	187.739	51.378	170.527	9.684	0.000	0.000	22.808	10.594
25	5.675	7.380	17.115	29.300	135.967	49.882	142.233	9.426	0.000	0.000	15.960	10.531
26	15.215	7.772	37.570	31.137	141.540	25.105	87.301	10.583	0.000	0.000	16.233	9.966
27	15.144	69.880	16.687	36.947	116.816	49.642	58.971	0.000	0.000	0.000	25.185	2.866
28	15.215	80.982	24.028	51.717	68.668	49.820	57.769	0.505	0.000	0.000	25.132	10.033
29	15.037	80.511	30.621	86.389	44.789	49.001	59.719	0.000	0.000	0.000		10.015
30	22.039	24.826	30.790	59.218	23.173	126.345	32.911	23.974	0.000	0.000		9.419
31		26.686		51.646	73.075		31.487		0.000	0.000		4.892


 Chief General Manager
 Director General de los Recursos Hídricos
 Director General de Recursos Hídricos




 R. R. R. R.



Calculated Average Inflow (Cum) of Turhal Hydro Power Station (THPS) for the year 2021-22

Date	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
1	14,560	8,270	4,900	12,620	56,170	264,240	74,940	45,160	27,210	28,200	0,000	6,200
2	0,000	0,000	7,950	1,470	111,700	179,040	76,830	47,660	8,420	13,130	0,000	6,070
3	0,000	7,460	1,500	0,000	671,940	48,490	30,140	14,020	30,480	27,190	16,020	11,180
4	19,150	7,590	4,610	0,000	294,000	233,080	51,060	67,700	0,000	43,350	4,790	11,970
5	0,000	6,960	14,430	9,370	178,521	188,300	23,810	67,830	34,690	26,080	4,480	12,050
6	14,600	7,680	14,380	0,000	231,070	95,230	31,890	0,000	51,210	26,720	31,200	31,020
7	0,000	8,120	17,720	91,020	241,830	48,410	34,880	36,950	191,470	26,190	3,300	0,000
8	0,000	8,360	11,320	64,920	136,490	106,810	37,270	21,640	74,200	29,640	5,450	1,780
9	0,000	7,640	8,020	42,990	101,360	256,690	36,800	40,010	74,440	10,260	0,000	10,150
10	0,000	0,000	64,190	105,892	47,310	163,525	45,370	11,580	24,520	48,020	21,450	10,530
11	0,000	7,260	52,500	53,985	47,350	76,200	11,570	34,770	48,020	13,990	21,640	10,320
12	0,000	3,360	100,440	52,450	28,850	88,290	39,470	36,650	24,310	26,600	1,960	0,000
13	14,670	6,980	74,318	167,290	25,630	27,450	0,000	37,110	25,060	33,890	21,160	10,380
14	0,000	23,930	61,792	168,710	28,790	27,450	8,850	36,940	24,630	33,530	20,320	11,930
15	0,000	26,240	107,330	76,530	28,700	47,430	0,000	62,050	26,180	18,080	6,260	0,000
16	0,000	7,730	48,860	124,680	121,410	66,726	45,110	153,790	25,500	19,120	4,180	0,000
17	0,000	0,000	33,770	83,970	85,160	94,550	62,970	82,430	2,980	41,230	16,600	0,000
18	0,000	7,720	44,930	75,960	30,170	176,960	64,370	62,550	31,970	41,270	18,550	0,000
19	15,030	8,420	26,437	298,730	48,700	200,230	65,420	36,200	32,630	22,740	4,360	0,000
20	0,000	6,150	22,024	242,840	11,640	310,020	91,560	62,540	9,210	22,070	4,590	0,000
21	0,000	0,000	33,320	129,330	48,620	340,100	141,870	39,130	32,250	21,370	0,000	0,000
22	0,000	7,650	97,140	93,820	30,210	190,360	95,280	37,150	38,740	30,960	3,520	0,000
23	0,000	7,810	71,740	55,690	27,040	139,370	83,580	32,740	25,300	8,970	12,480	0,000
24	15,010	6,340	47,953	68,650	62,440	111,590	34,150	30,670	10,090	8,860	13,570	0,000
25	0,000	7,930	29,344	23,748	11,700	83,470	73,880	34,000	39,320	33,310	10,630	0,000
26	0,000	8,130	34,110	42,010	61,570	69,920	45,240	10,070	42,290	7,190	5,240	0,000
27	0,000	7,970	20,310	113,840	31,600	98,190	70,930	34,130	5,220	6,740	0,000	0,000
28	6,270	8,080	19,450	94,360	87,630	-139,250	96,500	10,660	32,430	23,990	16,600	0,000
29	0,000	7,750	5,780	74,590	80,650	80,360	99,130	17,690	7,120	5,330	0,000	0,000
30	7,120	0,000	9,220	56,050	106,130	133,000	66,290	27,820	37,950	0,000	0,000	0,000
31		16,980		37,340	183,410		63,670		42,440	17,280		0,000


 Chief General Manager
 The Executive Director (THPS)




 R. Bhargava


Calculated Average Inflow (CumSec) of Turlal Hydro Power Station (THPS) for the year 2022-23

Date	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
1	0.000	4.380	126.910	87.570	177.180	109.960	108.680	59.720	28.420	18.720	0.000	0.000
2	0.000	19.180	126.970	91.410	160.560	113.910	134.300	41.560	12.400	12.940	0.000	0.000
3	0.000	8.020	74.450	394.780	428.920	98.760	197.570	40.250	11.840	13.950	0.000	0.000
4	0.000	11.780	67.640	177.580	253.850	90.230	442.610	38.770	17.840	14.780	0.000	0.000
5	0.000	7.820	56.790	132.800	304.320	99.110	371.640	39.390	18.570	12.850	0.000	0.000
6	0.000	0.000	35.100	227.370	520.560	94.040	268.930	34.160	21.710	12.890	0.000	9.700
7	0.000	0.000	33.380	334.520	258.200	88.680	207.690	35.210	17.350	20.450	0.000	5.590
8	0.000	5.520	31.520	253.550	181.220	78.460	197.980	31.530	19.950	19.310	0.000	2.690
9	0.000	19.250	23.290	208.210	168.680	55.740	168.080	32.950	19.480	17.020	0.000	5.760
10	0.000	46.490	28.530	201.740	184.380	144.800	151.310	30.270	19.790	19.310	0.000	5.320
11	0.000	71.360	21.420	248.300	155.370	229.120	145.450	32.270	23.800	38.940	0.000	4.360
12	7.320	36.720	15.030	209.870	133.890	235.160	96.530	36.060	20.680	19.730	0.000	6.390
13	0.000	15.800	41.030	153.820	186.860	205.430	97.820	24.040	18.470	25.790	0.000	2.270
14	3.680	15.770	44.890	115.600	311.800	174.330	108.950	27.900	16.120	22.680	0.000	6.350
15	0.000	8.000	44.640	106.790	286.470	138.850	89.940	20.870	18.640	25.700	0.000	2.640
16	8.880	4.820	52.100	126.530	213.910	123.050	84.290	21.250	12.860	22.590	0.000	8.120
17	6.050	71.420	78.720	124.770	169.640	110.590	62.420	21.240	14.810	30.730	0.000	7.240
18	6.440	67.590	328.000	147.310	147.700	83.390	97.100	16.350	16.720	26.180	0.000	4.580
19	0.000	63.530	508.190	115.280	140.570	96.450	141.540	21.980	25.690	33.320	0.000	3.690
20	17.420	120.300	509.190	97.670	110.980	80.580	86.910	20.860	14.930	24.330	0.000	15.270
21	6.510	122.080	206.260	115.270	129.891	76.530	83.780	16.290	24.840	13.980	0.000	7.200
22	20.970	82.780	332.970	129.320	117.580	85.080	63.690	18.960	19.800	4.880	0.000	7.680
23	6.450	78.990	261.990	145.610	107.650	182.690	82.690	23.690	18.990	5.190	0.000	8.850
24	0.000	41.850	210.960	269.010	91.380	218.130	108.540	22.550	23.620	31.010	0.000	3.990
25	3.250	43.830	219.020	306.450	86.910	199.770	150.950	11.700	16.380	8.150	0.000	3.280
26	3.340	26.570	144.590	276.210	110.370	140.480	119.680	23.660	17.720	3.190	0.000	4.120
27	2.810	29.430	111.710	192.450	227.190	330.980	90.580	27.370	21.340	2.640	0.000	10.930
28	0.520	15.610	95.960	181.260	135.680	251.100	68.350	26.900	20.840	7.310	0.000	9.710
29	3.740	15.970	100.300	174.150	135.730	176.160	68.290	28.190	9.460	0.000	0.000	0.000
30	0.460	16.360	95.810	212.090	114.840	137.360	60.240	36.530	23.980	0.000	0.000	0.000
31		80.250		237.660	116.040		56.390		10.850	0.000		8.640

Chief General Manager (GM)
 Director, Project, at the PPA, at Turlal
 Chief Executive Director (CEA)

R. R. Bhargava



Calculated Average Inflow (Cum/Sec) of Turrialba Hydro Power Station (THPS) for the year 2023-24

Date	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
1	14.150	0.000	3.370	18.960	43.610	142.150	100.210	13.850	12.070	9.250	6.580	5.460
2	13.930	30.420	6.430	19.350	61.570	99.960	124.870	15.530	11.920	13.300	14.920	9.400
3	25.060	0.000	4.550	23.030	48.790	85.730	129.840	16.770	13.030	8.590	5.850	5.850
4	24.890	4.550	1.030	12.090	37.780	78.090	104.180	20.960	8.980	10.310	6.330	9.050
5	21.810	4.590	0.830	110.820	35.920	61.100	99.240	16.130	11.800	14.180	6.560	4.060
6	21.290	0.850	7.350	222.350	72.230	54.370	65.200	15.720	7.580	14.010	5.880	7.550
7	6.470	0.870	1.160	100.730	192.060	52.900	53.520	12.940	87.380	14.380	1.130	4.030
8	0.000	0.930	7.330	63.590	188.410	76.690	62.940	8.780	88.050	10.820	6.030	7.300
9	2.780	0.860	13.810	41.190	151.240	68.790	10.420	4.010	31.260	15.830	5.270	3.450
10	0.000	0.000	72.450	34.540	105.000	54.610	43.270	4.360	17.350	10.210	0.050	1.160
11	0.000	0.850	39.720	20.740	137.370	89.070	34.250	8.740	12.270	14.680	6.290	8.670
12	0.000	0.790	14.260	19.790	97.740	283.420	22.910	7.800	0.000	27.880	10.480	0.000
13	0.000	0.870	13.930	21.870	82.070	217.730	22.120	7.970	23.700	31.380	10.790	8.240
14	0.000	4.510	36.700	23.000	75.430	165.050	18.590	12.220	20.790	29.780	12.530	3.760
15	0.000	4.420	70.830	29.180	69.790	132.020	13.940	9.210	22.400	28.030	15.470	4.540
16	5.380	0.000	214.040	25.170	120.180	102.580	15.150	14.230	3.220	29.110	8.230	3.380
17	0.000	8.080	154.120	183.580	136.750	96.300	10.760	71.200	11.690	25.720	11.230	0.230
18	0.000	11.720	91.820	75.940	137.950	70.010	19.750	87.260	23.200	25.040	7.700	5.740
19	0.000	0.000	96.090	64.840	118.320	156.410	14.710	28.760	23.380	29.300	1.130	0.000
20	20.680	15.010	73.820	68.580	80.070	239.550	13.300	20.790	19.410	27.540	15.670	5.360
21	2.970	0.000	84.470	65.350	91.790	423.280	12.660	20.390	9.850	28.830	18.430	2.220
22	0.580	6.130	81.060	82.360	109.000	225.210	19.130	19.200	17.690	28.730	20.790	4.670
23	4.190	0.000	69.970	98.270	79.620	147.590	23.570	18.150	7.810	28.060	57.250	6.780
24	0.000	1.690	65.570	298.080	72.900	109.780	12.850	12.200	9.090	22.630	9.080	3.390
25	0.000	0.000	47.010	278.970	57.550	84.840	22.670	0.000	18.400	24.920	16.560	3.520
26	0.000	27.580	55.230	244.750	97.600	66.270	21.880	10.060	14.740	14.850	8.890	13.160
27	0.000	11.210	55.140	152.820	150.460	137.730	13.340	11.100	9.880	15.920	10.090	2.400
28	0.000	1.260	37.790	93.440	151.570	92.670	18.370	12.360	15.000	10.670	9.200	6.090
29	0.000	1.200	30.370	86.490	92.040	74.160	17.590	17.820	13.510	4.380	8.550	2.420
30	0.000	7.670	19.210	65.210	88.880	73.410	13.640	9.580	8.840	9.250	7.460	7.460
31	0.000	0.000	67.720	113.280	17.250	17.250	17.250	13.930	13.930	13.710	0.000	0.000

CS

General Manager

THE EXECUTIVE DIRECTOR

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22/05/2024



Calculated Average Inflow (Cum/Sec) of Doyang Hydro Power Station (DHPS) for the year 2019-20

Date	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
1	0.000	3.547	5.260	37.439	147.883	28.554	94.463	85.878	11.493	3.861	0.000	0.000
2	4.348	6.013	2.627	69.207	291.238	25.655	102.507	72.014	14.893	6.233	6.430	0.000
3	0.005	5.623	7.098	100.136	252.478	27.579	86.728	61.913	15.681	10.620	5.548	0.000
4	0.000	15.842	9.789	66.477	337.824	24.827	85.314	65.632	15.469	5.645	0.000	0.000
5	8.758	28.483	6.867	63.445	182.031	26.674	68.425	58.738	11.728	34.292	0.000	0.000
6	4.215	10.542	8.574	91.583	114.959	53.772	63.792	56.053	14.246	0.000	0.000	0.000
7	0.178	24.381	28.099	71.935	76.285	38.990	137.950	29.041	14.005	9.874	4.499	0.000
8	4.324	0.000	31.466	148.070	72.982	79.540	153.023	41.564	10.910	4.422	5.279	0.000
9	8.902	2.178	23.976	139.579	83.921	39.560	133.305	20.562	7.457	6.451	3.157	0.000
10	4.399	1.882	19.542	106.247	99.304	71.773	94.405	57.182	17.383	6.497	3.366	0.000
11	4.403	0.298	23.155	98.589	63.827	99.421	112.220	56.789	7.288	2.175	3.489	0.000
12	4.259	1.084	25.598	80.909	44.262	72.709	92.726	65.716	8.679	5.979	0.000	0.000
13	4.216	2.907	28.047	51.469	64.021	136.690	96.324	44.677	12.618	7.250	2.616	0.000
14	2.770	3.119	26.002	28.273	124.121	118.878	63.652	29.947	8.594	0.000	1.006	0.000
15	6.221	5.617	44.478	11.335	90.366	102.062	72.589	43.153	11.061	5.784	1.128	0.000
16	9.381	3.883	28.173	4.344	84.404	97.429	89.473	33.149	9.722	1.808	0.000	0.000
17	20.759	5.280	32.818	32.107	80.340	101.574	74.580	29.963	4.366	19.447	0.000	0.000
18	0.000	3.757	15.721	27.647	79.874	100.687	50.898	27.011	6.411	0.000	0.000	0.000
19	5.995	2.889	21.577	31.106	73.474	68.272	68.634	27.394	7.625	5.802	0.000	0.000
20	5.120	2.317	30.306	60.144	56.242	77.494	39.029	27.079	7.139	0.000	0.000	0.000
21	8.114	2.469	50.493	44.157	53.712	59.395	49.777	22.224	7.776	30.037	0.000	0.000
22	0.000	10.079	47.707	35.863	47.608	69.741	38.759	28.852	11.276	7.396	0.000	0.000
23	2.934	7.265	29.793	27.314	54.188	96.344	30.513	18.031	1.610	0.000	0.000	0.000
24	2.732	24.053	22.286	22.730	29.417	148.706	45.230	20.588	2.730	15.521	0.000	0.000
25	2.725	41.687	17.491	49.265	45.508	171.691	44.360	20.307	3.922	0.000	0.000	0.000
26	0.989	32.282	21.784	84.993	54.500	157.970	185.105	17.764	7.826	4.937	0.458	2.133
27	4.526	17.282	17.599	105.855	3.930	150.842	361.939	15.989	6.448	0.000	0.000	0.000
28	5.322	10.755	16.578	144.449	43.779	138.793	216.067	16.729	6.257	12.893	1.497	0.091
29	5.532	8.755	14.821	103.599	30.709	111.199	156.739	15.920	7.964	0.000	0.000	0.000
30	9.452	5.677	47.559	93.880	27.946	116.125	119.628	12.649	7.927	5.317	0.000	0.000
31	4.947	4.947	33.116	87.309	87.309	87.309	87.309	87.309	87.309	87.309	87.309	87.309

Chief Executive Director
 Director General
 Director Executive Director
 Director General
 Director Executive Director
 Director General

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Calculated Average Inflow (Cum/Sec) of Doyang Hydro Power Station (DHPS) for the year 2020-21

Date	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21
1	1.723	6.319	23.522	58.108	84.560	63.206	82.259	95.037	13.810	3.858	4.073	0.000
2	0.265	4.260	12.662	80.351	76.898	63.047	83.079	118.940	13.752	3.822	4.426	1.165
3	1.059	5.422	24.961	70.191	60.644	46.461	96.148	101.032	13.788	3.735	4.498	2.212
4	0.525	8.723	9.079	55.223	143.231	13.337	37.435	92.295	76.062	71.536	12.430	4.231
5	0.388	5.299	12.238	55.223	143.231	13.337	37.435	92.295	76.062	71.536	12.430	4.231
6	0.034	8.507	10.294	247.340	106.821	44.909	93.859	70.949	15.123	3.591	3.878	5.132
7	0.000	8.817	13.899	238.469	149.368	37.904	88.104	54.546	15.130	12.314	4.055	5.407
8	0.000	3.762	9.948	193.130	141.850	39.136	109.302	55.245	5.504	12.249	4.527	3.801
9	0.000	9.016	5.766	167.138	199.451	42.737	104.224	43.705	13.449	0.000	3.582	1.878
10	0.000	0.064	22.081	114.334	147.113	66.090	131.142	41.194	14.040	4.314	4.051	3.307
11	0.000	0.031	51.046	144.379	115.667	58.955	98.831	39.195	13.687	11.946	3.625	4.848
12	4.230	4.148	73.453	115.763	141.737	42.340	83.118	40.991	12.200	0.000	3.647	18.629
13	4.187	4.140	83.067	106.160	152.847	56.392	99.177	22.631	4.292	20.481	3.554	0.000
14	0.128	4.162	62.708	165.067	146.687	49.670	83.240	31.312	13.701	0.000	3.553	6.645
15	3.970	4.003	51.853	181.971	111.771	49.453	115.265	22.263	4.321	11.918	3.683	18.376
16	3.934	8.452	62.664	109.805	111.439	48.970	49.864	24.558	12.482	4.559	3.748	0.000
17	0.070	12.821	130.684	86.040	101.919	40.606	80.604	24.580	4.075	4.444	13.283	0.000
18	7.993	3.127	198.007	77.809	102.670	48.089	83.806	18.238	12.078	4.407	16.721	0.000
19	3.736	3.517	172.942	63.746	140.770	55.893	82.009	27.135	12.244	3.722	0.000	0.000
20	4.545	7.929	292.456	69.692	133.419	47.882	87.310	17.119	3.505	11.975	0.568	0.000
21	7.730	0.558	261.125	61.071	135.124	45.797	79.634	17.141	12.848	3.630	0.893	0.000
22	8.733	12.573	137.886	60.934	125.785	55.544	103.327	22.321	12.792	4.523	0.308	0.000
23	7.781	8.261	126.626	66.855	144.136	72.491	164.167	14.463	4.003	12.156	0.000	0.000
24	10.559	13.323	196.884	83.825	144.700	78.192	183.275	23.512	12.763	4.400	8.359	0.000
25	4.108	4.809	86.355	75.398	126.732	69.544	143.973	14.673	4.282	3.325	8.381	0.000
26	5.338	17.692	72.268	76.632	125.142	63.362	120.548	14.052	3.938	3.652	23.021	2.343
27	8.798	54.341	64.586	52.031	93.556	59.609	96.286	13.980	12.648	4.364	0.000	7.353
28	12.763	28.008	56.740	84.287	71.695	64.363	80.342	13.980	3.837	4.025	0.090	6.321
29	3.048	26.251	64.384	100.527	63.045	58.351	73.686	22.716	12.337	4.061	0.000	23.855
30	8.488	62.238	58.385	99.213	56.014	47.009	64.239	13.915	4.025	3.808	0.000	11.950
31		21.133		100.880	63.473		69.425		12.150	3.873		0.000

(Signature)
Chief General Manager (E/M)

Director General of Hydro Power Development
Dy. Chief Engineer (E/M)

(Signature)



Calculated Average Inflow (CuM/Sec) of Doyang Hydro Power Station (DHPS) for the year 2021-22

Date	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
1	0.000	0.000	4.690	14.162	146.116	102.575	23.768	16.517	0.000	2.519	3.036	2.462
2	0.000	0.000	4.466	14.011	167.934	109.837	20.080	7.761	7.897	2.952	2.459	2.607
3	2.314	0.000	4.444	14.191	98.490	119.646	28.182	7.360	1.313	2.592	0.000	0.000
4	2.725	0.000	4.740	15.086	49.994	91.919	18.653	7.964	0.953	2.519	5.346	2.482
5	0.000	0.000	0.342	70.648	28.847	64.993	34.905	7.422	0.000	0.000	3.814	0.000
6	0.000	0.000	0.328	25.317	38.196	58.366	26.515	7.581	1.025	2.736	3.108	0.000
7	0.000	0.000	4.473	34.581	87.923	51.847	18.810	7.372	0.880	0.000	12.201	2.607
8	0.000	0.000	0.046	44.378	116.560	163.081	26.912	7.733	8.114	2.880	1.954	0.000
9	0.000	1.555	0.400	43.666	61.264	76.013	18.904	7.891	1.025	2.447	4.480	0.000
10	0.000	0.000	4.473	68.017	18.666	87.843	18.695	8.715	1.169	0.000	5.201	2.462
11	0.000	0.000	21.986	36.023	38.071	49.104	27.027	7.401	7.825	2.519	0.000	0.000
12	0.394	0.000	12.674	33.663	45.317	63.302	19.438	0.000	0.664	2.684	4.840	0.000
13	0.000	0.000	8.392	41.514	40.203	45.200	19.373	6.939	0.361	2.808	4.768	0.000
14	0.000	0.000	12.075	23.965	27.604	35.489	20.297	7.516	7.464	2.664	0.000	0.000
15	0.000	3.791	15.828	30.081	30.104	36.198	11.942	7.733	7.897	2.519	0.000	2.029
16	0.000	4.065	20.320	38.172	37.043	44.319	9.359	0.000	0.520	2.736	0.000	0.000
17	0.000	0.000	16.607	88.831	238.015	109.138	18.665	7.905	0.447	2.684	9.476	0.000
18	0.000	0.017	16.983	76.146	189.928	85.738	10.506	0.000	0.808	2.664	0.000	0.000
19	0.000	0.623	13.047	60.731	125.878	56.427	19.055	0.000	0.000	2.592	0.000	0.000
20	1.869	4.516	42.844	114.684	98.641	44.057	18.889	8.529	7.753	2.664	0.000	0.000
21	0.000	4.041	70.189	101.951	92.628	52.928	33.821	7.880	0.953	2.519	0.000	0.000
22	0.000	3.510	37.592	36.910	73.519	44.514	25.885	1.513	0.375	2.620	0.000	1.967
23	0.000	4.451	28.257	25.566	58.129	62.981	25.627	1.867	3.278	2.519	2.387	0.000
24	0.000	4.266	19.303	28.831	44.096	44.269	17.596	1.729	0.000	2.664	2.459	0.000
25	0.000	4.155	19.346	37.674	43.974	44.305	17.569	1.873	2.845	2.808	2.675	0.000
26	0.000	3.733	21.377	35.687	57.848	44.449	16.270	1.729	3.062	0.000	2.026	0.000
27	0.000	0.000	20.231	53.784	51.243	37.120	17.475	15.474	3.062	2.552	2.531	0.000
28	0.000	0.000	15.902	36.401	59.738	35.871	9.258	8.241	2.918	0.000	2.098	0.000
29	0.000	4.285	8.358	22.731	65.325	44.781	8.529	8.168	2.918	0.000	0.000	0.000
30	0.000	0.000	11.521	39.031	90.924	33.442	16.515	1.152	3.062	2.303	0.000	0.000
31	4.407	156.200	124.773	7.987	2.918	1.509	0.000	0.000	0.000	0.000	0.000	0.000

Chief General Manager (C/M)

Div The EXECUTIVE DIRECTOR (E/D)

Div. Power/NERPC/GenOps/NER

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Calculated Average Inflow (Cum/Sec) of Doyang Hydro Power Station (DHPS) for the year 2023-24

Date	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
1	4.572	0.183	0.270	58.300	86.090	94.597	48.607	15.386	0.911	0.000	2.675	0.000
2	8.054	0.000	4.693	34.712	50.099	73.704	48.740	8.339	0.809	0.000	2.459	2.375
3	4.803	0.069	0.321	41.635	175.567	73.248	64.481	15.573	7.483	0.000	2.531	2.462
4	4.803	4.393	0.191	34.619	267.454	37.179	27.380	8.515	10.092	0.000	2.459	0.000
5	4.803	0.121	0.230	64.421	194.357	68.000	36.287	15.180	0.000	0.000	0.000	0.000
6	4.803	4.893	0.111	269.745	147.195	34.751	44.685	8.287	0.000	6.922	2.264	0.000
7	7.407	0.118	4.502	126.971	455.249	39.441	44.202	15.137	7.454	0.000	0.000	0.000
8	0.463	0.183	9.019	92.992	380.186	52.070	30.935	8.010	28.422	0.000	0.000	0.000
9	7.407	0.031	4.665	75.437	254.346	104.268	56.226	8.235	14.392	2.519	0.000	0.000
10	0.463	0.000	9.018	51.291	327.337	44.887	23.693	8.208	10.384	2.447	0.000	0.000
11	0.000	0.132	22.059	45.569	234.345	83.683	31.499	7.966	11.518	2.519	0.000	5.121
12	0.000	0.000	25.720	38.387	198.469	92.618	30.608	0.819	7.252	2.519	0.000	0.000
13	0.254	0.086	33.142	13.497	157.006	108.356	31.904	8.126	2.946	2.447	0.000	0.000
14	0.368	0.229	16.352	53.950	175.663	51.099	31.997	7.966	7.371	2.519	0.000	5.413
15	0.261	0.086	17.381	135.037	151.571	82.780	25.419	8.146	7.421	2.694	0.000	0.000
16	0.157	4.523	18.759	300.498	186.346	74.334	21.344	1.333	7.451	2.694	0.000	0.000
17	0.176	4.314	24.375	180.700	186.691	64.967	20.839	8.357	7.407	0.000	0.000	5.291
18	0.106	0.000	34.297	102.128	182.007	48.662	20.933	8.362	6.613	2.447	0.000	0.000
19	0.294	4.249	30.193	74.026	176.580	54.919	18.305	8.364	0.219	0.000	0.000	5.293
20	0.186	4.312	22.662	115.432	111.478	112.683	14.229	8.408	0.282	0.000	0.000	0.000
21	0.157	0.024	11.633	80.450	132.686	95.047	11.609	15.541	0.100	0.000	0.000	0.000
22	0.200	4.496	26.618	58.803	141.672	93.322	16.351	16.138	0.052	0.000	0.000	10.108
23	4.597	0.183	25.695	148.768	119.584	76.859	6.664	17.721	0.155	0.000	4.929	5.440
24	4.382	4.278	22.396	198.410	109.042	76.691	15.236	21.365	7.196	0.000	11.657	5.077
25	0.300	4.278	39.863	158.410	143.584	76.896	22.371	22.302	7.110	0.000	11.801	0.000
26	4.571	8.659	51.389	131.397	158.460	60.623	29.729	15.663	0.279	0.000	5.506	5.438
27	4.425	8.661	98.340	90.090	135.579	60.276	22.801	8.822	7.124	0.000	0.000	5.438
28	0.000	8.625	107.311	82.842	119.649	59.142	15.586	0.981	0.201	0.000	4.496	8.105
29	0.236	0.115	107.081	66.341	87.741	56.859	15.770	0.000	0.000	0.000	0.000	0.000
30	0.292	8.690	58.280	52.970	96.085	48.950	15.825	7.848	0.099	0.000	0.000	5.943
31		0.178		65.465	142.393		8.578		0.000	0.000		6.067


 Chief General Manager (E/M)
 Director General of the Dept. of Energy
 Ohio The EXECUTIVE DIRECTOR (E/M)




 Sanjay K. Choudhary


Average Inflow (Cum/Sec) of Panvot Lower Hydro Power Station (PLHPS) for the year 2020-21

Date	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21
1	19.825	59.569	90.193	111.875	176.144	57.822	83.760	40.830	22.080	17.158	16.445	113.833
2	22.267	36.848	157.055	190.317	161.089	60.233	78.117	35.816	22.558	18.871	17.050	58.666
3	41.704	33.148	112.748	126.524	153.799	58.205	75.980	36.809	22.858	18.051	17.608	27.809
4	21.844	31.400	123.667	101.416	118.320	53.752	76.253	39.249	24.302	18.081	16.040	20.635
5	18.983	36.125	118.566	97.172	114.543	60.986	87.569	37.887	24.420	16.811	15.419	22.600
6	18.300	41.772	198.517	93.444	101.958	151.389	111.419	34.604	24.111	17.428	14.388	34.921
7	22.084	37.845	146.001	93.538	102.598	122.251	111.113	35.190	24.843	19.127	16.225	25.447
8	22.873	25.431	110.927	92.871	100.053	88.962	81.856	35.994	23.858	18.762	15.201	19.981
9	19.081	24.756	92.284	147.082	99.357	69.324	79.534	33.920	22.634	17.733	15.740	18.873
10	15.511	21.489	80.276	201.151	105.558	59.696	68.500	32.282	17.733	17.977	15.057	17.497
11	19.968	27.039	81.871	230.343	156.653	80.176	74.339	31.840	23.402	17.202	15.953	19.052
12	28.528	30.474	87.475	213.812	133.920	84.011	61.982	32.742	22.438	18.659	16.875	22.272
13	22.876	43.859	110.989	171.102	103.432	101.160	55.653	31.177	21.500	27.147	13.186	20.381
14	19.378	103.611	91.378	131.218	97.399	84.691	56.813	30.196	21.228	25.177	14.294	20.032
15	18.293	42.077	78.043	118.980	86.380	75.019	51.582	28.348	23.667	18.606	15.105	22.017
16	24.589	43.774	80.013	130.893	88.197	80.193	46.633	31.191	21.428	17.172	18.491	36.633
17	28.322	107.854	74.794	128.681	131.137	96.398	46.375	30.434	21.486	16.588	13.797	21.662
18	22.781	53.563	156.594	124.976	96.838	104.990	44.838	33.876	22.396	17.846	14.458	19.772
19	55.139	49.375	119.582	135.350	89.777	84.858	46.355	35.292	23.252	17.178	15.721	18.191
20	85.274	38.793	118.542	181.080	61.502	70.897	46.699	35.110	19.589	16.168	15.021	16.316
21	48.416	97.477	94.286	193.076	74.622	74.613	43.843	30.773	21.859	21.823	13.616	16.486
22	54.094	623.011	100.325	196.558	83.454	120.124	43.492	29.094	19.796	20.900	13.189	16.666
23	33.921	420.675	116.034	140.646	74.540	149.998	45.797	29.263	18.374	18.791	13.804	19.711
24	58.682	292.692	126.583	131.939	67.000	140.180	85.837	28.908	17.886	17.874	13.851	16.133
25	78.676	308.375	154.417	119.041	67.341	147.078	90.122	25.411	14.778	18.030	13.544	15.406
26	46.143	273.005	202.247	108.530	58.880	139.641	67.633	23.705	18.807	18.051	12.878	15.384
27	36.485	294.925	273.785	107.698	44.414	125.435	55.761	26.089	19.464	16.358	14.670	16.027
28	40.341	154.182	188.486	419.987	22.765	119.974	44.015	26.601	19.484	18.056	21.069	14.194
29	31.589	121.943	152.063	255.805	70.577	92.884	42.048	25.848	19.928	15.000		14.105
30	38.455	105.128	124.352	314.154	101.391	86.831	33.167	26.229	19.044	16.808		15.416
31		99.282		257.664	74.175		45.230		17.975	16.228		23.469

पुनः पर्यवेक्षक (ई/पुन)

General Manager (P)

मुख्य निदेशक (पुन) या निदेशक
 District Executive Director (P)

Dist. Executive Director (P)

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Average Inflow (Cum/Sec) of Panzor Lower Hydro Power Station (PLHPS) for the year 2021-22

Date	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
1	22.210	20.194	61.069	64.675	143.934	212.634	51.462	31.235	23.731	18.929	16.611	22.073
2	20.761	19.961	91.722	47.443	212.210	152.752	50.633	32.023	25.062	14.756	22.008	24.773
3	15.383	16.722	69.489	66.336	66.054	130.797	61.110	31.090	21.644	17.485	16.713	21.430
4	14.977	16.326	80.178	73.059	66.569	110.503	51.478	31.399	24.670	20.099	14.050	16.606
5	14.626	20.272	306.857	55.343	63.364	98.529	54.680	27.515	22.128	19.437	35.825	19.571
6	15.522	46.419	198.139	56.814	57.656	90.602	57.494	32.920	21.679	19.976	60.259	20.379
7	13.796	32.777	151.869	62.161	58.680	174.273	60.633	29.653	21.821	17.283	31.445	20.570
8	14.278	41.962	293.447	140.092	64.560	152.969	47.570	25.366	22.214	15.384	26.083	21.141
9	23.122	41.145	165.521	98.910	70.985	128.921	45.098	24.833	22.033	19.881	25.394	22.730
10	21.170	30.669	106.801	88.494	66.067	118.059	46.100	26.796	20.666	18.171	20.599	21.543
11	16.895	81.161	87.846	74.051	77.015	106.727	38.158	26.880	22.267	15.172	25.071	23.041
12	14.355	63.998	77.262	84.746	99.311	107.981	36.516	26.174	22.606	19.071	24.564	30.555
13	13.933	58.772	97.447	80.647	87.974	89.024	36.698	26.026	18.934	26.158	18.981	26.264
14	54.735	67.869	93.079	85.480	247.814	83.296	36.406	25.085	18.762	18.300	17.558	29.770
15	32.684	55.316	67.910	96.089	138.322	75.378	36.302	25.828	21.420	18.075	18.280	24.944
16	19.883	70.661	62.374	90.969	92.053	89.180	36.857	24.413	19.838	16.716	17.561	27.359
17	36.269	56.204	59.223	112.577	76.482	95.628	36.335	23.143	22.153	14.778	18.837	21.586
18	26.481	59.636	77.439	106.838	83.024	123.346	52.162	25.571	21.816	17.530	17.311	20.499
19	29.555	111.627	64.283	127.777	102.268	86.672	59.678	23.491	19.789	15.100	17.311	21.339
20	23.101	178.540	72.343	169.659	87.669	75.902	146.875	22.660	19.208	14.485	17.160	22.150
21	48.915	94.677	69.313	120.364	83.536	69.961	95.522	24.112	22.012	15.899	20.788	24.820
22	26.583	109.797	74.422	96.694	75.532	66.992	54.125	24.662	19.502	14.506	22.465	19.130
23	18.666	54.747	65.175	80.092	80.063	68.313	49.262	37.440	20.547	16.575	20.242	18.568
24	16.639	43.658	61.542	74.457	84.462	65.696	42.779	29.304	20.010	18.572	17.806	25.869
25	14.580	51.469	60.678	72.356	94.847	62.065	40.562	29.861	18.467	18.097	16.387	26.364
26	15.778	62.082	80.298	65.196	180.429	60.776	40.702	24.448	20.385	19.943	17.645	49.316
27	34.116	282.280	52.191	93.150	279.907	61.928	39.203	24.082	18.578	16.871	18.898	48.943
28	21.078	94.816	50.376	63.680	253.456	67.439	37.713	21.153	21.270	16.981	19.992	28.167
29	29.211	60.162	49.569	70.619	177.411	55.821	34.580	25.361	18.964	17.604	18.992	22.214
30	20.115	48.977	57.259	79.380	140.217	59.923	37.223	23.814	17.308	18.991	18.992	27.965
31		62.207		73.363	155.995		31.639		20.258	15.829		111.895

Chief General Manager (G/M)

Chief General Manager (G/M)

Chief Executive Director (C/D)

Chief Executive Director (C/D)

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Average Inflow (Cum/Sec) of Panyor Lower Hydro Power Station (PLHPS) for the year 2022-23

Date	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
1	156.251	79.170	53.513	168.630	175.689	78.903	52.476	80.526	30.890	22.731	16.890	27.516
2	123.826	64.019	56.503	148.923	104.914	56.089	45.150	69.437	31.575	23.499	14.891	22.423
3	93.880	56.376	51.261	110.820	109.785	81.584	34.160	65.301	30.650	21.554	17.215	20.157
4	117.724	75.695	56.632	99.957	94.844	160.408	46.157	64.166	29.836	18.642	16.371	17.441
5	145.589	57.406	64.335	91.510	93.009	174.899	70.450	68.203	30.763	19.666	17.078	18.563
6	173.175	41.221	50.763	79.870	73.483	122.355	122.474	56.043	30.352	18.965	17.526	21.214
7	93.180	38.060	44.011	74.483	73.980	99.438	103.392	56.584	29.800	18.981	17.197	34.364
8	146.912	42.654	43.763	71.516	95.802	98.209	107.335	62.219	28.902	18.626	20.921	24.886
9	100.346	45.101	75.456	63.901	70.520	85.256	126.280	58.744	28.945	18.800	23.714	21.482
10	71.224	31.531	70.841	63.594	72.331	77.811	152.572	50.556	29.101	19.518	22.037	18.375
11	67.790	42.638	79.279	71.118	69.835	72.314	133.378	51.128	28.701	19.279	19.683	20.074
12	46.545	61.441	195.870	76.305	55.380	61.283	174.357	48.829	26.006	19.366	20.318	16.859
13	45.212	74.268	89.663	70.760	58.882	67.740	98.362	48.518	25.675	18.444	21.510	20.802
14	132.611	113.356	77.448	61.678	51.779	67.316	88.702	45.109	28.536	23.221	23.088	18.008
15	90.426	144.101	154.484	64.407	60.183	63.839	77.230	44.361	24.845	26.884	18.391	18.759
16	55.092	200.205	263.589	56.281	63.813	59.542	64.658	40.582	23.761	21.733	18.197	22.734
17	45.452	213.665	298.653	50.482	58.573	58.552	65.373	44.552	25.971	20.149	17.667	21.022
18	42.150	170.551	291.328	47.192	63.017	55.117	59.667	41.435	23.716	19.864	19.787	20.825
19	37.213	137.183	208.087	48.418	84.296	53.829	63.012	41.973	25.895	20.789	17.786	23.712
20	37.787	134.096	191.535	120.052	58.575	49.512	49.718	39.070	21.677	17.959	16.945	31.722
21	29.886	149.920	145.709	89.272	54.120	46.906	48.610	38.208	23.244	18.444	18.358	47.407
22	28.581	151.625	122.062	76.749	55.515	48.054	44.994	37.872	20.943	18.894	24.294	70.681
23	40.877	128.961	114.481	65.071	64.838	90.618	44.437	38.119	24.655	21.505	36.315	69.998
24	96.650	91.991	106.560	84.718	57.085	84.467	44.293	37.169	24.850	19.280	34.135	40.555
25	49.601	82.619	79.763	81.109	67.086	158.232	363.151	33.060	25.573	20.610	26.193	43.436
26	37.156	77.882	98.971	94.349	54.479	78.658	289.383	35.460	22.226	18.890	25.223	38.310
27	34.749	67.198	78.390	77.799	47.978	64.862	185.210	34.073	23.656	22.507	22.944	32.599
28	68.373	63.366	140.193	75.006	57.002	61.402	127.332	33.404	29.769	20.182	26.163	27.715
29	37.526	67.186	177.836	64.351	107.262	54.688	110.234	32.205	28.784	18.434	26.163	34.271
30	78.450	60.772	180.666	63.354	75.350	53.710	90.782	33.060	25.321	18.777	26.163	37.251
31		56.965		128.671	61.779		77.537		26.801	17.982		41.571

Chief General Manager (EAM)
 Director (PLHPS) & (PL) & (PLM)
 Director (EMERGENCY DIRECTOR)
 Panyor Lower Hydro Power Station

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Average Inflow (Cum/Sec) of Panvor Lower Hydro Power Station (PLHPS) for the year 2023-24

Date	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
1	26.734	43.751	23.656	68.915	110.661	104.296	54.635	33.590	22.315	17.816	19.370	20.222
2	37.405	66.109	20.816	60.538	68.246	91.869	47.590	32.222	22.160	18.500	20.338	23.178
3	42.619	40.905	25.319	123.945	112.378	86.982	56.154	32.303	22.008	18.286	25.059	19.157
4	47.610	38.051	23.768	89.407	100.237	77.269	80.648	31.692	22.504	18.474	18.977	30.793
5	100.064	39.082	27.672	68.295	98.113	72.603	93.974	34.306	22.816	19.895	17.101	36.301
6	41.451	44.156	26.194	63.378	144.587	71.591	89.846	33.900	23.440	17.011	22.400	27.840
7	46.911	46.952	22.311	99.453	106.397	66.627	77.124	34.635	22.418	16.749	25.091	22.217
8	30.848	50.517	20.544	105.487	127.330	65.467	125.481	29.837	22.650	18.184	25.724	21.267
9	26.347	40.544	21.844	108.300	112.345	63.318	127.921	29.695	26.908	18.001	23.490	13.689
10	24.564	30.110	25.811	78.864	109.059	62.844	110.465	31.497	22.574	16.350	19.148	18.393
11	23.189	26.385	121.377	85.859	111.215	62.348	85.572	29.783	26.288	16.782	18.410	18.277
12	20.362	23.418	81.275	178.143	95.530	54.547	68.850	28.683	24.328	16.747	17.453	18.045
13	20.514	22.748	119.532	196.400	209.044	57.725	85.379	30.239	22.185	16.224	18.051	22.158
14	20.669	19.608	92.714	109.158	110.207	51.377	60.906	21.933	22.527	16.436	14.958	50.545
15	19.188	19.766	139.820	77.197	95.446	47.034	61.061	27.150	22.016	15.213	17.068	40.249
16	18.735	21.052	281.540	90.146	87.602	46.238	58.389	28.633	21.641	15.057	16.489	23.656
17	19.551	29.274	186.906	268.794	94.166	48.746	51.289	27.249	22.348	17.348	16.489	22.166
18	37.437	53.659	129.965	129.886	78.762	49.038	47.365	28.000	22.086	16.570	18.355	23.722
19	24.750	55.562	115.691	110.806	72.816	48.104	47.040	24.414	20.085	16.614	17.733	18.977
20	67.790	51.148	124.489	82.017	68.947	61.759	49.986	26.568	22.145	18.232	16.800	16.800
21	86.351	51.436	289.105	75.317	72.525	117.992	44.398	25.779	19.732	15.835	18.044	30.811
22	49.751	55.777	186.584	69.455	254.325	98.936	41.833	24.861	20.000	17.991	19.677	101.150
23	33.980	40.534	161.693	80.735	139.889	81.213	43.212	25.978	19.696	17.348	32.744	55.036
24	29.738	34.986	106.797	67.208	126.325	107.072	39.796	22.220	19.399	15.312	21.477	41.630
25	24.274	46.138	90.490	88.338	127.097	65.325	38.027	26.327	18.304	16.925	18.666	34.082
26	18.155	49.444	89.409	98.479	128.721	67.885	36.648	25.600	19.152	13.679	17.111	55.609
27	25.631	60.267	86.928	102.974	177.324	65.000	36.005	25.140	19.619	15.538	18.044	62.651
28	21.412	44.708	84.503	125.628	241.431	56.293	39.647	24.235	18.093	17.525	16.877	33.028
29	40.703	32.709	77.842	226.654	163.978	46.971	36.004	22.560	19.894	16.436	20.455	28.525
30	83.133	25.879	51.200	134.408	131.231	47.279	34.816	23.072	19.698	15.291		36.205
31		26.022		121.995	114.798		34.174		16.391	15.866		28.341

Chief General Manager (GM)
Panvor Lower Hydro Power Station
DISTRICT EXECUTIVE DIRECTOR (DDE)
Panvor Lower Hydro Power Station

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Sr. Panor (DDE)



Average Inflow (CumSec) of Kameng Hydro Power Station (KAHPS) for the year 2021-22

Date	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
1	0.000	33.710	67.040	289.500	436.580	434.760	130.380	76.950	59.360	43.130	36.610	36.180
2	18.860	33.710	62.030	430.740	408.690	500.690	119.370	79.230	59.100	42.800	36.610	38.500
3	14.660	33.710	67.200	317.560	271.650	322.190	133.060	87.710	58.860	41.590	36.260	36.640
4	10.100	39.130	56.570	247.560	191.160	273.960	127.010	66.930	57.650	42.610	36.630	38.400
5	10.050	65.860	66.870	281.310	167.990	316.420	320.880	69.040	56.150	41.260	45.130	38.610
6	18.560	77.300	92.280	301.440	149.910	452.090	211.250	83.690	56.470	40.800	41.850	36.730
7	18.170	60.860	132.790	444.390	140.720	371.750	186.740	73.830	54.130	39.980	40.740	44.930
8	0.000	66.350	200.520	581.320	197.940	322.990	169.720	69.390	52.940	40.230	37.940	46.190
9	0.000	75.400	117.280	357.360	212.030	561.070	129.120	68.130	52.410	40.110	37.130	49.300
10	30.790	56.090	111.880	580.870	214.430	476.300	120.930	66.670	51.230	40.180	36.780	48.000
11	31.120	71.900	87.050	460.080	257.460	356.480	103.920	66.660	51.610	39.930	36.590	53.390
12	29.970	79.940	96.590	488.050	261.790	306.980	100.700	68.290	52.070	39.470	36.590	51.910
13	31.330	85.610	154.690	393.560	232.860	281.770	100.140	66.490	51.390	41.020	36.010	48.890
14	28.850	74.530	103.750	366.750	266.660	237.820	101.480	64.680	50.500	40.860	36.510	49.640
15	32.090	56.090	104.950	474.000	414.370	272.870	99.210	65.120	49.960	40.050	36.030	55.470
16	32.500	50.580	112.210	490.100	513.280	253.140	99.390	65.280	50.190	39.200	36.140	49.440
17	32.500	51.920	128.820	572.300	501.650	266.900	129.230	63.450	38.490	37.820	35.620	46.060
18	35.160	65.020	169.050	445.110	501.170	348.690	138.710	62.550	28.790	38.220	35.430	51.820
19	40.270	56.920	181.710	438.140	624.400	231.710	298.110	61.790	23.630	37.640	36.430	57.000
20	34.570	51.930	160.950	476.840	779.110	193.700	354.330	61.060	41.420	36.620	35.030	52.990
21	0.000	45.130	155.440	387.000	552.700	180.810	263.660	60.270	44.700	37.200	36.220	52.330
22	31.850	50.930	128.280	324.390	418.520	181.230	210.240	61.490	44.200	38.400	34.940	52.270
23	30.630	40.690	181.060	318.440	375.320	203.490	185.150	65.300	45.020	38.640	34.980	48.510
24	30.630	39.460	118.930	314.370	349.150	226.600	134.500	69.550	41.720	38.010	34.300	51.450
25	31.980	49.480	110.480	292.950	630.950	221.210	128.470	70.960	43.460	36.930	34.020	45.930
26	28.850	52.090	117.480	403.480	618.690	182.900	127.370	69.510	43.090	37.040	35.190	41.690
27	29.150	590.900	115.670	394.100	927.590	192.210	124.120	66.240	42.690	36.770	35.000	42.240
28	30.250	168.860	150.360	333.710	618.960	239.860	123.090	62.130	42.960	36.760	35.970	43.830
29	35.600	73.170	216.560	402.180	433.870	202.510	90.080	58.800	43.150	36.750		52.300
30	32.380	67.900	319.870	393.000	446.030	169.620	96.640	56.790	46.940	36.180		51.290
31		84.920		351.110	427.320		97.210		46.100	35.760		51.110

Chief General Manager (Civil)
 Kameng Hydro Power Station
 The EXECUTIVE DIRECTOR (GAH)

[Signature]

[Signature]



Average Inflow (CuM/Sec) of Kameng Hydro Power Station (KAHPS) for the year 2022-23

Date	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
1	55.310	120.990	136.020	480.140	525.580	214.450	130.700	82.800	59.120	46.060	41.450	36.930
2	60.990	54.450	89.340	310.380	486.480	221.940	122.480	89.420	58.940	45.830	39.410	35.760
3	60.160	50.790	108.430	219.570	481.410	188.210	114.340	96.950	58.240	45.140	39.000	34.920
4	85.920	108.490	152.600	188.920	371.520	170.800	118.750	92.690	57.530	44.940	39.000	36.240
5	57.490	82.420	160.300	164.460	352.100	173.950	184.270	89.950	57.370	44.940	38.590	35.190
6	46.850	51.590	123.060	151.890	432.890	193.290	165.920	87.720	56.270	44.800	37.750	35.610
7	176.620	58.640	189.830	119.020	322.590	365.750	137.920	76.420	55.980	43.260	36.180	36.860
8	187.060	69.560	226.070	130.920	304.070	422.160	129.470	74.440	56.390	43.600	41.980	37.970
9	101.420	50.550	216.130	152.370	237.870	272.810	123.840	82.840	55.480	42.950	38.580	38.410
10	92.200	50.830	176.940	141.240	289.030	189.900	140.180	80.130	54.920	42.060	39.680	36.750
11	171.530	51.700	256.930	136.720	236.140	168.380	128.280	79.250	54.920	42.470	39.620	36.530
12	173.570	54.010	181.270	144.580	167.740	164.210	123.700	77.610	54.210	41.860	42.830	36.330
13	156.590	59.510	168.010	152.750	156.100	168.670	127.630	67.470	53.480	42.160	41.240	37.560
14	138.960	78.600	232.020	169.880	201.130	164.740	110.870	75.390	53.080	33.450	39.010	35.720
15	144.300	56.020	246.140	135.800	283.400	160.550	104.710	73.540	52.260	34.420	39.700	36.300
16	80.950	106.490	263.730	115.790	201.590	204.500	96.940	71.810	52.470	41.960	36.660	38.400
17	85.830	108.370	253.000	105.440	177.660	223.660	92.160	71.810	52.050	42.330	36.530	35.310
18	104.550	85.620	212.920	102.290	181.280	160.760	89.450	71.450	50.670	41.270	37.200	37.610
19	93.130	63.960	117.380	129.420	188.920	140.420	84.330	69.180	50.820	40.810	36.720	49.170
20	107.680	120.290	218.470	342.150	198.940	124.160	72.910	67.800	50.670	40.850	37.940	47.000
21	82.570	218.920	390.790	252.020	155.390	126.220	70.750	66.630	50.150	40.440	37.200	69.780
22	111.350	177.200	279.670	432.940	140.880	129.180	78.760	66.630	50.150	40.480	42.940	70.720
23	117.870	121.040	229.860	237.670	143.180	125.260	76.440	64.970	49.470	40.210	42.560	59.990
24	125.390	88.870	357.520	243.860	132.020	156.240	83.430	63.950	48.340	40.820	37.530	52.950
25	106.910	76.040	415.310	217.250	130.770	189.630	734.580	63.210	48.730	39.610	38.970	61.120
26	82.020	80.980	301.520	267.280	119.890	157.320	317.740	61.510	48.000	40.440	39.690	56.360
27	78.740	82.670	259.350	428.310	154.930	143.390	161.340	62.080	47.730	39.930	36.870	45.620
28	80.630	92.820	384.620	349.820	149.960	162.990	140.070	60.280	48.680	40.160	37.350	42.020
29	93.480	80.710	495.150	346.390	201.000	255.800	125.510	59.710	48.390	39.240	37.350	40.980
30	101.940	70.440	471.870	397.000	196.100	147.880	113.440	58.860	47.130	40.550	37.350	40.560
31		90.600		482.980	159.600		109.240		46.480	40.300		40.800

Chief General Manager (G/M),
Srinagar Field, 39 (1) 1st Floor,
D/O THE EXECUTIVE DIRECTOR (OSM),
Jammu, J.K. 180 001

R. Phangon



Average Inflow (Cum/Sec) of Kamnang Hydro Power Station (KAHPS) for the year 2023-24

Date	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
1	42.040	72.250	43.030	156.250	184.730	266.860	128.320	64.130	45.500	36.440	33.470	36.010
2	45.460	63.170	42.450	185.860	170.440	250.980	134.290	63.520	45.710	36.450	32.450	39.650
3	43.720	50.890	42.600	168.010	285.910	210.250	115.230	63.300	44.920	36.510	32.440	36.380
4	43.260	47.970	41.600	196.890	432.560	188.070	133.930	62.820	44.360	36.650	32.690	37.610
5	48.270	51.030	41.430	185.230	363.640	185.410	141.740	62.280	43.840	36.520	32.550	39.930
6	44.900	47.780	42.620	160.400	256.980	172.220	140.510	61.250	44.130	35.430	32.930	40.100
7	42.940	49.750	43.420	174.610	327.080	173.180	161.990	60.200	42.980	35.730	34.170	41.740
8	42.460	52.970	40.750	213.130	364.360	143.670	135.580	58.660	43.820	35.470	34.450	41.830
9	40.410	47.530	47.850	213.400	301.840	144.990	133.470	57.700	43.040	34.150	33.870	40.810
10	42.060	45.400	57.390	266.290	310.880	149.920	132.640	58.770	43.180	34.770	34.890	41.070
11	45.830	42.180	137.440	272.430	264.100	183.920	113.360	57.030	45.300	34.180	34.390	41.860
12	41.980	40.480	103.890	197.670	255.830	279.090	104.830	56.260	42.580	34.040	32.400	39.080
13	41.110	39.830	116.970	184.850	608.020	197.480	104.140	54.930	42.920	33.780	29.710	35.760
14	42.570	39.070	114.590	218.890	353.800	156.330	98.360	53.770	42.170	33.620	30.450	41.170
15	45.980	38.340	126.870	244.210	372.540	156.510	112.010	52.700	41.110	33.240	29.890	38.140
16	49.210	47.770	106.860	331.110	372.100	156.330	111.700	52.270	40.120	32.510	32.090	33.770
17	49.540	48.550	97.620	373.910	287.540	132.200	94.490	52.520	39.710	33.480	36.180	33.890
18	45.790	60.060	117.940	245.220	318.600	134.100	89.370	52.280	39.400	35.020	36.180	35.740
19	49.870	82.250	122.740	164.530	270.090	121.330	87.120	51.010	37.700	35.060	37.370	34.190
20	56.780	83.600	155.470	163.430	247.410	168.690	84.600	50.320	38.330	33.830	36.030	34.010
21	58.310	54.340	158.530	165.400	299.760	266.910	81.290	49.840	38.320	34.110	33.370	44.660
22	52.210	48.030	158.990	260.630	517.650	205.940	78.380	50.280	38.520	33.610	37.250	108.940
23	46.720	46.220	142.210	219.160	407.550	146.220	76.620	50.430	38.420	33.240	36.500	85.750
24	42.620	45.520	111.480	263.100	377.950	132.350	74.980	48.710	37.020	32.730	34.760	78.190
25	41.420	48.490	82.340	194.120	405.880	133.420	73.350	47.950	38.490	32.650	32.740	66.840
26	45.650	72.830	111.960	211.300	388.120	148.040	71.960	48.130	37.460	33.950	32.000	77.450
27	44.240	85.280	86.390	198.890	385.020	173.420	70.820	47.320	37.310	33.930	32.120	59.000
28	44.390	65.570	85.740	216.510	391.480	139.550	70.880	46.260	36.950	32.840	31.230	54.929
29	57.050	66.050	141.830	269.440	343.730	100.850	69.090	46.260	35.560	32.090	33.480	46.870
30	78.210	47.980	139.490	254.210	307.580	105.270	67.220	45.540	36.270	32.450		46.180
31		44.330		273.560	354.460		66.050		35.520	32.490		49.760

शुभ महाराज (श्री/म)

Chief General Manager (GM)

राज्य प्रसारण निगम (राज) का मुख्यालय

AS THE EXECUTIVE DIRECTOR (ADM)

राज्य प्रसारण निगम (राज्य)

AS THE EXECUTIVE DIRECTOR (ADM)

[Handwritten Signature]

शुभ महाराज (श्री/म)

Chief General Manager (GM)

राज्य प्रसारण निगम (राज) का मुख्यालय

AS THE EXECUTIVE DIRECTOR (ADM)

राज्य प्रसारण निगम (राज्य)

AS THE EXECUTIVE DIRECTOR (ADM)



Customized Rainfall Information System
(CRIS)

Hydro-met Division
Water Resources and Department
Ministry of Earth Sciences
New Delhi-110 055

Choose the language: ARUNACHAL PRADESH Assam WEST KAMENG

District: WEST KAMENG

Step 1) The District Rainfall information (R/F) shown below are the arithmetic averages of number of station of the above under the District.
2) % Dev. in the District are calculated from the long period average of rainfall for the District.
3) Blank space show unavailability of data

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC												
R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP											
2018	0.0	-100	12.8	-71	35.7	-39	110.1	-18	205.5	-39	353.3	-47	379.7	-49	380.7	-34	215.4	-56	112.2	-52	9.2	-77	16.0	-61
2019	1.5	-94	20.7	-37	36.0	-33	104.6	-21	189.7	-27	190.1	-60	482.4	-7	191.6	-56	250.0	-29	109.6	-39	4.0	-87	2.8	-85
2020	18.6	-23	29.9	-8	16.2	-65	146.1	11	394.6	32	296.9	-38	442.8	-16	325.0	-25	343.2	-3	139.3	-23	15.2	-50	4.2	-78
2021	26.5	10	2.9	-92	25.3	-46	30.4	-77	220.2	-15	248.2	-48	413.2	-22	346.7	-20	225.6	-36	134.0	-26	5.2	-70	9.0	-52
2022	16.1	-201	41.2	490	6.5	-861	104.7	-194	232.0	-128	545.0	201	256.5	-501	230.3	-451	235.2	-261	348.9	1131	0.3	-591	1.2	-931

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Customized Rainfall Information System
(CRIS)

Hydrological Division
Water Management Department
Ministry Of Earth Sciences
New Delhi-110 001

Choose the State/UT: **NAGALAND** **WOKHA** **GO**

District - WOKHA

View (1) The District Rainfall (R/P) system helps in the with-able averages of Rainfall of Wokha under the District.
(2) View the District Rainfall (R/P) system helps in the with-able averages of Rainfall of Wokha under the District.
(3) View the District Rainfall (R/P) system helps in the with-able averages of Rainfall of Wokha under the District.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	
R/P	\$DEP	R/P	\$DEP	R/P	\$DEP	R/P	\$DEP	R/P	\$DEP	R/P	\$DEP	R/P	\$DEP
2018	5.0	-75	1.0	-98	0.0	-100							
2019	6.0	-66	13.7	-63	30.2	-50	100.1	-26	84.1	-63	59.3	-82	313.5
2020	24.5	37	22.5	-40	30.9	-49	86.1	-36	143.8	-37	236.3	-29	271.0
2021	8.9	-84	6.7	-82	30.9	-49	30.9	-77	147.2	-26	219.9	-34	311.2
2022	48.2	1894	38.2	674	7.3	-856	231.0	769	277.0	354	373.5	254	307.5





Customized Rainfall Information System
(CRIS)

Hydromet Division
India Meteorological Department
Ministry of Earth Sciences
New Delhi-110 003

Choose the State/UT: **NAGALAND**

▼ Select District: **ZUNHEBOTO**

▼

District : ZUNHEBOTO

Note: (1) The District Rainfall in millimeters (R/F) shown below are the arithmetic averages of Rainfall of Stations under the District.

(2) % Depure is the Departure of rainfall from the long period averages of rainfall for the District.

(3) Blank Spaces show non-availability of Data

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC												
R/P	₹DEP	R/P	₹DEP	R/P	₹DEP	R/P	₹DEP	R/P	₹DEP	R/P	₹DEP	R/P	₹DEP											
2016						165.0	-53	447.0	1	220.0	-38	184.0	-24	64.0	-98	0.0	-100	29.0	171					
2019	12.0	-49	17.0	-36	26.0	-60	144.0	-19	107.0	-53	393.0	12	232.0	-47	182.0	-48			133.6	9	49.0	18	3.0	-73
2020	31.0	31	21.0	-21	32.0	-51	86.5	-51	188.4	-16	471.7	35	318.0	-23	361.0	2	167.4	-31	254.5	108	54.6	32	0.0	-100
2021	1.0	-95	1.1	-96	1.2	-98	48.5	-73	136.9	-39	308.5	-12	275.8	-38	336.3	-5	124.5	-49	74.4	-39	0.0	-100	36.1	228
2022	46.3	1744	49.2	4634	13.3	-564	195.2	1184	324.2	854	328.7	94	442.4	524	385.1	434	303.2	394	179.9	1324	0.0	-1004	24.3	2624





Customized Rainfall Information System
(CRIS)

Hydro-met Division
Water Resource, Space Department
Ministry Of Earth Resources
New Delhi-110 003

CHOOSE THE DISTRICT: MIZORAM

▼ SELECT THE: KOLASIB

▼

District : KOLASIB

Note: (1) The District Rainfall (mm) and Annual (mm) values are the arithmetic averages of monthly (mm) values over the District.
(2) % Dev. are the Deviations of rainfall from the long period averages of rainfall for the District.
(3) Sign. Excess and/or deficiency of Rain

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC												
R/F	\$DEP	R/F	\$DEP	R/F	\$DEP	R/F	\$DEP	R/F	\$DEP	R/F	\$DEP	R/F												
2018						610.8	40	420.0	-3	579.5	28	128.0	-55	54.0	-71	13.4	-73	7.6	-41					
2019	1.0	-88	3.1	-91		429.6	24	395.7	-16	466.0	6	597.5	22	426.5	16	117.4	-44	59.8	83	0.0	-100			
2020	49.9	487	3.7	-89	0.1	-88	85.0	-58	259.3	-24	319.7	-32	396.4	-11	343.5	-30	224.6	-39	312.8	48	56.6	104	0.0	-100
2021	5.4	-36	0.0	-100	74.3	-20	61.4	-71	161.5	-53	379.5	-19	459.9	3	465.0	-6	375.3	2	106.2	-49	6.7	-86	106.5	629
2022	17.1	1049	21.3	-298	10.8	-87%	126.3	-38%	540.6	49%	463.2	9%	675.1	51%	424.6	-14%	285.2	-24%	176.2	-13%	2.5	-92%	13.0	10%

Best viewed resolutions 1280 X 800 to 1920 X 1080

Developed By: IITERS | Government of Mizoram

Disclaimer





Customized Rainfall Information System
(CRIS)

Hydromet Division
India Meteorological Department
Ministry of Earth Sciences
New Delhi-110 003

Choose the State/UT: ARUNACHAL PRADEH Selected District: LOWER SUBANSIRI

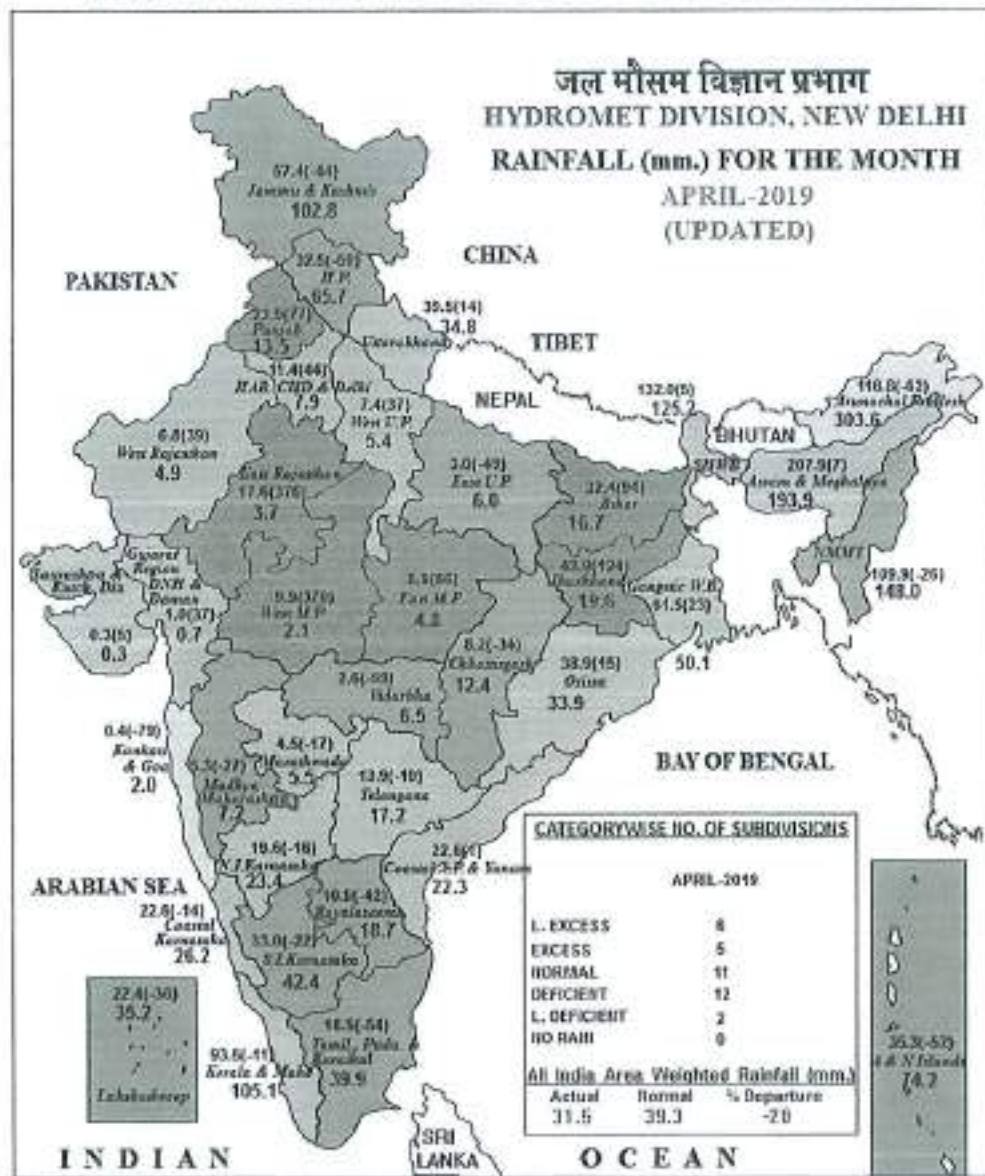
District : LOWER SUBANSIRI

Note: (1) The District Rainfall in millimeters (mm) shown below are the arithmetic averages of Rainfall of Stations under the District.
(2) % Dev. are the Departures of rainfall from the long period averages of rainfall for the District.
(3) Blank Spaces show non-availability of Data

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC												
R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F												
2018																								
2019				64.9	-60	209.4	6	99.6	-55	313.4	47	144.2	-33	272.0	83	47.3	-29	21.8	-36	14.0	-22			
2020	25.2	-63	53.2	-31	47.3	-42	99.8	-44	317.8	61	119.2	-46	210.4	-2	36.2	-74	109.8	-26	59.4	-11	5.2	-85	5.8	-68
2021	31.7	-54	15.1	-80	78.7	-3	121.2	-25	181.5	-8	134.6	-19	111.0	-48	149.2	-31	80.6	-46	25.2	-62	12.7	-63	4.7	-74
2022	7.4	-896	75.4	-25	40.9	-484	170.5	104	185.9	-174	170.1	-48	51.0	-774	65.4	-694	46.6	-684	79.2	218	1.6	-954	7.2	-634



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

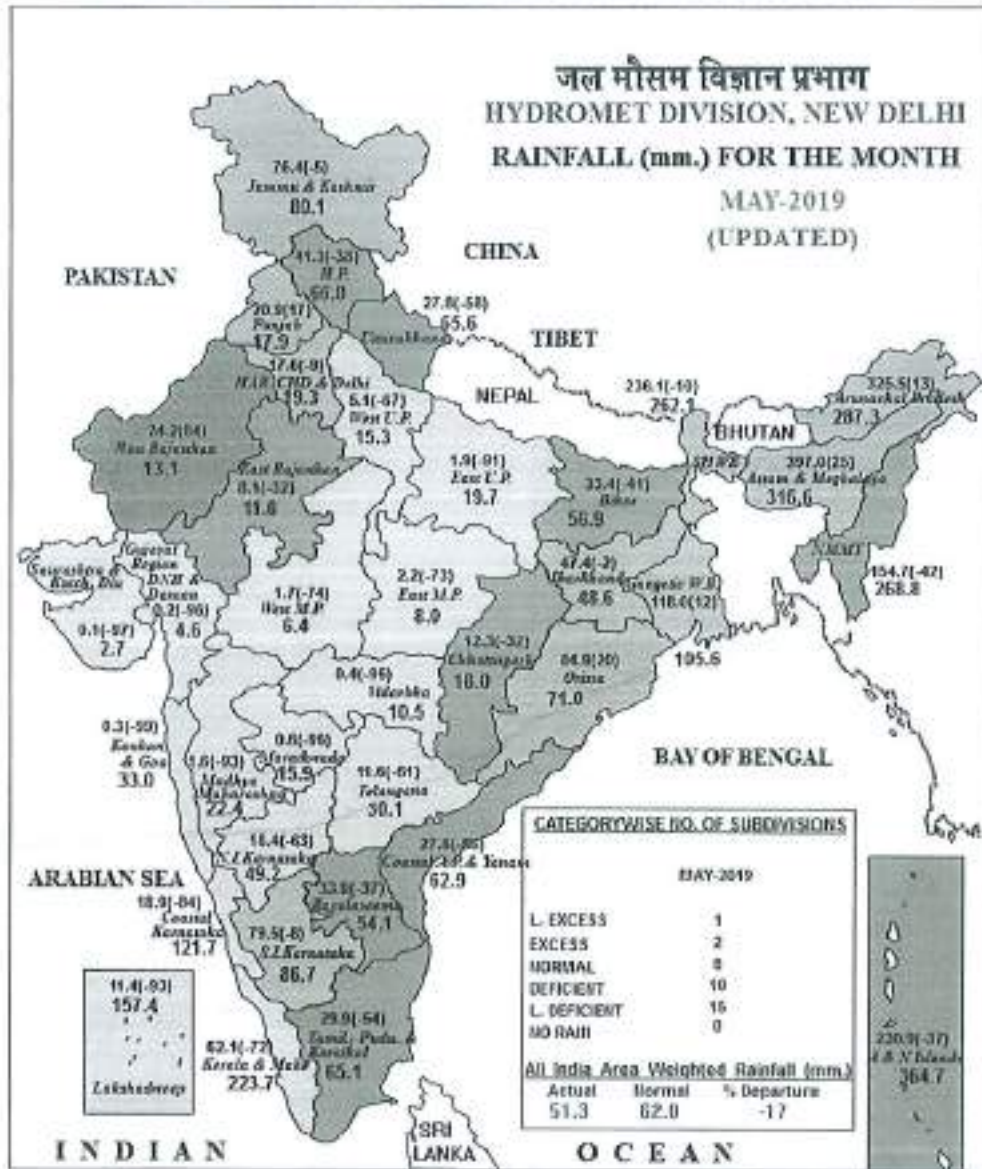


LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



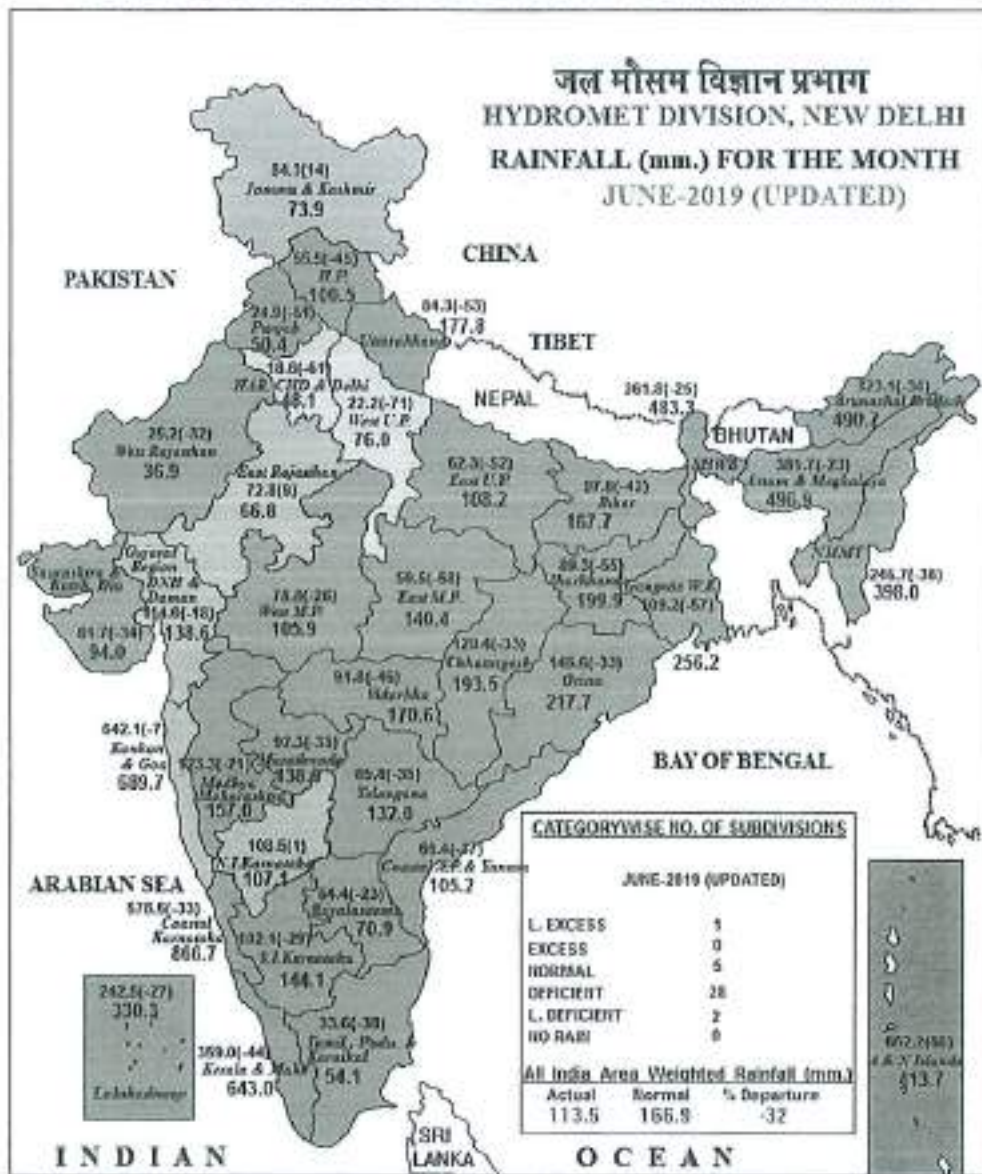
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+15% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग HYDROMET DIVISION, NEW DELHI RAINFALL (mm.) FOR THE MONTH JUNE-2019 (UPDATED)



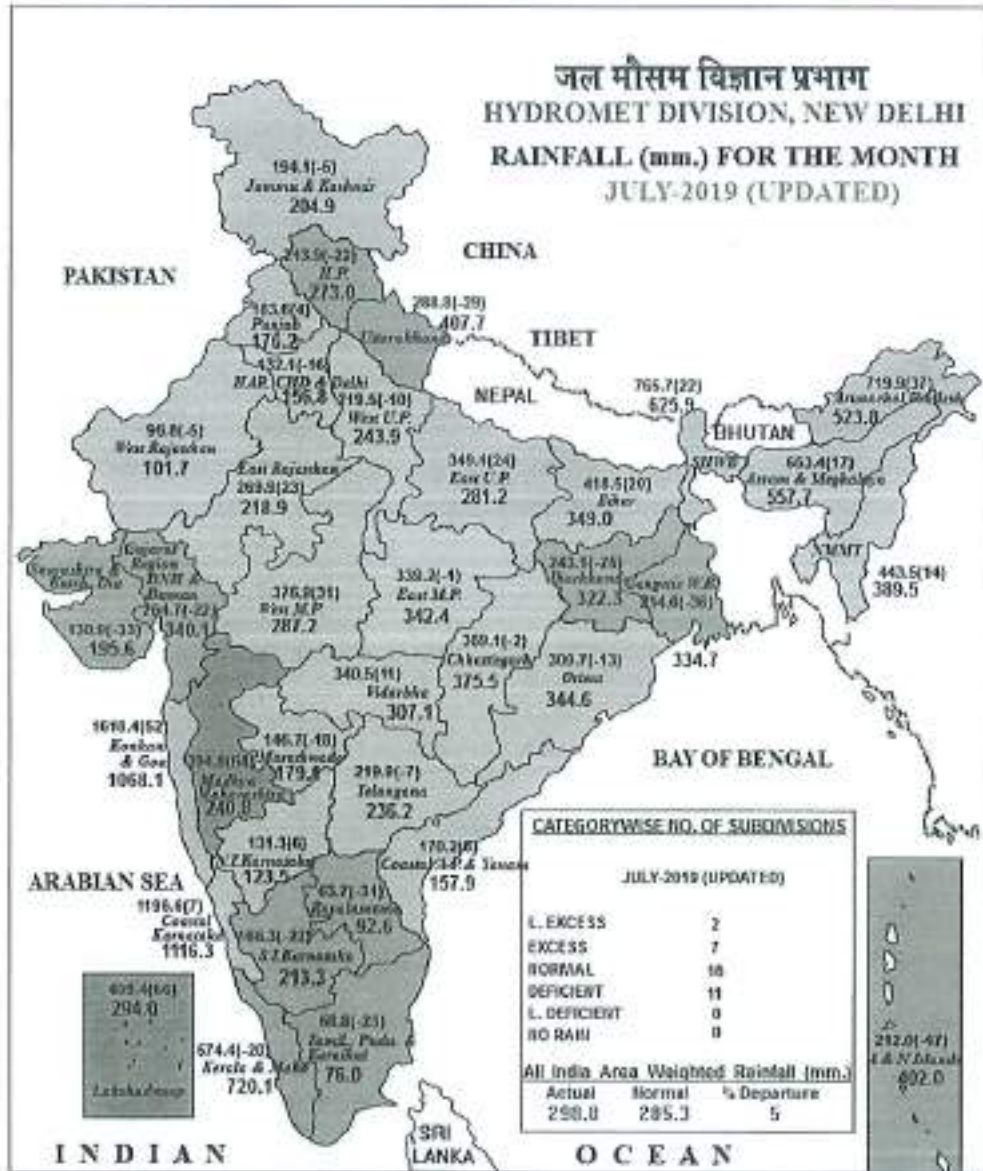
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग HYDROMET DIVISION, NEW DELHI RAINFALL (mm.) FOR THE MONTH JULY-2019 (UPDATED)



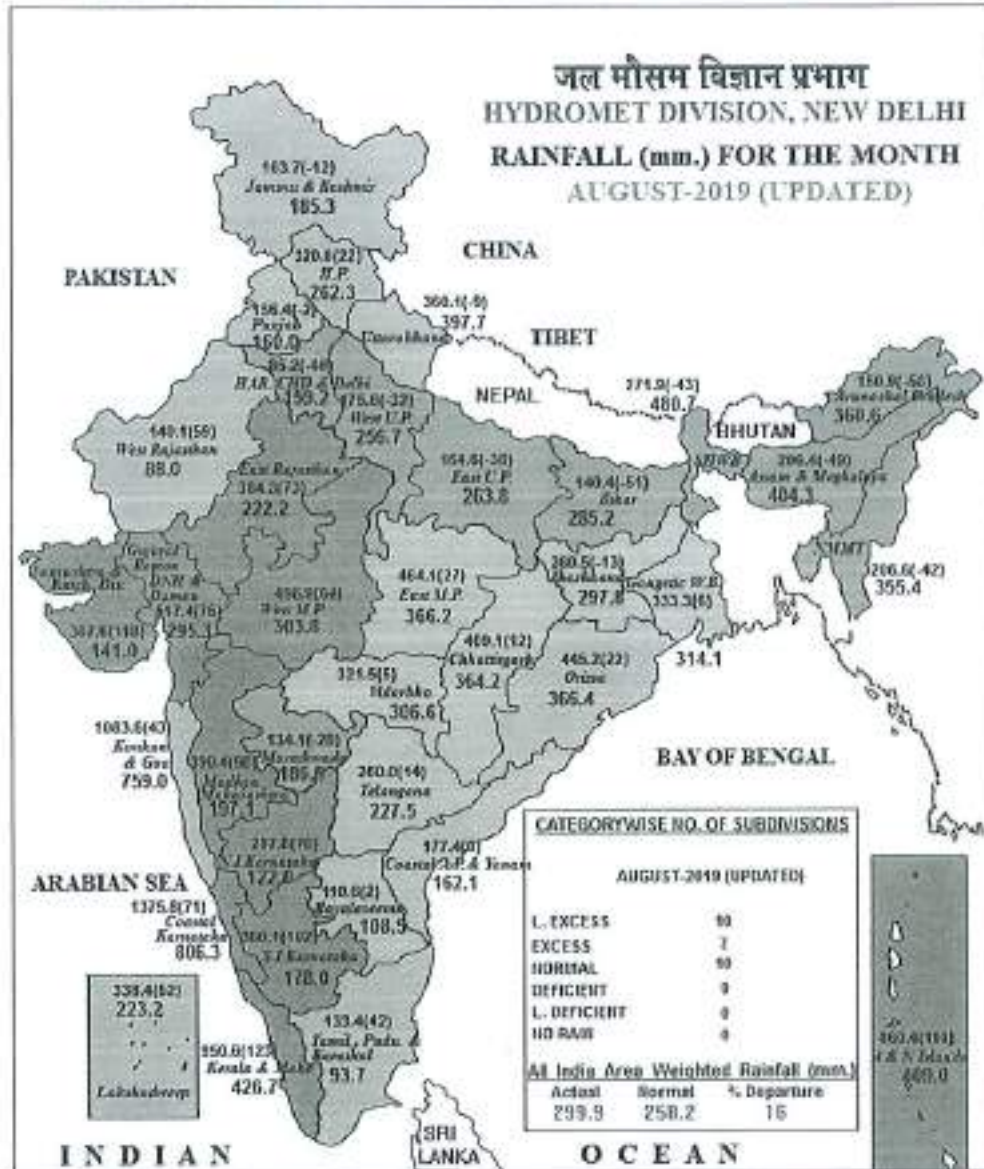
LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+19% TO -19%)
 DEFICIENT (-20% TO -59%) L. DEFICIENT (-60% TO -99%) NO RAIN (-100%) NO DATA

NOTES:
 [a] Rainfall figures are based on operational data.
 [b] Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE MONTH
AUGUST-2019 (UPDATED)



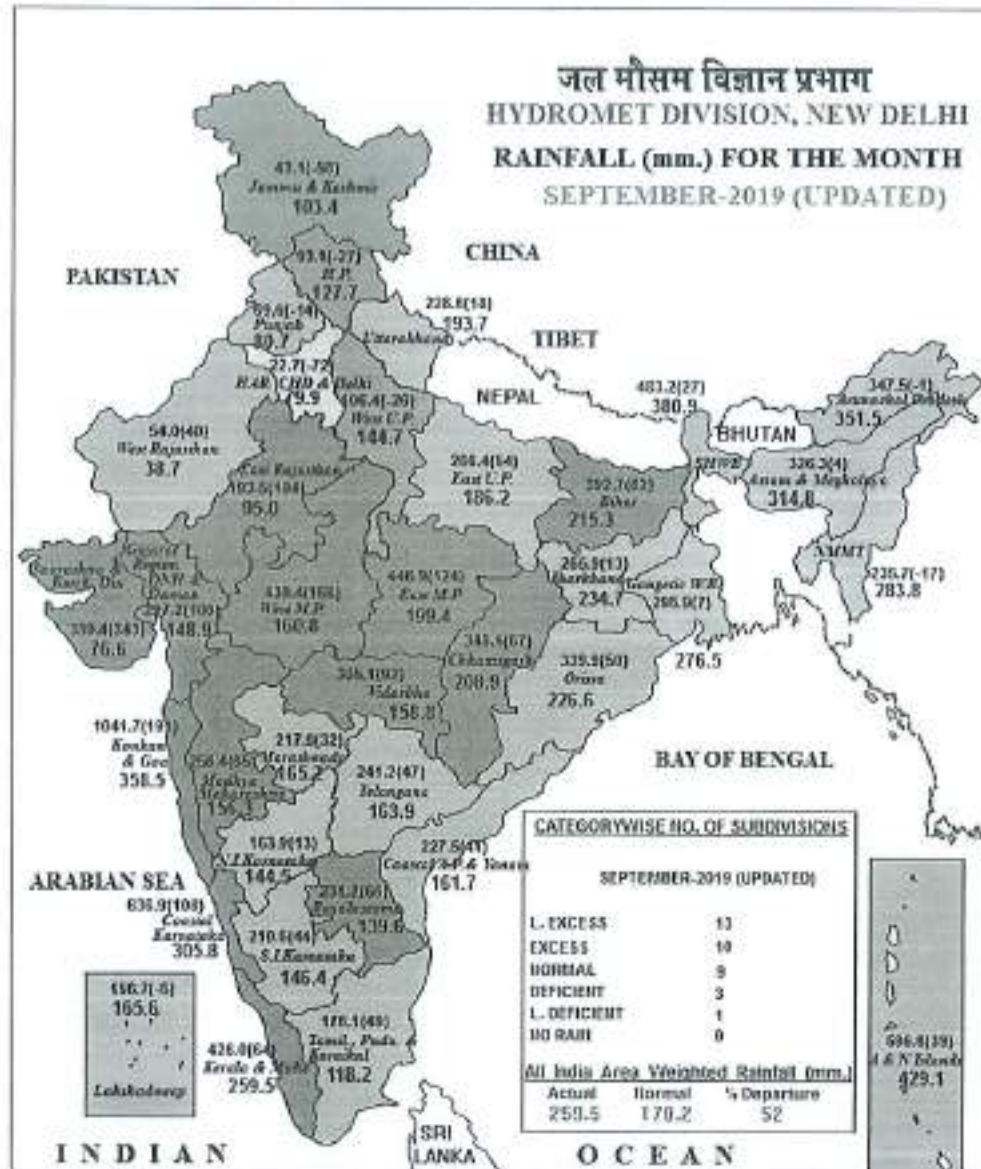
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 [a] Rainfall figures are based on operational data.
 [b] Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग HYDROMET DIVISION, NEW DELHI RAINFALL (mm.) FOR THE MONTH SEPTEMBER-2019 (UPDATED)



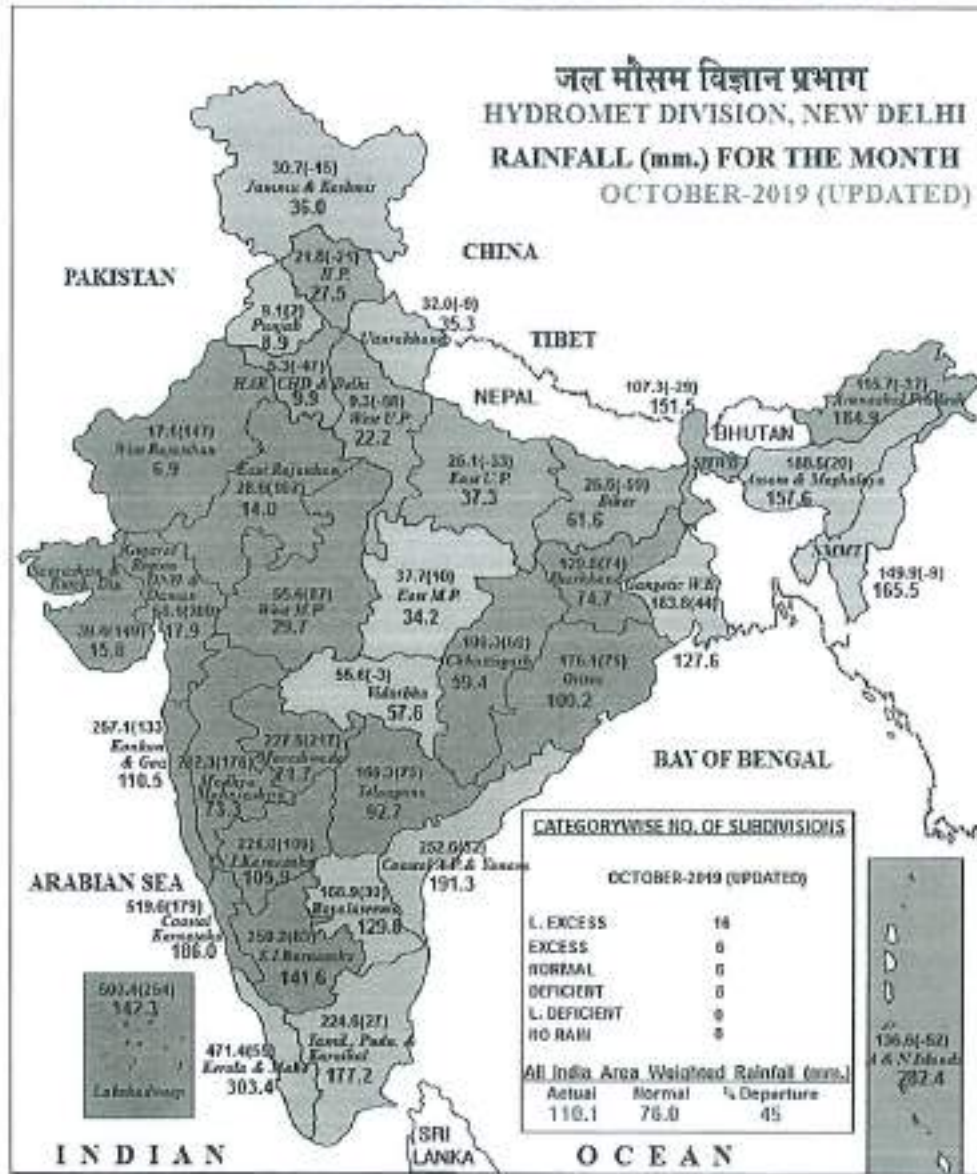
LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+19% TO -19%)
 DEFICIENT (-20% TO -59%) L. DEFICIENT (-60% TO -99%) NO RAIN (-100%) NO DATA

NOTES:
 [a] Rainfall figures are based on operational data.
 [b] Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग HYDROMET DIVISION, NEW DELHI RAINFALL (mm.) FOR THE MONTH OCTOBER-2019 (UPDATED)

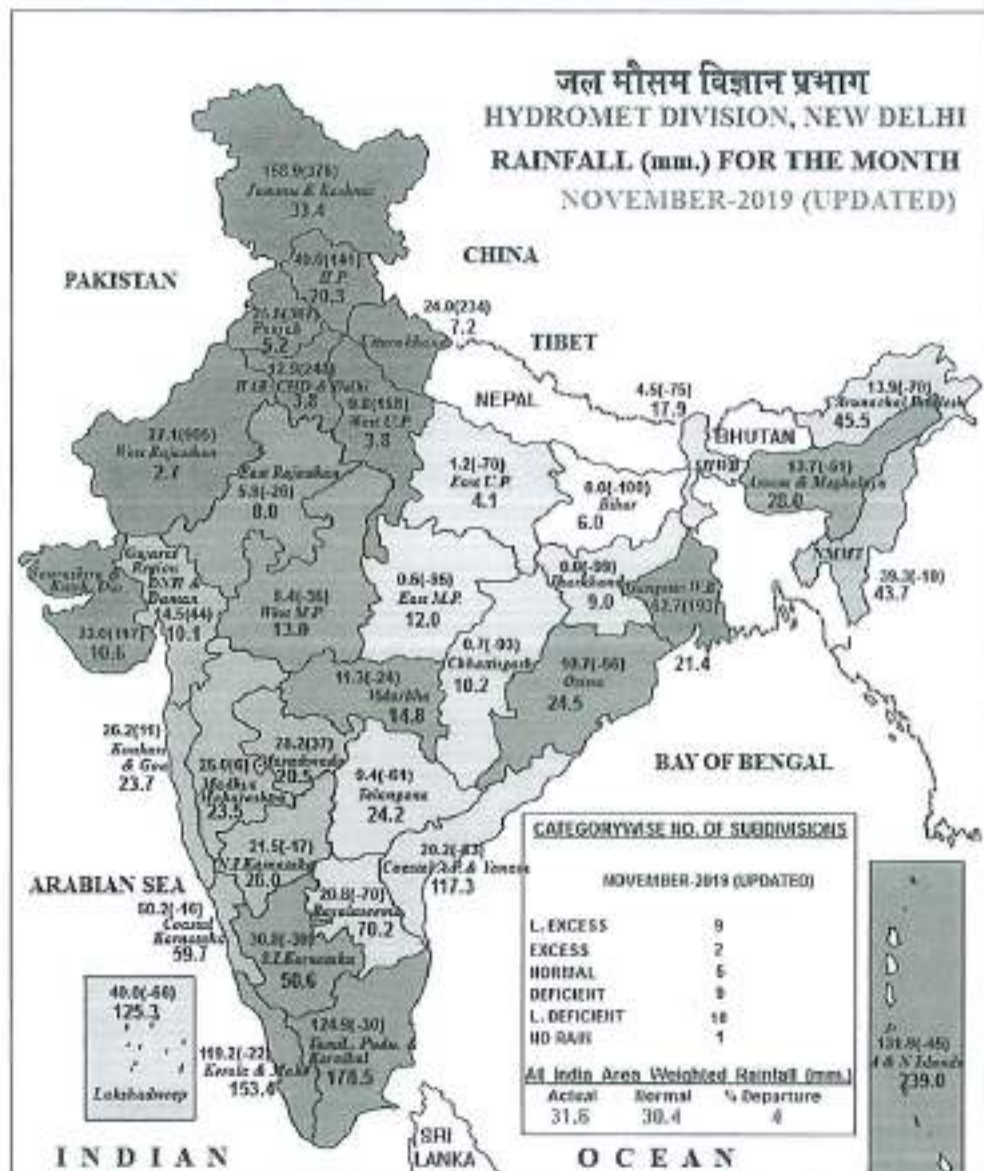


LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN [-100%] ■ NO DATA

NOTES:
 [a] Rainfall figures are based on operational data.
 [b] Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



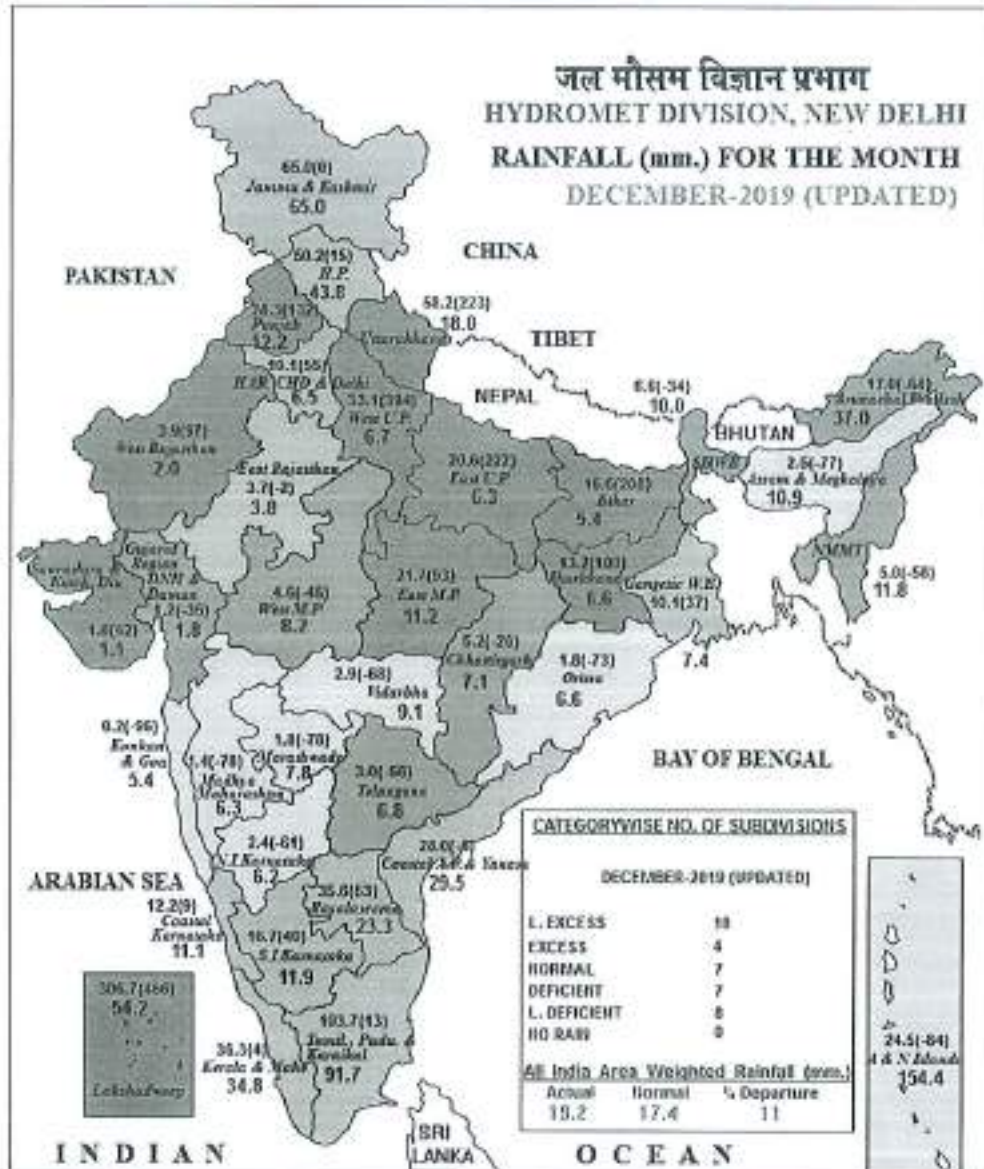
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग HYDROMET DIVISION, NEW DELHI RAINFALL (mm.) FOR THE MONTH DECEMBER-2019 (UPDATED)



LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+19% TO -19%)
 DEFICIENT (-20% TO -59%) L. DEFICIENT (-60% TO -99%) NO RAIN (-100%) NO DATA

NOTES:

(a) Rainfall figures are based on operational data.

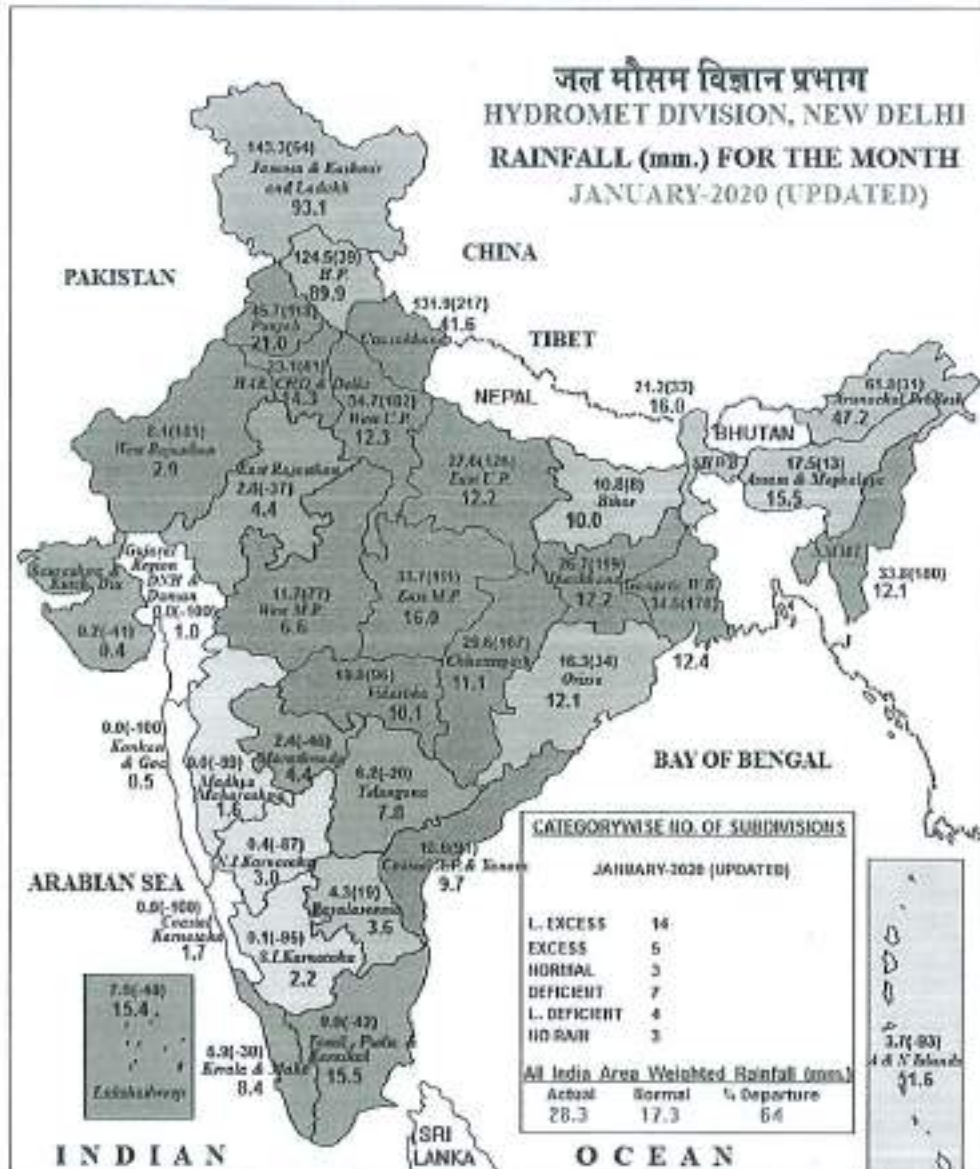
(b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)

Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग HYDROMET DIVISION, NEW DELHI RAINFALL (mm.) FOR THE MONTH JANUARY-2020 (UPDATED)

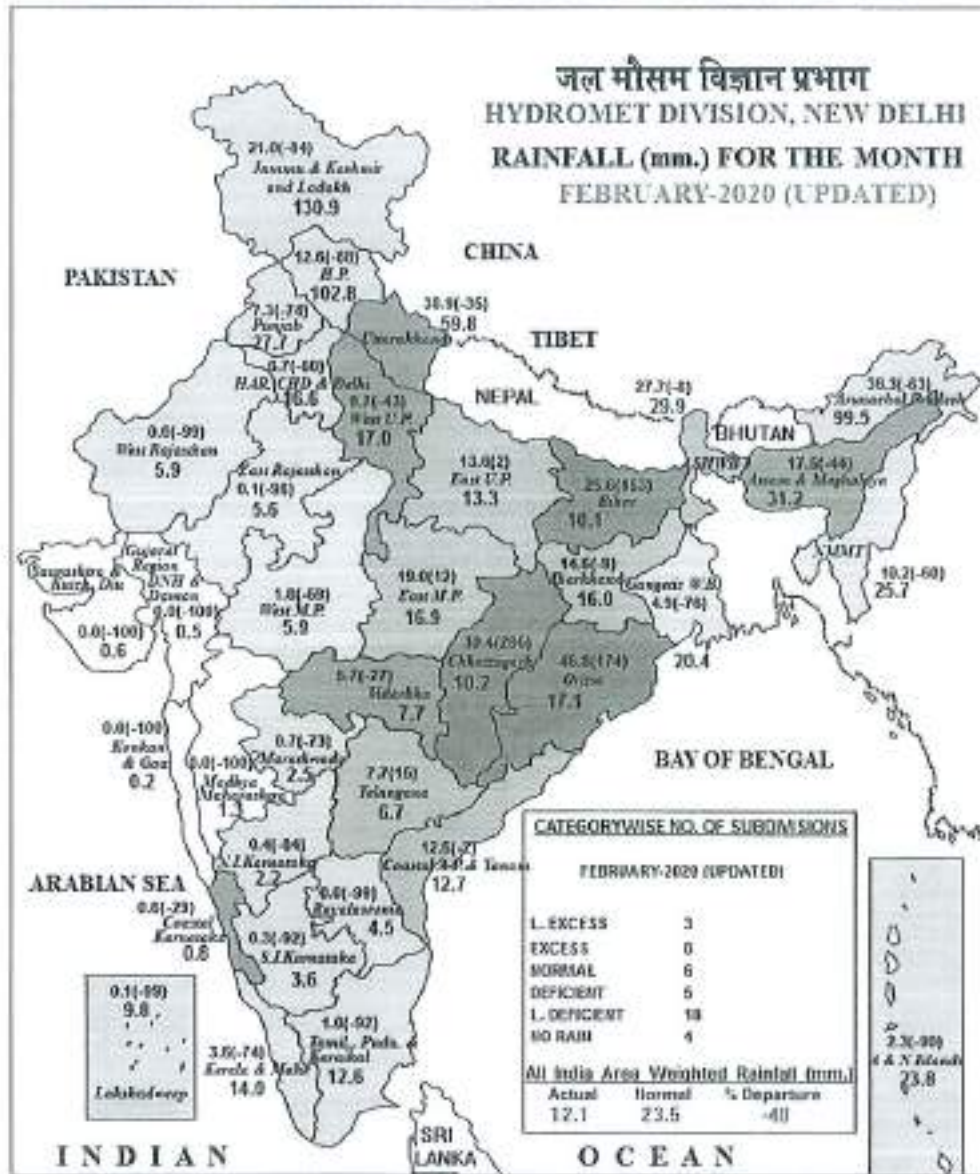


LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+1% TO +19%)
 ■ DEFICIENT (-28% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

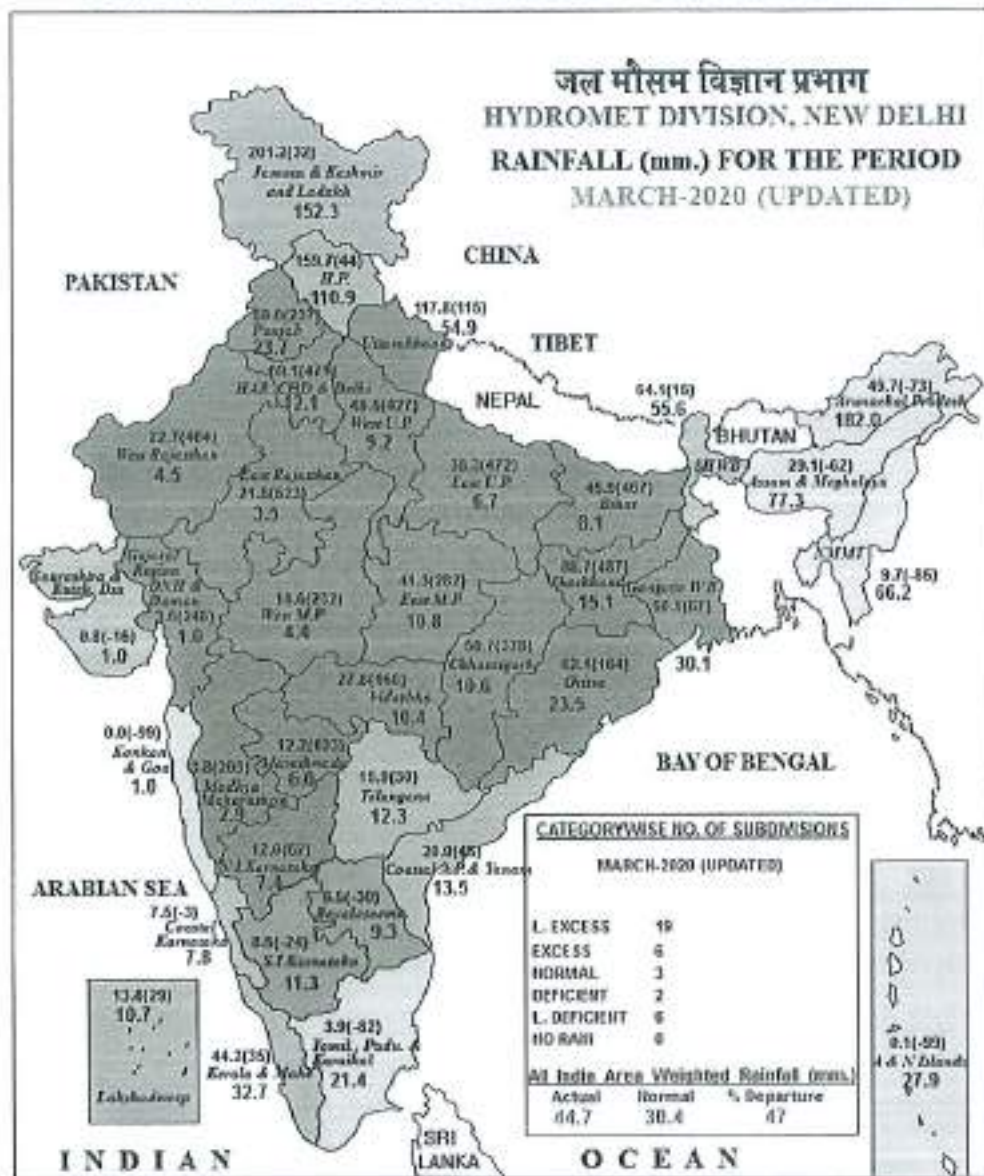


LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO +15%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

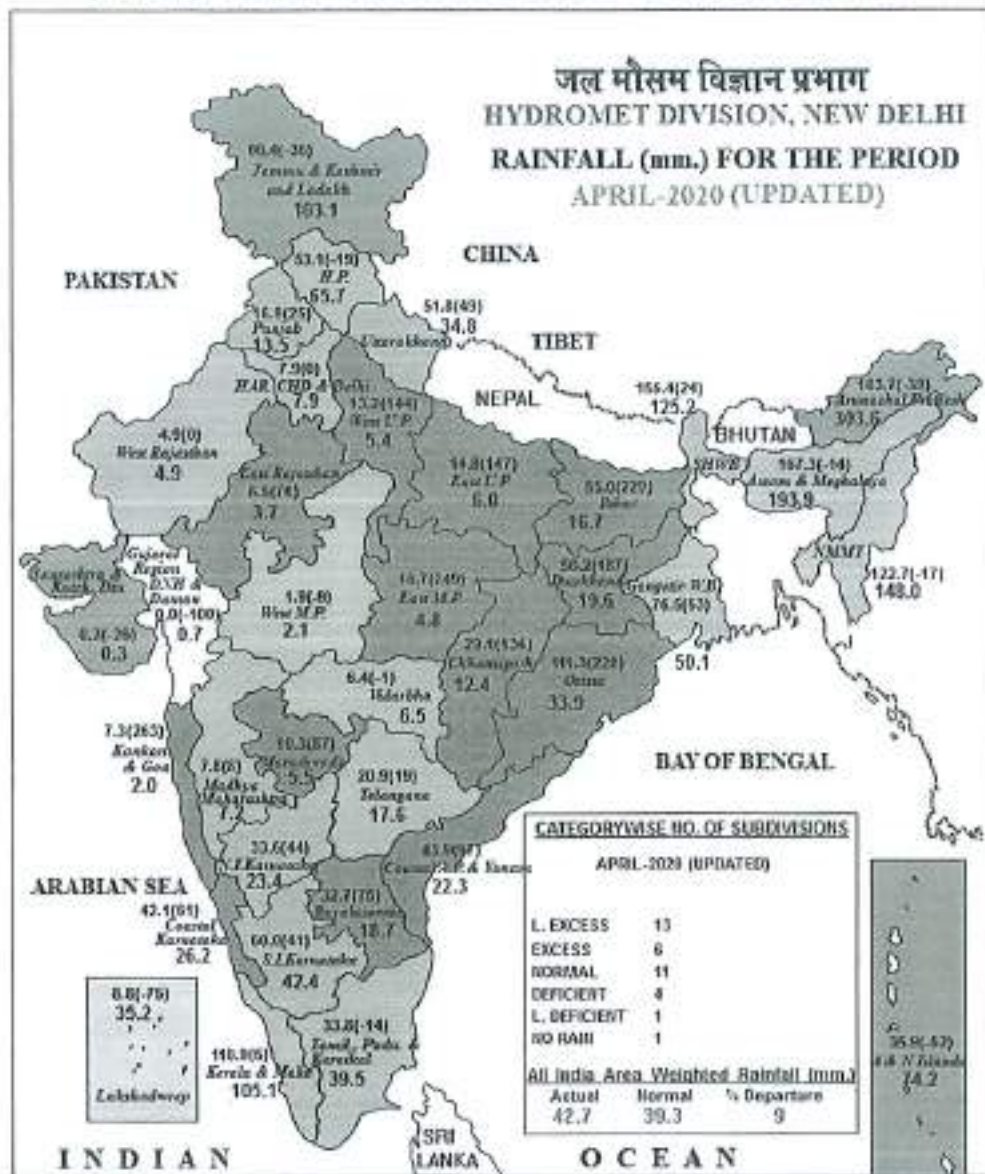


LEGEND: ■ L. EXCESS (+66% OR MORE) ■ EXCESS (+26% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN [-100%] ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

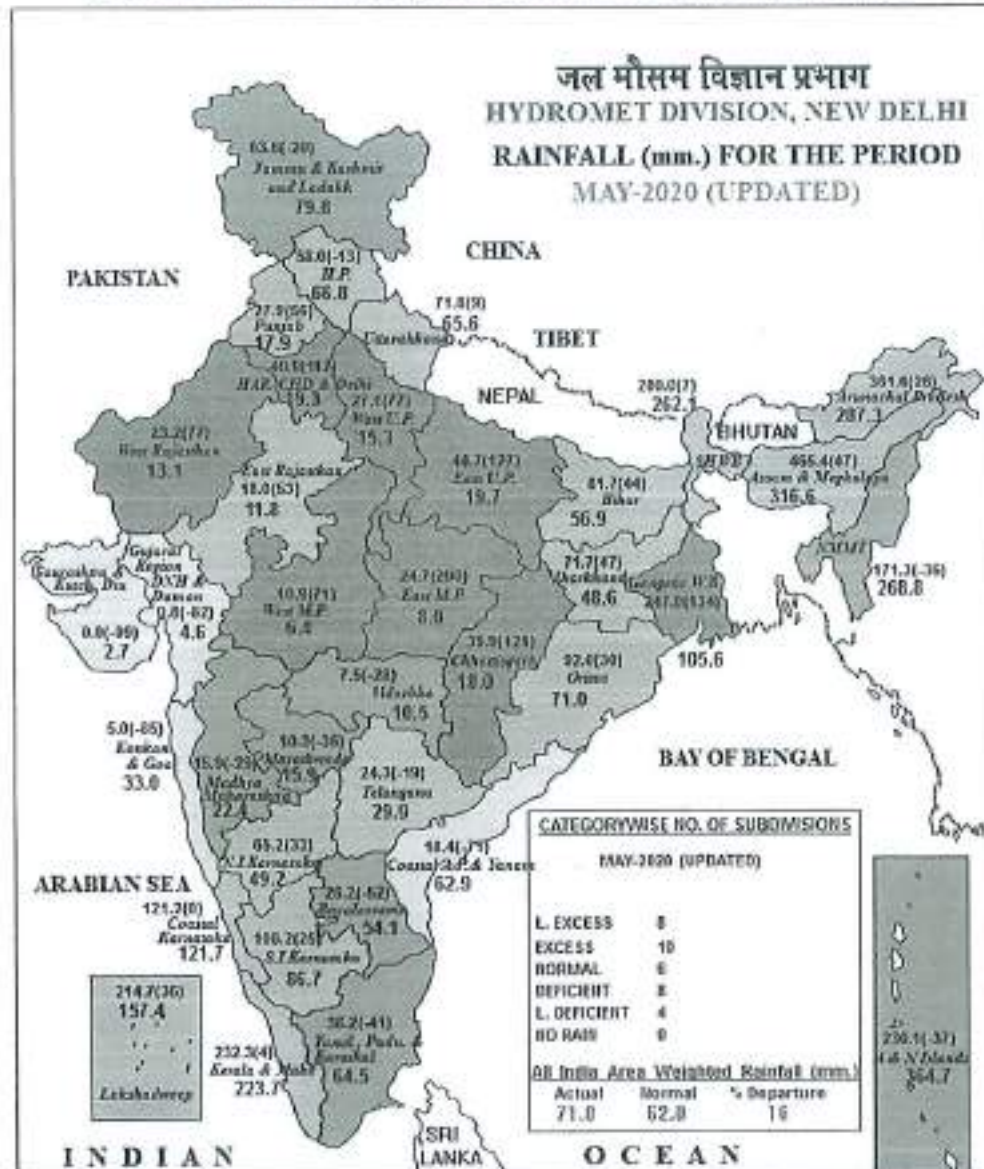


LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +50%) ■ NORMAL (+15% TO -15%)
 ■ DEFICIENT [-20% TO -50%] ■ L. DEFICIENT [-60% TO -95%] ■ NO RAIN [-100%] ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



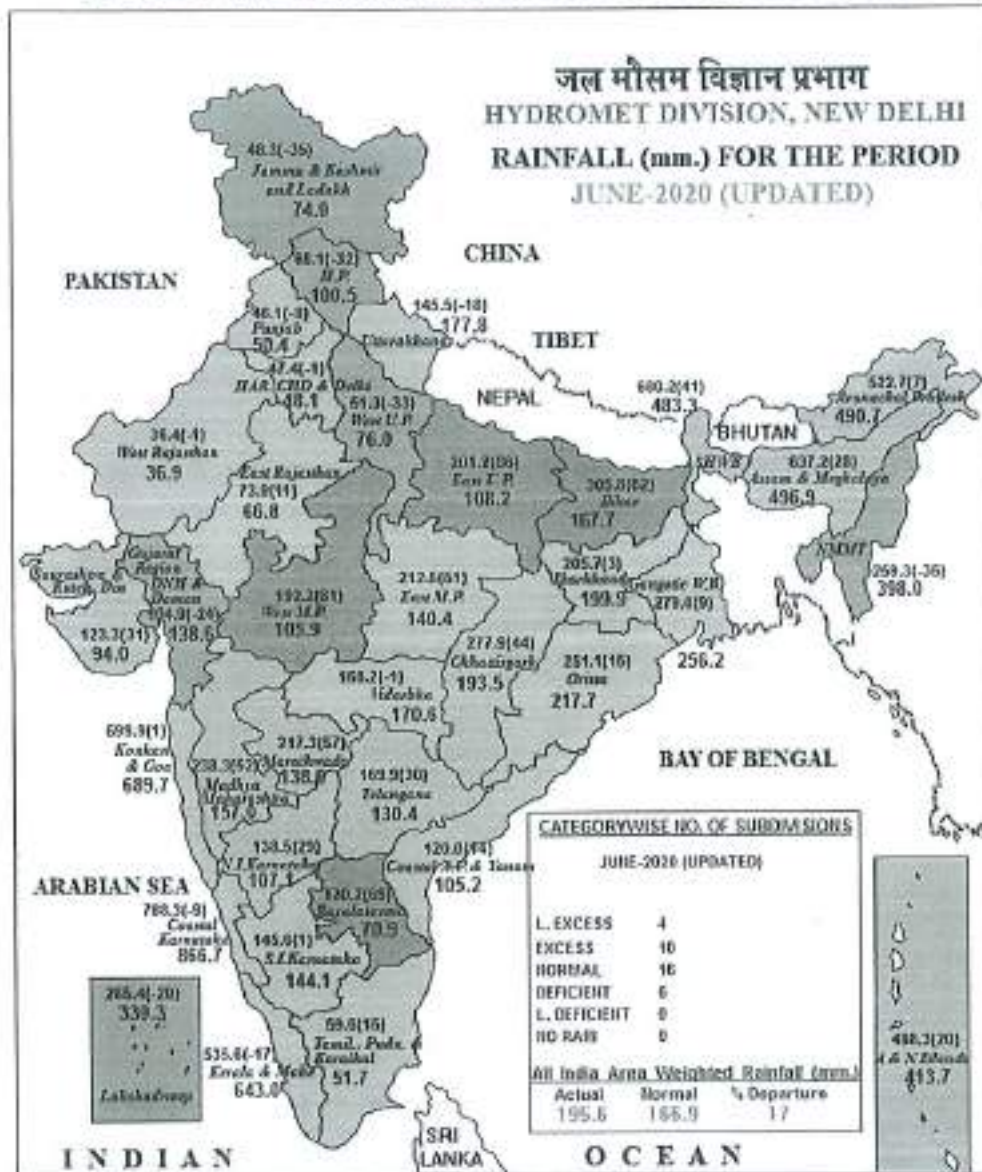
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:

- (a) Rainfall figures are based on operational data.
- (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



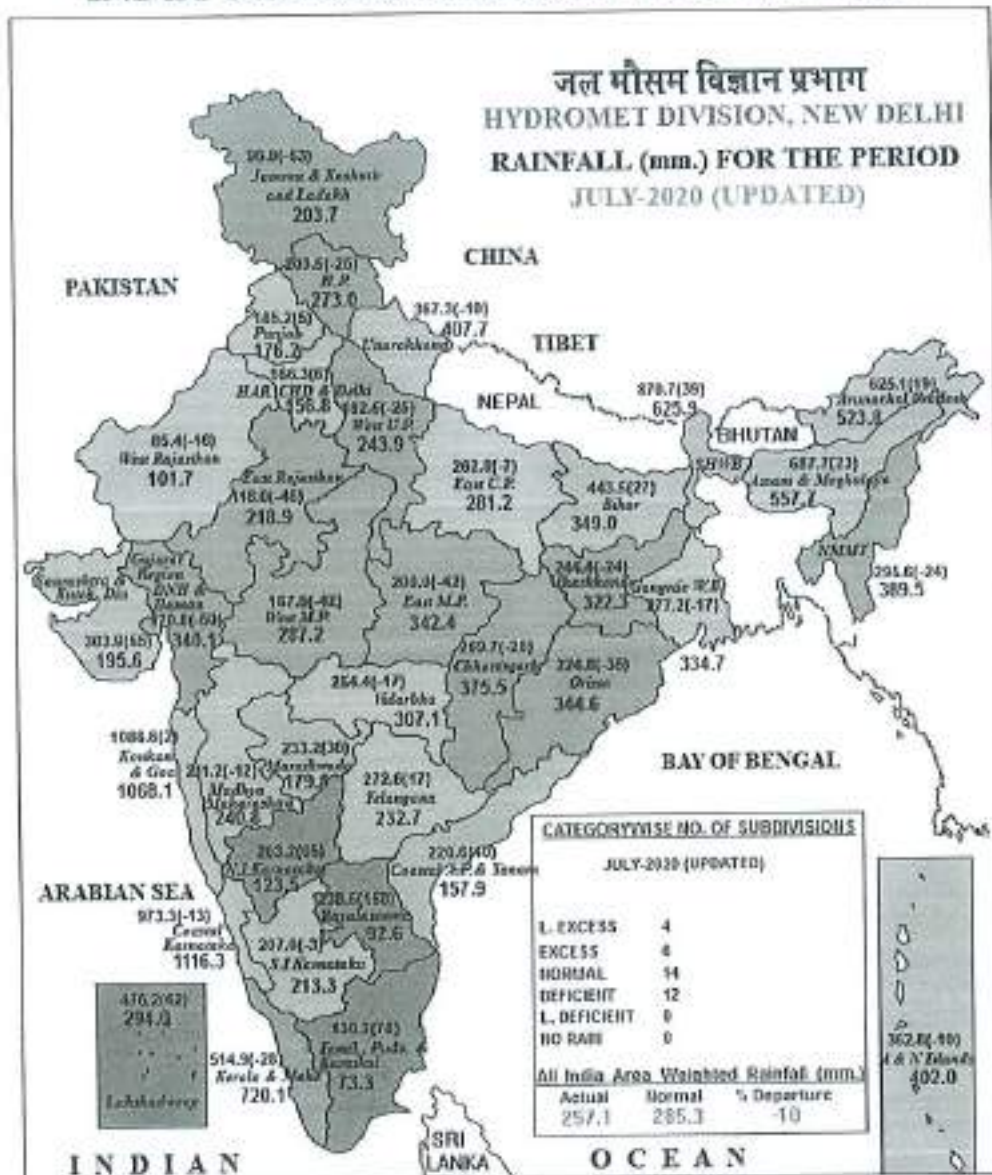
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:

- (a) Rainfall figures are based on operational data.
- (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



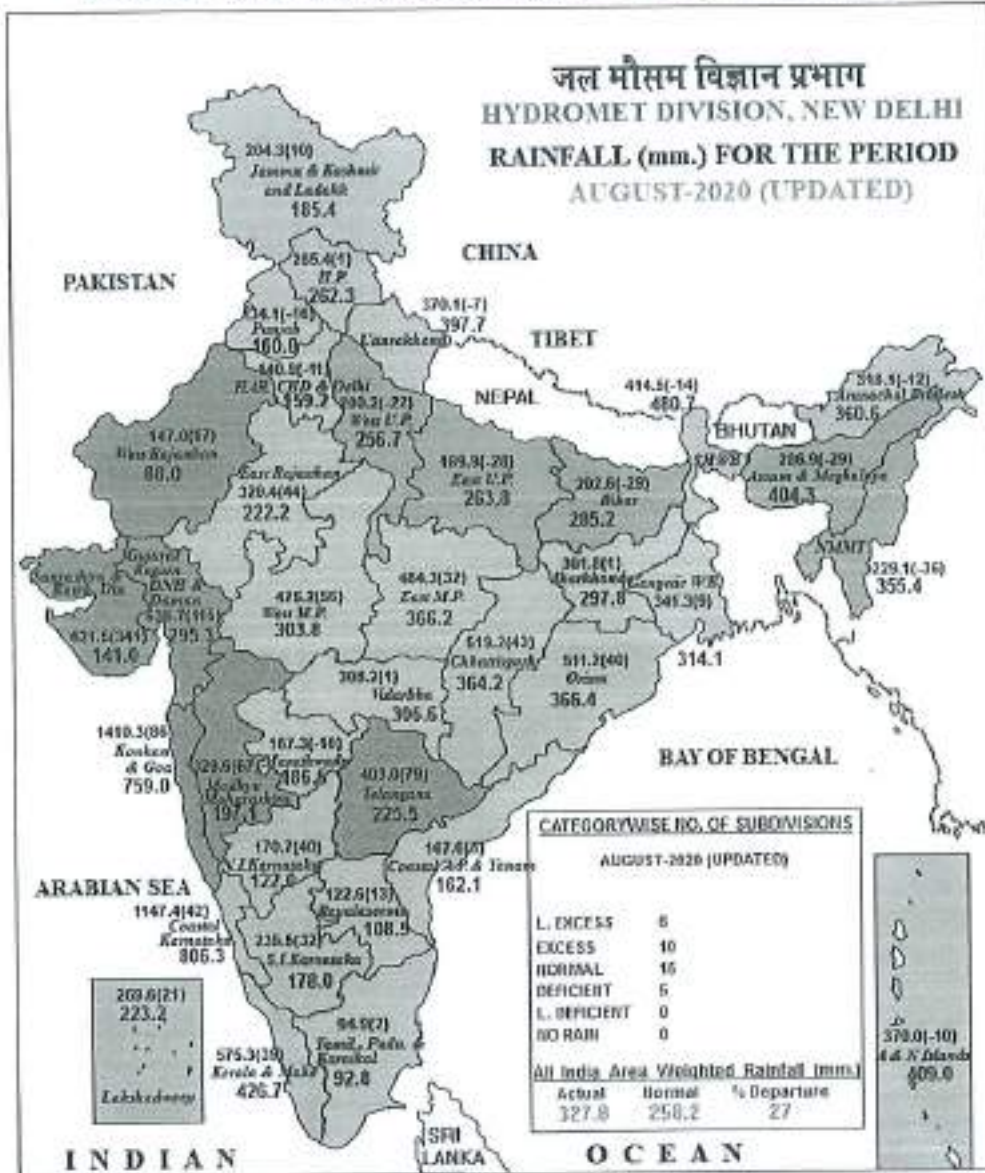
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+10% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT [-60% TO -99%] ■ NO RAIN [-100%] ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE PERIOD
AUGUST-2020 (UPDATED)



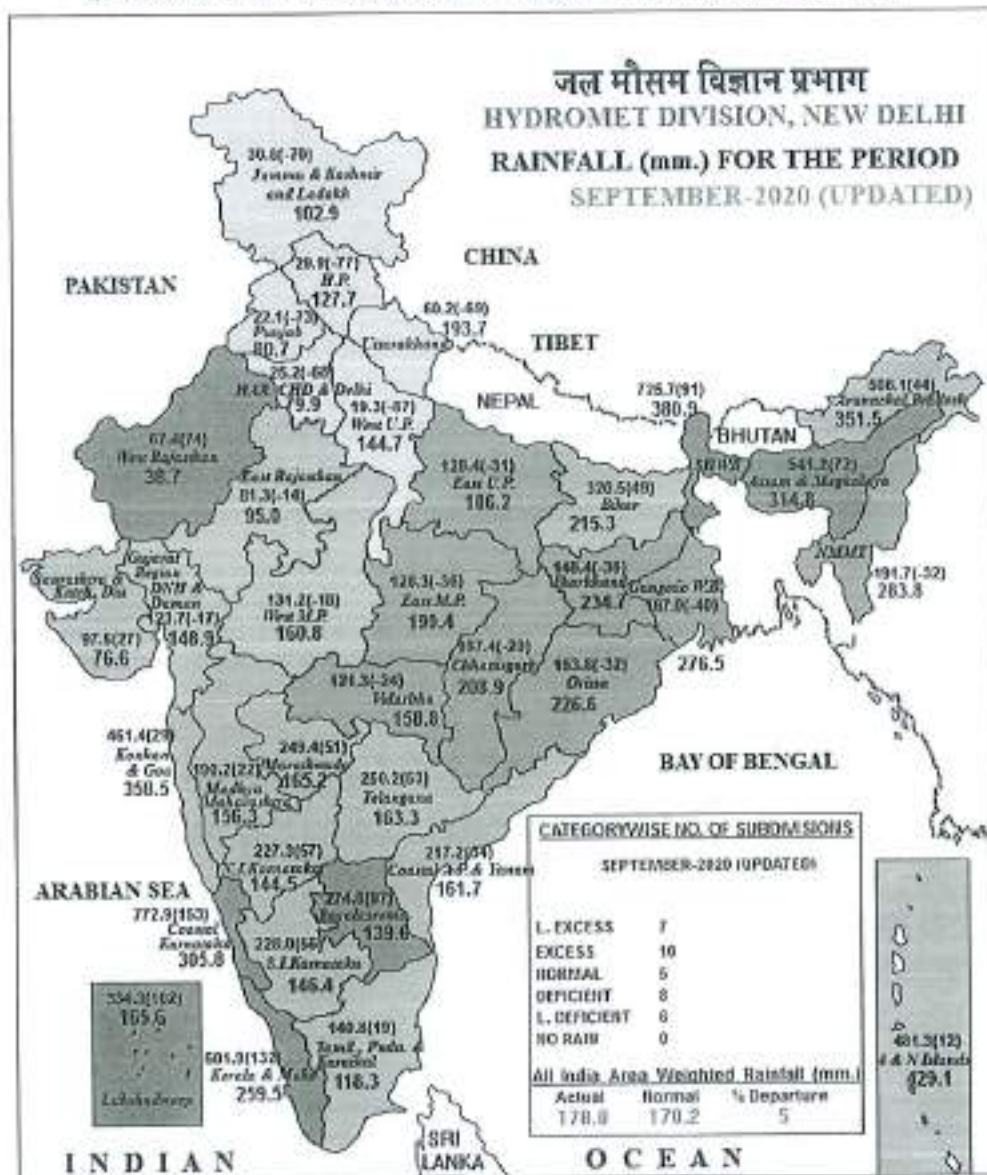
CATEGORYWISE NO. OF SUBDIVISIONS		
AUGUST-2020 (UPDATED)		
L. EXCESS	8	
EXCESS	10	
NORMAL	16	
DEFICIENT	5	
L. DEFICIENT	0	
NO RAIN	0	
All India Area Weighted Rainfall (mm.)		
Actual	Normal	% Departure
327.8	258.2	27

LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+15% TO -19%)
 DEFICIENT [-20% TO -59%] L. DEFICIENT [-60% TO -99%] NO RAIN [-100%] NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



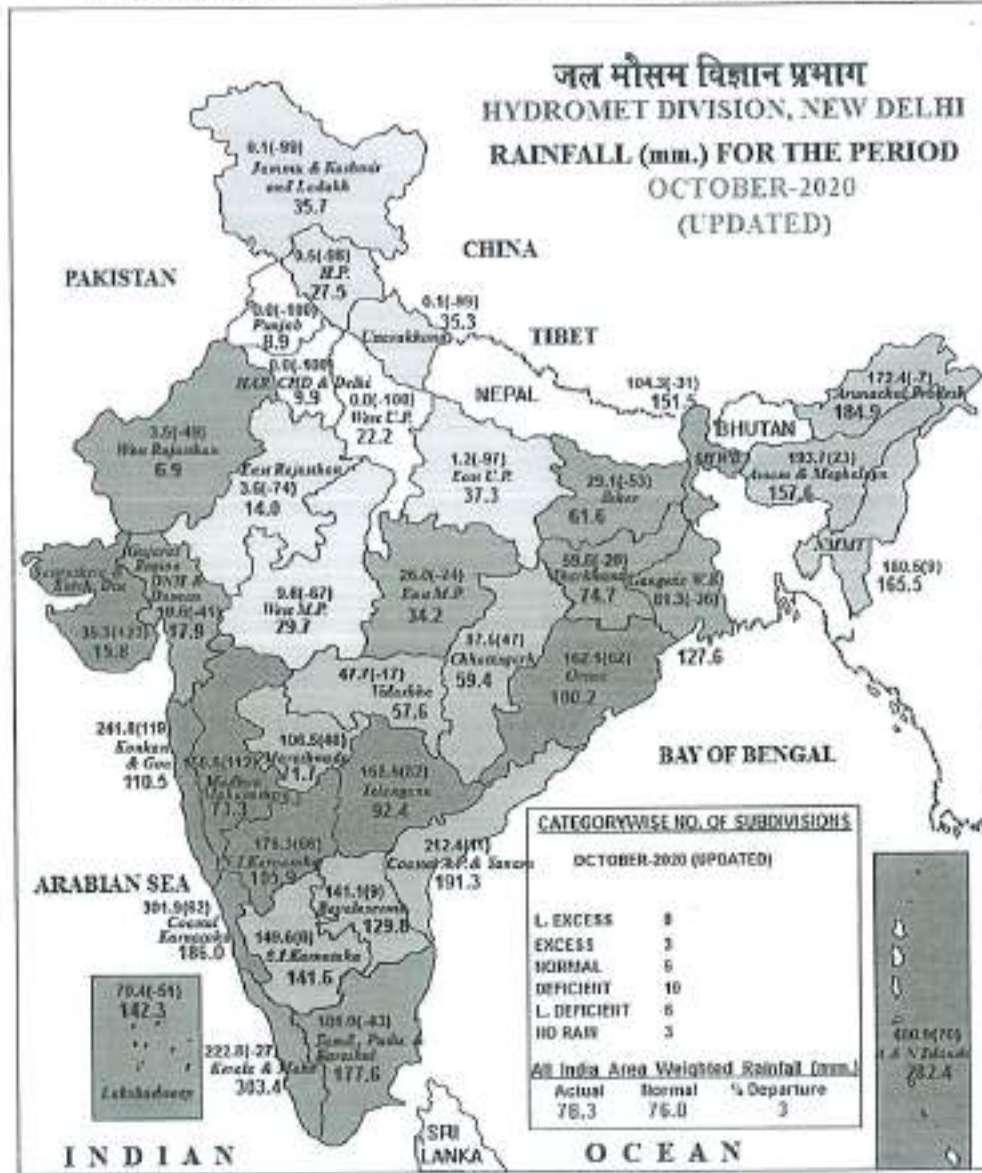
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+15% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:

- (a) Rainfall figures are based on operational data.
- (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

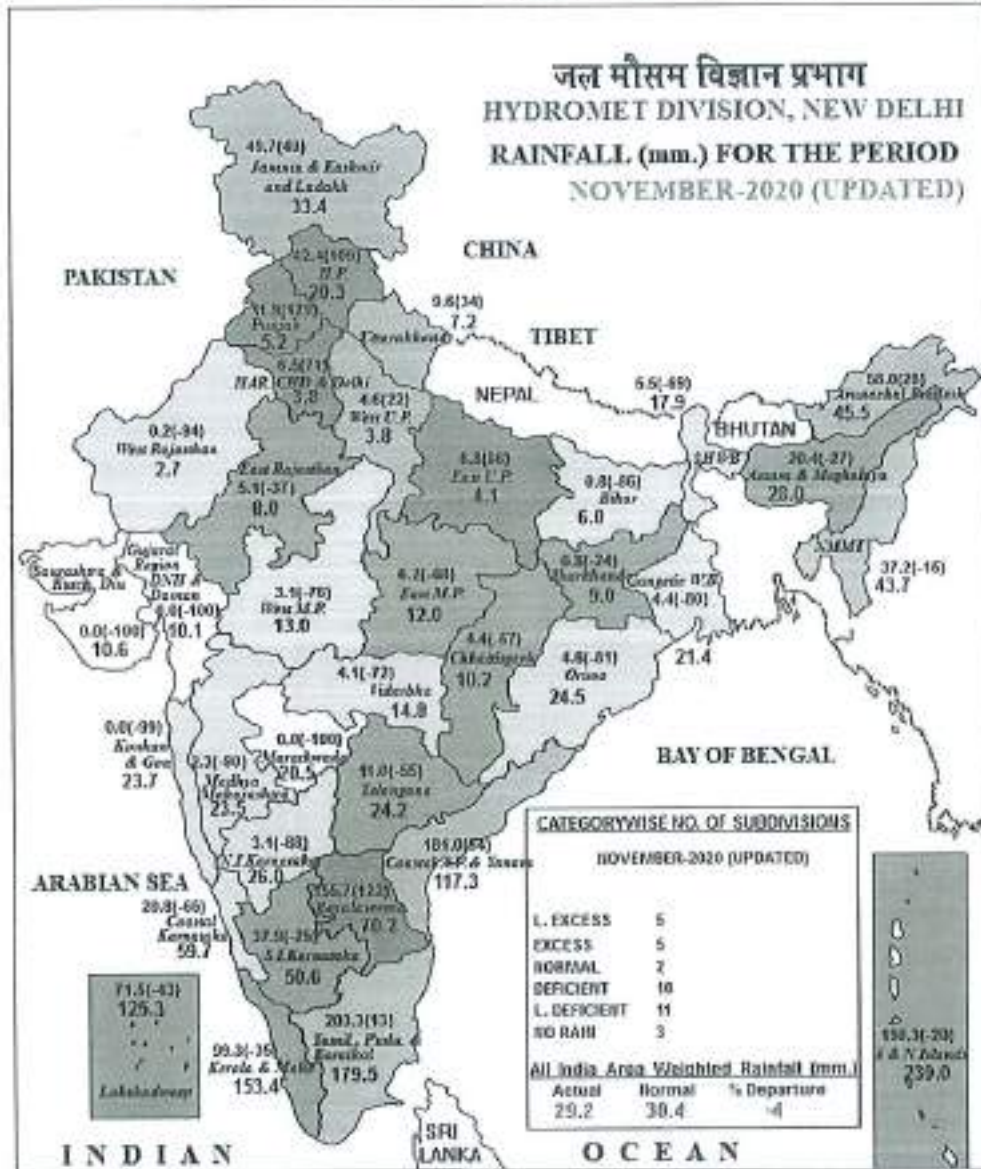
NOTES:

- (a) Rainfall figures are based on operational data.
- (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE PERIOD
NOVEMBER-2020 (UPDATED)



CATEGORYWISE NO. OF SUBDIVISIONS		
NOVEMBER-2020 (UPDATED)		
L. EXCESS	5	
EXCESS	5	
NORMAL	2	
DEFICIENT	10	
L. DEFICIENT	11	
NO RAIN	3	
All India Area Weighted Rainfall (mm.)		
Actual	Normal	% Departure
29.2	30.4	-4

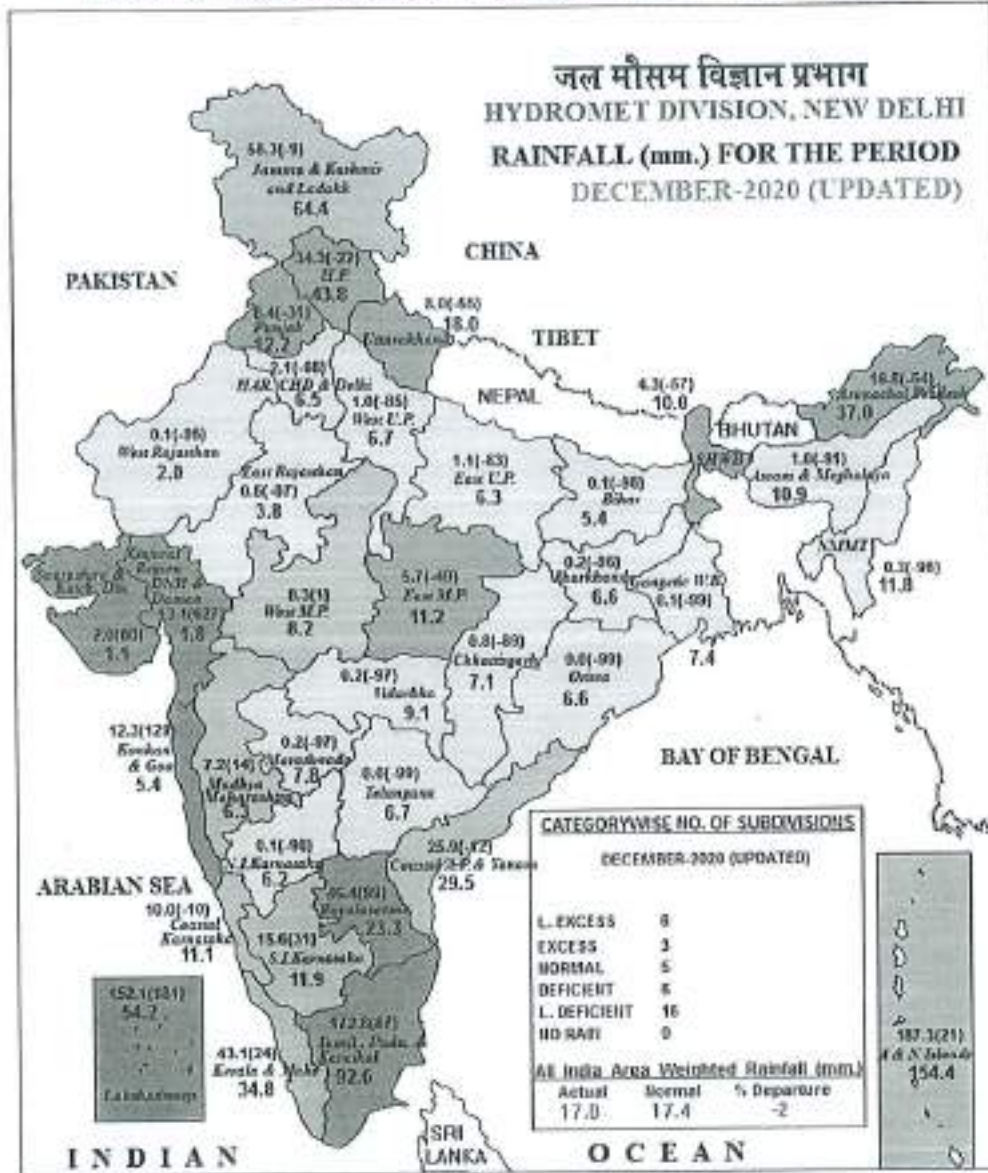
LEGEND: ■ L. EXCESS (+80% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+15% TO +19%)
■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
(a) Rainfall figures are based on operational data.
(b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE PERIOD
DECEMBER-2020 (UPDATED)



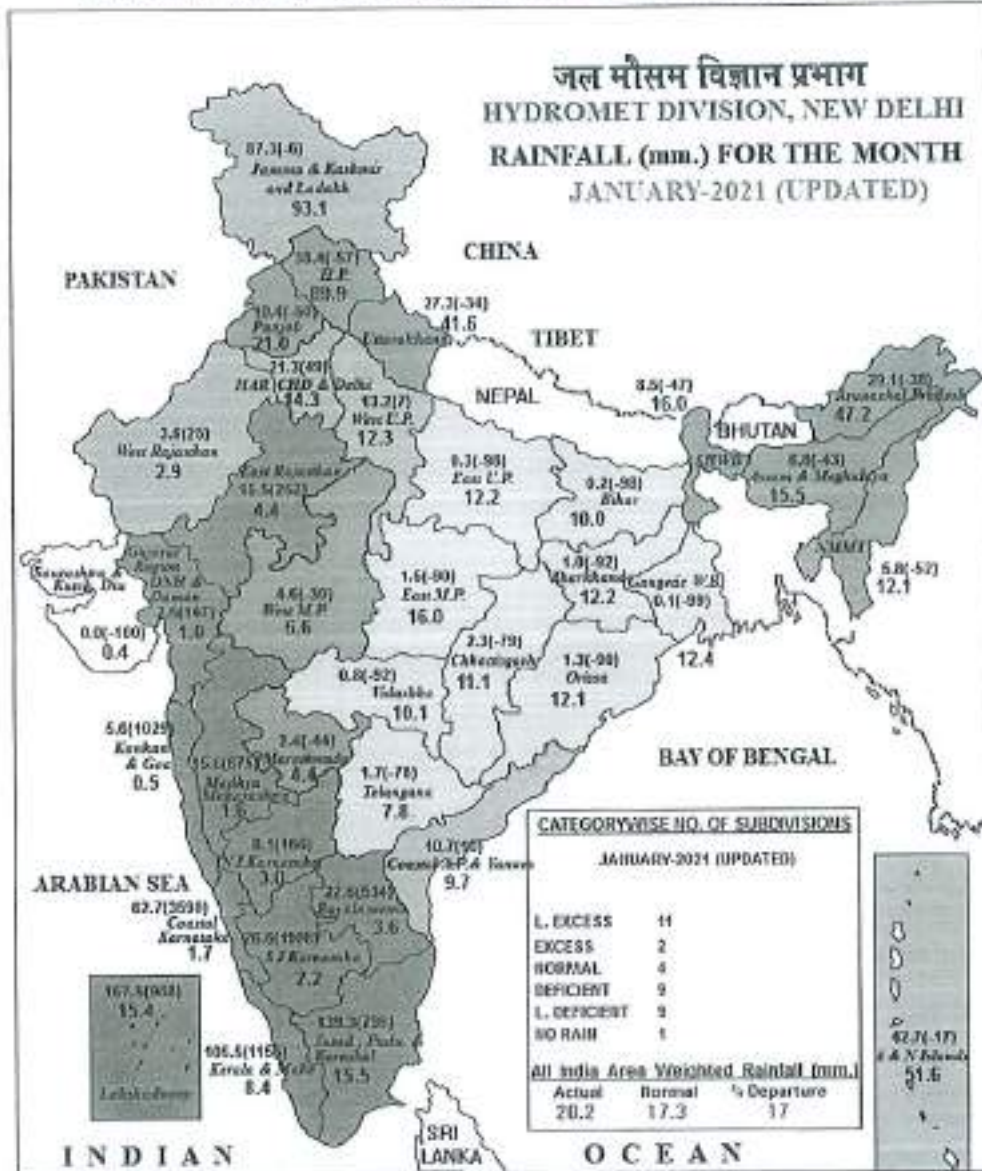
LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+19% TO -19%)
 DEFICIENT (-20% TO -59%) L. DEFICIENT (-60% TO -99%) NO RAIN (-100%) NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE MONTH
JANUARY-2021 (UPDATED)



LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:

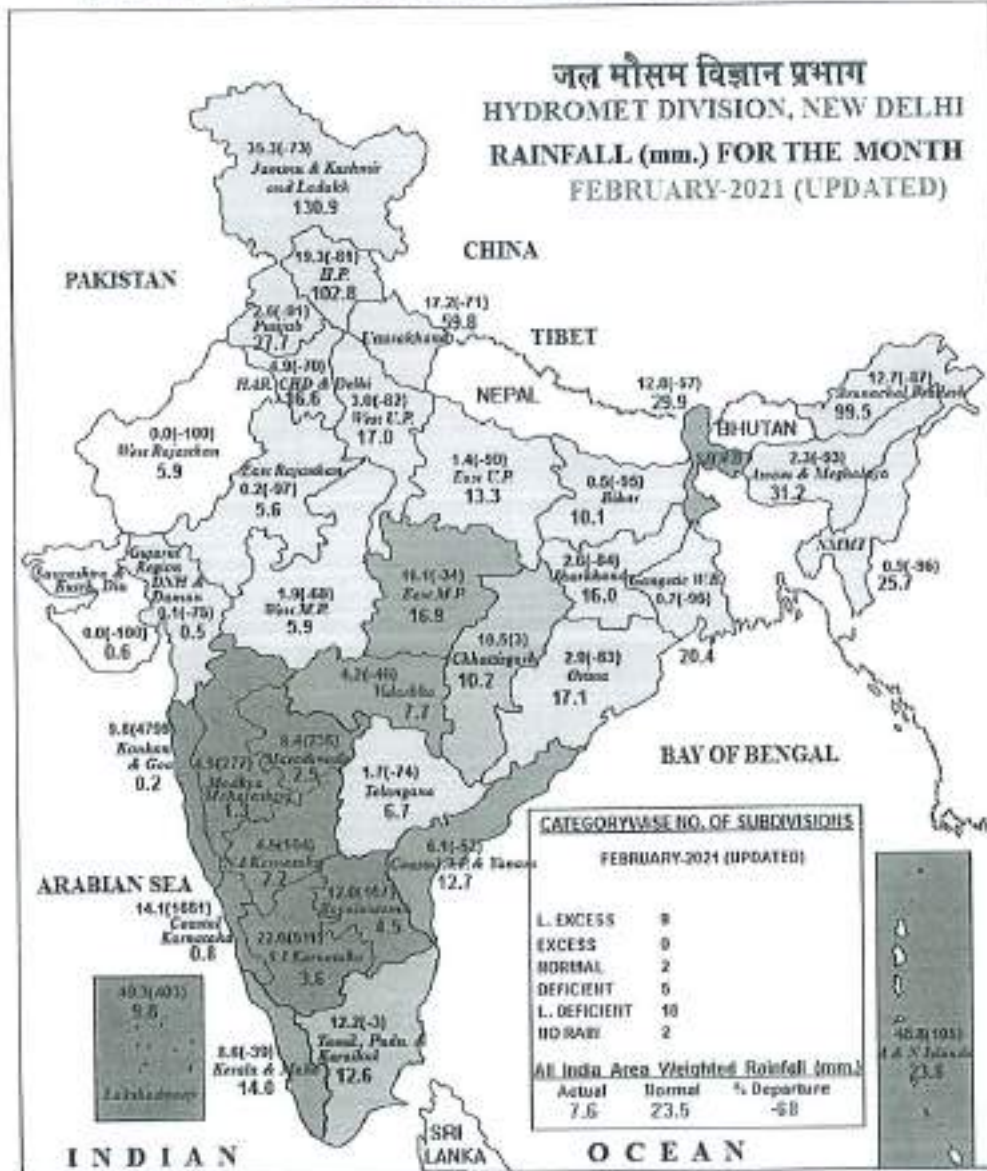
(a) Rainfall figures are based on operational data.

(b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE MONTH
FEBRUARY-2021 (UPDATED)



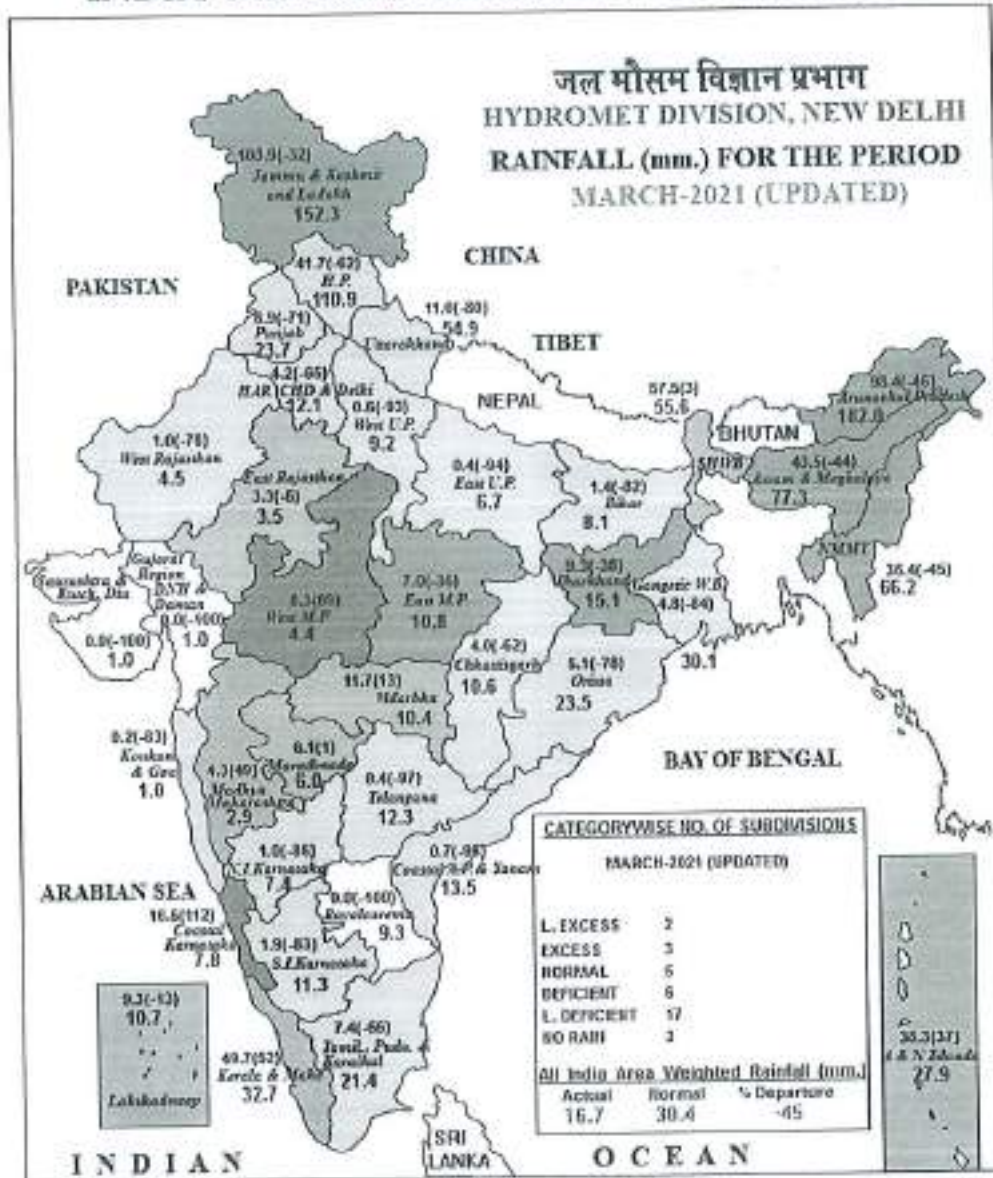
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN [-100%] ■ NO DATA

NOTES:

- (a) Rainfall figures are based on operational data.
- (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
Percentage Departures of Rainfall are shown in brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



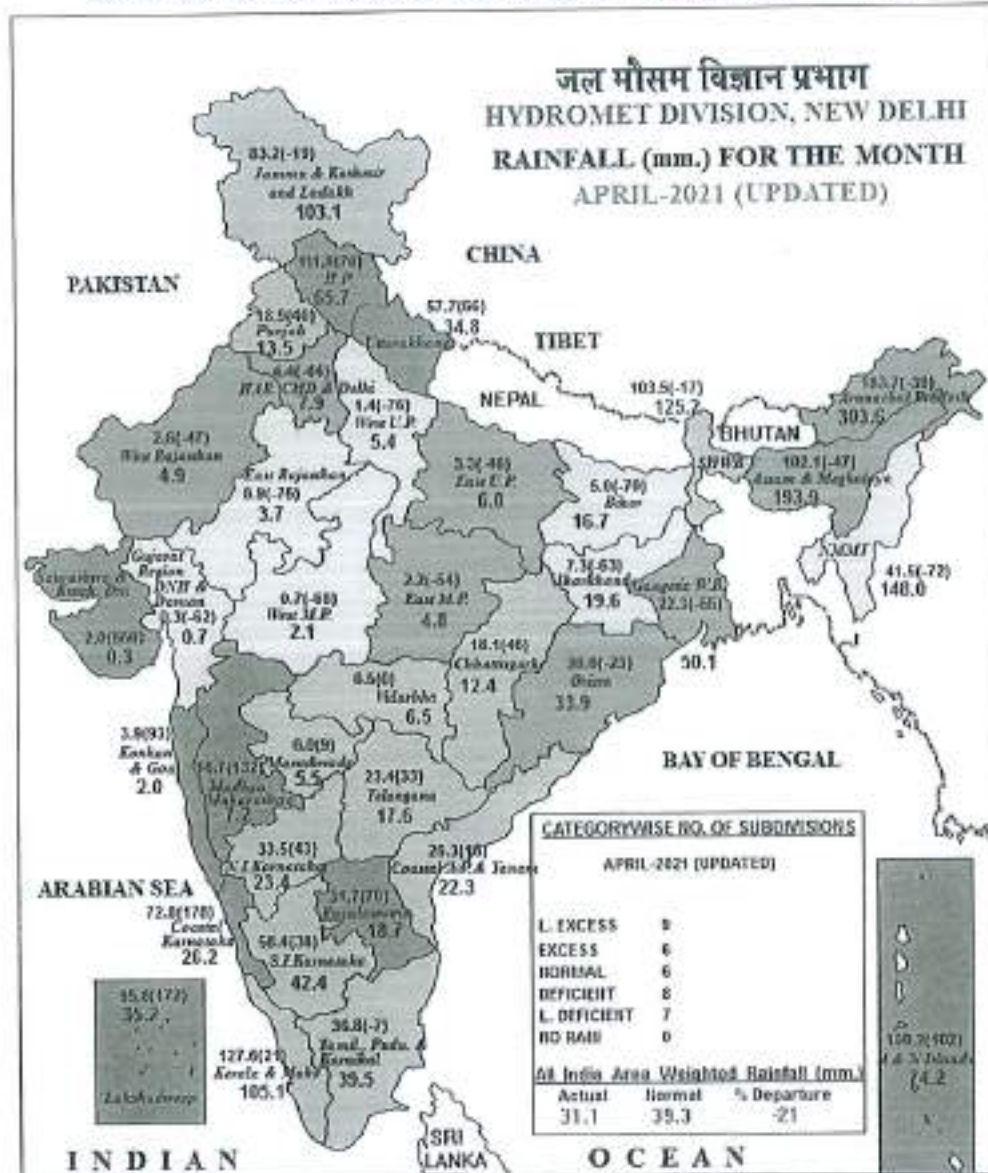
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+10% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE MONTH
APRIL-2021 (UPDATED)



LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+15% TO -15%)
■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:

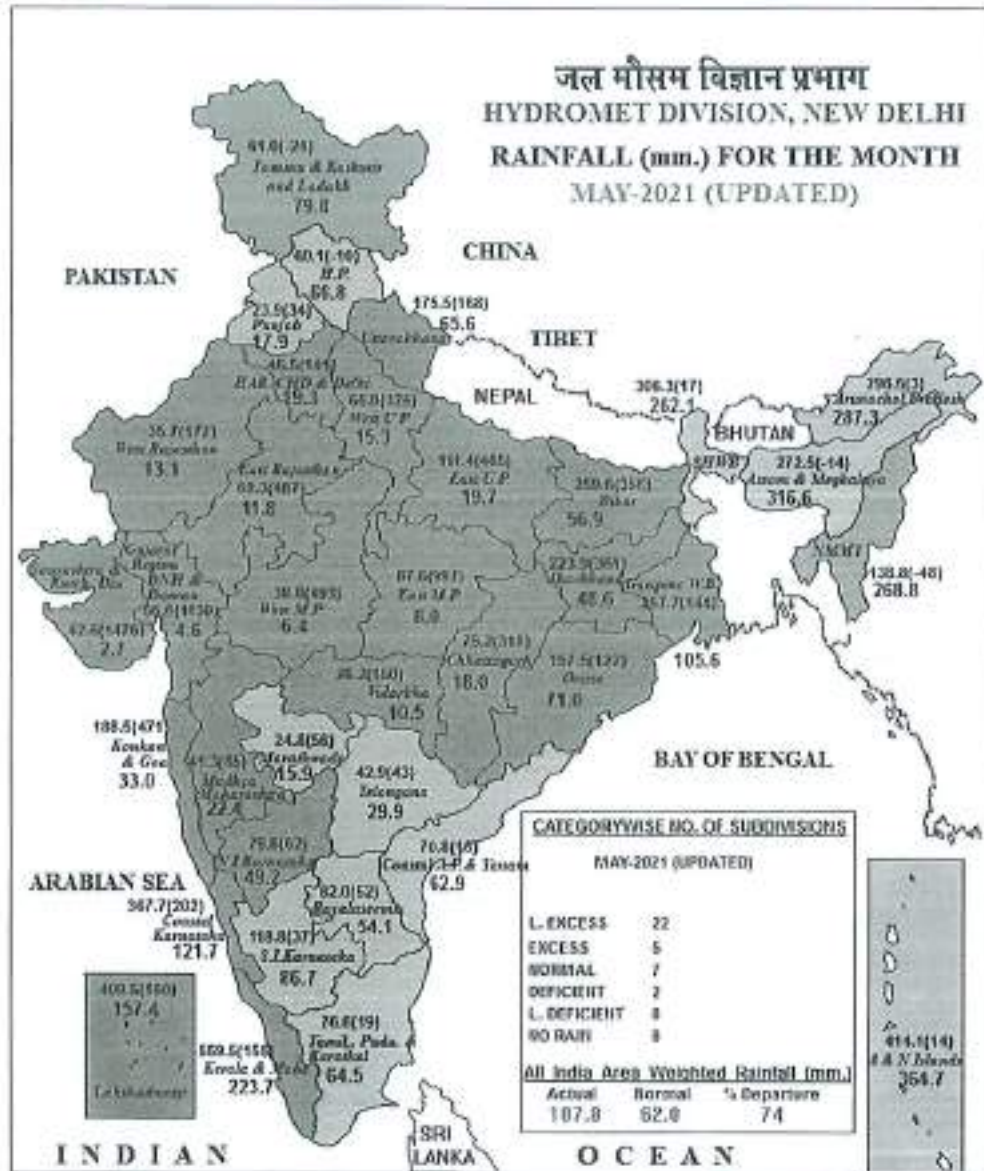
(a) Rainfall figures are based on operational data.

(b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)

Percentage Departures of Rainfall are shown in brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



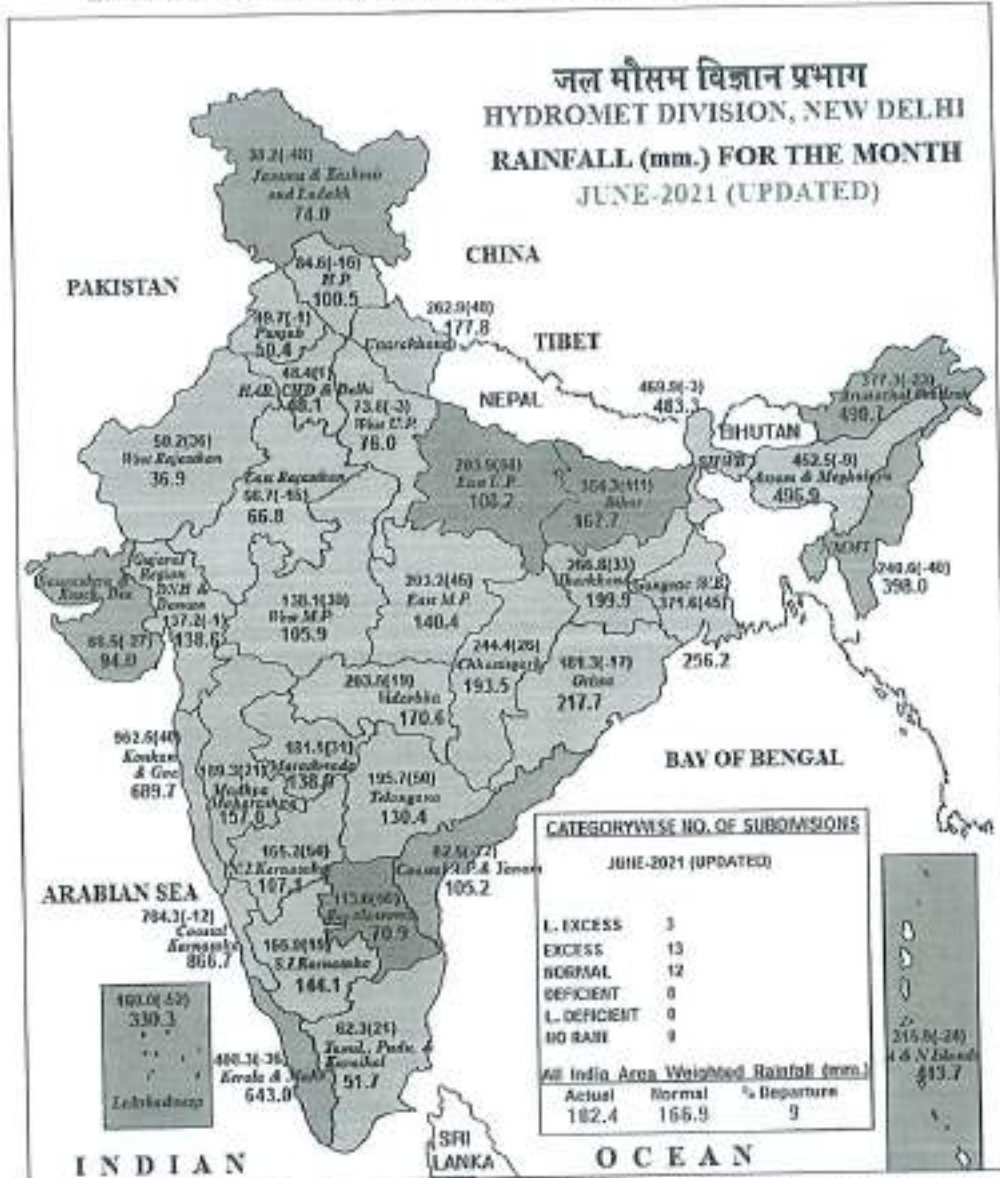
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+10% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE MONTH
JUNE-2021 (UPDATED)

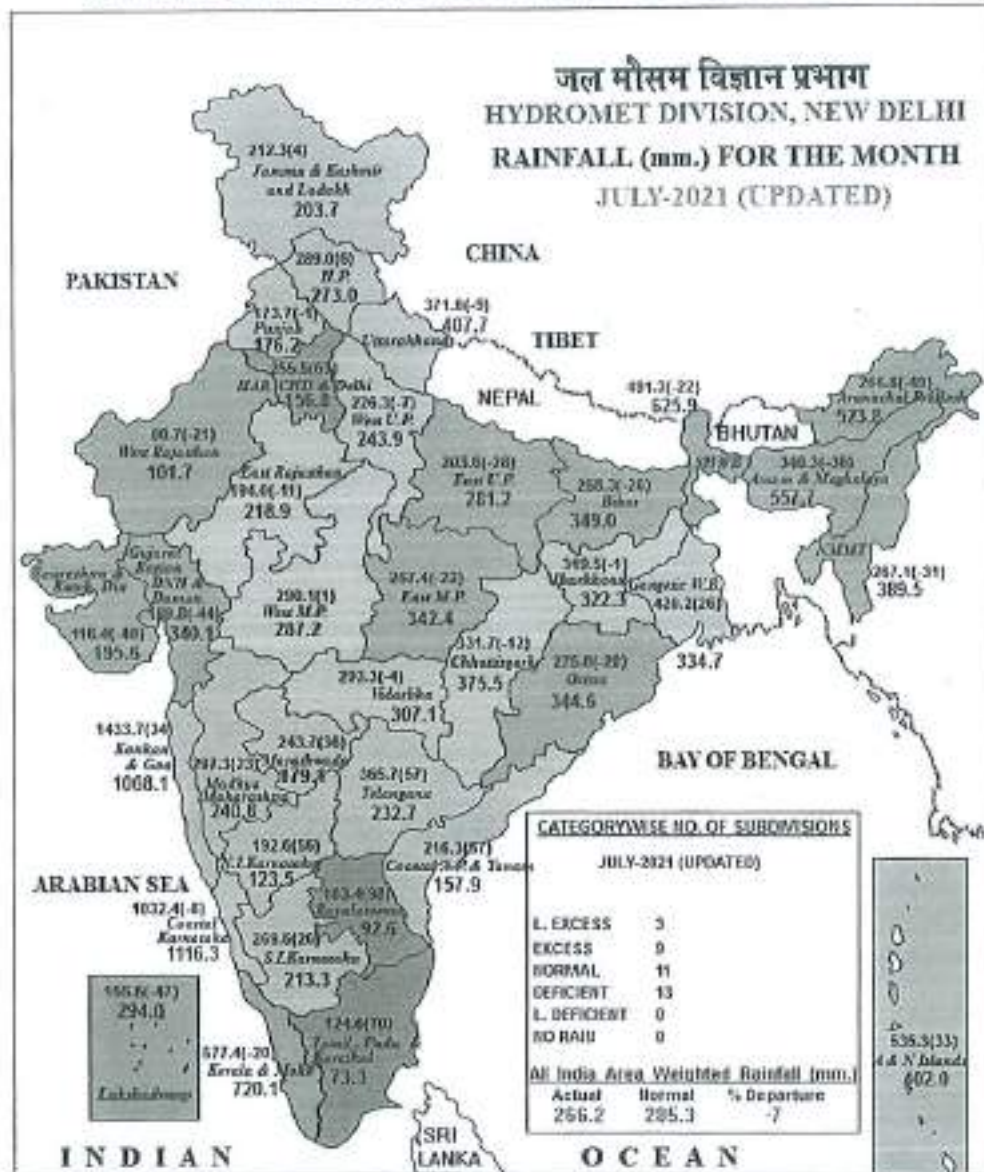


LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+15% TO -15%)
 DEFICIENT (-20% TO -59%) L. DEFICIENT (-60% TO -99%) NO RAIN (-100%) NO DATA

NOTES:
 [a] Rainfall figures are based on operational data.
 [b] Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

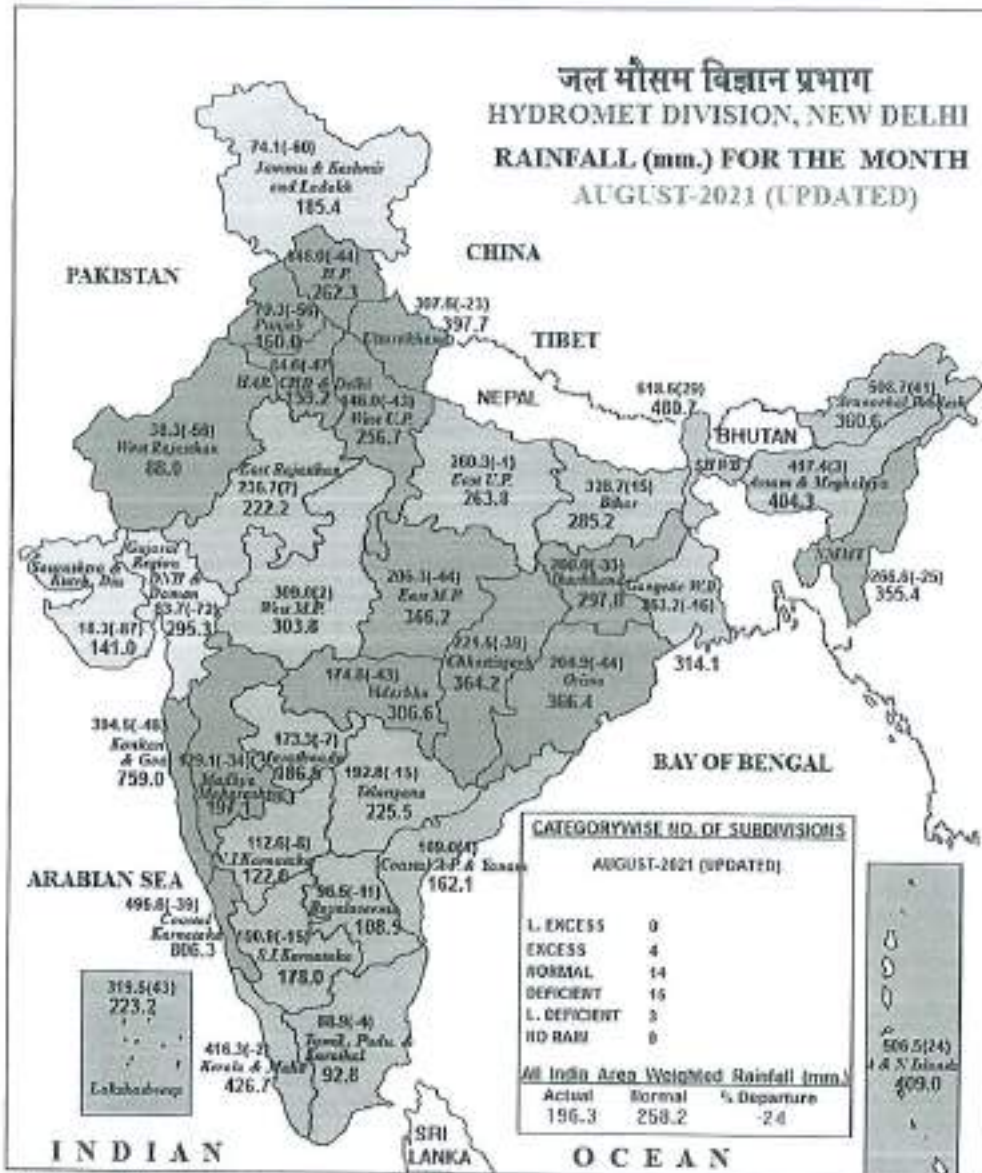


LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 [a] Rainfall figures are based on operational data.
 [b] Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



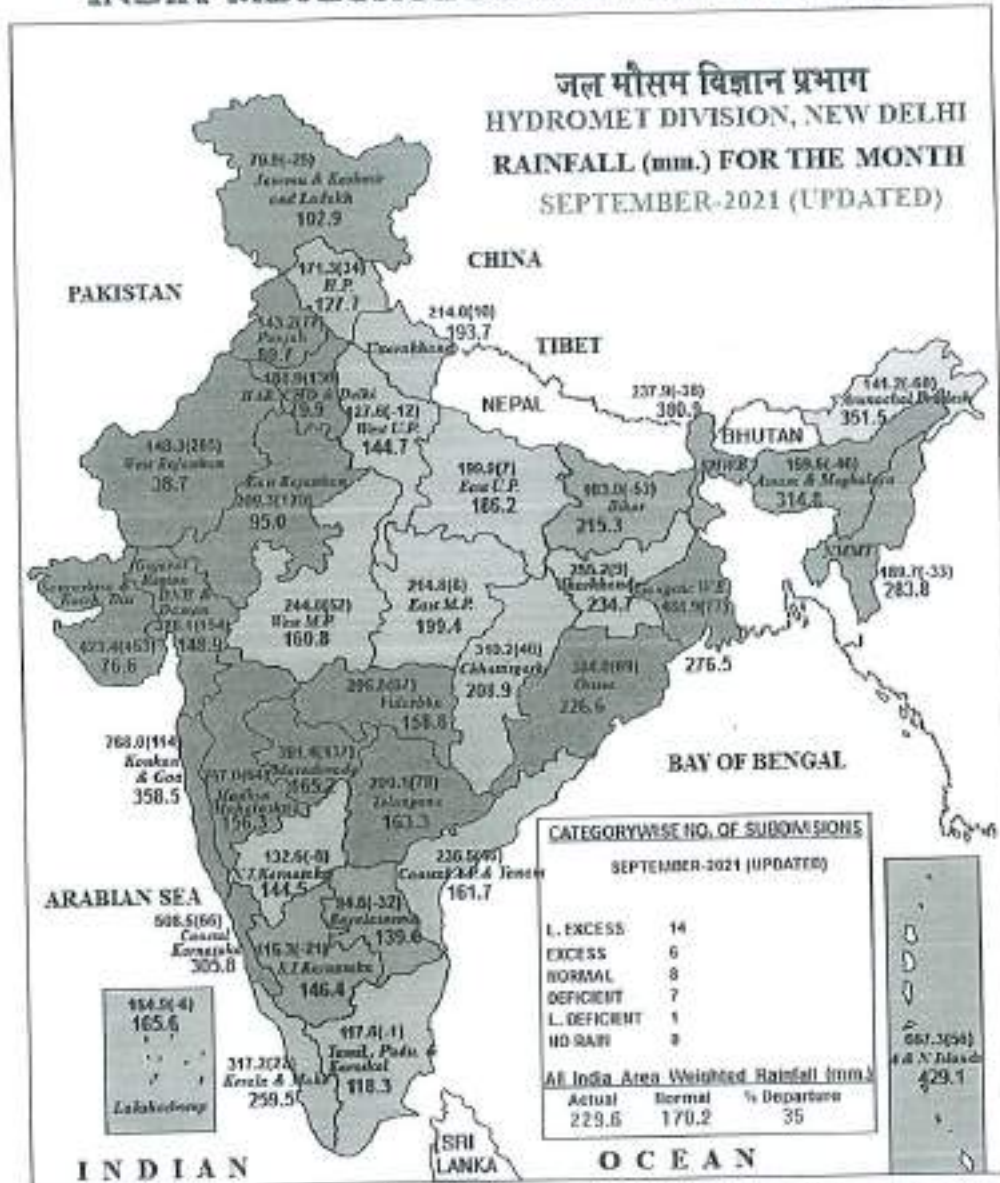
LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+15% TO -15%) DEFICIENT (-20% TO -59%) L. DEFICIENT (-60% TO -99%) NO RAIN (-100%) NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE MONTH
SEPTEMBER-2021 (UPDATED)



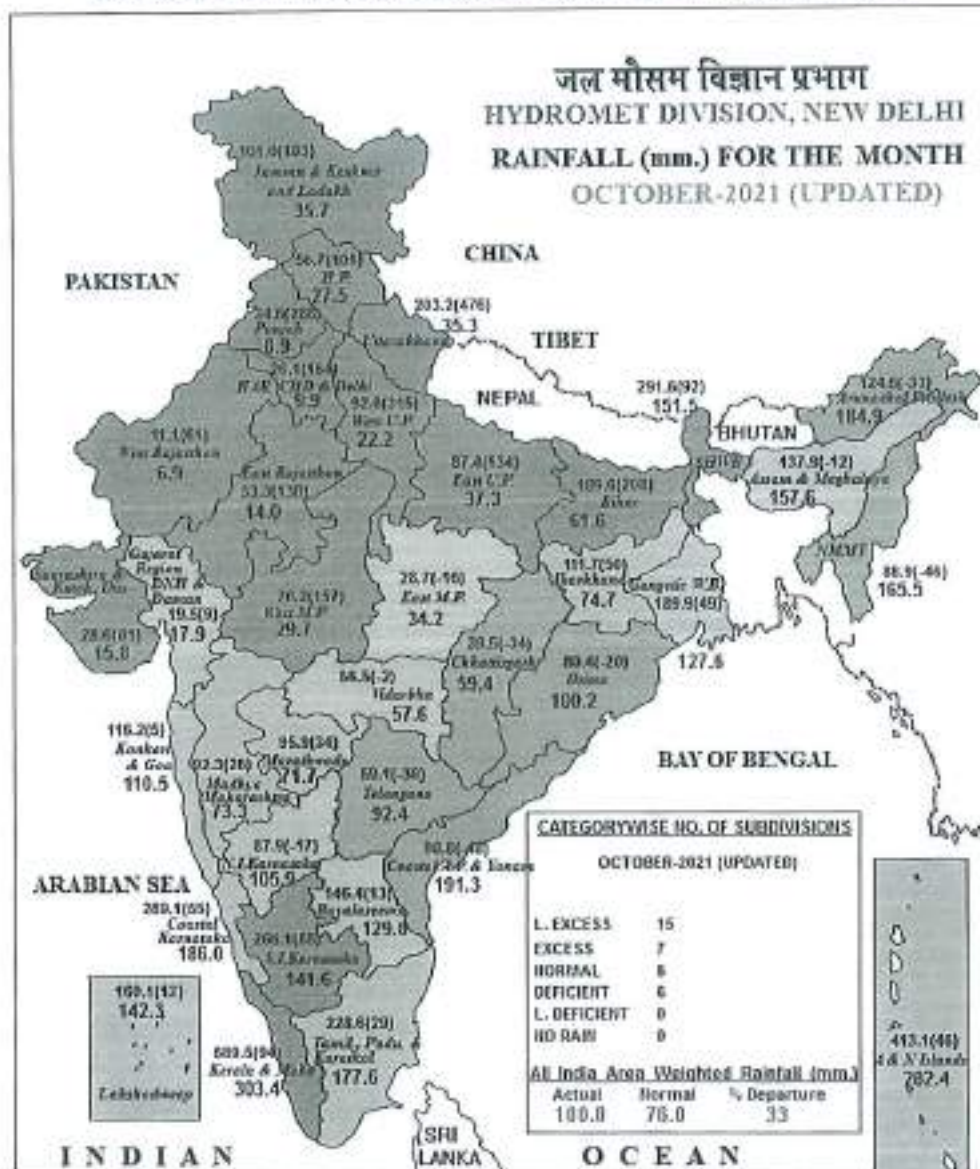
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:

- (a) Rainfall figures are based on operational data.
- (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.). Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

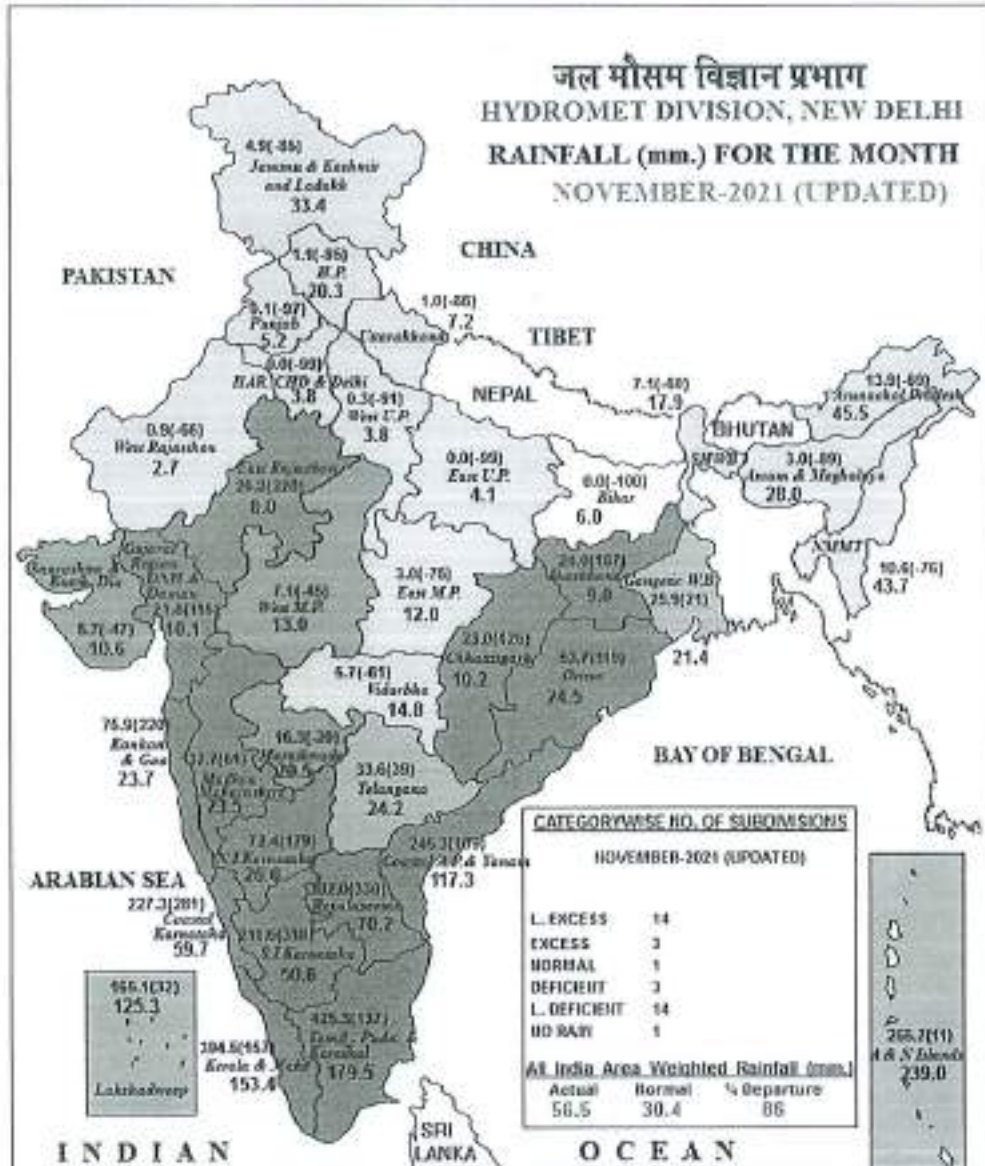


LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

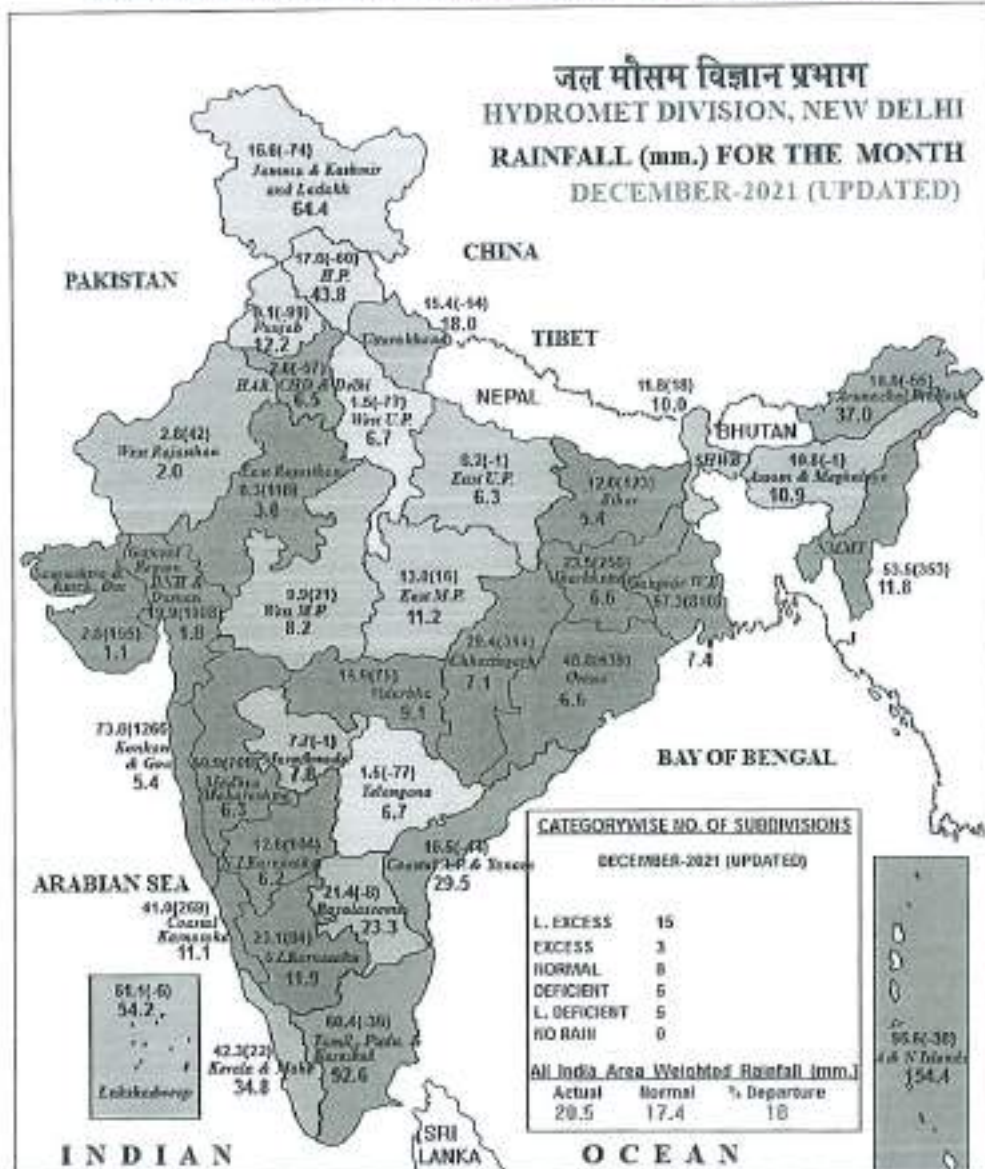


LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+15% TO -15%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



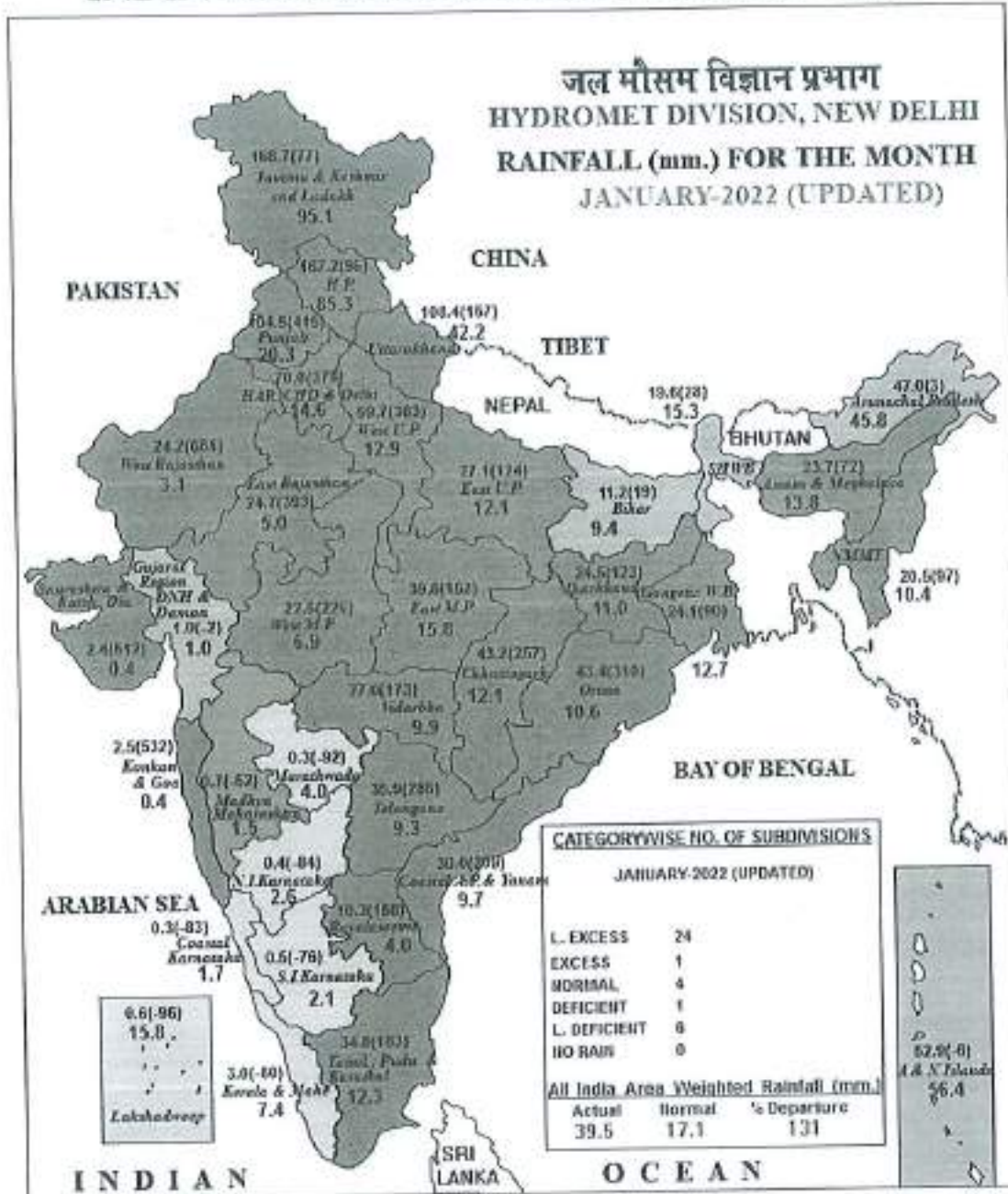
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+15% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 [a] Rainfall figures are based on operational data.
 [b] Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग HYDROMET DIVISION, NEW DELHI RAINFALL (mm.) FOR THE MONTH JANUARY-2022 (UPDATED)



LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:

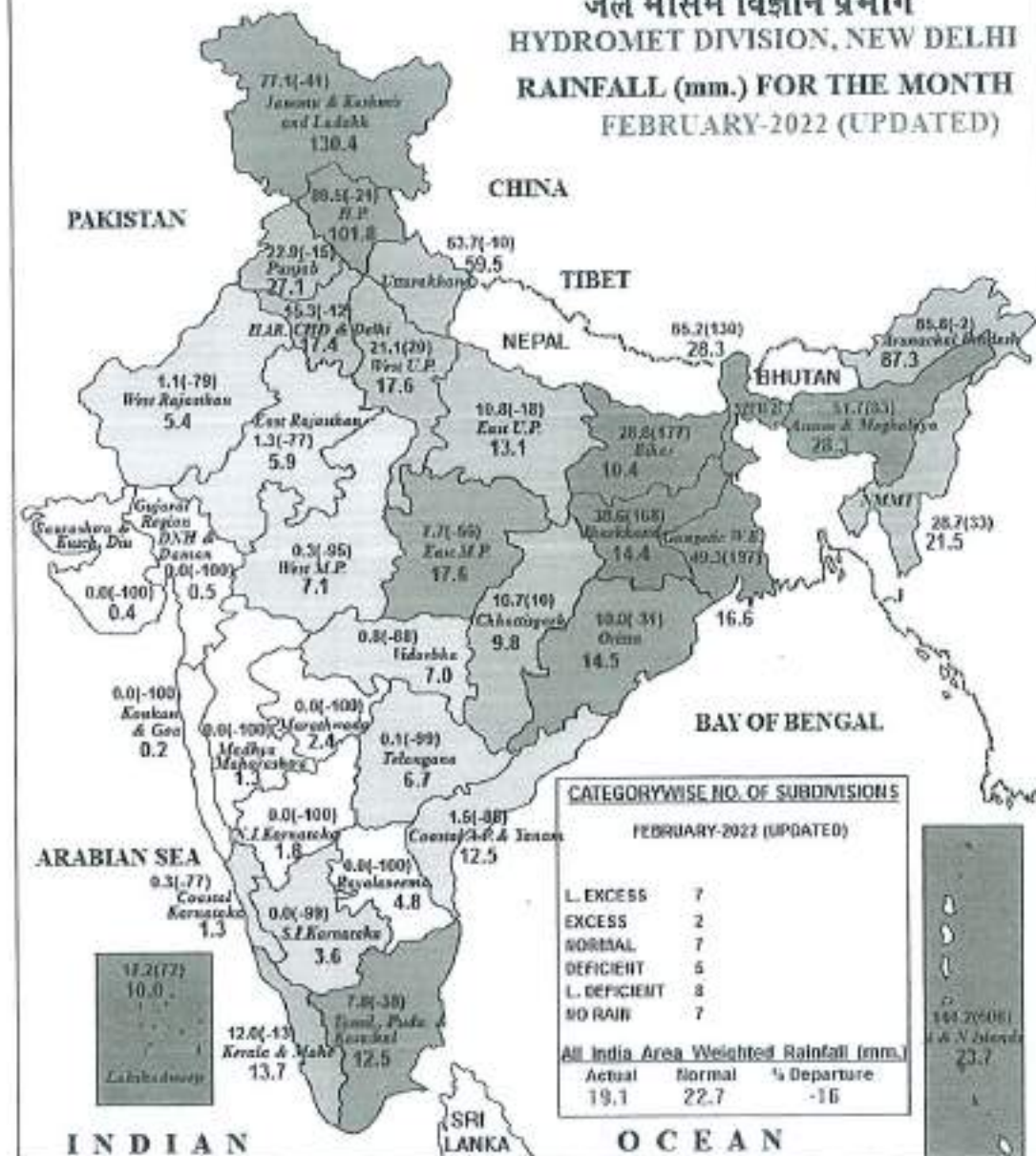
(a) Rainfall figures are based on operational data.

(b) Small figures indicate actual rainfall (mm.), white bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग HYDROMET DIVISION, NEW DELHI RAINFALL (mm.) FOR THE MONTH FEBRUARY-2022 (UPDATED)



LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:

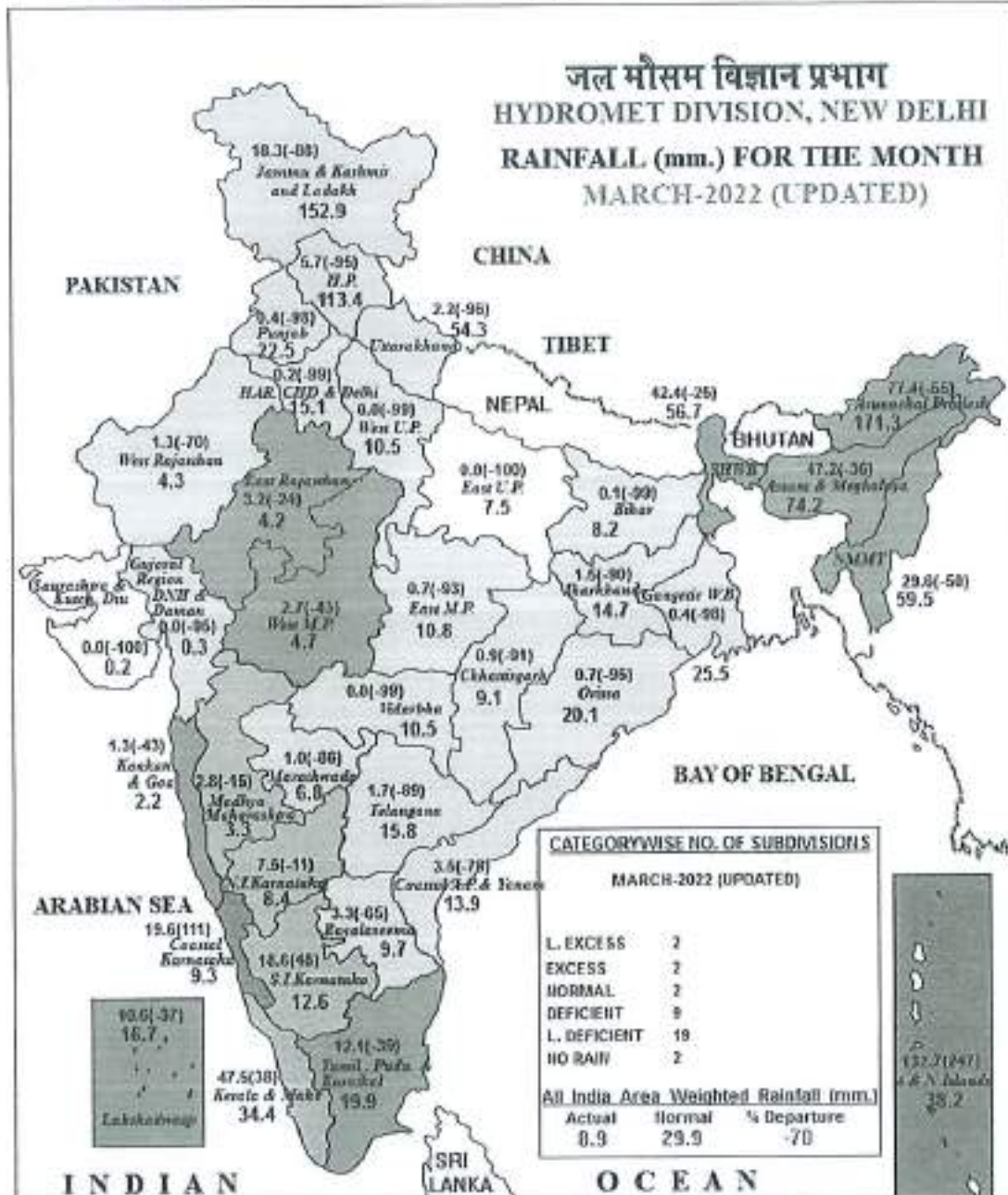
(a) Rainfall figures are based on operational data.

(b) Small figures indicate actual rainfall (mm.), white bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग HYDROMET DIVISION, NEW DELHI RAINFALL (mm.) FOR THE MONTH MARCH-2022 (UPDATED)



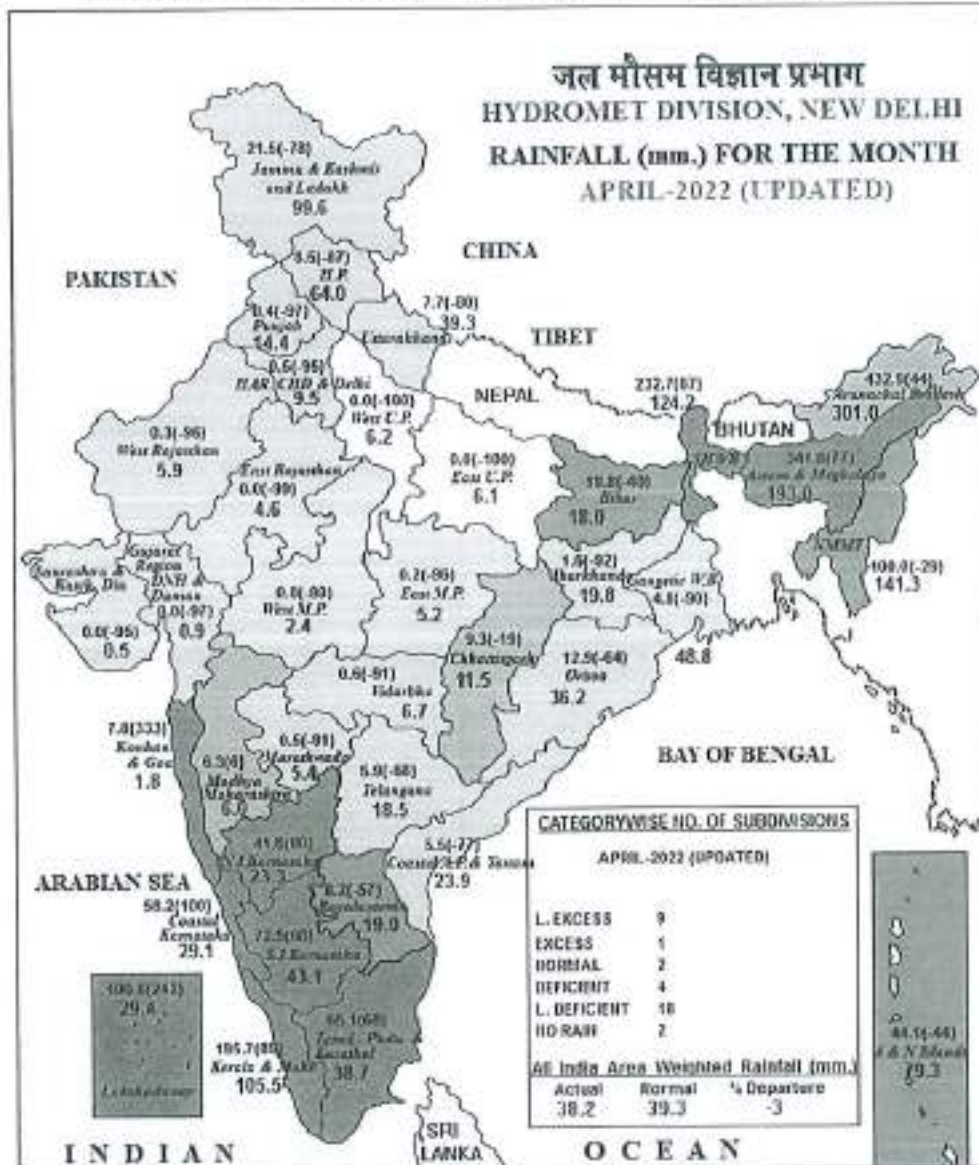
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+1% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 [a] Rainfall figures are based on operational data.
 [b] Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग HYDROMET DIVISION, NEW DELHI RAINFALL (mm.) FOR THE MONTH APRIL-2022 (UPDATED)



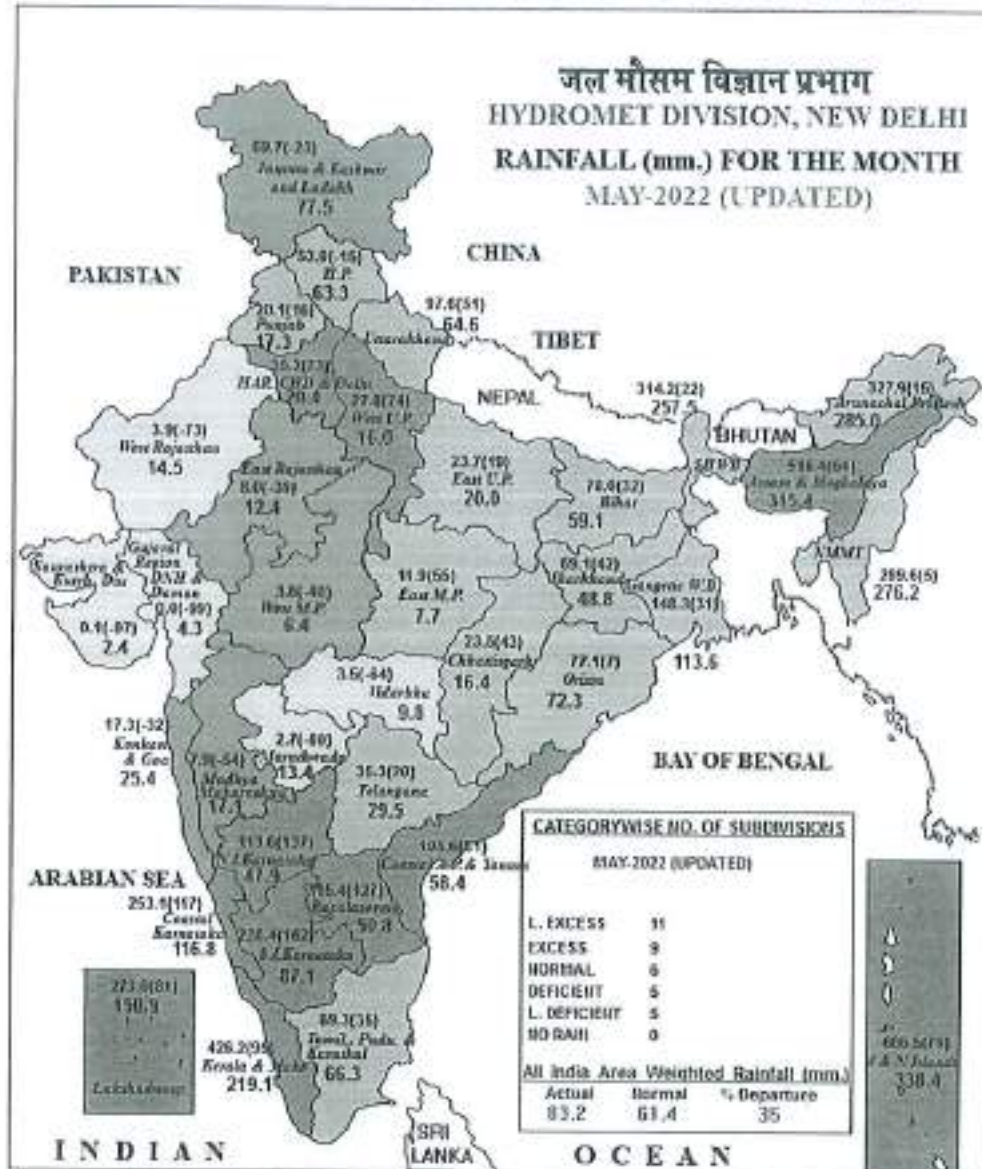
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE MONTH
MAY-2022 (UPDATED)



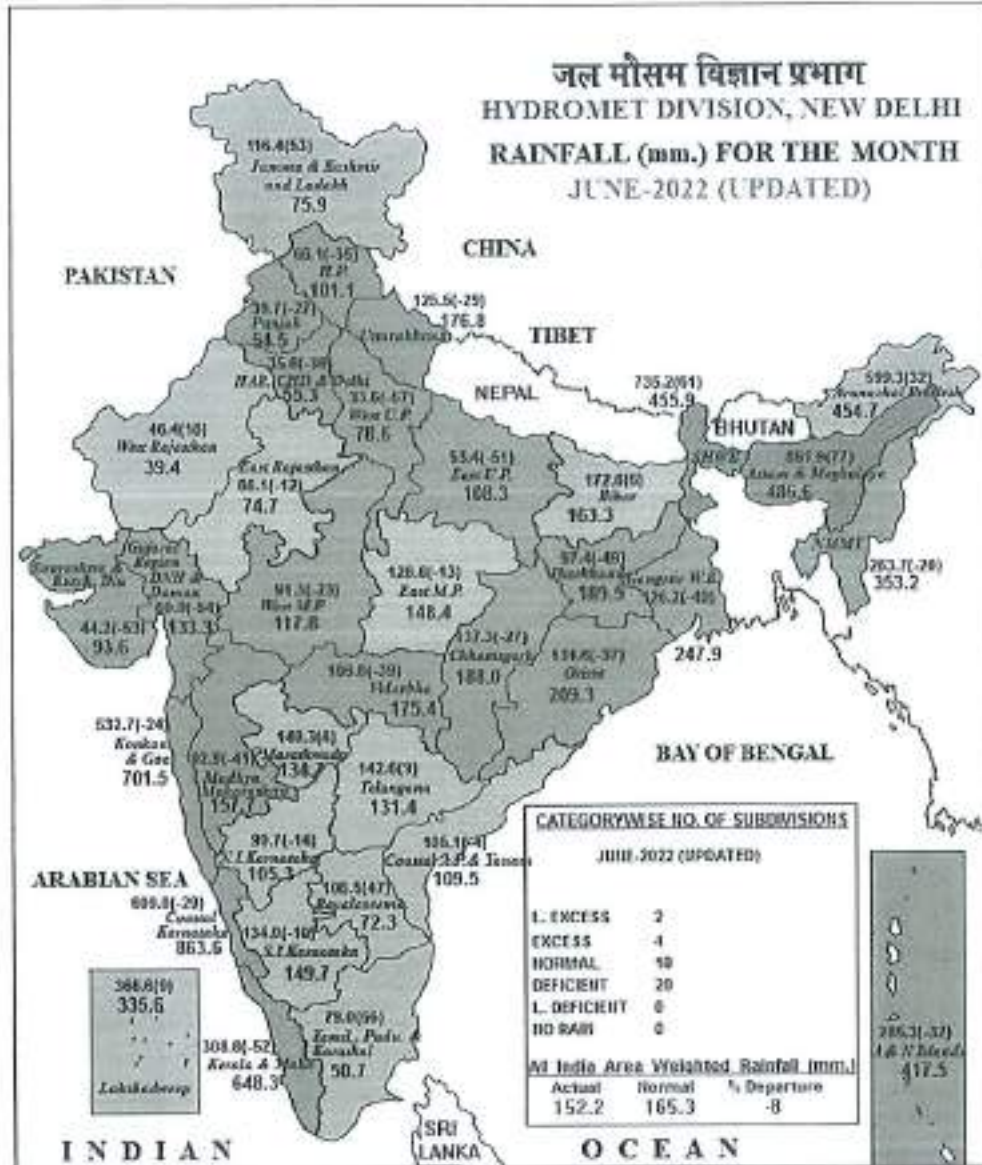
CATEGORYWISE NO. OF SUBDIVISIONS MAY-2022 (UPDATED)		
L. EXCESS	11	
EXCESS	9	
NORMAL	6	
DEFICIENT	5	
L. DEFICIENT	5	
NO RAIN	0	
All India Area Weighted Rainfall (mm.)		
Actual	83.2	61.4
% Departure		35

LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+19% TO -19%)
 DEFICIENT (-20% TO -59%) L. DEFICIENT (-60% TO -99%) NO RAIN (-100%) NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.

भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग HYDROMET DIVISION, NEW DELHI RAINFALL (mm.) FOR THE MONTH JUNE-2022 (UPDATED)

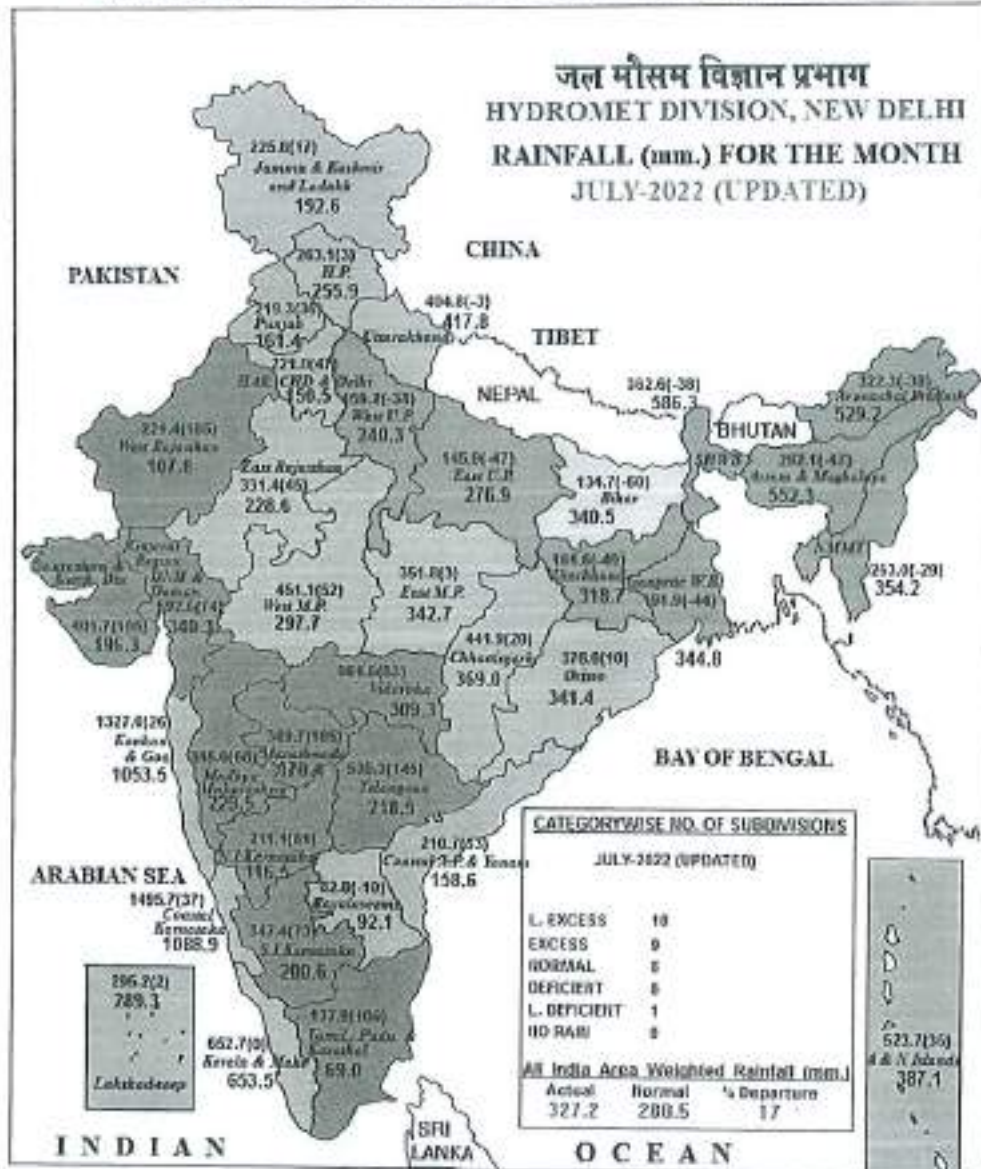


LEGEND: [Dark Grey] L. EXCESS (+60% OR MORE) [Light Grey] EXCESS (+20% TO +59%) [White] NORMAL (+1% TO -19%)
 [Medium Grey] DEFICIENT (-20% TO -50%) [Dark Grey] L. DEFICIENT (-60% TO -99%) [White] NO RAIN (-100%) [White] NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.

भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग HYDROMET DIVISION, NEW DELHI RAINFALL (mm.) FOR THE MONTH JULY-2022 (UPDATED)



LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

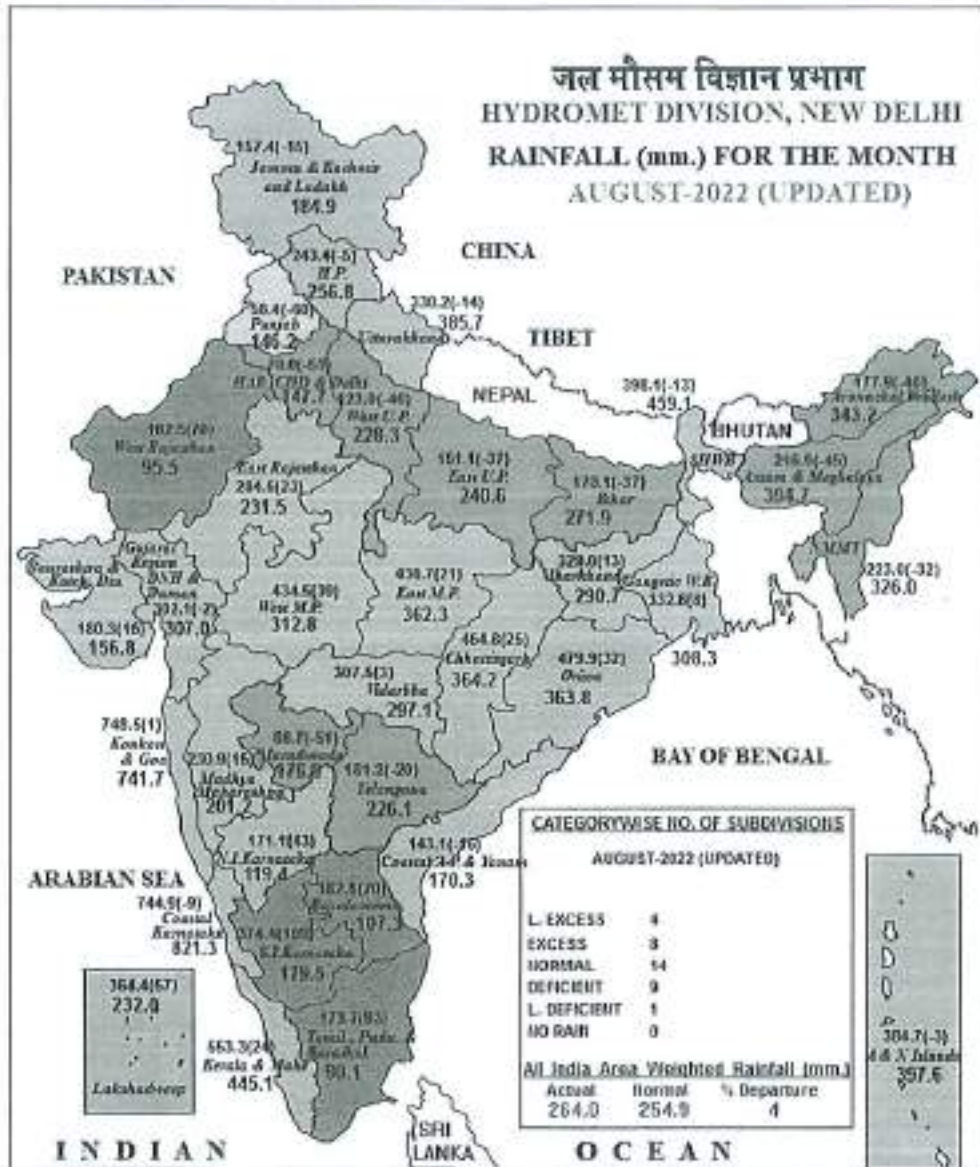
NOTES:

- (a) Rainfall figures are based on operational data.
- (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE MONTH
AUGUST-2022 (UPDATED)



CATEGORYWISE NO. OF SUBDIVISIONS		
AUGUST-2022 (UPDATED)		
L. EXCESS	4	
EXCESS	3	
NORMAL	14	
DEFICIENT	9	
L. DEFICIENT	1	
NO RAIN	0	
All India Area Weighted Rainfall (mm.)		
Actual	Normal	% Departure
264.0	254.9	4

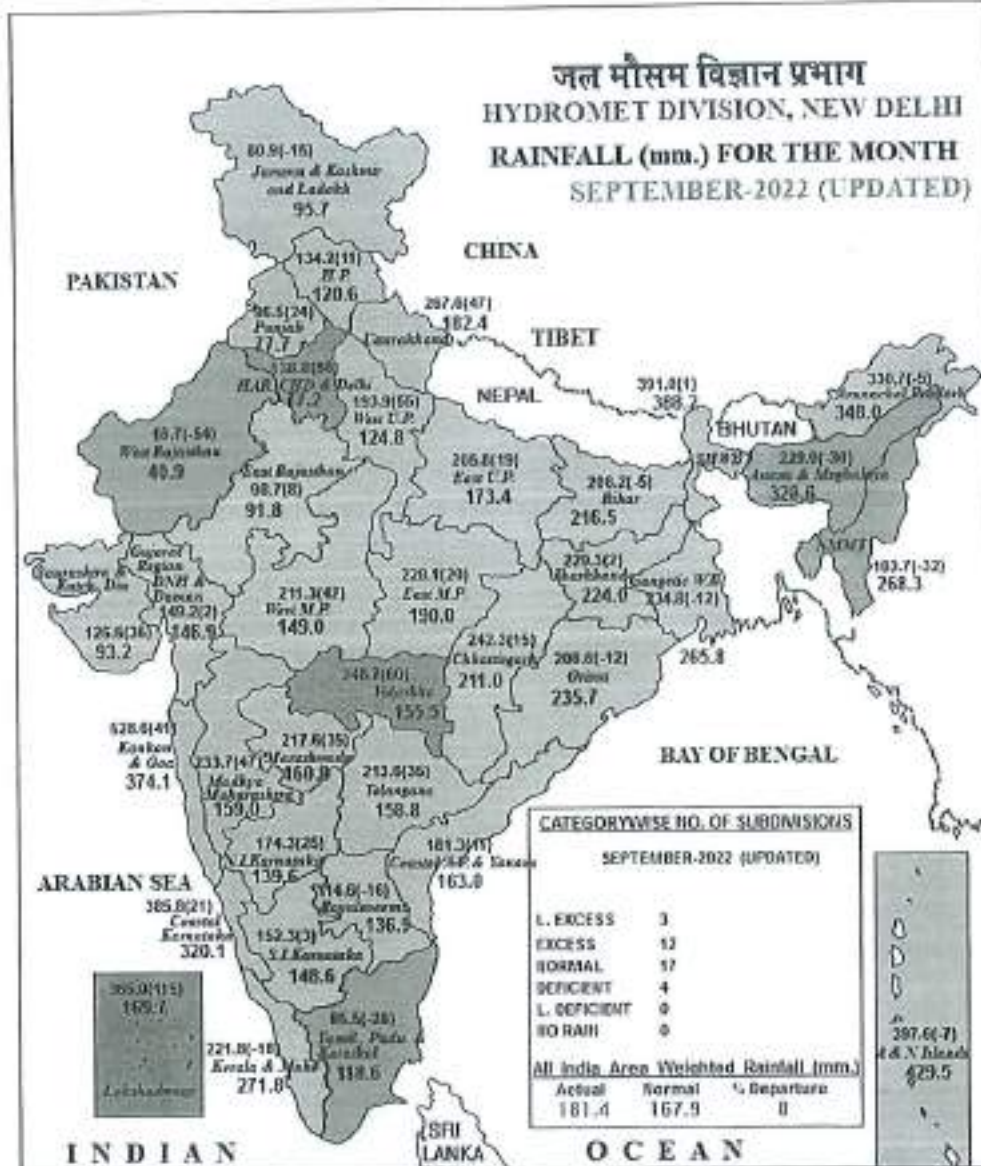
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE MONTH
SEPTEMBER-2022 (UPDATED)

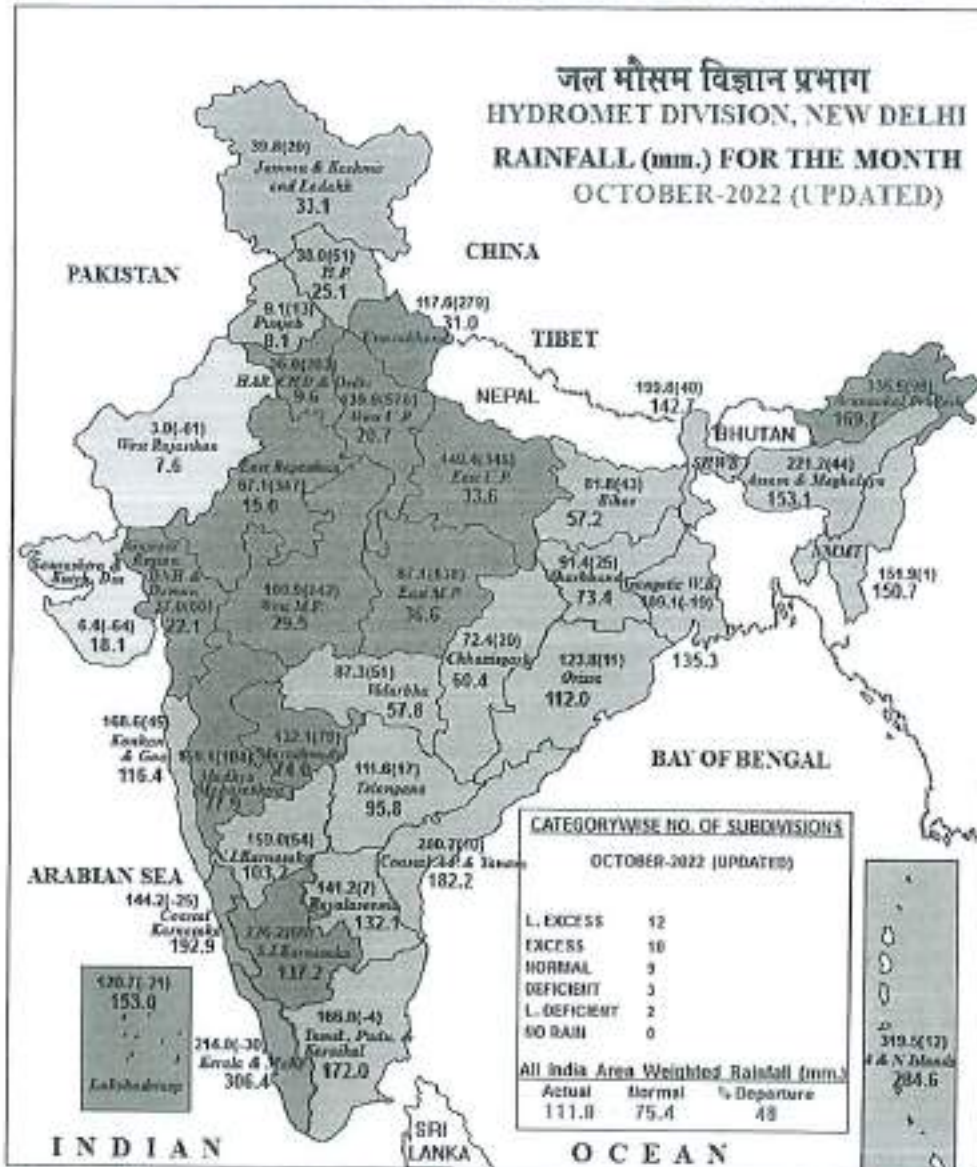


LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+19% TO -19%)
 DEFICIENT (-20% TO -59%) L. DEFICIENT (-60% TO -99%) NO RAIN (-100%) NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.

भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE MONTH
OCTOBER-2022 (UPDATED)



CATEGORYWISE NO. OF SUBDIVISIONS OCTOBER-2022 (UPDATED)		
L. EXCESS	12	
EXCESS	10	
NORMAL	3	
DEFICIENT	3	
L. DEFICIENT	2	
NO RAIN	0	
All India Area Weighted Rainfall (mm.)		
Actual	Normal	% Departure
111.8	75.4	48

LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+19% TO -19%)
 DEFICIENT (-20% TO -59%) L. DEFICIENT (-60% TO -99%) NO RAIN (-100%) NO DATA

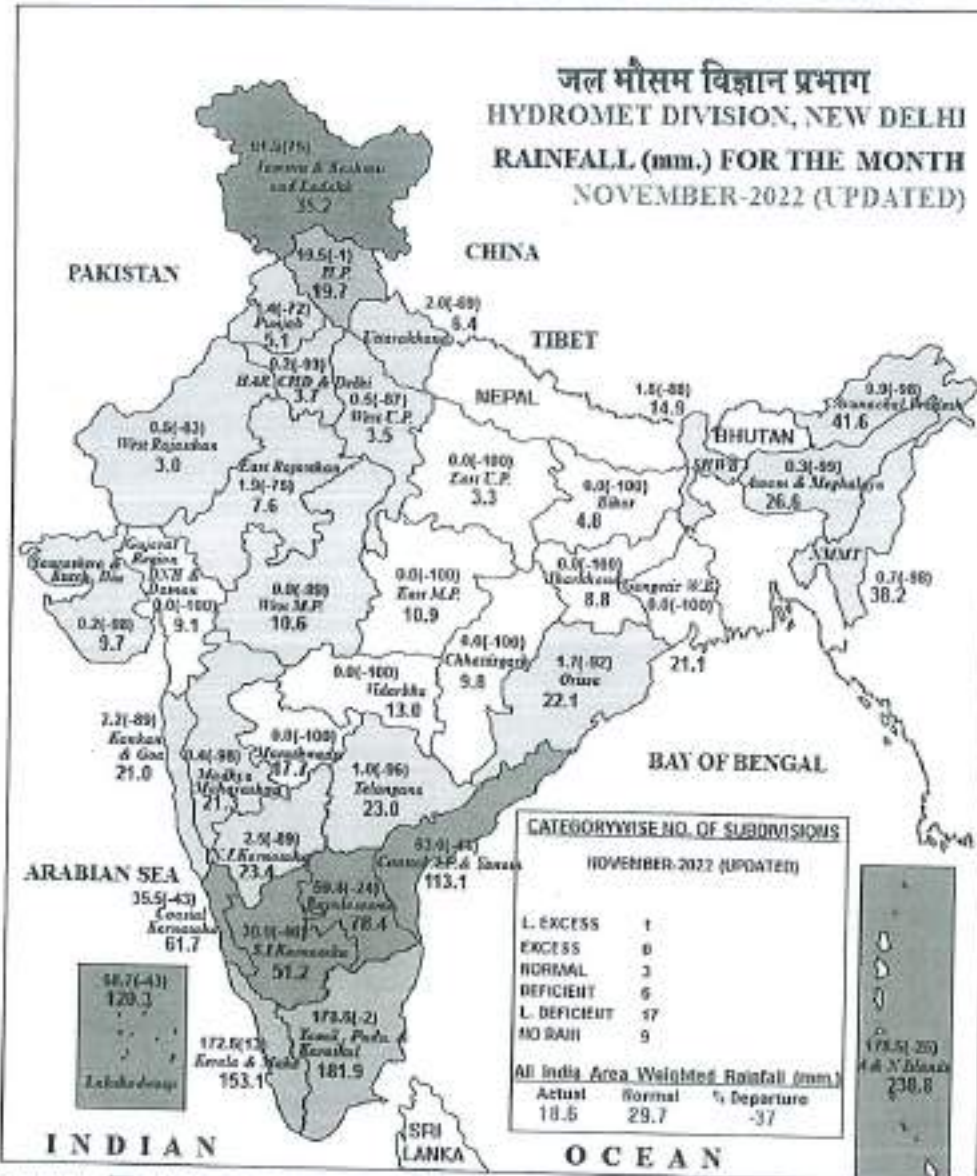
NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



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भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE MONTH
NOVEMBER-2022 (UPDATED)



CATEGORYWISE NO. OF SUBDIVISIONS		
NOVEMBER-2022 (UPDATED)		
L. EXCESS	1	
EXCESS	0	
NORMAL	3	
DEFICIENT	6	
L. DEFICIENT	17	
NO RAIN	9	
All India Area Weighted Rainfall (mm.)		
Actual	Normal	% Departure
118.5	29.7	-37

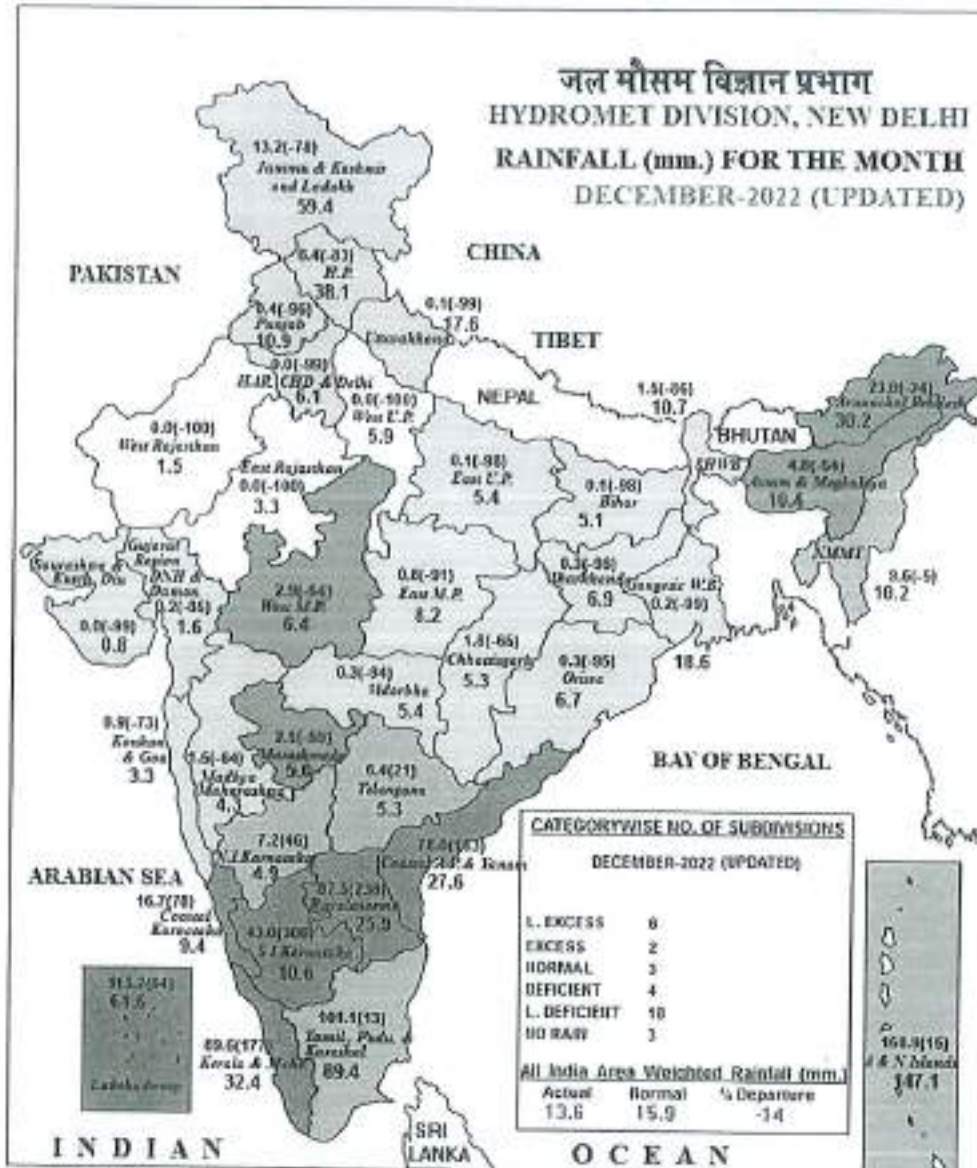
LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+15% TO -15%)
 DEFICIENT (-20% TO -59%) L. DEFICIENT (-60% TO -99%) NO RAIN (-100%) NO DATA

NOTES:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.



भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग
HYDROMET DIVISION, NEW DELHI
RAINFALL (mm.) FOR THE MONTH
DECEMBER-2022 (UPDATED)



LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+10% TO -19%)
 DEFICIENT [-20% TO -59%] L. DEFICIENT (-60% TO -99%) NO RAIN [-100%] NO DATA

NOTES:

(a) Rainfall figures are based on operational data.

(b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.

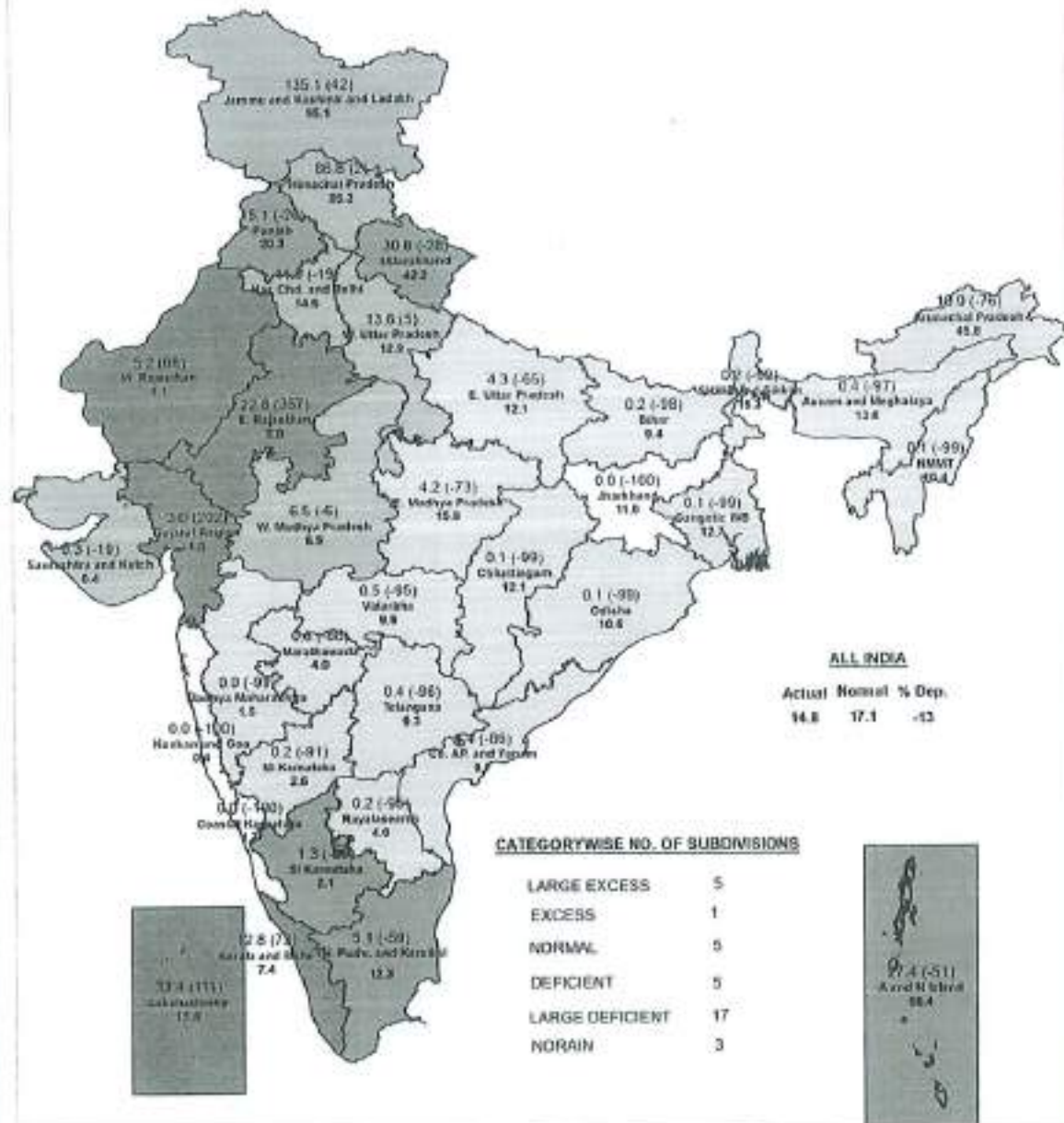


भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान विभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-01-2023 To 31-01-2023 (PRINTED)



Legend

Large Excess [80% or more] Excess [20% to 79%] Normal [-19% to 19%] Deficient [-20% to -79%] Large Deficient [-80% to -99%] No Rain [-100%] No Data

NOTES :

- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.

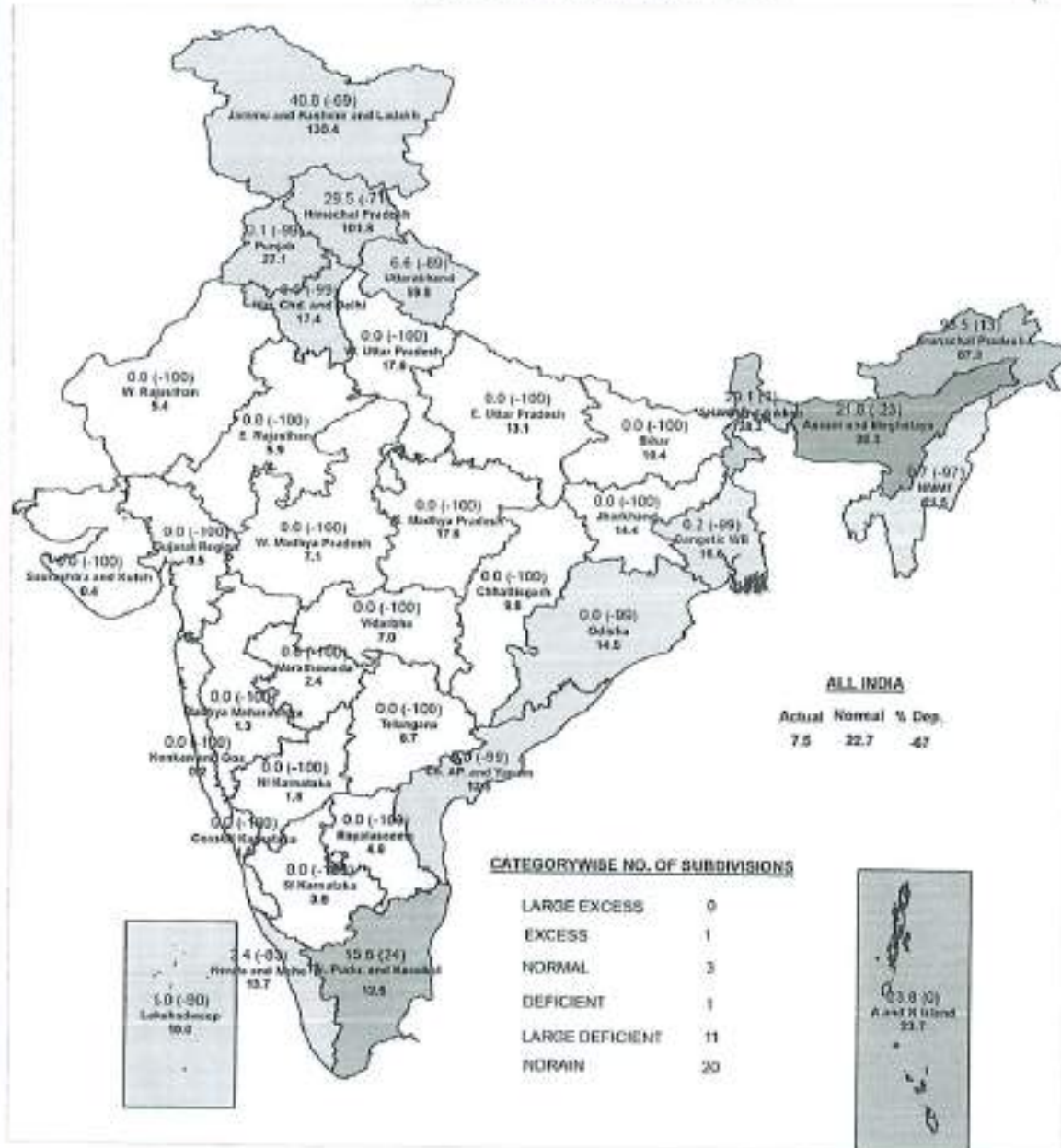


भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान पत्राग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-02-2023 To 28-02-2023 (179%)



Legend

Large Excess (>90% or more) | Excess (80% to 89%) | Normal (50% to 79%) | Deficient (50% to -20%) | Large Deficient (-80% to -60%) | No Rain (-100%) | No Data

NOTES :

- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.



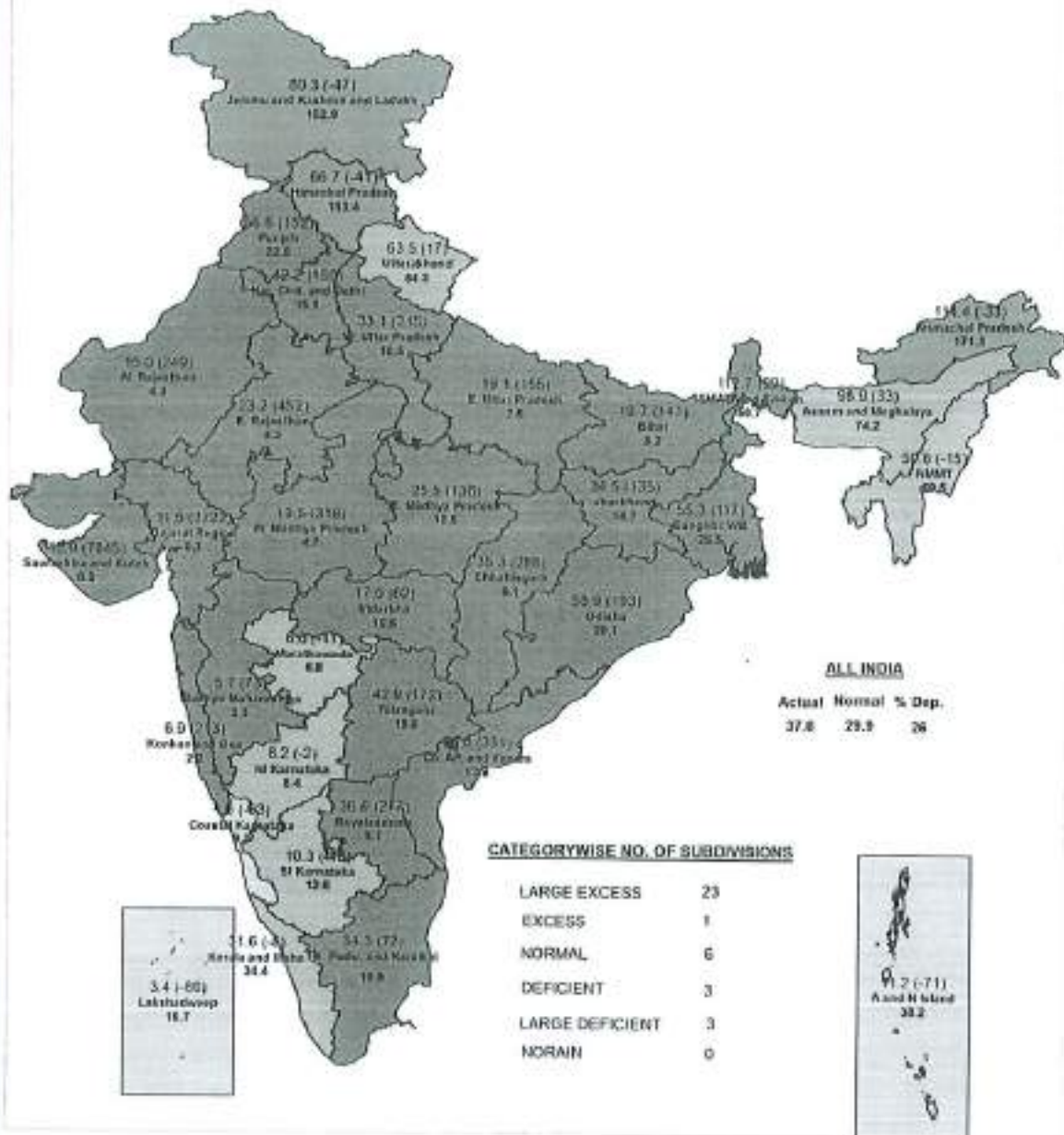


भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-03-2023 To 31-03-2023 (1 PDVALD)



ALL INDIA

Actual	Normal	% Dep.
37.6	29.9	26

CATEGORYWISE NO. OF SUBDIVISIONS

LARGE EXCESS	23
EXCESS	1
NORMAL	6
DEFICIENT	3
LARGE DEFICIENT	3
NORAIN	0

Legend

Large Excess [60% or more] Excess [20% to 59%] Normal [-19% to 19%] Deficient [-59% to -20%] Large Deficient [-59% to -40%] No Rain [-100%] No Data

NOTES :

- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.



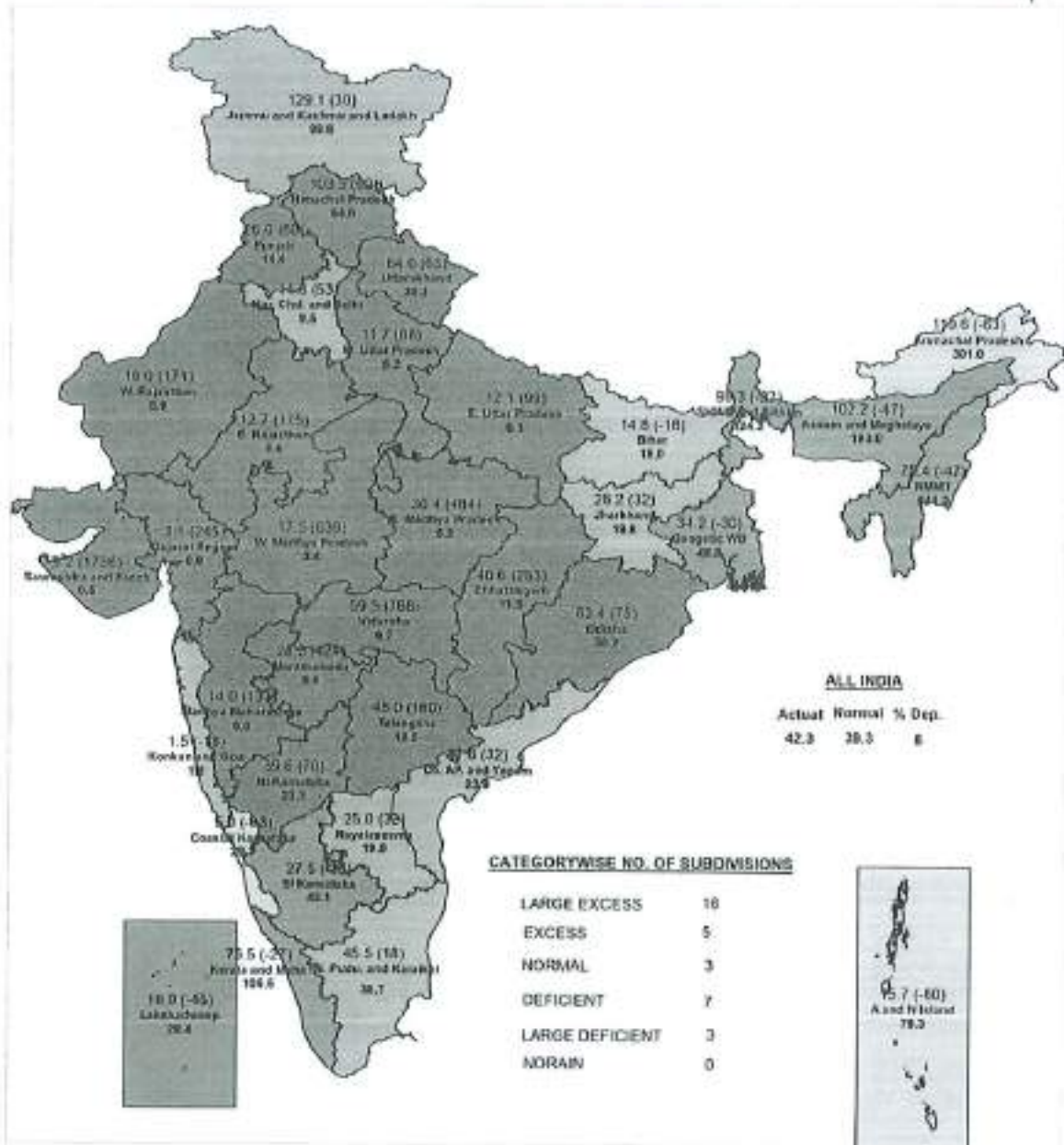


भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

जन मौसम विज्ञान पभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-04-2023 To 30-04-2023 (CPRAIED)



Legend

Large Excess (80% or more) Excess (20% to 80%) Normal (-10% to 10%) Deficient (-80% to -20%) Large Deficient (80% to -80%) No Rain (-100%) No Data

NOTES :

- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.



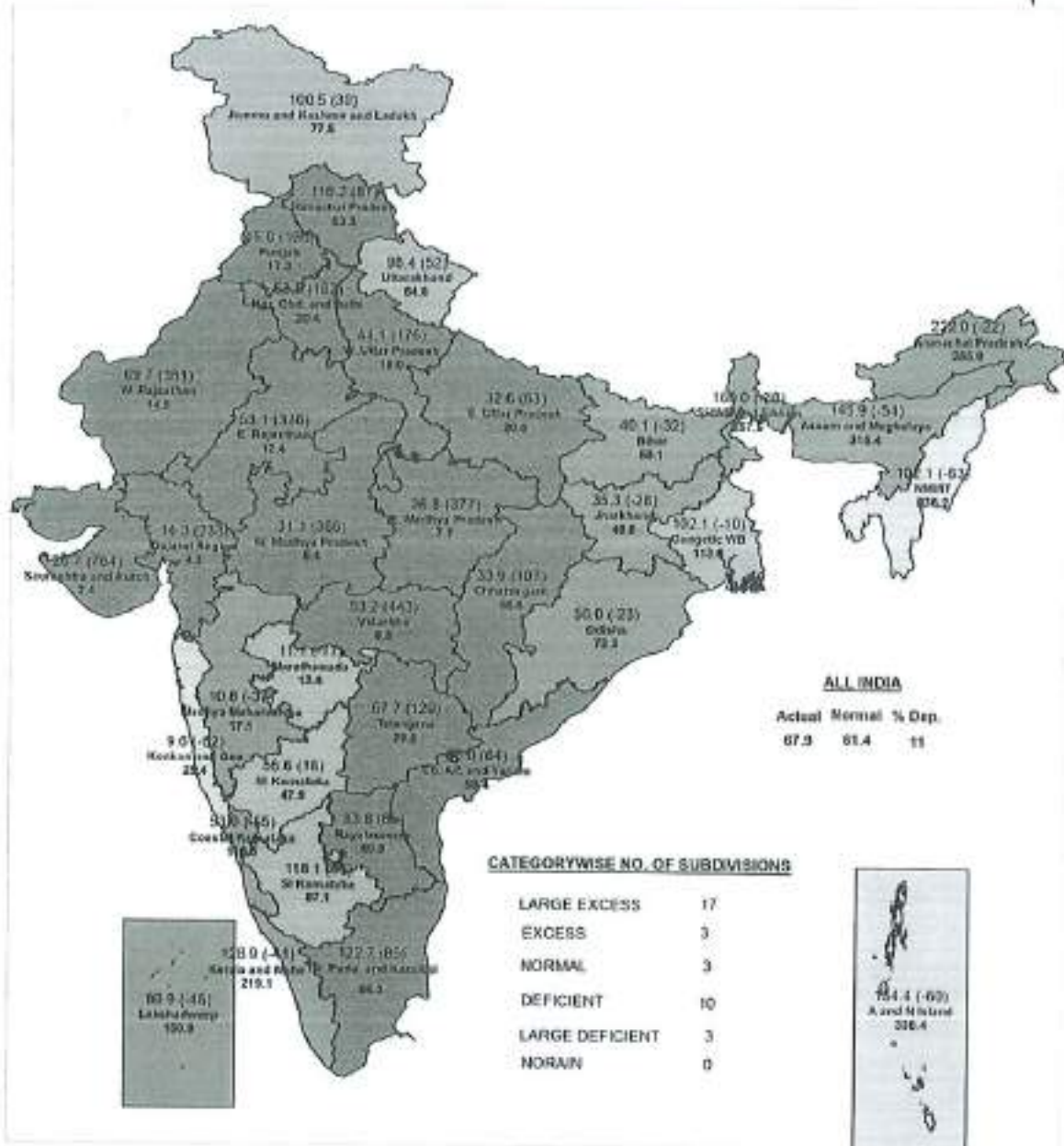


भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-05-2023 To 31-05-2023 (0.00%)



Legend

Large Excess [60% or more] Excess [25% to 59%] Normal [10% to 19%] Deficient [99% to -20%] Large Deficient [-88% to -60%] No Rain [-100%] No Data

NOTES :

- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.



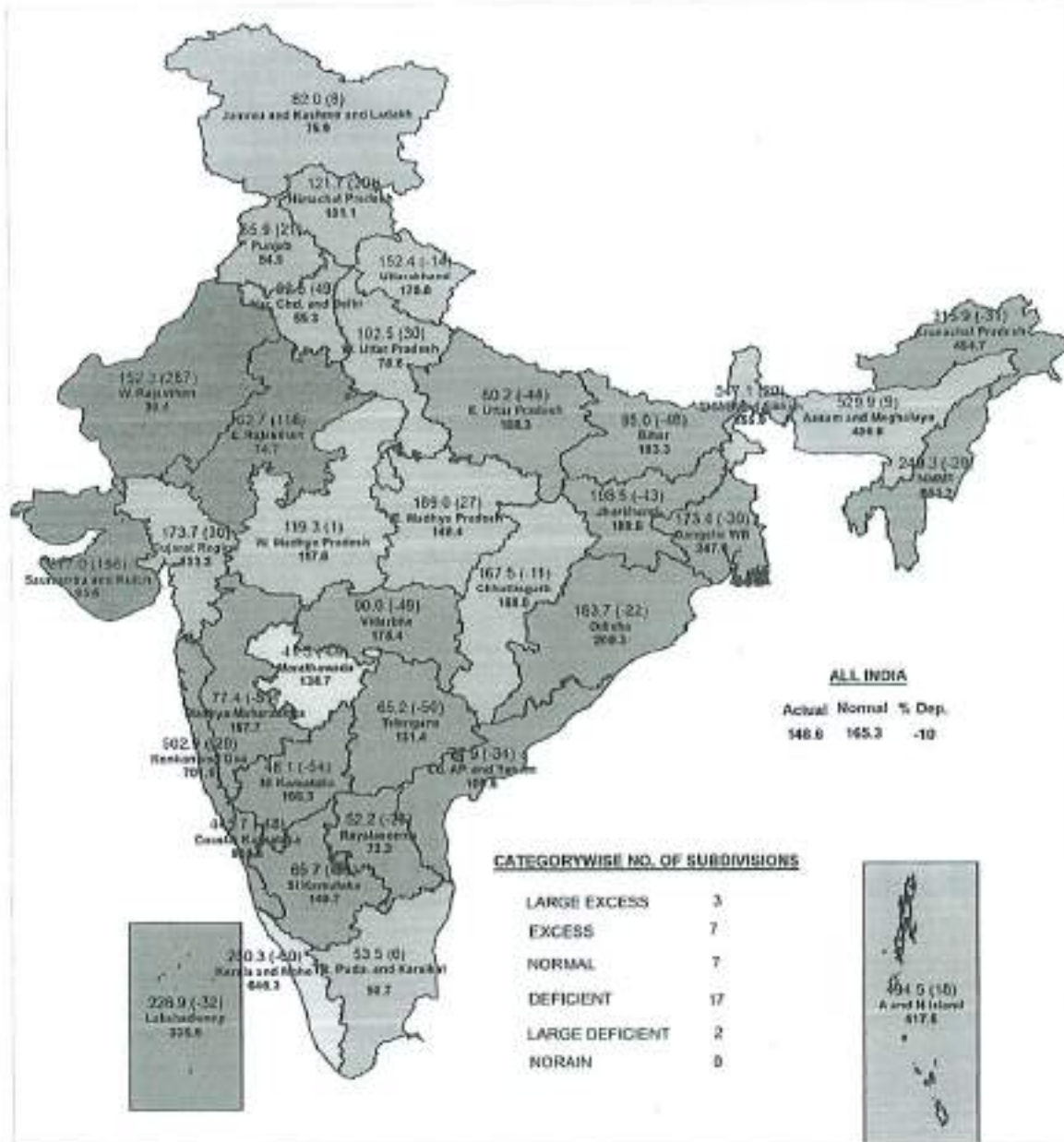


भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान विभाग, नई दिल्ली
HYDROLOGY DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-06-2023 To 30-06-2023 (JUN 2023)



Legend
 Large Excess [80% or more] Excess [50% to 79%] Normal [10% to 49%] Deficient [49% to -20%] Large Deficient [80% to -80%] No Rain [-100%] No Data

NOTES:
 a) Rainfall figures are based on operation data.
 b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
 c) Percentage Departures of rainfall are shown in brackets.



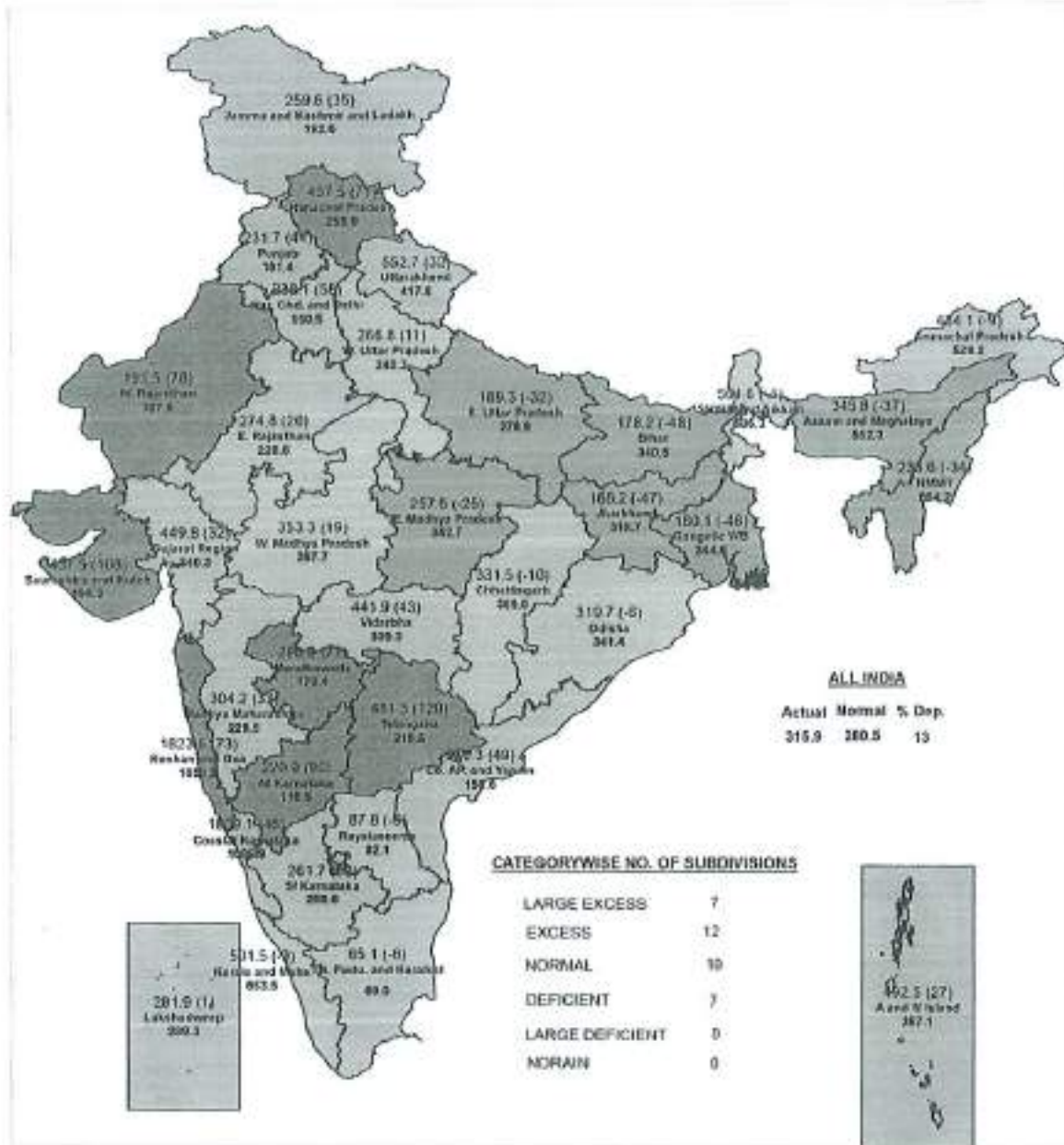


भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान पंशाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-07-2023 To 31-07-2023 (REALTIME)



Legend

Large Excess [50% or more] Excess [20% to 50%] Normal [-10% to 10%] Deficient [-20% to -30%] Large Deficient [-40% to -50%] No Rain [-100%] no data

NOTES :

- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.



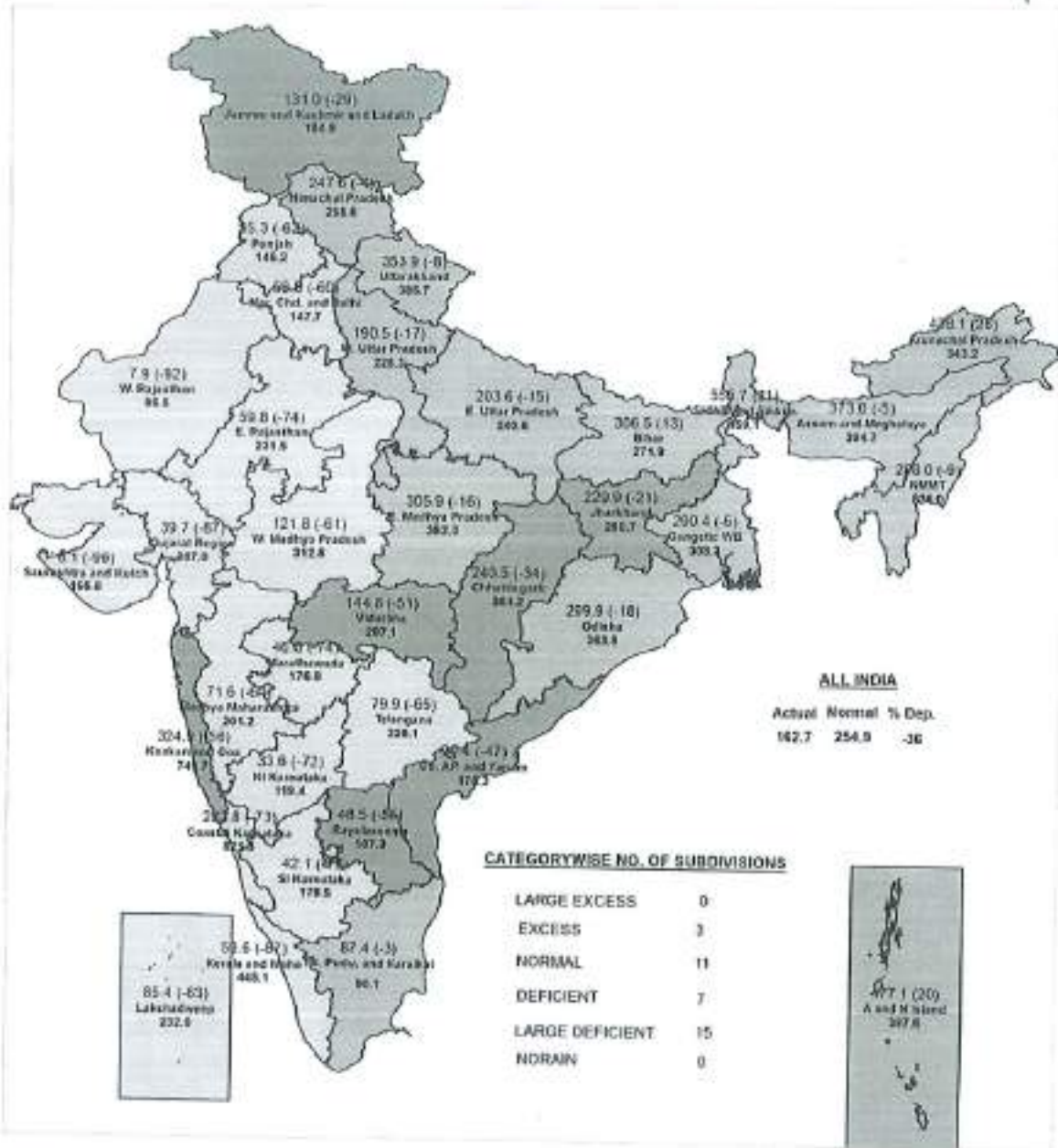


भारत मौसम विभाग
INDIA METEOROLOGICAL DEPARTMENT

जन मौसम विभाग प्रभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-08-2023 To 31-08-2023 (REALTIME)



Legend

Large Excess [>95% or more] Excess [70% to 95%] Normal [49% to 70%] Deficient [-50% to -20%] Large Deficient [-99% to -60%] No Rain [-100%] No data

NOTES :

- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.



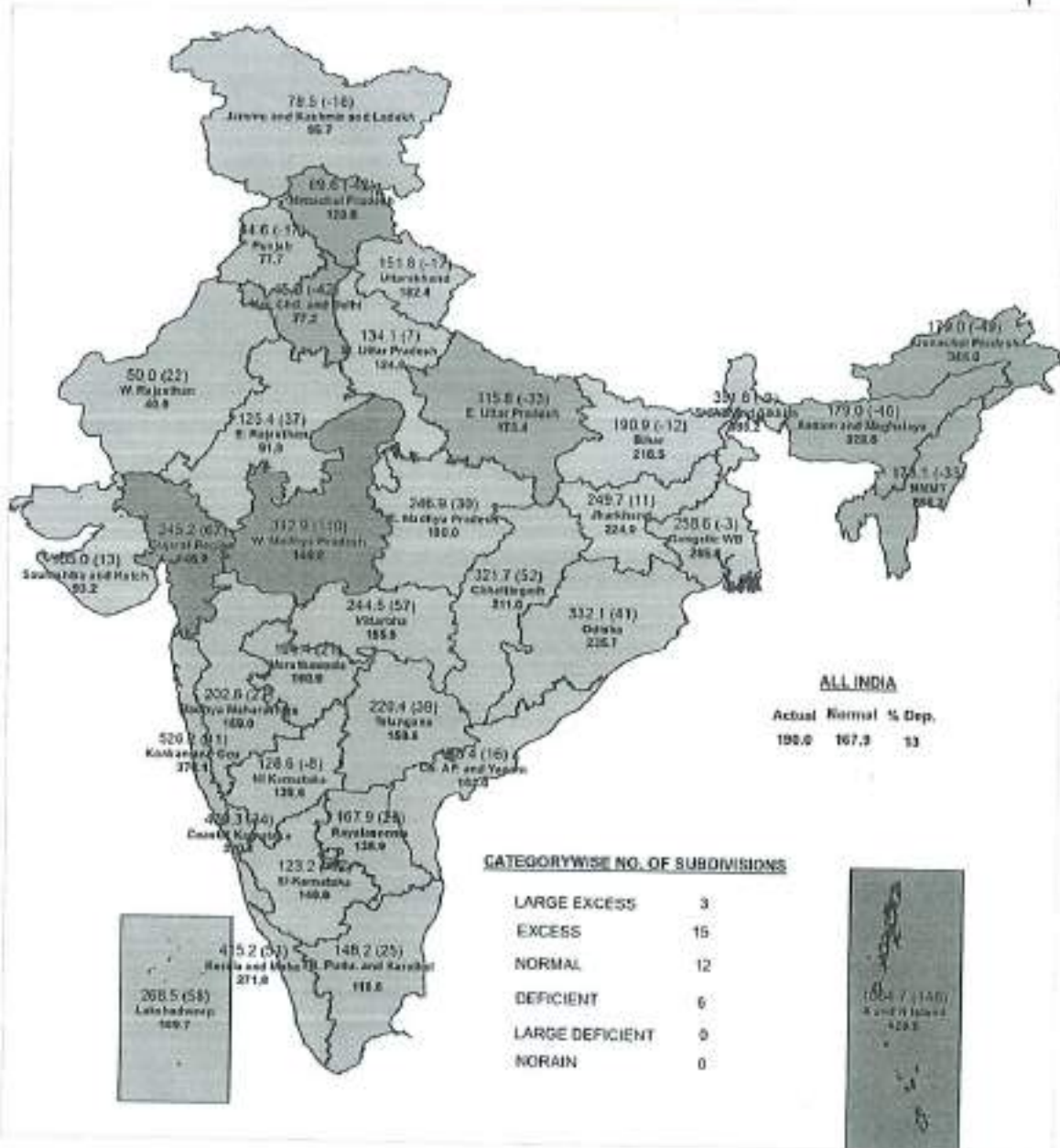


भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान पञ्चांग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-09-2023 To 30-09-2023 (REALTIME)



Legend

Large Excess [60% or more] | Excess [20% to 59%] | Normal [-10% to 19%] | Deficient [-50% to -19%] | Large Deficient [-45% to -60%] | No Rain [-100%] | No Data

NOTES :

- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.



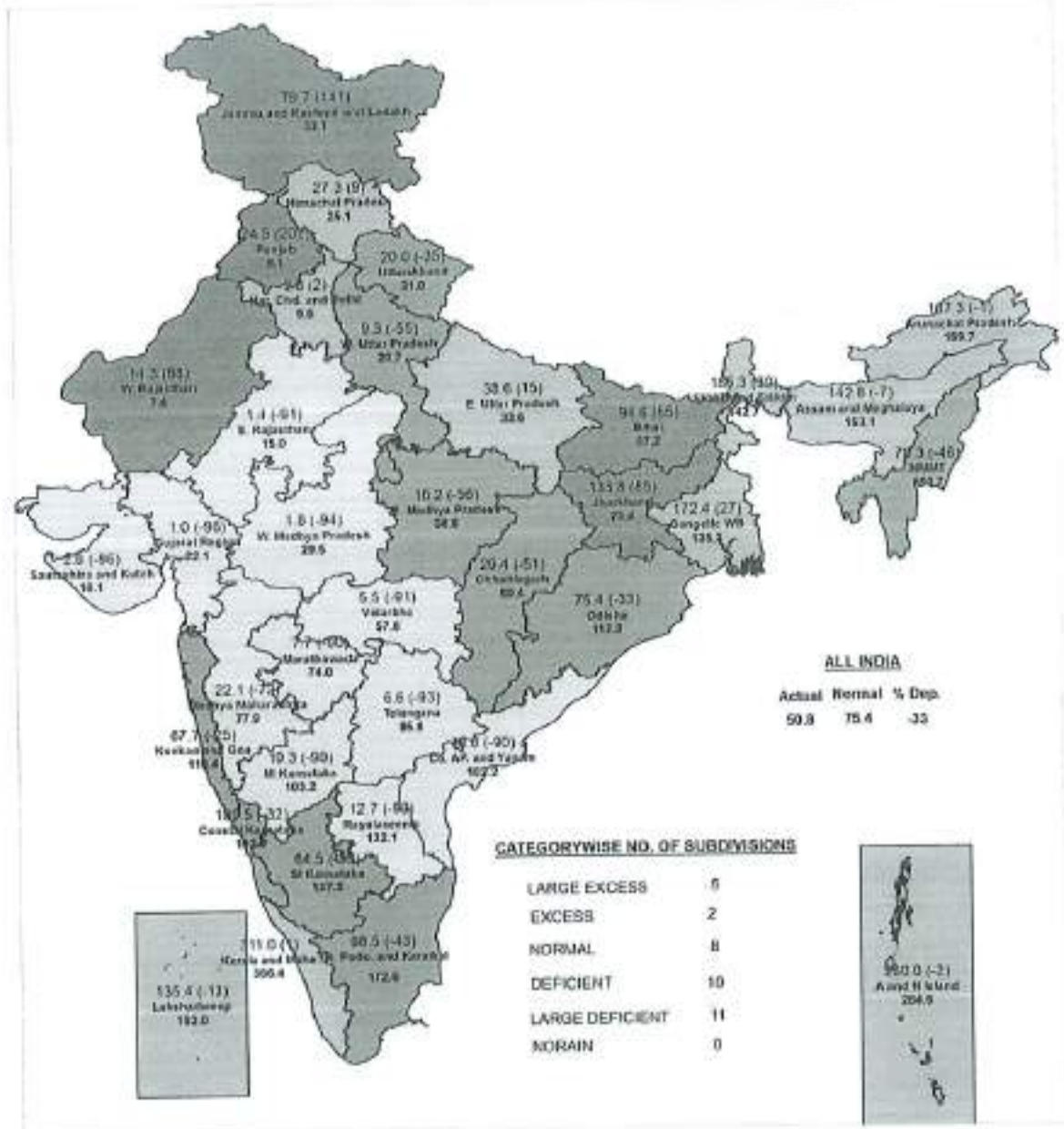


भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान विभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-10-2023 To 31-10-2023 (REAL TIME)



Legend

Large Excess (≥85% or more) | Excess (≥70% to 84%) | Normal (≥55% to 69%) | Deficient (≥40% to 54%) | Large Deficient (≥25% to 39%) | No Rain (≤100%) | No Data

NOTES :

- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.



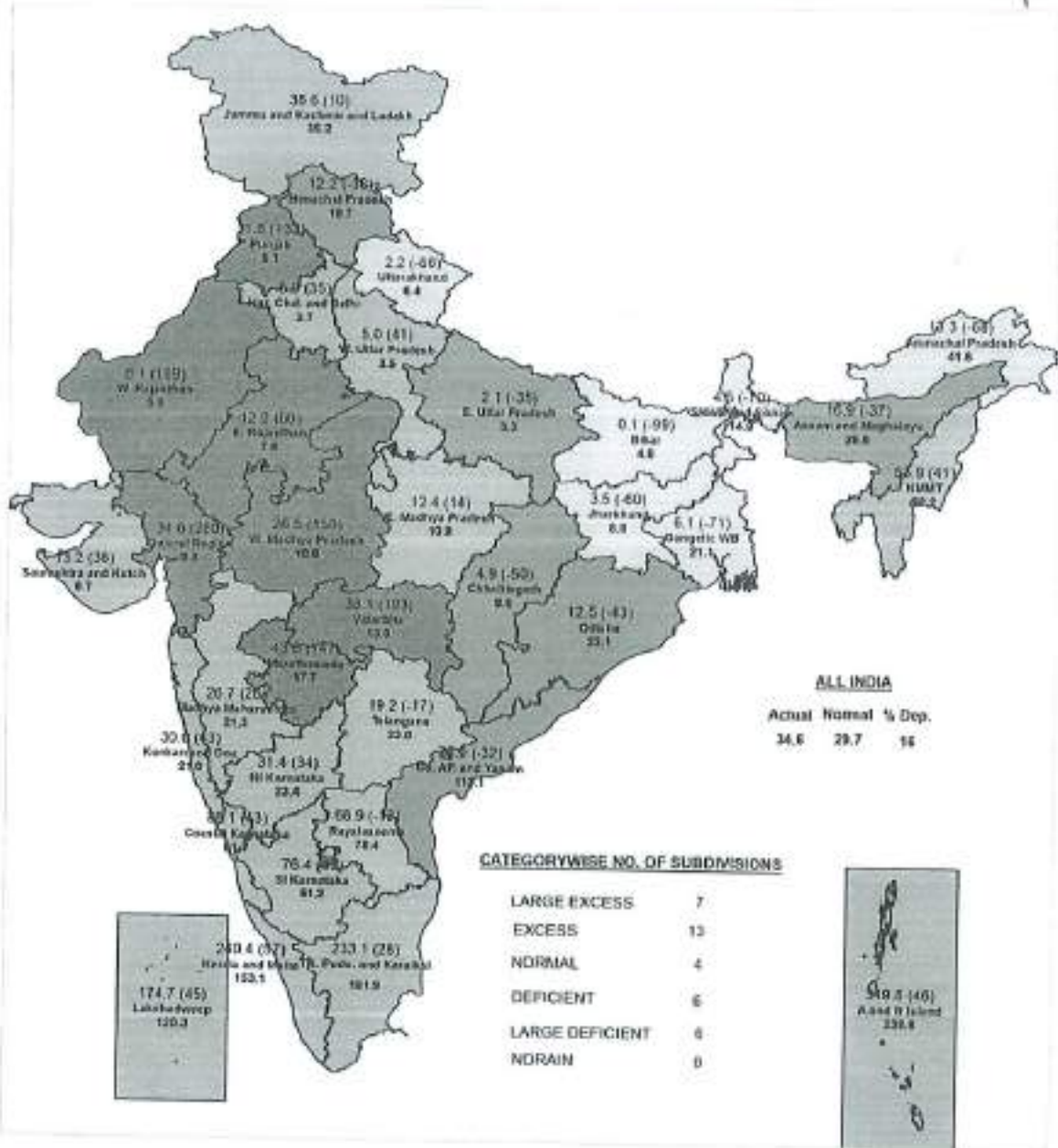


भारत मौसम विभाग
INDIA METEOROLOGICAL DEPARTMENT

जन मौसम विभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-11-2023 To 30-11-2023 (REAL TIME)



ALL INDIA
Actual Normal % Dep.
34.6 29.7 16

CATEGORYWISE NO. OF SUBDIVISIONS

LARGE EXCESS	7
EXCESS	13
NORMAL	4
DEFICIENT	6
LARGE DEFICIENT	0
NORAIN	0

Legend

Large Excess [60% or more] | Excess [30% to 59%] | Normal [10% to 29%] | Deficient [0% to -29%] | Large Deficient [-30% to -59%] | No Rain [-100%] | No Data

NOTES:

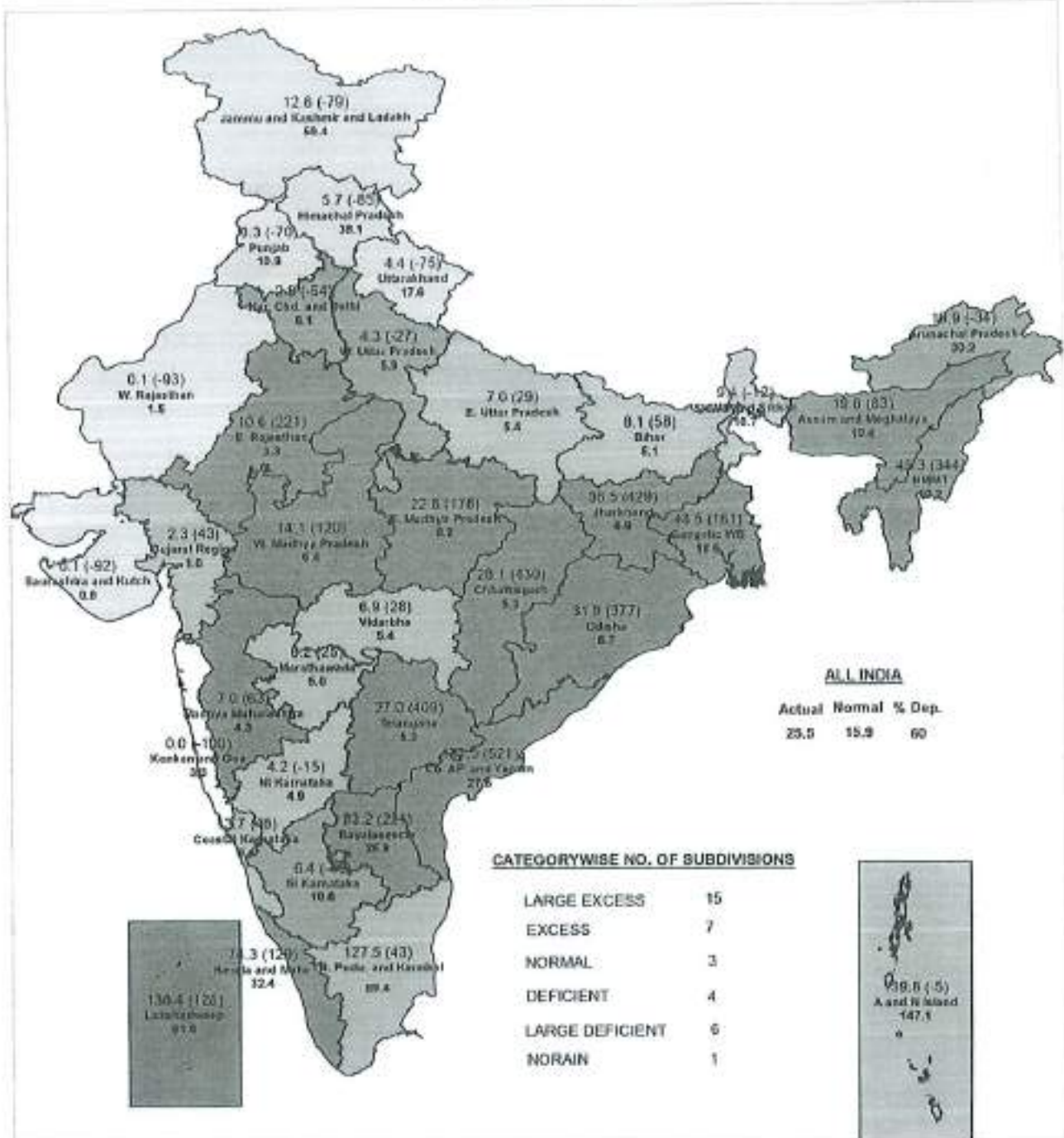
- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.





SUBDIVISION RAINFALL MAP

Period : 01-12-2023 To 31-12-2023 (UPDATED)



Legend

Large Excess (80% or more) | Excess (20% to 80%) | Normal (-10% to 10%) | Deficient (-20% to -60%) | Large Deficient (-60% to -80%) | No Rain (-100%) | No Data

NOTES :

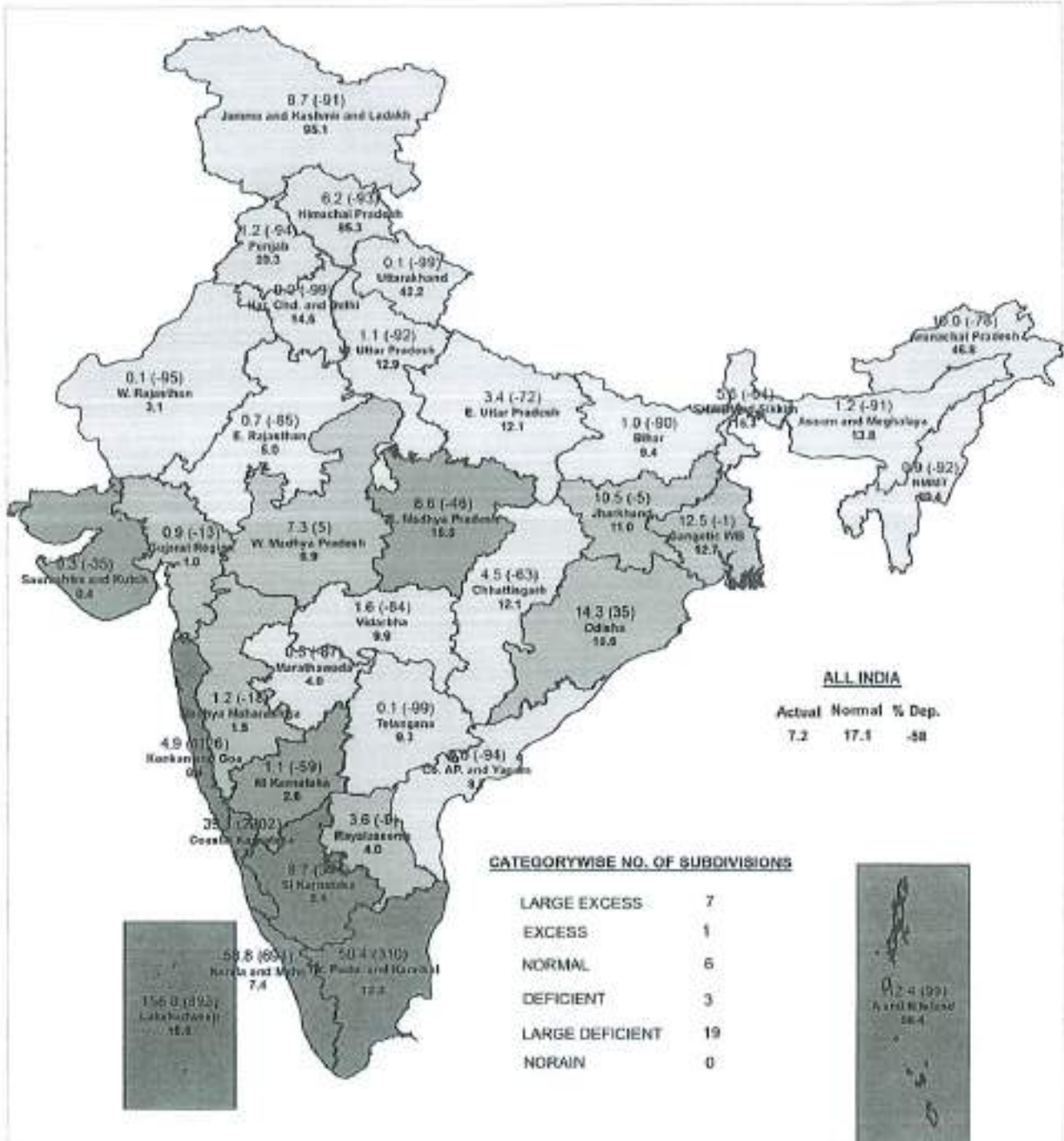
- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.





SUBDIVISION RAINFALL MAP

Period : 01-01-2024 To 31-01-2024 (REAL TIME)



Legend

Large Excess [80% or more] Excess [50% to 79%] Normal [-19% to 19%] Deficient [-50% to -20%] Large Deficient [-80% to -80%] No Rain [-100%] No Data

NOTES

- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.

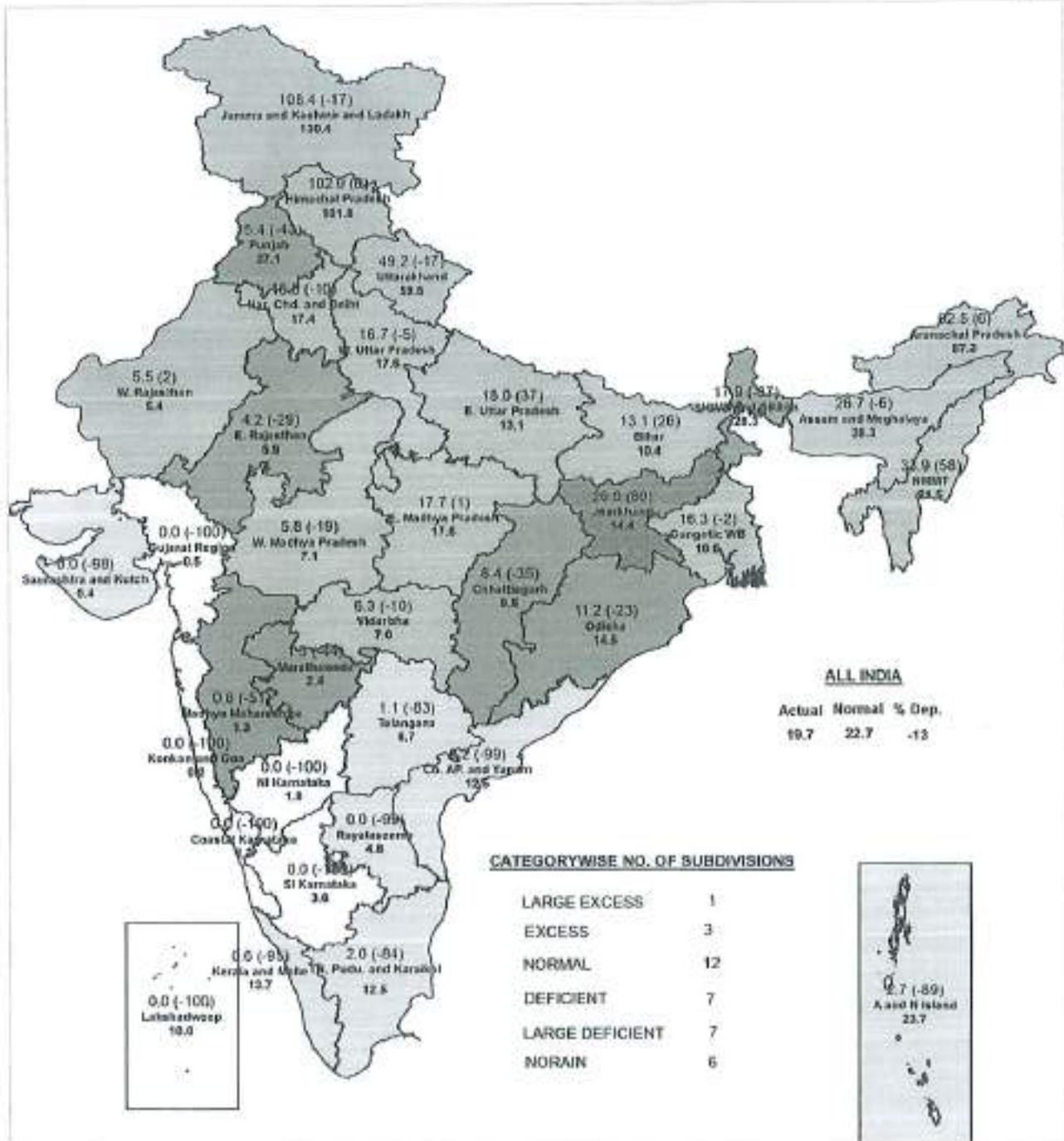


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SUBDIVISION RAINFALL MAP

Period : 01-02-2024 To 20-02-2024 (REAL TIME)



Legend

Large Excess [60% or more] Excess [20% to 59%] Normal [-19% to 19%] Deficient [-69% to -20%] Large Deficient [-59% to -60%] No Rain [-100%] No Data

NOTES :

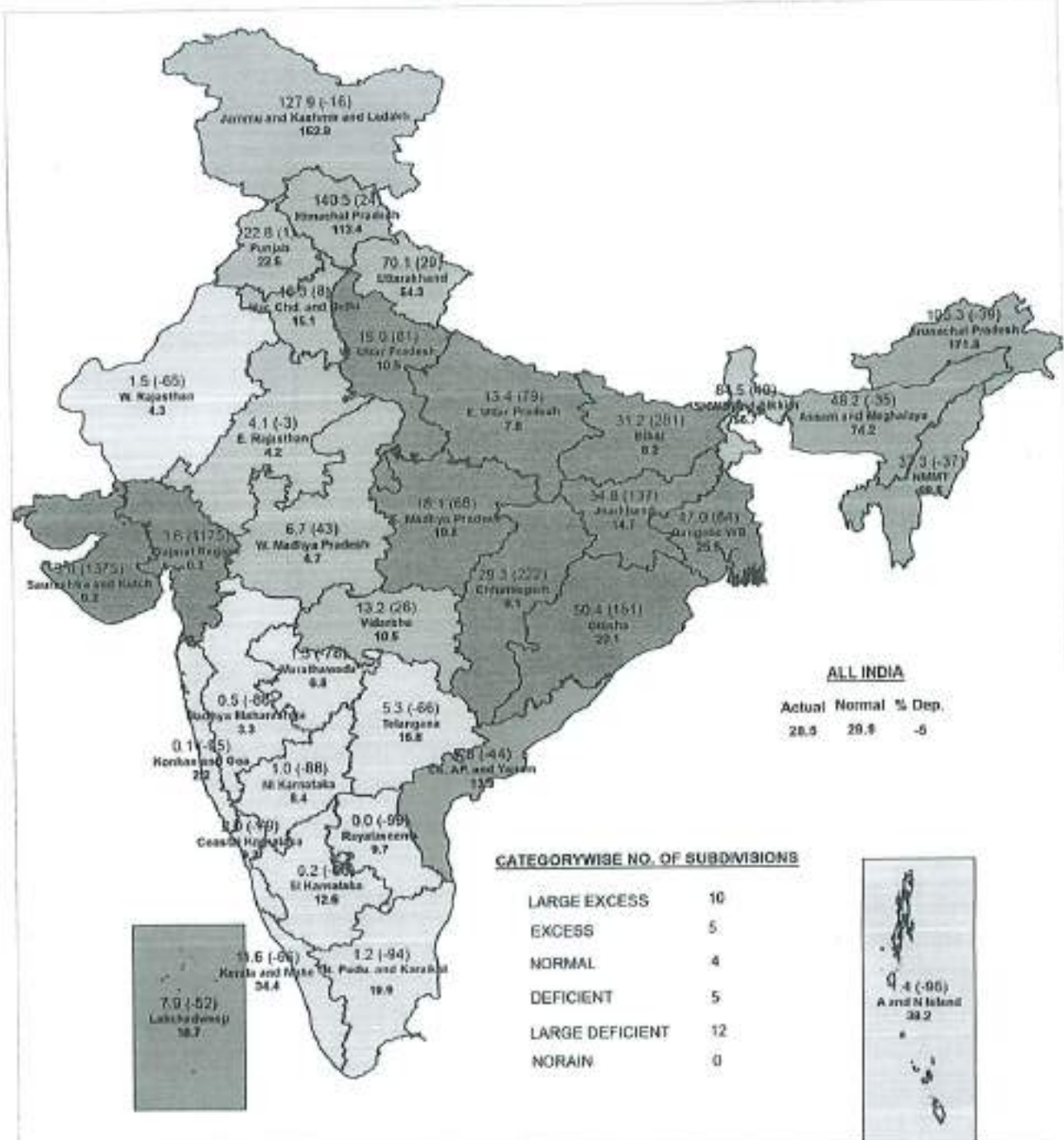
- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.





SUBDIVISION RAINFALL MAP

Period : 01-03-2024 To 31-03-2024 (REAL TIME)



Legend

Large Excess [80% or more] Excess [20% to 59%] Normal [-19% to 19%] Deficient [-59% to -20%] Large Deficient [-69% to -99%] No Rain [-100%] No D

NOTES :

- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.



ANNEXURE - I

CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

No.L-1/268/2022/CERC

Dated 15th March, 2024

(NOTIFICATION)

In the exercise of powers conferred under section 178 of the Electricity Act, 2003 (36 of 2003) read with Section 61 thereof and all other powers enabling it in this behalf, and after previous publication, the Central Electricity Regulatory Commission hereby makes the following regulations, namely:

CHAPTER - 1

PRELIMINARY

1. **Short title and commencement.** (1) These regulations may be called the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024.
- (2) These regulations shall come into force on 1.4.2024, and, unless reviewed earlier or extended by the Commission, shall remain in force for a period of five years from 1.4.2024 to 31.3.2029:

Provided that where a generating station or unit thereof and transmission system or an element thereof, has been declared under commercial operation before the date of commencement of these regulations and whose tariff has not been finally determined by the Commission till that date, tariff in respect of such generating station or unit thereof and transmission system or an element thereof for the period ending 31.3.2024 shall be determined in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 as amended from time to time.



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(5) The energy charge shall be payable by every beneficiary for the total energy scheduled to be supplied to the beneficiary, excluding free energy, if any, during the calendar month, on the ex-bus basis, at the computed energy charge rate. The total energy charge payable to the generating company for a month shall be:

$$\text{Energy Charges} = (\text{Energy charge rate in Rs. / kWh}) \times \{ \text{Scheduled energy (ex-bus) for the month in kWh} \times (100 - \text{FEHS}) / 100$$

(6) Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis, for a hydro generating station, shall be determined up to three decimal places based on the following formula, subject to the provisions of clause (8) of this Regulation:

$$\text{ECR} = \text{AFC} \times 0.5 \times 10 / \{ \text{DE} \times (100 - \text{AUX}) \times (100 - \text{FEHS}) \}$$

Where,

DE = Annual design energy specified for the hydro generating station, in MWh, subject to the provision in clause (7) below.

FEHS = Free energy for home State, in per cent, as mentioned in EXPLANATION-III under Regulation 76 of these regulations.

(7) In case the saleable scheduled energy (ex-bus) of a hydro generating station during a year is less than the saleable design energy (ex-bus) for reasons beyond the control of the generating station, the generating station may directly recover the shortfall in energy charges in six equal interest-free monthly instalments after adjusting for DSM Energy in the immediately following year and shall be subject to truing up at the end of the tariff period.

Provided that in case actual generation from a hydro generating station is less than the design energy for a continuous period of four years on account of hydrology factor, the generating



station shall approach the Central Electricity Authority with relevant hydrology data for revision of design energy of the station.

(8) Any shortfall in the energy charges on account of saleable scheduled energy (ex-bus) being less than the saleable design energy (ex-bus) during the tariff period 2019-24, which was beyond the control of the generating station and which could not be recovered during the said tariff period shall be recovered in accordance with clause (7) of this Regulation.

(9) In case the energy charge rate (ECR) for a hydro generating station, computed as per clause (5) of this Regulation exceeds one hundred and thirty paise per kWh, and the actual saleable energy in a year exceeds $\{DE \times (100 - AUX) \times (100 - FEHS) / 10000\}$ MWh, the energy charge for the energy in excess of the above shall be billed at one hundred and thirty paise per kWh only.

(10) In addition to the above, an incentive shall be payable to a ROR Hydro generating station @ 50 paise/ kWh corresponding to the saleable scheduled energy during peak hours of the day in excess of average saleable scheduled energy during the day (24 hours).

66. Computation and Payment of Capacity Charge and Energy Charge for Pumped Storage Hydro Generating Stations:

(1) The fixed cost of a pumped storage hydro generating station shall be computed on an annual basis, based on norms specified under these regulations, and recovered on a monthly basis as a capacity charge. The capacity charge shall be payable by the beneficiaries in proportion to their respective allocation in the saleable capacity of the generating station;

Provided that during the period between the date of commercial operation of the first unit of the generating station and the date of commercial operation of the generating station, the annual fixed cost shall be worked out based on the latest estimate of the completion cost for the generating station, for the purpose of determining the capacity charge payment during such period.



PART-II
FORM-1

Summary of Tariff

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TURIAL HYDRO POWER STATION
Region - North Eastern Region,
COD: 30.01.2018

Rs. In Lakhs

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1.1	Depreciation	1705.58	1709.13	1709.13	1709.13	1709.13
1.2	Interest on Loan	2531.37	2986.57	2905.81	2815.04	2729.27
1.3	Return on Equity	2552.78	2558.10	2558.10	2558.10	2558.10
1.4	Interest on Working Capital	324.64	344.27	350.67	369.86	383.93
1.5	O & M Expenses	5120.13	5420.17	5737.79	6074.03	6429.97
	Annual Fixed Charges before Capital Spares, Security Expenses	12234.30	13018.24	13062.50	13526.17	13916.40
	Capital Spares	0.00	0.00	0.00	0.00	0.00
	Security Expenses	100.00	100.00	100.00	100.00	100.00
	Annual Fixed Charges	12334.30	13118.24	13162.50	13626.17	13916.40

Note: Details of costations, considering equity as per regulations, to be furnished.

(Petitioner)



Statement Showing Claimed Capital Cost (A+B)

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TURRIAL HYDRO POWER STATION

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Opening Capital Cost	85101.69	85456.39	85456.39	85456.39	85456.39
2	Add: Addition during the year/period	0.00	0.00	0.00	0.00	0.00
3	Less: Depreciation during the year/period	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal/un-discharged liability during the year/period					
5	Add: Discharges during the year/period	354.90	0.00	0.00	0.00	0.00
6	Closing Capital Cost	85456.39	85456.39	85456.39	85456.39	85456.39
7	Average Capital Cost	85278.94	85456.39	85456.39	85456.39	85456.39

Statement showing claimed capital cost eligible for R.O.E. at normal rate (A)

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Opening Capital Cost	84833.65	85188.55	85188.55	85188.55	85188.55
2	Add: Addition during the year/period	0.00	0.00	0.00	0.00	0.00
3	Less: Depreciation during the year/period	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year/period	154.90	0.00	0.00	0.00	0.00
5	Add: Discharges during the year/period	85188.55	85188.55	85188.55	85188.55	85188.55
6	Closing Capital Cost	85011.10	85188.55	85188.55	85188.55	85188.55
7	Average Capital Cost					

Statement showing claimed capital cost eligible for RoE at One Year MCL RoE 5% plus subject to ceiling of 14.00% (B)

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Opening Capital Cost	267.84	267.84	267.84	267.84	267.84
2	Add: Addition during the year/period	0.00	0.00	0.00	0.00	0.00
3	Less: Depreciation during the year/period	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year/period	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year/period	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	267.84	267.84	267.84	267.84	267.84
7	Average Capital Cost	267.84	267.84	267.84	267.84	267.84

(Petitioner)

Name of the Petitioner:
Name of the Generating Station:
COE

NORTH EASTERN ELECTRIC POWER CORPORATION LTD,
TORNAL HYDRO POWER STATION

Statement showing Return on Equity at Normal Risk

S. No.	Particulars	Rs. in Lakh				
		2004-05	2005-06	2006-07	2007-08	2008-09
1	2	3	4	5	6	7
1	Gross Opening Equity (Normal)	12720.26	12773.90	12773.56	12773.56	12773.56
2	Less: Adjustment in Equity	0.00	0.00	0.00	0.00	0.00
3	Adjustment during the year	0.00	0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	12720.26	12773.90	12773.56	12773.56	12773.56
5	Add: Increase due to addition during the year / period	0.00	0.00	0.00	0.00	0.00
6	Less: Decrease due to de-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
7	Less: Decrease due to un-discharged reversal during the year / period	0.00	0.00	0.00	0.00	0.00
8	Net closing Equity (Normal)	12720.26	12773.90	12773.56	12773.56	12773.56
9	Average Equity (Normal)	12720.26	12773.90	12773.56	12773.56	12773.56
10	Rate of ROE	13.00%	13.00%	13.00%	13.00%	13.00%
11	TOTAL ROE	2668.95	2668.95	2668.95	2668.95	2668.95

Statement showing Return on Equity at One Year MCLR + 200 bps subject to ceiling of 14.00%

S. No.	Particulars	Rs. in Lakh				
		2004-05	2005-06	2006-07	2007-08	2008-09
1	2	3	4	5	6	7
1	Gross Opening Equity (pertaining to Provisions Regulation 30(2))	28.91	28.07	28.81	28.81	28.81
2	Less: Adjustment in Equity	0.00	0.00	0.00	0.00	0.00
3	Adjustment during the year	0.00	0.00	0.00	0.00	0.00
4	Net Opening Equity	28.91	28.07	28.81	28.81	28.81
5	Add: Increase in equity due to addition during the year / period	0.00	0.00	0.00	0.00	0.00
6	Less: Decrease due to de-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
7	Less: Decrease due to un-discharged reversal during the year / period	0.00	0.00	0.00	0.00	0.00
8	Net closing Equity (pertaining to Provisions Regulation 30(2))	28.91	28.07	28.81	28.81	28.81
9	Average Equity (pertaining to Provisions Regulation 30(2))	28.91	28.07	28.81	28.81	28.81
10	Rate of ROE (One year MCLR+200 bps)	14.72	14.72	14.72	14.72	14.72
11	subject to ceiling of 14.00%	14.00	14.00	14.00	14.00	14.00
12	Total ROE	4.20	4.20	4.20	4.20	4.20
	One year MCLR as on 01.04.2004	0.80	0.80	0.80	0.80	0.80
	300 basis points	3.5	3.5	3.5	3.5	3.5
	Rate of ROE (One year MCLR+300 bps) before capping up	12.15	12.15	12.15	12.15	12.15
	Rate of ROE (One year MCLR+300 bps) after capping up	14.72	14.72	14.72	14.72	14.72

- Note:
- Adjustment of equity as per Provisions to Regulation 30(2) of 2001 is as per Regulation.
 - With respect to Equity Investors, the Generating Company is required to substantiate with supporting documents such as bank statement, balance sheet, reconciliatory statement with balance sheet.

[Handwritten Signature]
Permitted



Details of COD, Type of Hydro station, Normative Annual Plant Availability Factor (NAPAF) & Other normative parameters considered for tariff calculation.



Name of the Petitioner: NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

	Particulars	Unit	Existing 2023-24 (3)	2024-25 (4)	2025-26 (5)	2026-27 (6)	2027-28 (7)	Year Ending March	
								2028-29 (8)	
1	Installed Capacity (1)	(2)	60	60	60	60	60	60	60
2	Free power to home state	MW	12	12	12	12	12	12	12
3	Free power under Local Area development Fund (LADF)	%							
4	Date of commercial operation (actual/anticipated)								
	Unit - 1								
	Unit - 2								
	Unit - 3								
5	Type of Station								
	a) Surface / underground								
	b) Pure ROR / Pondage / Storage								
	c) Peaking / non-peaking								
	d) No. of hours of peaking								
	e) Overload capacity (MW) & period								
6	Type of excitation								
	a) Rotating excitors on generator								
	b) Static excitation								
7	Design Energy (Annual) ¹	GWh							
8	Auxiliary Consumption including Transformation losses	%							
9	Normative Plant Availability Factor (NAPAF)	%		85	85	85	85	85	85
9.1	Maintenance Spares for WC	% of O&M							
9.2	Receivables for WC	in Months							
9.3	Base Rate of Return on Equity	%							
9.4	Base Rate of Return on Equity on Add. Capitalization	%							
9.5	Tax Rate ²	%							
9.6	Effective Tax Rate ⁴	%							
9.7	SBT Base Rate + 350 basis points as on ³	%							

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Details of COD, Type of Hydro station, Normative Annual Plant Availability Factor (NAPAF) & Other normative parameters considered for tariff calculation.

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

PART-II
FORM-2

1. Month wise 10 - day Design energy figures to be given separately with the petition.
2. Tax rate applicable to the company for the year FY 2018 - 19 should also be furnished.
3. Mention relevant date
4. Effective tax rate is to be computed in accordance with Regulation 31 i.e. actual tax (or advance tax)/ gross income, where gross income refers the profit before tax.



(Petitioner)



Salient Features of Hydroelectric Project

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TUIRIAL HYDRO POWER STATION

1. Location	
State / Dist.	
River	
2. Diversion Tunnel	
Size, shape	
Length (M)	
3. Dam	
Type	
Maximum dam height (M)	
4. Spillway	
Type	
Crest level of spillway (M)	
5. Reservoir	
Full Reservoir Level (FRL) (M)	
Minimum Draw Down Level (MDDL) (M)	
Live storage (MCM)	
6. De-silting Chamber	
Type	
Number and Size	
Particle size to be removed (mm)	
7. Head Race Tunnel	
Size and type	
Length (M)	
Design discharge (Cumecs)	
8. Surge Shaft	
Type	
Diameter (M)	
Height (M)	
9. Penstock / Pressure shafts	
Type	
Diameter & Length (M)	
10. Power House	
Installed capacity (No of units X MW)	
Type of turbine	
Rated Head (M)	
Rated Discharge (Cumecs)	
Head at Full Reservoir Level (M)	
Head at Minimum Draw down Level (M)	
MW Capability at FRL	
MW Capability at MDDL	
11. Tail Race Tunnel / Channel	
Diameter (M), shape	
Length (M)	
Minimum tail water level (M)	
12. Switchyard	
Type of Switch gear	
No. of generator bays	
No. of Bus coupler bays	
No. of line bays	
Efficiency (overall) Turbine and generator	

Note : Specify limitation on generation during specific time period (s) on account of restrictions on water use due to irrigation, drinking water, industrial, environmental considerations etc.



[Handwritten Signature]
(Petitioner)

Abstract of Admitted Capital Cost for the existing Projects.

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

Name of the Generating Station : TUIRIAL HYDRO POWER STATION

Rs. In Lakhs

	Capital Cost as admitted by CERC	
a)	Capital Cost admitted as on <u>31.03.2019</u>	81721.9
	(Give reference of the relevant CERC Order with Petition No. & Date)	
	Petition No.329/GT/2019 dtd. 10.03.2021	
b)	Foreign Component, if any (In Million US \$ or the relevant Currency)	
c)	Foreign Exchange rate considered for the admitted Capital cost (Rs Lakh)	
d)	Total Foreign Component (Rs. Lakh)	
e)	Domestic Component (Rs. lakh)	
f)	Hedging cost, if any, considered for the admitted Capital cost (Rs Lakh)	
	Total Capital cost admitted (Rs. Lakh) (d+e+f)	


(Petitioner)



Break-up of Construction/Supply/Service packages

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

Name of the Generating Station : Tuirial Hydroelectric Plant

COD : 30.01.2018

Name/No. of Construction/Supply/Service Package	Package A: Lot-I	Package Lot-II	Package Lot-III	Package: Lot-IV	Package: Lot-V	Total Cost of all
1 Scope of works ¹ (in line with head of cost break-ups as applicable)	Civil works of Diversion Tunnel	Civil Works of Dam & Spillway	Civil Works of Powerhouse, Switchyard & Power Water Way	Hydro-Mechanical Works (penstock, liners and gates)	Electro-Mechanical Works	
2 Whether awarded through ICB/DCB/Departmentally/Deposit Work	ICB	ICB	ICB			
3 No. of bids received						
4 Date of Award	28.09.2001 13.02.2002	30.06.2002 21.10.2002	30.12.2002 03.03.2003	30.08.2011 22.09.2011	25.09.2002 22.11.2011	
5 Date of Start of work	28.9.2001	30.08.2002	30.12.2002	30.8.2011	28.11.2011	
6 Date of Completion of Work/ Expected date of completion of work	04.04.2014	29.08.2017	30.12.2017	31.03.2018	28.11.2017	
7 Value of Award ² in (Rs. Lakh)	6752.54	18798.27	3275.21	3642.65	13500	
8 Firm or With Escalation in prices	With escalation	With escalation	With escalation	With escalation	With escalation	
9 Actual capital expenditure till the completion or up to COD whichever is earlier (Rs. Lakh)	14315.77	45582.01	16095.80	6862.87	20124.48	102890.93
10 Taxes & Duties and IEDC (Rs. Lakh)	4345.53	13863.31	5026.91	2175.77	3213.58	28625.10
11 IDC, FC, FERV & Hedging cost (Rs. Lakh)	980.75	3107.78	1039.07	452.55	1350.85	6931.00
12 Sub-total (10 + 11 + 12) (Rs. Lakh)	19642.05	62553.10	22161.78	9491.19	24688.91	138537.03

Note:

1. If there is any package, which need to be shown in Indian Rupee and foreign currency (ies), the same should be shown separately along with the currency, the exchange rate and the date.



(Petitioner)

Details of Project Specific Loans

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TURJIAL HYDRO ELECTRIC PROJECT

Particulars	DONER Grant Govt. of India	GOI Subordinate loan Govt. of India
Source of Loan ¹	INR	INR
Currency ²	30000.00	29196.72
Amount of Loan sanctioned	30000.00	29196.42
Amount of Gross Loan drawn upto 31.03.2014/COO & A. 1, 1A, 1B	30000.00	29196.42
Interest Type ⁶	N/A	Fixed
Fixed Interest Rate, if applicable	N/A	1% payable after COO
Base Rate, if Floating Interest ⁷	N/A	N/A
Margin, if Floating Interest ⁸	N/A	N/A
Are there any Caps/Floor ⁹	N/A	N/A
If above is yes, specify caps/floor	N/A	N/A
Moratorium Period ¹⁰	N/A	16 years
Moratorium effective from	N/A	Dates of drawal as per Annexure I
Repayment Period ¹¹	N/A	15 years
Repayment effective from	N/A	16 th year from COO
Repayment Frequency ¹²	N/A	Yearly
Repayment Installment ^{13, 14}	-	1946.43
Base Exchange Rate ¹⁵	-	-
Are foreign currency loan hedged? ¹⁶	-	-
If above is yes, specify details ¹⁷	-	-

Rs. in Lakhs

(Petitioner)

- Note:
- Source of loan means the agency from whom the loan has been taken such as WB, ADB, WHO, PNB, SBI, ICICI, IFC, PFC etc.
 - Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.
 - Details are to be submitted as on 31.03.2014 for existing assets and as on COO for the remaining assets.
 - Where the loan has been refinanced, details in this Form is to be given for the loan refinanced. However, the details of the original loan is to be given separately in the same form.
 - If the Tariff in the petition is claimed separately for various units, details in the Form is to be given separately for all the units in the same form.
 - Interest type means whether the interest is fixed or floating.
 - Base rate means the base as LIBOR etc. over which the margin is to be added. Documentary evidence for applicable base rate on different dates from the date of drawal may also be enclosed.
 - Margin means the points over and above the floating rate.
 - At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits.
 - Moratorium period refers to the period during which loan servicing liability is not required.
 - Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.
 - Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.
 - Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately.
 - If the repayment instalment amount and repayment date cannot be worked out from the data furnished above, the repayment schedule to be furnished separately.
 - In case of Foreign loan, date of each drawal & repayment along with exchange rate at that date may be given with documentary evidence.
 - Base exchange rate means the exchange rate prevailing as on 31.03.2014 for existing assets and as on COO for the remaining assets.
 - In case of hedging, specify details like type of hedging, period of hedging, cost of hedging, etc.
 - In case of foreign loans, provide details of exchange rate considered on date of each repayment of principal and date of interest payment.
 - At the time of 'buying up' rate of interest with relevant rate date (if any) to be furnished separately.
 - At the time of 'buying up' provide details of refinancing of loans considered earlier. Details such as date on which refinancing done, amount of refinanced loan, terms and conditions of refinanced loan, financing and other charges incurred for refinancing, etc.
 - Call or put option, if any exercised by the generating company for refinancing of loan.
 - Copy of loan agreement.



Details of Allocation of concrete loans to various projects.

Name of the Borrower : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TURJAL HYDRO ELECTRIC PROJECT

Particulars	Loan A/c No. 33-441472723	Loan A/c No. 33080188585	Loan A/c No. 34-231375781	Loan A/c No. 37-6400081	Short Term Loan	Loan A/c No. 35953595768	Loan A/c No. 36310234667	Loan A/c No. 3694643697	PSU Bonds XIV th Series	PSU Bonds XV th Series	Loan A/c No. 01-619095311700	Loan A/c No. 01-619095227900
Source of loan ¹	SBI - Short Term Loan drawn as gap finance	SBI - Short Term Loan drawn as gap finance	SBI - Short Term Loan drawn as gap finance	IDB - Short Term Loan drawn as gap finance	PNS - Short Term Loan drawn as gap finance	SBI - Short Term Loan drawn as gap finance	SBI - Short Term Loan drawn as gap finance	SBI - Short Term Loan drawn as gap finance	Bonds U.S. Non-convertible Debentures	Bonds U.S. Non-convertible Debentures	HDFC Bank	Axis Bank & Federal Bank
Currency ²	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR
Amount of loan sanctioned	20000.00	20000.00	5000.00	20000.00	7500.00	30000.00	26666.00	20000.00	30000.00	30000.00	30000.00	70000.00
Amount of Gross loan drawn upto 31.03.2015/2016 + i.e. o.o	20000.00	20000.00	5000.00	20000.00	7500.00	30000.00	13333.00	20000.00	30000.00	30000.00	30000.00	70000.00
Interest Type ³	Floating	Floating	Floating	Floating	Floating	Floating	Floating	Floating	Floating	Floating	Floating	Floating
Short Interest Rate, if applicable												
State Govt. if Floating Interest Margin, if Floating Interest	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
App. Govt. Govt. Ceiling ⁴	No	No	No	No	No	No	No	No	No	No	No	No
If above is variable ceiling												
Maturity Period ⁵	3 months	3 months	3 months	3 months	3 months	3 months	3 months	3 months	3 months	3 months	3 months	3 months
Repayment Period ⁶	11-Nov-13	25-Jul-14	24-Sep-14	20-Nov-14	27-Nov-14	27-Nov-14	14-Sep-15	13-Oct-15	15-Nov-17	15-Nov-17	6-Oct-22	28-Sep-23
Start/End effective from	10-Feb-14	24-Oct-14	24-Oct-14	31-Aug-14	31-Aug-14	27-Oct-14	14-Jan-17	15-Jun-17	15-Jun-17	15-Jun-17	6-Oct-22	28-Sep-23
Repayment Frequency ⁷	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Repayment Tenure ⁸	2500.00	5000.00	1000.00	2000.00	1875.00	7500.00	13300.00	20000.00	30000.00	30000.00	30000.00	70000.00
Being Deferred Rate ¹⁰												
Any facility insurance loan linked ⁹												
If above is yes, specify details ⁹												
Distribution of loan packages to various projects												
Name of the Projects	2,345.00	12,000.00	3,000.00	4,000.00	4,500.00	18,000.00	7,000.00	12,000.00	2,28,737.41	15,000.00	27,468.42	54,826.58
Participating IEP	2,345.00	4,000.00	2,000.00	2,000.00	1,500.00	4,000.00	5,544.67	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
Participating IEP	2,345.00	4,000.00	2,000.00	2,000.00	1,500.00	4,000.00	5,544.67	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
Tripartite IEP	2,345.00	4,000.00	2,000.00	2,000.00	1,500.00	4,000.00	5,544.67	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
Tripartite Gas Based IEP	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Agri/MSU/MSU - Combined Cycle	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Solar PV, Hybrid/MSU												
Local/MSU												
Total	10,000.00	20,000.00	5,000.00	15,000.00	7,500.00	30,000.00	13,300.00	20,000.00	250,000.00	50,000.00	50,000.00	75,000.00

(Signature)


(Partner)



NOTES:

1. Details of loan issued to agency from where the loan has been taken such as VBI, SBI, WBI, PNB, SBI, ICICI, BIC, PFC etc.
2. Currency refers to currency of the loan as at 31.03.2014. For, Indian Rupee etc.
3. Details are to be submitted as on 31.03.2014 for existing assets and as on 31.03 for the remaining assets.
4. Where the loan has been refinanced, within the year is to be given for the same. However, the details of the original loan is to be given separately in the same form.
5. If the 'Yes' in the position is answered adversely for various years, details in the form is to be given separately for all the years in the same form.
6. Interest type means whether the interest is fixed or floating.
7. Base rate means the base as 10.00% till, from which the margin is to be added. Documentary evidence for verification base rate or different rates.
8. If the date of start may also be indicated.
9. Margin means the ratio over and above the floating rate.
10. At times borrower are not as per 20. Floating rate are means, if such a condition exists, specify the date.
11. Maximum period refers to the period during which loan tenor maturity facility is not required.
12. Repayment period means the repayment of loan sum in 7 years, 10 years, 15 years etc.
13. Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.
14. Annual debt is more than one disbursement for a loan, the date & amount of each disbursement may also be given separately.
15. If the agreement/instalment amount and repayment date cannot be worked out from the data furnished above.
16. Repayment schedule to be furnished separately.
17. In case of floating rate, date of each interest is dependent along with exchange rate at that time may be given with documentary evidence.
18. Base exchange rate means the exchange rate prevailing on 31.03.2014 for existing assets and as on 31.03 for the remaining assets.
19. In case of floating, specify details like type of foreign, period of maturity, cost of foreign, etc.
20. In case of foreign loans, provide details of exchange rate considered on date of each instalment of principal and date of interest payments.
21. In the case of buying on call, if interest will be subject to rate (if any) to be furnished separately.
22. In the case of buying on provide details of refinancing of bank/creditor/other. If any, full details in data in which refinancing done, amount of refinanced loan, terms and conditions of refinanced loan, funding and other charges incurred for refinancing etc.
23. Call or put option, if any indicated by the generating company for refinancing of loan.
24. Copy of loan agreement.

Year Wise Statement of Additional Capitalisation after O&M
2024-25

Name of the Debtor: RAJEE EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station: TUDIGAL HYDRO POWER STATION
CDS: 1001/008
For Financial Year: 2024-25

Sl. No.	Name of Work/Equipment	ACE Claimed (Actual/Projected)				Regulation under which released	Justification
		Account book (Rs in lakh)	Un-discharged liability included in col. 3 (Rs in lakh)	Cash book	ACE included in col. 3		
		1	2	3	4	5	6
1	For Financial Year: 2013-14	-	-	-	-	-	-
	For Financial Year: 2014-15	-	-	-	-	-	-
	For Financial Year: 2015-16	-	-	-	-	-	-
	For Financial Year: 2016-17	-	-	-	-	-	-
	For Financial Year: 2017-18	-	-	-	-	-	-

- In case the project has been completed and one has already been submitted under any law/act/ordinance in the year, all release bringing the cost to account for the purpose of the declaration already submitted (Name of the authority/Institution name of the bill/Debit)
 - The above information needs to be furnished separately for each year/period of full period 2014-18.
 - In case of de-capitalisation of assets specific details to be furnished at column 1, 2 and 4. Further the original book value and year of capitalisation of each asset to be furnished at column 3. Where de-capitalisation is not intended under the same to be shown separately. Where any asset is treated as non-asset the same shall be treated as de-capitalised during the year and original value of such asset to be shown in col. 3. And improved value if any, year of its capitalisation to be mentioned at column 4.
 - Amortisation against cost of capital assets should be provided in separate notes which value has been used and the recovery of capitalisation of that particular asset.
- Notes:
1. For the basis of chronological order year wise along with detailed justification clearly bringing out the necessity and the benefits according to the best interests.
2. If any asset is not purchased along with any equipment, then the cost of such asset should be followed separately, e.g. 5000/- 50 Cts, 10000/- 10 Cts.



Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
 Name of the Generating Station : TUIRIAL HYDRO POWER STATION
 Place (Region/District/State): North Eastern Region State: MIZORAM
 Station COD :- 30.01.2018

District: KOLASIB

Sr. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalised (Rs. in Lakh)	Year Put to use	Depreciation recovered till date of de-capitalization. (Rs. in Lakh)
1	2	3	4	5	6
	2024-25		0.00		0.00
	2025-26		0.00		0.00
	2026-27		0.00		0.00
	2027-28		0.00		0.00
	2028-29		0.00		0.00
TOTAL :-			0.00	0.00	0.00

Note : Year wise detail need to be submitted.


(Petitioner)



**Statement showing items/assets/stocks claimed under Section 80C
2019-24**

Name of the Filer/owner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TERLAKH, KINHOBI POWER STATION
CIN : 14443019

PART-II
FORM-50

Sl. No.	Name of Stock/Equipment	MSE Detail (MVA/W/Project)				Justification
		Account book (Rs. in Lakhs)	On-discharge liability included in schedule III (Rs. in Lakhs)	Cash book	EEC included in cost	
1.		1	2	3	4	5
	For Financial Year : 2021-22	-	-	-	-	
	For Financial Year : 2022-23	-	-	-	-	
	For Financial Year : 2023-24	-	-	-	-	
	For Financial Year : 2024-25	-	-	-	-	
	For Financial Year : 2025-26	-	-	-	-	
	For Financial Year : 2026-27	-	-	-	-	
	For Financial Year : 2027-28	-	-	-	-	

1. In case the project has been completed and the assets have been received by the project, the value of the asset to be claimed for the purpose of the EEC should be the actual value of the asset (i.e. the value of the asset as shown in the books of account).
 2. The above information needs to be furnished separately for each project of the period 2014-15.
 3. In case of the capital assets of various periods to be furnished as above in 1, 2 and 3, further the original book value and year of capitalization of such assets will be furnished as above in 4. Where the asset is accounted from the year to be shown separately. Where any asset is accounted from the year to be shown as above in 1, 2 and 3, the original value of such asset to be shown as above in 3, and original value of such asset to be shown as above in 4.
 4. Justification regarding the cost of capitalization should be specific to capitalization under which the asset has been received and the amount of capital value of that particular asset.
- Note:
1. EEC should be claimed only for the year along with detailed justification/stock/engagement in capacity and the benefit accruing to the host firm.
 2. In case of assets purchased along with any equipment, then amount of such assets should be indicated separately, e.g. Solar PV/Cs, Solar system / Cs.



Financing of Additional Capitalisation

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TUIRVAL HYDRO POWER STATION

Date of Commercial Operation : 30.01.2018

(Rs. Lakh)

Financial Year (Starting from COD) ¹	Actual					Admitted				
	Year 1 ²	Year 2 ³	Year 3 ⁴	Year 4 ⁵	Year 5 & so on ⁶	Year 1 ⁷	Year 2 ⁸	Year 3 ⁹	Year 4 ¹⁰	Year 5 & so on ¹¹
Amount capitalised in Work/Equipment										
Financing Details										
Loan - 1										
Loan - 2										
Loan - 3 and so on										
Total Loan ²										
Equity										
Internal Resources										
Others (Pl. specify)										
Total										

Note :

1. Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.
2. Loan details for meeting the additional capitalisation requirement should be given as per FORM - 7 or 8 whichever is relevant.


(Petitioner)




Statement of Depreciation

FORM-01
FORM-02Name of the Petitioner:
Name of the Generating Station:KARNATAKA ELECTRIC POWER CORPORATION LTD.
KARNAL HVDS 50 ELECTRIC PLANT

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Opening Capital Cost	85161.40	85458.38	85458.39	85458.39	85458.39
2.	Closing Capital Cost	85458.39	85458.39	85458.39	85458.39	85458.39
3.	Average Capital Cost	85279.94	85458.39	85458.39	85458.39	85458.39
4.	Fixed Asset ¹	872.00	872.00	872.00	872.00	872.00
5.	Rate of depreciation	2.00	2.00	2.00	2.00	2.00
6.	Depreciable value	76076.24	76586.39	76586.39	76586.39	76586.39
7.	Balance useful life at the beginning of the period	38.51	32.51	31.51	30.51	29.51
	Cumulative Depreciation upto previous year	2254.82	3040.40	3040.53	3564.66	4207.79
8.	Remaining depreciable value	73841.42				
9.	Depreciation (for the period)	1735.58	1709.13	1709.13	1709.13	1709.13
10.	Depreciation (annualized)	1735.58	1709.13	1709.13	1709.13	1709.13
11.	Cumulative depreciation at the end of the period	3646.40	5349.53	7058.66	8767.79	10476.92
12.	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 31.03.2024					
13.	Less: Cumulative depreciation adjustment on account of de-capitalization					
14.	Net Cumulative depreciation at the end of the period	3646.40	5349.53	7058.66	8767.79	10476.92

1. In case of details of FRRV and AAD, give information for the applicable period.




Calculation of Weighted Average Rate of Interest on Actual Loans

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TURIAL HYDRO ELECTRIC PROJECT

(Amount in lacs)

Sl. No.	Particulars	As on 31.03.2019	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	8	9	10	11	12	13	14	15	16	17	18
1	GOI Subordinate Loan (Rs. in lacs)											
	Gross loan - Opening	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42
	Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42
	Add: Drawal(s) during the Year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Less: Repayment (s) of Loans during the year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42
	Average Net Loan	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42
	Rate of Interest on Loan on annual basis	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
	Interest on loan	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96	291.96
2	PSU Bonds XIVth Series (Rs. in lacs)											
	Gross loan - Opening	18462.60	18462.60	18462.60	18462.60	18462.60	18462.60	18462.60	18462.60	18462.60	18462.60	18462.60
	Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	3692.52	7385.04	11077.56	14770.08	3692.52	0.00	0.00	0.00
	Net loan - Opening	18462.60	18462.60	18462.60	14770.08	11077.56	7385.04	3692.52	0.00	0.00	0.00	0.00
	Add: Drawal(s) during the Year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Less: Repayment (s) of Loans during the year	0.00	0.00	3692.52	3692.52	3692.52	3692.52	3692.52	0.00	0.00	0.00	0.00
	Net loan - Closing	18462.60	18462.60	14770.08	11077.56	7385.04	3692.52	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	18462.60	18462.60	16516.34	12923.82	9231.30	5528.78	1846.26	0.00	0.00	0.00	0.00
	Rate of Interest on Loan on annual basis	9.60%	9.60%	9.60%	9.60%	9.60%	9.60%	9.60%	9.60%	9.60%	9.60%	9.60%
	Interest on loan	1772.77	1772.77	1595.49	1240.94	886.38	531.83	177.28	0.00	0.00	0.00	0.00
3	PSU Bonds XVth Series (Rs. in lacs)											
	Gross loan - Opening	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98
	Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98
	Add: Drawal(s) during the Year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Less: Repayment (s) of Loans during the year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98
	Average Net Loan	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98	33044.98
	Rate of Interest on Loan on annual basis	7.68%	7.68%	7.68%	7.68%	7.68%	7.68%	7.68%	7.68%	7.68%	7.68%	7.68%
	Interest on loan	2537.85	2537.85	2537.85	2537.85	2537.85	2537.85	2537.85	2537.85	2537.85	2537.85	2537.85



Sl. No.	Particulars	As on 31.03.2019	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1												
4	HDFC Long Term Loan (Rs. in lacs)											
	Gross loan - Opening					0.00	2215.51	2215.51	2215.51	2215.51	2215.51	2215.51
	Cumulative repayments of Loans upto previous year					0.00	0.00	0.00	66.47	333.33	598.19	908.36
	Net loan - Opening					0.00	2215.51	2215.51	2149.05	1883.19	1617.32	1307.15
	Add: Drawal(s) during the Year					2215.51	0.00	0.00	0.00	0.00	0.00	0.00
	Less: Repayment (s) of Loans during the year					0.00	0.00	66.47	265.86	265.86	310.17	443.10
	Net loan - Closing					2215.51	2215.51	2149.05	1883.19	1617.32	1307.15	864.05
	Average Net Loan					1107.76	2215.51	2182.28	2016.12	1750.25	1462.24	1085.60
	Rate of Interest on Loan on annual basis					7.97%	8.41%	8.40%	8.40%	8.40%	8.40%	8.40%
	Interest on loan					85.68	186.38	183.31	169.25	147.02	122.83	91.19
5	Axis Bank Long Term Loan (Rs. in lacs)											
	Gross loan - Opening						0.00	4431.02	4431.02	4431.02	4431.02	4431.02
	Cumulative repayments of Loans upto previous year						0.00	0.00	0.00	118.16	354.48	590.80
	Net loan - Opening						0.00	4431.02	4431.02	4312.86	4075.54	3840.22
	Add: Drawal(s) during the Year						4431.02	0.00	0.00	0.00	0.00	0.00
	Less: Repayment (s) of Loans during the year						0.00	0.00	118.16	236.32	472.64	772.64
	Net loan - Closing						4431.02	4431.02	4312.86	4075.54	3840.22	3367.58
	Average Net Loan						2215.51	4431.02	2333.67	2274.59	2234.59	2156.43
	Rate of Interest on Loan on annual basis						8.07%	8.07%	8.07%	8.07%	8.07%	8.07%
	Interest on loan						132.44	357.58	188.33	183.56	183.56	174.02
6	Total Loan											
	Gross loan - Opening	80704.00	80704.00	80704.00	80704.00	80704.00	80919.51	87350.54	88887.94	35842.96	35842.96	35842.96
	Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	3692.52	7385.04	11077.56	14770.06	66.47	450.49	952.67	1495.16
	Net loan - Opening	80704.00	80704.00	80704.00	77011.48	73318.96	71841.95	71580.46	68821.47	35392.47	34890.29	34341.79
	Add: Drawal(s) during the Year	0.00	0.00	0.00	0.00	2215.51	4431.02	0.00	0.00	0.00	0.00	0.00
	Less: Repayment (s) of Loans during the year	0.00	0.00	3692.52	3692.52	3692.52	3692.52	3758.99	33429.00	502.18	546.49	915.74
	Net loan - Closing	80704.00	80704.00	77011.48	73318.96	71841.95	72580.46	68821.47	35392.47	34890.29	34341.79	33885.92
	Average Net Loan	80704.00	80704.00	78857.74	75165.72	73580.46	72211.20	70700.96	52106.97	35141.38	34617.04	33885.92
	Interest on loan	4602.58	4602.58	4425.30	4070.75	3801.87	3580.46	3547.98	1918.57	622.54	596.35	557.17
	Weighted average Rate of Interest on Loans	5.79%	5.70%	5.61%	5.42%	5.24%	5.10%	5.02%	3.58%	1.77%	1.73%	1.64%

PART - II
FORM-13

(Partner)



2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42	2042-43	2043-44	2044-45	2045-46	2046-47	2046-47	
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	
29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	
0.00	0.00	0.00	0.00	0.00	1946.43	3892.85	5839.28	7785.71	9732.14	11678.57	13625.00	15571.42	17517.85	19464.28	21410.71	23357.14	25303.56	27249.99	
29196.42	29196.42	29196.42	29196.42	29196.42	27249.99	25303.56	23357.14	21410.71	19464.28	17517.85	15571.42	13625.00	11678.57	9732.14	7785.71	5839.28	3892.85	1946.43	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	
29196.42	29196.42	29196.42	29196.42	29196.42	27249.99	25303.56	23357.14	21410.71	19464.28	17517.85	15571.42	13625.00	11678.57	9732.14	7785.71	5839.28	3892.85	1946.43	
29196.42	29196.42	29196.42	29196.42	29196.42	28233.21	26276.78	24320.35	22363.92	20407.49	18451.07	16494.64	14538.21	12581.78	10705.35	8758.93	6812.50	4866.07	2915.64	973.24
1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
291.96	291.96	291.96	291.96	291.96	282.33	262.77	243.30	223.84	204.37	184.91	165.45	145.98	126.52	107.05	87.59	68.12	48.66	29.10	9.73



2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42	2042-43	2043-44	2044-45	2045-46	2046-47	2046-47
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
2215.51	2215.51																	
1351.46	1816.72																	
864.05	398.79																	
0.00	0.00																	
465.26	398.79																	
398.79	0.00																	
631.42	199.40																	
8.40%	8.40%																	
53.04	16.75																	
4431.02	4431.02	4431.02	4431.02	4431.02														
1063.45	1536.09	2185.97	2894.94	3840.22														
3367.58	2894.94	2245.05	1536.09	590.80														
0.00	0.00	0.00	0.00	0.00														
472.64	649.88	708.96	945.29	590.80														
2894.94	2245.05	1536.09	590.80	0.00														
2008.73	1801.95	1595.17	1063.45	295.40														
8.07%	8.07%	8.07%	8.07%	8.07%														
162.10	145.42	128.73	85.82	23.84														
35842.96	35842.96	33627.44	33627.44	33627.44	29196.42	29196.42	29196.42	28196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42	29196.42
2414.91	3352.81	2185.97	2894.94	3840.22	1946.43	3882.86	5839.28	7785.71	9732.14	11678.57	13625.00	15571.42	17517.85	19464.28	21410.71	23357.14	25303.56	27249.99
33428.05	32490.15	31441.47	30732.51	29707.22	27249.99	25303.56	23357.14	21410.71	19464.28	17517.85	15571.42	13625.00	11678.57	9732.14	7785.71	5839.28	3892.86	1946.43
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
937.90	1048.68	708.96	945.29	2537.23	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43	1946.43
32490.15	31441.47	30732.51	29707.22	27249.99	25303.56	23357.14	21410.71	19464.28	17517.85	15571.42	13625.00	11678.57	9732.14	7785.71	5839.28	3892.86	1946.43	0.00
32959.10	31965.81	31086.90	30259.87	28518.61	26276.78	24330.35	22383.92	20437.49	18491.07	16544.64	14598.21	12651.78	10705.35	8758.93	6812.50	4866.07	2919.64	973.21
507.10	454.13	420.69	377.28	306.07	262.77	243.30	223.84	204.37	184.91	165.45	145.98	126.52	107.05	87.59	68.12	48.66	29.20	9.73
1.54%	1.42%	1.35%	1.25%	1.07%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%

(Peltitioner)



Calculation of on Working Capital

Name of the Petitioner :
Name of the Generating Station :

NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
TURIAL HYDRO POWER STATION

(Amount in Rs. Lakhs)

Sr. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
1	O & M Expenses (1 month O&M & security expenses)	435.01	460.01	495.48	514.90	544.16
2	Maintenance Spares (15% of O&M & Security Expenses)	783.02	830.03	875.67	926.19	979.50
3	Reserve/stock (45 days of APC)	1506.34	1604.99	1635.10	1667.61	1702.05
4	Total Working Capital	2724.37	2895.03	2967.25	3108.22	3225.31
5	Rate of Interest	11.90%	11.90%	11.90%	11.90%	11.90%
6	Interest on Working Capital for the period	324.44	344.27	356.67	369.88	383.93

	2024-25	2025-26	2026-27	2027-28	2028-29
Security Expenses	100	100	100	100	100

[Handwritten Signature]
(Petitioner)



Non-Tariff Income

Name of the Hydro Asset: **NORTH EASTERN ELECTRIC POWER CORPORATION LTD. TURIAL HYDRO POWER STATION.**

S.No.	Parameters	Existing 2023-24 (3)	2024-25 (4)	2025-26 (5)	2026-27 (6)	2027-28 (7)	2028-29 (8)
(1)	(2)						
1.	Income from rent of land or buildings	0	0	0	0	0	0
2.	Income from sale of scrap	0	0	0	0	0	0
3.	Income from advertisements	0	0	0	0	0	0

Note: To be submitted at the time of truing up


(Petitioner)



**PART-II
FORM-13D**

Incidental Expenditure during Construction

**Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TURJIAL HYDRO POWER STATION**

(Amount in Rs. Lakh)

Sl. No.	Parameters	Upto Scheduled COD	Upto actual/ anticipated COD
A	Expenses:		
1	Employees' Benefits Expenses		
2	Finance Costs		
3	Water Charges		
4	Communication Expenses		
5	Power Charges		
6	Other Office and Administrative Expenses		
7	Others (Please Specify Details)		
8	Other Pre-Operating Expenses		
		
		
		
B	Total Expenses		
	Less: Income from sale of tenders		
	Less: Income from guest house		
	Less: Income recovered from Contractors		
	Less: Interest on Deposits		
		

(Petitioner)



Draw Down Schedule for Calculation of IDC & Financing Charges

Name of the Practioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TURJAL HYDRO ELECTRIC PROJECT

Sl.	Particulars	2013-14				2013-14			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4
	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)
1	Loans								
1.1	Foreign Loans								
1.2	Indian Loans (Rs. in lacs)								
1.2.1	SBI Short Term Loan					2125.00			35.24
	Draw down Amount					35.24			35.24
	IDC					0.20			
1.2.2	SBI Short Term Loan								
	Draw down Amount								
	IDC								
1.2.3	SBI Short Term Loan								
	Draw down Amount								
	IDC								
1.2.4	IOB Short Term Loan								
	Draw down Amount								
	IDC								
1.2.5	PMB Short Term Loan								
	Draw down Amount								
	IDC								
1.2.6	SBI Short Term Loan								
	Draw down Amount								
	IDC								
1.2.7	SBI Short Term Loan								
	Draw down Amount								
	IDC								
	Financing charges								

Sr.	Particulars	2013-14							
		Quarter 1	Quarter 2	Quarter 3	Quarter 4				
	Quantum in Foreign currency	Exchange Rate on draw down date (₹ in lakh)	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date (₹ in lakh)	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date (₹ in lakh)	Amount in Indian Rupee (₹ in lakh)
1.2.8	SBI Short Term Loan								
	Draw down Amount								
	IDC								
1.2.9	PSU Bonds-AYUB Series								
	Draw down Amount								
	IDC								
1.2.9	PSU Bonds-EV1111th Series								
	Draw down Amount								
	IDC								
1.2.10	GOI loan								
	Draw down Amount								
	IDC								
	Financing charges								
1.2	Total Indian Loans								
	Draw down Amount								
	IDC								
	Financing charges								
1	Total of Loans drawn								
	IDC								
	Financing charges								
	FRV								
	Hedging Cost								
2	Equity								
2.1	Foreign equity drawn								
2.2	Indian equity drawn								
2	Total equity deployed								

Note :

1

Rs.17.00 crore was received as equity on July, 2018 (Annexure II attached).

2

OCI loan (Annexure I attached)


(Petitioner)



Draw Down Schedule for Calculation of IDC & Financing Charges

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TURKIAL HYDRO ELECTRIC PROJECT

2014-15

Sl.	Particulars	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
		Quantum in Foreign currency	Exchange Rate on draw down date (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date (₹ in lakh)
1	Loans								
1.1	Foreign Loans								
1.2	Local Loans (Rs. in lacs)								
1.2.1	SBI Short Term Loan								
	Draw down Amount		23.62		23.62		23.62		
	IDC								
	Financing charges		0.13						
1.2.2	SBI Short Term Loan								
	Draw down Amount				4020		64.84		64.84
	IDC								
	Financing charges								
1.2.3	SBI Short Term Loan								
	Draw down Amount				1000		15.19		15.19
	IDC								
	Financing charges								
1.2.4	IOB Short Term Loan								
	Draw down Amount		2000.00		25.80		25.80		
	IDC				25.80				
	Financing charges								
1.2.5	PNB Short Term Loan								
	Draw down Amount		1500.00						
	IDC		18.03		18.03		18.03		
	Financing charges								
1.2.6	SBI Short Term Loan								
	Draw down Amount								
	IDC								
	Financing charges								
1.2.7	SBI Short Term Loan								
	Draw down Amount								
	IDC								
	Financing charges								




Sl.	Particulars	Quantum in Foreign currency	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
			Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)
1.2.5	SBI Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.6	PSU Bonds-XIVth Series									
	Draw down Amount					18462.60		446.74		
	IDC					6.38		6.38		
	Financing charges									
1.2.9	PSU Bonds-XVIII Series									
	Draw down Amount					0.00		0.00		
	IDC					0.00		0.00		
	Financing charges									
1.2.10	GOI Loan									
	Draw down Amount					0.09		0.09		
	IDC									
	Financing charges									
1.2	Total Indian Loans					18462.60		446.74		
	Draw down Amount		3500.00		5000.00	147.57		594.31		576.85
	IDC		67.54		0.00	6.38		6.38		6.38
	Financing charges		0.13		0.00					
1	Total of Loans drawn		3500.00		5000.00	18462.60		446.74		0.00
	IDC		67.54		147.57	594.31		576.85		576.85
	Financing charges		0.13		0.00	6.38		6.38		6.38
	PERV									
	Hedging Cost									
2	Equity									
2.1	Foreign equity drawn									
2.2	Indian equity drawn									
2	Total equity deployed									

(Petitioner)



Draw Down Schedule for Calculation of IDC & Financing Charges

Name of the petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the generating station : TURJUAL HYDRO ELECTRIC PROJECT

Sl.	Particulars	Quantum in Foreign currency	Quarter 1		Quarter 2		Quarter 3		Quarter 4	
			Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)
2015-16										
1	Loans									
1.1	Foreign Loans									
1.2	Indian Loans (Rs. in lacs)									
1.2.1	SBI Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.2	SBI Short Term Loan									
	Draw down Amount		18.81		18.81					
	IDC		0.02							
	Financing charges									
1.2.3	SBI Short Term Loan									
	Draw down Amount		8.72		8.72					
	IDC									
	Financing charges									
1.2.4	Job Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.5	PMB Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.6	SBI Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.7	SBI Short Term Loan									
	Draw down Amount									
	IDC									
	Financing charges									



Sl.	Particulars	Quantum in Foreign currency	2015-16				Quantum in Foreign currency	Exchange Rate on draw down date (₹ in lakhs)	Amount in Indian Rupee (₹ in lakhs)	Quantum in Foreign currency	Exchange Rate on draw down date (₹ in lakhs)	Amount in Indian Rupee (₹ in lakhs)	Quantum in Foreign currency	Exchange Rate on draw down date (₹ in lakhs)	Amount in Indian Rupee (₹ in lakhs)
			Quarter 1	Quarter 2	Quarter 3	Quarter 4									
1.2.8	SBI Short Term Loan														
	Draw down Amount														
	IDC														
1.2.9	PSU Bonds-XIVth Series														
	Draw down Amount														
	IDC														
	Financing charges														
1.2.9	PSU Bonds-XVIIIth Series														
	Draw down Amount														
	IDC														
	Financing charges														
1.2.10	GOI Loan														
	Draw down Amount														
	IDC														
	Financing charges														
1.2	Total Indian Loans														
	Draw down Amount														
	IDC														
	Financing charges														
1	Total of Loans drawn														
	IDC														
	Financing charges														
	FERV														
	Hedging Cost														
2	Equity														
			7.00												
2.1	Foreign equity drawn														
2.2	Indian equity drawn														
2	Total equity deployed														

(Petitioner)



Draw Down Schedule for Calculation of IDC & Financial Charges

Name of the Projector : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TURBINA HYDRO ELECTRIC PROJECT

Sl. No.	Particulars	Quantum in Foreign currency	2016-17			2016-17		
			Quarter 1	Quarter 2	Quarter 3	Quarter 4		
			Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)
1	Loans							
1.1	Foreign Loans							
1.2	Indian Loans (Ru. in lacs)							
1.2.1	SBI Short Term Loan							
	Draw down Amount							
	IDC							
	Financing charges							
1.2.2	SBI Short Term Loan							
	Draw down Amount							
	IDC							
	Financing charges							
1.2.3	SBI Short Term Loan							
	Draw down Amount							
	IDC							
	Financing charges							
1.2.4	IOB Short Term Loan							
	Draw down Amount							
	IDC							
	Financing charges							
1.2.5	PNB Short Term Loan							
	Draw down Amount							
	IDC							
	Financing charges							
1.2.6	SBI Short Term Loan							
	Draw down Amount			4000.00				
	IDC			49.14				
	Financing charges			0.27				
1.2.7	SBI Short Term Loan							
	Draw down Amount					1773.33		
	IDC					8.72		
	Financing charges							8.72



Sl. No.	Particulars	Quantum in Foreign currency	Quarter 1			Quarter 2			Quarter 3			Quarter 4					
			Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)				
1.2.8	SBI Short Term Loan																
	Draw down Amount																
	IOC																
	Financing charges																
1.2.9	PSU Bonds- XIVth Series																
	Draw down Amount			441.29		441.29		441.29		441.29		441.29		441.29		441.29	
	IOC			0.09		0.09		0.09		0.09		0.09		0.09		0.09	
	Financing charges																
1.2.9	PSU Bonds- XVIIIth Series																
	Draw down Amount			0.09		0.09		0.09		0.09		0.09		0.09		0.09	
	IOC			0.09		0.09		0.09		0.09		0.09		0.09		0.09	
	Financing charges																
1.2.10	GDI loan																
	Draw down Amount			0.09		0.09		0.09		0.09		0.09		0.09		0.09	
	IOC			0.09		0.09		0.09		0.09		0.09		0.09		0.09	
	Financing charges			0.66		0.66		0.66		0.66		0.66		0.66		0.66	
1.2	Total Indian Loans			0.00		4000.00		1773.33		0.00		0.00		0.00		0.00	
	Draw down Amount			441.29		490.43		499.15		499.15		499.15		499.15		499.15	
	IOC			0.75		1.02		0.75		0.55		0.55		0.55		0.55	
	Financing charges																
1	Total of Loans drawn			0.00		4000.00		1773.33		0.00		0.00		0.00		0.00	
	IOC			441.29		490.43		499.15		499.15		499.15		499.15		499.15	
	Financing charges			0.75		1.02		0.75		0.55		0.55		0.55		0.55	
	FERV																
	Hedging Cost																
2	Equity																
2.1	Foreign equity drawn																
2.2	Indian equity drawn																
2	Total equity employed																


(Petitioner)



Draw Down Schedule for Calculation of IDC & Financing Charges

Name of the petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
Name of the Generating Station : TURALIA HYDRO ELECTRIC PROJECT

Sl.	Particulars	Quantum In Foreign currency	Quarter 1		Quarter 2		Quarter 3		Quarter 4		Total Amount in Indian Rupee (₹ in lakh)
			Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	
1	Loans										
1.1	Foreign Loans										
1.2	Indian Loans (Rs. in trcs)										
1.2.1	SBI Short Term Loan										
	Draw down Amount										2115.00
	IDC										149.35
	Financing charges										0.33
1.2.2	SBI Short Term Loan										
	Draw down Amount										4000.00
	IDC										232.12
	Financing charges										0.02
1.2.3	SBI Short Term Loan										
	Draw down Amount										1090.00
	IDC										53.03
	Financing charges										0.00
1.2.4	ICDS Short Term Loan										
	Draw down Amount										2000.00
	IDC										77.29
	Financing charges										0.00
1.2.5	PNB Short Term Loan										
	Draw down Amount										1500.00
	IDC										54.10
	Financing charges										0.00
1.2.6	SBI Short Term Loan										
	Draw down Amount										4000.00
	IDC										192.68
	Financing charges										0.16
1.2.7	SBI Short Term Loan										
	Draw down Amount										1773.33
	IDC										49.80
	Financing charges										0.00



Sl. No.	Particulars	Quantum in Foreign currency	Quarter 1		Quarter 2		Quarter 3		Quarter 4		Total Amount in Indian Rupee (₹ in lakh)
			Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	Exchange Rate on draw down date	Amount in Indian Rupee (₹ in lakh)	
1.2.8	SBI Short Term Loan										
	Draw down Amount		4000.00		40.14		40.14		40.14		4000.00
	IDC										0.00
1.2.9	PSU Bonds-KVIB Series										
	Draw down Amount		310.77		310.77		310.77		310.77		18452.60
	IDC										5675.57
	Financing charges		0.06		0.06		0.06		0.06		13.73
1.2.5	PSU Bonds-KVIB Series										
	Draw down Amount		0.00		0.00		33044.98		130.37		33044.98
	IDC										280.74
	Financing charges		0.00		0.00		0.09		0.09		0.19
1.2.10	GOI Loan										
	Draw down Amount		0.00		0.00		0.00		0.00		0.00
	IDC										4.50
	Financing charges		0.46		0.46		0.46		0.46		0.34
1.2	Total Indian Loans										
	Draw down Amount		6000.00		0.00		33044.98		0.00		71905.91
	IDC		406.40		374.04		481.38		481.38		6917.69
	Financing charges		0.62		0.53		0.62		0.16		19.14
1	Total of Loans drawn		4000.00		0.00		33044.98		0.00		71905.91
	IDC		406.40		374.04		481.38		481.38		6917.69
	Financing charges		0.62		0.53		0.62		0.16		19.14
	PERV										0.00
	Hedging Cost										0.00
2	Equity										16404.00
2.1	Foreign equity drawn										
2.2	India equity drawn										16404.00
2	Total equity deployed										16404.00

(Petitioner)




Actual Cash Expenditure

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

Name of the Generating Station : TURJIAL HYDRO POWER STATION

COD

(Amount in Rs Lakh)

Particulars	Quarter-I	Quarter-II	Quarter-III	Quarter-n (COD)
1	2	3	4	5
Expenditure towards Gross Block				
Add:expenditure towards CWIP				
Add:Capital Advances,if any.				
Less:Undischarged liabilities (Included above)				
Add/Less: Others				
Payment to contractors / suppliers towards capital assets				
Cummulative payments				

Note: If there is variation between payment and fund deployment justification need to be furnished

(Petitioner)



Calculation of Interest on Normative Loan

Name of the Petitioner :
Name of the Generating Station :

NORTH EASTERN ELECTRIC POWER CORPORATION LTD.
TURBINE HYDRO ELECTRIC PLANT

(Amount in Rs. Lakh)

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
1	Basic Normative loan - Opening	51768.50	71637.50	72617.90	73637.83	74637.93
	Cumulative repayment of normative loan upto previous year	2284.01	13261.50	13218.71	15607.85	17398.90
	Net Normative loan - Opening	51194.51	60376.00	59400.19	58030.00	57239.03
	Add: Increase due to addition during the year / period	0.00	0.00	0.00	0.00	0.00
	Less: Decrease due to de-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
	Less: Decrease due to revaluation during the year / period	0.00	0.00	0.00	0.00	0.00
	Add: Increase due to discharge during the year / period	381.67	0.00	0.00	0.00	0.00
	Requirement (C) of Normative Loan during the year	3782.58	1769.12	1769.12	1769.13	1769.13
	Net Normative loan - Closing	48741.08	58515.72	59550.08	59799.13	59008.13
	Average Normative loan	58542.95	58515.72	59550.08	59799.13	59008.13
	Weighted average rate of interest	5.00%	5.00%	5.00%	5.00%	5.00%
	Interest on Loan	2937.11	2925.57	2987.50	2990.96	2950.41
	Interest on Loan for the period	2937.11	2925.57	2987.50	2990.96	2950.41

(Petitioner)



Design energy and MW Continuous (month wise) - ROR type stations

Name of the Petitioner : NORTH EASTERN ELECTRIC POWER CORPORATION LTD.

Name of the Generating Station : TUIRIAL HYDRO POWER STATION

COD

Generating Company -----			
Name of Hydro-electric Generating Station : -----			
Installed Capacity : No of units X MW = 3 X 135			
Month		Design Energy * (MUs)	MW Continuous *
April	I		
	II		
	III		
May	I		
	II		
	III		
June	I		
	II		
	III		
July	I		
	II		
	III		
August	I		
	II		
	III		
September	I		
	II		
	III		
October	I		
	II		
	III		
November	I		
	II		
	III		
December	I		
	II		
	III		
January	I		
	II		
	III		
February	I		
	II		
	III		
March	I		
	II		
	III		
TOTAL			

* As per DPR / TEC of CEA dated -----

(Signature)
(Petitioner)



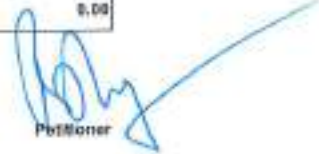
Details of Statutory Charges (if Applicable)

Name of the Petitioner
Name of the Generating Station

North Eastern Electric Power Corporation LTD
TUIBIAL HYDRO POWER STATION

₹ in lakh

Sl. No	Particulars	Unit Rate	No of Units	Amount Claimed
1	Electricity Duty			0.00
2	Water Cess			0.00
3	Security Expenses			0.00


Petitioner



Name of the Company: NORTH EASTERN ELECTRIC POWER CORPORATION LTD
Name of the Power Station: Tuirial Hydro Power Station (60 MW)
(hereinafter referred to as TrHPS)

Funding of Additional Capital Expenditure incurred during the period of 2019-24

No new loan/external funding taken and proposed to be taken for the Tuirial Hydro Power Station (60 MW) (hereinafter referred to as TrHPS) during the period under reference. The additional capital expenditure incurred during the period of 2019-24 has been met from the internal resources of the Company.

(Debjani Dey)
ED(Commercial)
NEEPCO Ltd., Shillong

कार्यपालक निदेशक (वाणिज्यिक)
Executive Director (Comm)
नीपको लि. शिलांग
NEEPCO Ltd. Shillong



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