CENTRAL ELECTRICITY REGULATORY THE COMMISSION
New Delhi

Petition No.4/MP/2022

along with
Petition No. 54/MP/2022
Petition No. 63/MP/2022
Petition No. 66/MP/2022
Petition No. 70/MP/2022

Coram:
Shri Jishnu Barua, Chairperson
Shri I.S. Jha, Member
Shri Arun Goyal, Member
Shri P.K. Singh, Member

Date of Order: 20th January, 2024

Petition No.4/MP/2022

IN THE MATTER OF:

Application under Regulation-44(6) of CERC (Terms and Conditions of Tariff) Regulations, 2019 for recoupment of under-recovered energy charges due to shortfall in energy generation for reasons beyond the control of generating station during the FY 2019-20 & 2020-21 in respect of **Chamera-III Power Station**.

And

In the matter of

NHPC Limited,
(A Govt. of India Enterprise)
NHPC Office Complex, Sector-33,
Faridabad (Haryana) - 121 003. **……Petitioner**

Vs

1. The Chairman,
Punjab State Power Corporation Ltd.,
The Mall, Near Kali Badi Mandir, Patiala-147001 (Punjab).

2. The Chairman,
Haryana Power Utilities (UHBVNL & DHBVNL),
Shakti Bhawan, Sector-6, Panchkula-134109 (Haryana).

3. The Chairman,
Uttar Pradesh Power Corporation Ltd.,
Shakti Bhawan, 14-Ashok Marg, Lucknow-226001 (Uttar Pradesh).

4. The Chief Engineer & Secretary,
Engineering Dept. 1st Floor,
UT Chandigarh, Sector-9 D, Chandigarh-160009.

5. The Chief Executive Officer,
BSES Rajdhani Power Ltd., BSES Bhawan,
Nehru Place, New Delhi-110019.

6. The Chief Executive Officer,
BSES Yamuna Power Ltd.,
Shakti Kiran Building, Karkadooma, Delhi-110072

7. The Chief Operating Officer,
Tata Power Delhi Distribution Ltd.
(A Tata Power and Delhi Govt. Joint Venture)
Erstwhile North Delhi Power Ltd., Grid Sub-station Building,
Hudson Lines, Kingsway Camp, Delhi-110009.

8. The Chairman-Cum-Managing Director,
Uttaranchal Power Corporation Ltd., Urja Bhawan,
Kanwali Road, Dehradun - 248 001 (Uttrakhand).

9. The Managing Director,
Jaipur Vidyut Vitaran Nigam Ltd. (JVVNL), Vidyut Bhawan,
Janpath, Jyoti Nagar, Jaipur-302005 (Rajasthan).

10. The Managing Director,
Ajmer Vidyut Vitaran Nigam Ltd. Old Power House,
Hatthi Bhatta, Jaipur Road, Ajmer - 305 001 (Rajasthan).

11. The Managing Director,
Jodhpur Vidyut Vitaran Nigam Ltd., New Power House,

Industrial Area, Jodhpur - 342 003 (Rajasthan).

12. The Principal Secretary,
Power Development Department, New Secretariat
Jammu (J&K)-180001.

13. The Chairman,
Himachal Pradesh State Electricity Board, Vidyut Bhawan,
Kumar House, Shimla - 171 004 (Himachal Pradesh). **……..Respondents**

Petition No.54/MP/2022

IN THE MATTER OF:

Application under Regulation-44(6) of CERC (Terms and Conditions of Tariff) Regulations, 2019 for recoupment of under-recovered energy charges due to shortfall in energy generation for reasons beyond the control of generating station during the FY 2019-20 & 2020-21 in respect of **Kishanganga Power Station**.

And

In the matter of

NHPC Limited,
(A Govt. of India Enterprise)
NHPC Office Complex, Sector-33,
Faridabad (Haryana) - 121 003. **……Petitioner**

Vs

1. Power Development Department,
New Secretariat,
Jammu – 180001 (J&K).

2. The Chairman,
Uttar Pradesh Power Corporation Ltd.,
Shakti Bhawan, 14-Ashok Marg,
Lucknow – 226 001 (Uttar Pradesh).

3. The Executive Director (Comml.),
Chhattisgarh State Power Distribution Co. Ltd.,
Vidyut Seva Bhavan, Danganiya,
Raipur – 492 013 (Chhattisgarh). **……..Respondents**

Petition No.63/MP/2022

IN THE MATTER OF:

Application under Regulation-44(6) of CERC (Terms and Conditions of Tariff) Regulations, 2019 for recoupment of under-recovered energy charges due to shortfall in energy generation for reasons beyond the control of generating station during the FY 2020-21 in respect of **Rangit Power Station.**

And

In the matter of

NHPC Limited,
(A Govt. of India Enterprise)
NHPC Office Complex, Sector-33,
Faridabad (Haryana) - 121 003. **……Petitioner**

Vs

1. West Bengal State Electricity Distribution
Company Ltd.,Vidyut Bhawan, 8th Floor,
Sector–II, Salt Lake, Kolkata-700091(West Bengal)

2. The Chairman,
Damodar Valley Corporation,
DVC Towers, VIP Road,
Kolkata – 700 054 (West Bengal).

3. The Managing Director,
Jharkhand Bijli Vitran Nigam Ltd.
(Formerly Jharkhand State Electricity Board)
H.E.C. Dhruwa, Ranchi,
Jharkhand - 834 002

4. The Managing Director,
North Bihar Power Distribution Company Ltd.,
Vidyut Bhawan, Bailey Road,
Patna – 800 001 (Bihar).

5. The Managing Director,
South Bihar Power Distribution Company Ltd.,
Vidyut Bhawan, Bailey Road,
Patna – 800 001 (Bihar)

6. The Chief Secretary,
Department Of Power,
Govt. Of Sikkim, Kazi Road,
Gangtok-737101 (Sikkim). **……..Respondents**

Petition No.66/MP/2022

IN THE MATTER OF:

Application under Regulation-44(6) of CERC (Terms and Conditions of Tariff) Regulations, 2019 for recoupment of under-recovered energy charges due to shortfall in energy generation for reasons beyond the control of generating station during the FY 2019-20 & 2020-21 in respect of **Parbati-III Power Station.**

And

In the matter of

NHPC Limited,
(A Govt. of India Enterprise)
NHPC Office Complex, Sector-33,
Faridabad (Haryana) - 121 003. **……Petitioner**

Vs

1. Punjab State Power Corporation Ltd.,
The Mall, Near Kali Badi Mandir, Patiala-147001 (Punjab).

2. The Chairman,
Haryana Power Utilities (UHBVNL & DHBVNL),
Shakti Bhawan, Sector-6,
Panchkula-134109 (Haryana).

3. The Chairman,
Uttar Pradesh Power Corporation Ltd.,
Shakti Bhawan, 14-Ashok Marg,
Lucknow-226001 (Uttar Pradesh).

4. The Chief Engineer & Secretary,
Engineering Dept. 1st Floor,
UT Chandigarh, Sector-9 D,
Chandigarh-160009.

5. The Chief Executive Officer,
BSES Rajdhani Power Ltd.,
BSES Bhawan, Nehru Place,
New Delhi-110019.

6. The Chief Executive Officer,
BSES Yamuna Power Ltd.,
Shakti Kiran Building,
Karkadooma, Delhi-110072.

7. The Chief Operating Officer,
Tata Power Delhi Distribution Ltd.
(A Tata Power and Delhi Govt. Joint Venture)
Erstwhile North Delhi Power Ltd., Grid Sub-station Building,
Hudson Lines, Kingsway Camp, Delhi-110009.

8. The Chairman-Cum-Managing Director,
Uttaranchal Power Corporation Ltd.,
Urja Bhawan, Kanwali Road,
Dehradun - 248 001 (Uttrakhand).

9. The Managing Director,
Jaipur Vidyut Vitaran Nigam Ltd. (JVVNL),
Vidyut Bhawan, Janpath, Jyoti Nagar,

Jaipur-302005 (Rajasthan).

10. The Managing Director,
Ajmer Vidyut Vitaran Nigam Ltd.,
Old Power House, Hatthi Bhatta, Jaipur Road,
Ajmer - 305 001 (Rajasthan).

11. The Managing Director,
Jodhpur Vidyut Vitaran Nigam Ltd.,
New Power House, Industrial Area,
Jodhpur - 342 003 (Rajasthan).

12. The Principal Secretary,
Power Development Department,
New Secretariat,
Jammu (J&K)-180001.

13. The Chairman,
Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House,
Shimla - 171 004 (Himachal Pradesh). **……..Respondents**

Petition No.70/MP/2022

IN THE MATTER OF:

Application under Regulation-44(6) of CERC (Terms and Conditions of Tariff) Regulations, 2019 for recoupment of under-recovered energy charges due to shortfall in energy generation for reasons beyond the control of generating station during the FY 2020-21 in respect of **Nimoo Bazgo Power Station**.

And

In the matter of

NHPC Limited,
(A Govt. of India Enterprise)
NHPC Office Complex, Sector-33,
Faridabad (Haryana) - 121 003. **……Petitioner**

Vs

The Principal Secretary to Govt. of J&K,
Power Development Department, Civil Secretariat,
Srinagar, J&K
& 12 others **……..Respondent**

Parties Present:
Shri Rajiv Shankar Dvivedi, Advocate, NHPC
Shri S.K. Sarkar, Advocate, NHPC
Shri Gursharan Singh, NHPC
Shri S.K. Meena, NHPC
Shri Amal Nair, Advocate, PSPCL
Ms. Shivani Verma, Advocate, PSPCL
Shri Mohit K. Mudgal, Advocate, BRPL & BYPL

ORDER

1. The Petitioner, NHPC Ltd. (hereinafter referred to as NHPC), vide affidavit dated 20.12.2021, has filed this petition seeking the following relief:

Petition No.4/MP/2022

a) The Commission may kindly allow recovery of energy charges amounting to ***`5.68 Crs*** *against the shortfall in generation of* ***29.18 MU****, which is beyond control of generating station, in FY 2019-20 as per regulation 44(6) of CERC Tariff Regulations, 2019 as explained in* ***para-VIII & XI****.*

b) The Commission may kindly allow recovery of energy charges amounting to ***`16.89 Crs*** *against the shortfall in generation of* ***85.70 MU****, which is beyond control of generating station, in FY 2020-21 as per regulation 44(6) of CERC Tariff Regulations, 2019 as explained in* ***para-IX & XII****.*

c) The Commission is requested to allow recovery of shortfall in energy charges amounting along with interest as explained in ***para-XIV****.*

d) To allow revision of energy bills for the period 2019-20 & 2020-21 which were already raised to beneficiary(ies) for recovery of energy charges to be allowed by the The Commission in this petition.

*e) To allow issuance of supplementary bill for recovery of balance shortfall in energy charges directly from beneficiaries after determination of final tariff by the Commission as mentioned in **prayer 1 to 3**.*

f) Pass such other and further order / orders as are deemed fit and proper in the facts and circumstances of the case.

Petition No.54/MP/2022

a) The Commission may kindly allow recovery of energy charges amounting to `29.30 Crs against the shortfall in generation of 152.73 MU, which is beyond control of generating station, in FY 2019-20 as per regulation 44(6) of CERC Tariff Regulations, 2019.

b) The Commission may kindly allow recovery of energy charges amounting to `7.75 Crs against the shortfall in generation of 39.36 MU, which is beyond control of generating station, in FY 2020-21 as per regulation 44(6) of CERC Tariff Regulations, 2019.

c) The Commission is requested to allow recovery of shortfall in energy charges amounting along with interest.

d) To allow revision of energy bills for the period 2019-20 & 2020-21 which were already raised to beneficiary(ies) for recovery of energy charges to be allowed by the Commission in this petition.

e) To allow issuance of supplementary bill for recovery of balance shortfall in energy charges directly from beneficiaries after determination of final tariff by the Commission.

Petition No.63/MP/2022

a) The Commission may kindly allow recovery of energy charges amounting to Rs.5.31 Crs against the shortfall in generation of 27.85 MU in FY 2020-21 as per Regulation 44(6) of CERC (Terms & Conditions of Tariff) Regulations, 2019.

b) The Commission is requested to allow recovery of shortfall in energy charges along with interest.

c) To allow revision of energy bills for the period FY 2020-21 which were already raised to the beneficiary(ies) for recovery of energy charges on account of shortfall in generation.

d) *To allow issuance of supplementary bill for recovery of balance shortfall in energy charges as mentioned in prayer 1 to 3 directly from the beneficiaries after approval of tariff for FY 2020-21 in petition no. 257/GT/2020 dated 31.10.2019 by the Commission.*

Petition No.66/MP/2022

a) *The Commission may kindly allow recovery of energy charges amounting to `1.61 Crs against the shortfall in generation of 10.36 MU, which is beyond control of generating station, in FY 2019-20 as per regulation 44(6) of CERC Tariff Regulations, 2019.*

b) *The Commission may kindly allow recovery of energy charges amounting to `11.05 Crs against the shortfall in generation of 71.67 MU, which is beyond control of generating station, in FY 2020-21 as per regulation 44(6) of CERC Tariff Regulations, 2019.*

c) *The Commission is requested to allow recovery of shortfall in energy charges amounting along with interest.*

d) *To allow revision of energy bills for the period 2019-20 & 2020-21, which were raised to beneficiary(ies) based on saleable scheduled energy of respective years, for recovery of energy charges.*

e) *To allow issuance of supplementary bills for recovery of balance shortfall in energy charges directly from beneficiaries, after determination of final tariff by the Commission under CERC Tariff Regulations, 2009.*

Petition No.70/MP/2022

a) *The Commission may kindly allow recovery of energy charges amounting to ₹2.28 Crs against the shortfall in generation of 5.09 MU in FY 2020-21 as per regulation 44(6) of CERC Tariff Regulations, 2019.*

b) *The Commission is requested to allow recovery of shortfall in energy charges amounting along with interest.*

c) *To allow revision of energy bills for the period 2020-21 which is already raised to beneficiary(ies) for recovery of energy charges to be allowed by the Commission in this petition.*

d) *To allow issuance of supplementary bill for recovery of balance shortfall in energy charges directly from beneficiaries after determination of final tariff by the Commission.*

2. The petitions covered in this order are of similar nature, i.e., the petitions for recovery of energy charge shortfall filed by the Petitioner, NHPC Limited, and similar submissions have been made by the respondents in these petitions. We are dealing with petition no. 4/MP/2022 in detail, and on a similar methodology, the other petitions, i.e., Petition nos. 54/MP/2022, 63/MP/2022, 66/MP/2022, and 70/MP/2022 are being analyzed.

3.

Petition No.4/MP/2022 (Chamera-III Power Station)

Submission of the Petitioner

4. NHPC Limited, hereinafter called 'NHPC', is a Government of India Company within the meaning of the Companies Act, 1956. Further, it is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.

5. The Chamera-III Power Station (hereinafter called 'Chamera-III' / 'power station') (3 x 77 = 231 MW) located in the state of Himachal Pradesh is under commercial operation w.e.f. 04.07.2012.

6. The power generated from this Power Station is being supplied to 13 Bulk Power Customers / Beneficiaries/Successor utilities in the Northern Region.

7. The approved annual design energy (DE) of Chamera-III Power Station is 1108.17 MU and after accounting for the provision of 1.2% as auxiliary consumption, 1% towards LADF and 12% as free power to the home state, the saleable design energy works out to 952.54 MU.

8. Regulation 44(6) of the CERC (Terms and Conditions of Tariff) Regulations, 2019, provides for the recovery of shortfall in energy charges for reasons beyond the control of generating stations during the tariff period 2019-24.

9. The Petitioner had filed tariff petition No.642/GT/2020 for truing up of AFC for 2014-19 and for the determination of tariff for the period 2019-24 based on projected capital expenditure. At present, under Regulation 10(4) of the CERC Tariff Regulations, 2019, provisional billing from 01.04.2019 onwards is allowed on the basis of an approved AFC for the period 2014-19. Accordingly, billing is being done with AFC approved by CERC vide order dated 29.01.2020 in petition No.321/GT/2018.

10. The claim in the present petition for recovery of energy charges is based on the interim tariff allowed by the Commission for FY 2018-19, vide order dated 29.01.2020 in petition no. 321/GT/2018, which is subject to change on the outcome of tariff petition No.642/GT/2020.

11. The Petitioner has recovered energy charges amounting to ₹175.45 Crs & ₹167.64 Crs corresponding to saleable scheduled energy of 904.87 MU & 850.97 MU against energy charges of ₹184.73 Crs & ₹187.66 Crs for FY 2019-20 & 2020-21, respectively. The petitioner has claimed under-recovery of energy charges of **₹0.99 Crs** & **₹10.90 Crs** for FY 2019-20 & 2020-21, respectively, for reasons beyond the control of the petitioner and after adjusting DSM energy/ revenue.

12. Once the recovery for energy charges is allowed by the Commission, the shortfall in energy charges will be recovered in six (6) equal monthly instalments as per Regulation 44(7) of CERC Tariff Regulations, 2019. However, subsequent to the issuance of the final tariff order for the tariff period 2019-24, the Petitioner will raise a supplementary bill for recovery of the shortfall on the basis of the revised energy charge.

13. Further, CERC Tariff Regulations, 2019, provides for adjustment of tariff with interest at the bank rate (i.e. SBI plus 350 basis points) prevalent on 1st April of the respective year. The under-recovered amount also pertains to the AFC of the respective year. Therefore, it is requested to allow billing of the under-recovered amount with interest as above.

14. In the past, CEA/CWC was requested to certify the actual inflow data of Chamera-III Power Station. CWC, vide letter dated 31.01.2017, has expressed their inability to certify the inflow series on a year to year basis.

Reply of Rajasthan Discoms

15. Rajasthan Discoms vide its reply dated 17.06.2022 has submitted as under:

a) The shortfall data furnished by the Petitioner does not have data regarding rainfall in the area provided by the Indian Meteorological Department. Whereas the Commission in every petition regarding this matter, directed the Petitioner to submit the Rainfall data reported by IMD for the district in which the plant is located and other adjoining districts to correlate low inflows. But the Petitioner in the instant petition also has not provided such data. In the absence of this, it is

difficult to ascertain “less inflow from Design inflow” and “Silt Flushing” events. Further, the Minimum Reservoir Level as well as Minimum Drawn Down Levels, have also not been included in the data provided.

b) The Petitioner has not given any justification for the shortfall occurring due to “other constraints”. It is requested that the Commission may direct the Petitioner to provide due justification for the same.

c) The Petitioner has failed to explain whether the shortfall was caused by a forced or planned shutdown of the plant. The Commission may direct the Petitioner to provide comprehensive data pertaining to details of the shutdowns of the plant.

d) The Commission has directed the Petitioner to submit duly certified inflow data pertaining to the current petition, failing which the claim of the Petitioner should be disallowed.

e) The Commission is, therefore, requested to direct the Petitioner to submit a Detailed Project Report in order to assess the relief claimed under silt flushing and the arrangements done by Petitioner to deal with the aspect of silt flushing.

f) Generation beyond DE is possible only when the excess inflow occurs. Hence, Generation beyond the energy design calculation must be adjusted against the “Shortfall due to reasons beyond control”.

Rejoinder to the reply of Rajasthan Discoms

16. The Petitioner vide affidavit dated 8.8.2022 has filed its rejoinder to the above reply of Rajasthan Discoms as under:

a) The rainfall data of district Chamba, where the power station is situated, and adjoining district Kangra is submitted. The data is available for five calendar years up to 2020 only on the IMD website .

b) The reasons for the shortfall in energy generation beyond the control of the generating station and within the control of the generating station have been submitted. Also, a detailed daily analysis of the energy shortfall, along with documents in support of silt flushing & high silt, is provided in the petition. CWC, vide its letter dated 23.01.2017, has categorically stated as under:

> *"The hydrological uncertainties on year to year basis are part of the planning process which can be assessed from the departure of the annual rainfall from the normal. Further the consistency of inflow series of the project can be carried out using relevant hydro-meteorological data for longer period such as more than 5 years. In view of the above it may not be possible to certify the inflow series as requested vide above referred letter."*

From the content of above letter it is clear that CWC verifies the data for longer periods only. The CWC, in all other cases, has also refused to certify the yearly discharge data of respective power stations.

c) The issue of energy loss due to silt flushing & high silt being beyond the control of the generating station has been settled by the Commission, vide its order dated 10.10.2019 in petition No.142/MP/2018. The relevant para of the order dated 10.10.2019 is reproduced as under:

> *"36……..*
> *a) In our view stoppage and the consequent loss of energy to prevent the damage due to high silt level is beyond the control of the generator. Further, considering the fact that the calculation of Design Energy of the plant based on the hydrological series does not take into account the energy lost due to stoppage of plant due to high silt levels, we are of the view that the generator needs to be compensated for that. Possible generation assessed*

at generator terminal after accounting for the reasons beyond the control of the Petitioner:"

d) In reply to (d) & (e) of paragraph 14, Petitioner has submitted a detailed daily analysis of energy shortfall.

e) Any generation beyond 95% has been achieved by the power station due to proper upkeep of machines and maintenance by NHPC and has, therefore, been considered within the control of the Power Station.

Reply of UPPCL

17. UPPCL, vide its reply dated 10.8.2022, has submitted as under:

a) The Petitioner has not submitted the DSM Energy & Revenue earned from DSM. necessary for the calculation of shortfall in energy and the under-recovery of energy charges for years 2019-20 and 2020-21. Shortfalls in energy generation and recovery of under-recovered charges are dealt with under Regulation 44 (6), 44 (7), 44 (8) and 44 (9), where the generating station is entitled to recover energy charges corresponding to shortfall beyond the control of the generating station, and while calculating shortfall, the loss of water is to be evaluated. Thus, all calculations are to be made with reference to the design energy.

b) The Petitioner has not included DSM energy in its calculation & is required to submit DSM energy for the years 2019-20 and 2020-21. During the year 2019-20, the total shortfall due to reasons beyond the control of the Petitioner is (-36.41) MU and within the control of the Petitioner is (- 43.99) MU , which results in total Shortfall of (-80.40) MU. The excess generation is (32.72) MU. However, during the year 2020-21, the total Shortfall due to reasons beyond the control of the Petitioner is (-85.70) MU and the total shortfall within the control of the Petitioner is (-42.86) MU resulting in the total Shortfall of (-128.56) MU. The excess generation is (26.99) MU.

c) The AFC considered by the Petitioner for 2019-20 and 2020-21 are Rs. 369.47 Cr and Rs. 375.31 Cr, respectively, whereas as per Order dated 29.01.2020, passed in Petition No. 321/GT/2018, the Commission has approved AFC of Rs. 375.31 Cr for the year 2018-19. As such, the shortfall in revenue calculated by the Petitioner is not correct. With AFC for 2018-19 being Rs. 375.31 Cr, the energy charge comes out to Rs. 187.66 Cr and Saleable DE 952.54 MU. The unit rate of energy supplied from Chamera-III in 2018-19 comes out to Rs. 1.97/kwh.

d) The energy charges recoverable due to shortfall in energy generation for reasons beyond the control of the Petitioner for years 2019-20 and 2020-21 are calculated in line with the methodology adopted by the Commission for calculation of shortfall in Order dated 19.03.2021 passed in Petition no. 369/MP//2018 in the matter of Bairasul HPS. The shortfall in energy and recoverable energy charges as claimed by the Petitioner and that computed by the answering Respondent is as below: -

Year	Shortfall in gen. due to reason beyond control (MU)		Recoverable energy charge (Rs. Cr)	
	Claim	Computed by Respondent	Claim	Computed by Respondent
2019-20	29.18	- 36.41	5.68	0.966
2020-21	85.70	- 85.70	16.89	9.082

The Petitioner has not properly accounted for the total shortfall in energy generation as well as the shortfall in energy generation due to reasons beyond the control and within the control of the Petitioner, DSM data for both the years AFC for the year 2019-20 as per Order dated 29.01.2020 passed in Petition No. 321/GT/2018, claim for shortfall in energy and commensurate energy charges for year 2019-20 and 2020-21, shortfall in energy and energy charge to be recovered.

Rejoinder of the Petitioner to the reply of UPPCL

18. The Petitioner, vide affidavit dated 22.08.2022, has filed its rejoinder to the above reply of UPPCL as under:

a) Regarding the submission of the Respondent quoted at 16(a) above, it is confirmed that the information regarding DSM energy and the revenue earned from DSM has been already submitted by the Petitioner in its compliance with the ROP on 21.07.2022 & for calculation of shortfall, the Petitioner has considered the DSM energy generated within its control under the head Difference between saleable (ex-Bus) and saleable schedule. Calculations regarding shortfall to be made with reference to the design energy, it is submitted that shortfall calculations are to be done in reference to saleable design energy.

b) Regarding the submission of the Respondent quoted at 16(b) above, it is confirmed that the Petitioner has already included DSM energy in its calculation under the head difference between saleable (ex-Bus) and saleable schedule. The Respondent has tried to calculate the shortfall beyond and within the control of the Petitioner. In this regard, the Petitioner submitted that the shortfall within and beyond the control of the Petitioner is calculated on the basis of daily analysis by comparing saleable design energy, saleable schedule energy and maximum possible generation based on actual inflow and 95% machine capacity. Now, during the operation of the plant, there shall be days when saleable schedule energy generated shall be in excess of saleable design energy and days when the schedule energy generated shall be less than saleable design energy for reasons within and beyond the control of the Petitioner. The sum total of this excess and less energy would ultimately result in a total shortfall within and beyond the control of the Petitioner. Thus, the contention of the Respondent that approach of the Petitioner should have been by separating the excess generation from less generation is not correct and hence, the Petitioner denies it. Further, in regard to an excess generation beyond design energy, it is submitted that the shortfall is calculated by comparing generation in comparison to design energy and as design energy is calculated at 95% machine capability during high inflow

season, therefore any generation beyond 95% machine capability during high inflow season is due to the better efficiency of the Petitioner as petitioner was able to keep its machines healthy. Thus, the excess generation beyond design energy is due to better efficiency of the Petitioner generating station and, therefore, kept within the control of the Petitioner. Thus, the approach of the Respondent to exclude that from the shortfall calculation is wrong and hence, the Petitioner denies it.

c) As for the Respondent's submission at 16(c) above that the Petitioner should calculate the shortfall with AFC of Rs 375.31 Cr for FY 2019-20, it is submitted that during FY 2019-20, the Petitioner has billed the DISCOMs at an AFC of Rs 369.47 Cr considering the impact of the effective tax. A copy of the bill is submitted. Further, as mentioned in para-X of the main petition, the shortfall in energy charges is subject to change in AFC based on the outcome of tariff petition No.642/GT/2020. Thus, the submission of the Respondent needs no consideration and is hence denied.

d) Regarding the submission of the Respondent at 16(d) above, the Petitioner submitted that the present petition for recovery in a shortfall for FY 2019-20 and FY 2020-21 has been filed in line with Regulation 44(6) of CERC Regulations, 2019 which is stated as under:

"***44(6)*** *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 treatment shall be as per clause (7) of this Regulation, on an application filed by the generating company."*

Thus, as per CERC regulation, the shortfall in energy is to be calculated by comparing saleable schedule energy and saleable design energy. The Respondent has tried to calculate the shortfall in energy charges for FY 2019-20 and FY 2020-21 based on provisions of CERC Tariff Regulations, 2014 which

are not applicable for the control period 2019-24. The calculation for generation loss at terminals and calculating energy that can be generated based on design energy does not hold true in the present case, as the shortfall is being calculated based on saleable design energy. Thus, the submission of the Respondent at para 16(d) is wrong and beyond the provisions of CERC Tariff Regulations, 2019 and is liable to be rejected by the Commission.

Reply of Punjab State Power Corporation Limited (PSPCL)

19. PSPCL, vide its reply dated 10.08.2022, has mainly submitted as under:

a) The entire capital cost invested by the Petitioner is serviced by payment of tariff by the beneficiaries, including PSPCL. Even the additional burden of less generation will now have to be borne by the beneficiaries.

b) The vague reasons given by the Petitioner for the shortfall in generation are, inter alia, that it is due to less inflow from the design inflow. The Petitioner has produced no documentary evidence for any of the aspects raised by it.

c) With respect to the certification of inflow data, the Petitioner has referred to a 2017 letter wherein the CWC has expressed its inability to certify the inflow series. From a perusal of the said letter, it comes out that the same has been issued with respect to the inflow of Rangit Power Station for FY 2015-16, TLD – III for FY 2014-15 and 2015-16) and Chamera–III for FY 2015-16. It is shocking to note that a reliance has been placed on a letter which has been issued 5 years ago and does not even relate to the Generating Station in issue. The claim of the Petitioner for inflow being less than design inflow ought to be rejected on this ground alone.

d) Petitioner may be directed to file i) Actual inflow data to be certified by CWC; ii) Rainfall data for the financial year in question of IMD for the district in which the plant is located and adjoining districts to correlate the inflows; iii) Planned/Forced Outages certified by CEA/NRLDC and its correlation with generation data vis-à-vis available average inflows during the period of outages.

e) The Petitioner cannot possibly ask for recovery of energy charges on account of loss of generation every time the actual inflow is less than the designed inflow. As a hydro power generator, the Petitioner ought to be aware that the quantum of inflow is not constant. This is not an unforeseen event at all or an event beyond the control of the Petitioner.

f) It is submitted that reasons which are commonly known to be associated with hydro power generation cannot be termed to be reasons beyond the control of the Petitioner.

g) The reasons given by the Petitioner towards the shortfall, alleging that they were beyond its control, are discrepancies and contradictions. When there was less inflow from design inflow, the Petitioner took steps to rectify the less inflow by generating excess energy by depleting the reservoir level. It cannot be the case of the Petitioner that the shortfall was due to reasons beyond its control while at the same time showing its ability to mitigate the reason for less inflow. It is submitted that the meaning of the words "*beyond the control of the generating station*" has to be taken to imply any reason which could not have been mitigated by the generating station. Therefore, the reason for less inflow can, in fact, be mitigated and is not beyond the control of the Petitioner.

h) Regulation 44(7) of the Tariff Regulations 2019 specifically states that the treatment under Regulation 44(7) shall be applied only when the total energy generated is less than the design energy due to reasons beyond the control of the hydro generating station. The reasons furnished by the Petitioner cannot be said to be 'beyond the control' of the Petitioner. In so far as the aspect of less inflow is concerned, it is submitted that this is a common event for a hydropower generator and, therefore, not something that the Petitioner could not have foreseen at the time of designing the project.

i) Revenue earned from DSM may be adjusted towards the energy shortfall charges as has been done by the Commission in other Petitions e.g. Petition Nos. 369/MP/2018 and 329/MP/2018.

Rejoinder of the Petitioner to the reply of PSPCL

20. The Petitioner, vide affidavit dated 22.08.2022, has filed its rejoinder to the above reply of PSPCL as under:

a) The cost of hydropower plants in the form of annual fixed cost (AFC) is recovered from the beneficiary DISCOMs in two parts i.e. Capacity Charges (i.e. 50% of AFC) and Energy Charges (i.e. 50% of AFC). The present petition is being filed by the Petitioner to recover the shortfall in energy charges which is the part of AFC, which the Petitioner is unable to recover due to reason beyond the control of the Petitioner. Thus, the submission of the Respondent that this is an additional burden beyond AFC is not correct and hence denied. The total shortfall in energy generation during 2019-20 is 47.68 MU. Shortfall in energy generation of 18.50 MU is on account of reasons 'within the control of the generating station', and 29.18 MU is on account of reasons 'beyond the control of the generating station'. Therefore, the contention of the Respondent that "the balance shortfall of 29.18 MU is beyond the control of the Petitioner for FY 2019-20" is misleading and liable to be rejected. The total shortfall in energy generation during 2020-21 is 101.57 MU. The shortfall in energy generation of 15.87 MU is on account of reasons 'within the control of the generating station,' and 85.70 MU is on account of reasons 'beyond the control of generating station'. Therefore, the contention of the Respondent that "the balance shortfall of 85.70 MU is beyond the control of the Petitioner for FY 2020-21" is misleading and liable to be rejected.

b) The shortfall in energy for FY 2019-20 has been claimed on account of slightly less inflow than the design inflow, silt flushing, high silt, high trash and shutdown for rim treatment work and for FY 2020-21, the shortfall in energy has been

claimed on account of less inflow than design inflow and silt flushing. These factors are beyond the control of the generating station, and the Petitioner has submitted detailed daily analysis reports and daily generation reports to substantiate its claim. Further, the Petitioner has also submitted the rainfall data the upstream of the dam in its compliance with the ROP. Therefore, the statement of the Respondent that vague reasons have been provided for a claim of shortfall is superfluous and, hence, liable to be rejected.

c) The additional information as listed by PSPCL in its reply has been submitted by the Petitioner on 10.08.2022, and a copy of the same has also been served to all the Respondents, including the answering Respondent. Therefore, the contention of the Respondent that relevant data has not been submitted is misleading and liable to be rejected.

d) The Petitioner has submitted the petition in line with Regulation 44(6) of CERC Tariff Regulations, 2019, which allows the Petitioner to recover under recovered energy charges for the shortfall in generation due to reasons beyond the control of the generating station. The present shortfall petition is related to the loss of generation with respect to the design energy of the power station. The design energy is determined on a 10 daily basis, based on discharge data in 90% dependable year with 95% machine availability. Whenever the actual inflow is less than the design inflow, a shortfall is bound to happen. Further, it is to submit that while calculating design energy no aspect of loss of generation due to silt flushing is taken into consideration, a fact recognized by the Commission in its various orders.

e) Regarding the submission of PSPCL quoted above at 18(g) with respect to the situation where the reservoir level is adjusted for extra generation, it is submitted that the Petitioner has to provide a schedule for energy generation on a day-ahead basis. The estimated schedule generation is given based on the estimated inflow, which is based on the actual inflow of the last few days. If the actual inflow on the day of generation is less than the estimated inflow, the Petitioner has to

adjust the reservoir level to try to meet the schedule to avoid penalties under the CERC DSM Regulations, 2014. However, the ability to regulate the reservoir level depends on various factors and the scope to vary the head of the reservoir, especially during monsoon season, is very low as the power stations are operated with reservoir level at MDDL to accommodate for the flood. Therefore, the contention of the Respondent is illogical and is made by being completely unaware of the operation of hydropower stations and hence denied.

f) Regarding submission of PSPCL quoted above at 18(h), it is submitted that the reasons for which shortfall in energy has been claimed are beyond the control of generating station and though these reasons cannot be foreseen at the time of designing of the project, these reasons cannot be controlled by the Petitioner and cannot be designed for. Less generation due to less inflow is a reason of shortfall which is beyond the control of generating station and has been approved by the Commission vide order dated 04.02.2021 in petition No.348/MP/2018 observing as under:

> *"33. Correlating the above tabulated rainfall data as per IMD reports, indicates low rainfall in comparison to long period averages. Accordingly, the energy short fall of (-)65.24 MU between the maximum possible generation (1434.65 MU) and design energy (1499.89 MU) represents the shortfall due to less inflows and we hold that the same was beyond the control of the Petitioner."*

Compliance with ROP of hearing dated 18.08.2023

21. Commission vide ROP dated 30.6.2022 & 18.08.2023 directed the Petitioner to file certain additional information. The Petitioner, vide its affidavit dated 21.7.2022 & 5.10.2023, submitted the desired information/clarifications and documents, including a letter dated 31.1.2017 from CWC expressing their inability to certify the inflow data, rainfall data, design energy calculation in MS Excel, methodology to calculate maximum possible generation during a day, daily generation reports for the days for which energy

shortfall has been claimed, supporting letter for rim treatment work during 2019-20 & 2020-21 day wise details of scheduled energy, actual energy injected into grid, energy accounted for in DSM along with revenue generated from such DSM energy, revised claim for energy charge shortfall after accounting for overload generation, the calculation of energy loss for all the reasons placed under the head 'beyond control', Planned and forced outage data downloaded from NPP portal etc.

22. CERC (Terms and Conditions of Tariff) Regulations, 2019, provide for the recovery of shortfall in energy charges for reasons beyond the control of generating stations during the tariff period 2019-24. As such, the present application {under regulation-44(6) of CERC (Terms and Conditions of Tariff) Regulations, 2019} is for recovery of shortfall in energy charges due to a shortfall in energy generation, which is reproduced below:

> *"**44(6)** 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 treatment shall be as per clause (7) of this Regulation, on an application filed by the generating company."*

23. Before analyzing the data as submitted by the Petitioner, we observe that the average daily inflows as submitted by the Petitioner have not been certified by CEA/CWC. In this regard, it is to bring out that in the absence of such certification, the Commission relies on other tools for verifying the claim of the Petitioner, i.e rainfall data, machine outage data (planned and forced outage data), REAs, and daily generation reports indicating a number of hours for which generation was affected due to transmission constraints, silt flushing, high silt and other reasons of energy shortfall.

Accordingly, in the instant petition also, the inflow data as submitted by the Petitioner, along with other data in respect of energy shortfall, has been considered to arrive at the allowable energy charge corresponding to energy shortfall beyond the control of the Petitioner. However, it is observed that during 2019-20 there is no shortfall claimed by the Petitioner due to inflows.

24. Further, it is observed that for the FY 2019-20, the Petitioner has revised its claim after considering the energy & revenue on account of energy accounted under DSM. We have considered and analysed the revised submissions of the Petitioner, filed vide affidavit dated 5.10.2023.

Petition No. 4/MP/2022 (Chamera-III Power Station)

Shortfall for the year 2019-20

25. The approved annual design energy (DE) of Chamera-III Power Station is 1108.17 MU, and after accounting for the provision of 1.2% as auxiliary consumption, 1% of LADF and 12% as free power to the home state, the saleable design energy (ex-bus) works out to 952.54 MU.

26. In the FY 2019-20, saleable scheduled energy is 904.87 MU, and saleable design energy is 952.54 MU. As such, there is a total energy shortfall of (-) 47.67 MU (904.87-952.54) in ex-bus generation during 2019-20.

27. The month-wise breakup of saleable scheduled energy (ex-bus) vis- a-vis saleable design energy (ex-bus) for FY 2019-20, as reported by the Petitioner, is as under:

FY 2019-20

Sl. No.	Month	Design Energy (MU) at GT	Saleable design energy (MU) at Ex-Bus	Saleable scheduled energy (MU) at Ex-Bus	Shortfall (-) / Excess (+) (MU) at Ex-Bus	Actual PAF (%)
1	**2**	**3**	**4**	**5**	**6=5-4**	**8**
1.	April' 2019	80.54	69.23	111.46	42.23	104.99
2.	May' 2019	155.31	133.50	111.82	-21.67	101.91
3.	June' 2019	154.47	132.78	139.29	6.51	100.56
4.	July' 2019	161.89	139.15	142.84	3.68	101.82
5.	August' 2019	163.27	140.34	133.85	-6.49	93.81
6.	September' 2019	119.78	102.96	96.62	-6.34	75.56
7.	October' 2019	78.79	67.72	47.60	-20.12	102.87
8.	November' 2019	52.85	45.43	28.71	-16.72	102.23
9.	December' 2019	38.05	32.71	22.53	-10.17	102.97
10.	January' 2020	30.69	26.38	21.26	-5.12	90.08
11.	February' 2020	24.75	21.27	10.29	-10.98	44.50
12.	March' 2020	47.78	41.07	38.59	-2.48	93.82
Total		**1108.17**	**952.54**	**904.87**	**-47.67**	**93.16**

28. Further, the energy charge shortfall for the year 2019-20 based on the saleable schedule energy billed is as under:

	Schedule energy * (Ex-bus) (MU)	Free energy * (MU)	Net energy billed (MU)	Annual Fixed Charges (Rs Crs.)	Energy charges to be recovered (Rs Crs.)	Energy charges actually recovered ** (Rs Crs.)	Under-recovery of energy charges (Rs Crs.)
	1	2	3=1-2	4	5=50% of 4	6	7=6-5
2019-20	1039.97	135.10	904.87	369.47	184.73	175.45	-9.28

*As per REA.

29. The reasons for such shortfall of (-) 47.67 MU (904.87-952.54) as mapped by the Petitioner are as under:

SHORTFALL SUMMARY	
CHAMERA -III (2019-2020)	
(A) Saleable Design Energy (MU)	**952.54**
(B) Saleable Schedule (MU)	**904.87**
(C) Shortfall between saleable DE and Saleable Schedule (MU) (B-A)	**-47.67**
(D) Saleable Ex Bus Energy (MU) – including DSM	**914.62**
(E) Shortfall between Saleable DE and Saleable Ex Bus Energy (MU) (D-A)	**-37.92**
BEYOND CONTROL REASONS	**Energy (MU)**
Energy Shortfall due To Less Inflow from Design Inflow on some day	-62.55
Energy Generated Due To Excess Inflow From Design Inflow on some Days	99.88
Energy Loss Due To Silt Flushing	-9.95
Energy Loss Due To High Silt	-11.77
Energy Loss Due To Transmission Constraints	-16.96
Energy Loss Due To Rim Treatment Work	-3.75
Total Energy Shortfall due to reasons beyond control (A)	**-5.10**
Within Control Reasons	**Energy (MU)**
Energy Generated By Depleting Reservoir Level On Some Days	11.32
Less Generation For Increasing Reservoir Level On Some Days	-6.41
Unit Outages	-37.55
Other Constraint(Partial Load/ Ramping Up/Down During Peaking/ High Inflow/TRT Level etc)	-0.17
Difference Between Saleable Ex Bus And Saleable Schedule (DSM Energy)	-9.76
Total Energy Shortfall Due To Reasons Within Control (B)	**-42.57**
SUMMARY	
Total Energy Shortfall Due To Reasons Beyond Control (A)	**-5.10**
Total Energy Shortfall Due To Reasons Within Control (B)	**-42.57**
Total Energy Shortfall (A)+(B)	**-47.68**

*(-) 9.76 MUs represent the DSM energy

30. The Petitioner, in reply to the ROP letter dated 5.10.2023, has claimed an Energy Charge shortfall of Rs. 0.99 Cr for the period 2019-20. The Petitioner has also

submitted the Day-wise details of scheduled energy, actual energy injected in the grid, and energy accounted for in DSM, along with the revenue earned from DSM for such energy. The revenue earned from DSM energy @ Energy Charge Rate of Rs. 1.939 Rs./kWh is Rs 1.89 Cr (=9.76*1.939/10).

31. In the recent orders issued by the Commission, the revenue earned from DSM energy (Rs 2.70 Cr) or the revenue that could have been earned from DSM energy @ ECR (Rs 1.89 Cr), whichever is lower has been adjusted against the total shortfall in energy charges. Thus, the total shortfall in energy charges is reduced to Rs 7.39 Cr (=Rs 9.28 cr – Rs 1.89 cr).

32. As the revenue from DSM energy has been reduced from the total shortfall in energy charges, the total shortfall has also been reduced by DSM energy. Thus, the total shortfall in energy on ex-Bus basis works out to 37.92 MU out of which 5.10 MU is beyond the control of the generating station.

33. Based on the above calculation, the shortfall in energy charges in respect of shortfall in energy for reasons beyond the control of the generating station claimed by the Petitioner is as under:

Total shortfall in generation during FY 2019-20 (after adjustment of DSM)	A	37.92 MU
Total under-recovery of energy charges during FY 2019-20 (after adjustment of DSM)	B	Rs 7.39 Crs
Shortfall in generation due to reasons beyond control	C	5.10 MU
Shortfall in energy charges to be recovered for FY 2019-20	D=C*B/A	Rs 0.99 Crs

Analysis and decision

34. As a first step in our analysis for ascertaining the claim of the Petitioner towards shortfall due to reasons beyond the control of Petitioner (Reference table at para 28

above), the following formulae have been used to calculate the maximum possible saleable ex-bus generation corresponding to actual inflows available during each day of 2019-20:

Maximum possible saleable ex-bus generation for a day =

Design energy for the day x Actual inflow (cumecs)x 0.87x0.988/Design Inflow

Where 0.87 represents the multiplying factor to account for the 1% LADF & Free Energy of 12% to home states and 0.988 represents the multiplying factor to account for the auxiliary consumption of 1.2%. Further, design inflow has been restricted to 95% of the combined design discharge of all units.

35. Further, the above derived value of maximum possible saleable ex-bus generation for a day is subject to ceiling of 4.53 MU (231MWx24x0.87x0.988x0.95/1000) where 0.95 is to account for the machine availably which is also used for calculation of design energy. A summation of 366 such derived values represents the maximum possible saleable ex-bus generation for the year using 95% machine availability.

36. Following the above methodology, the annual maximum possible saleable ex-bus generation for the year 2019-20 works out to 983.40 MU, whereas the Petitioner has calculated as 989.91 MU by utilizing 95% of installed capacity against saleable ex-bus design energy of 952.54 MU. We have considered the value of the Petitioner (being on the higher side). As such, the difference between these two figures, i.e. (+)30.80 MU (983.40-952.54), represents the excess energy due to high inflows as compared to design inflows during the year. The Petitioner has also not claimed any net shortfall due to inflow during 2019-20.

37. With regard to the energy shortfall of (-) 9.95 MU due to Silt flushing for the period from 29.6.2019 to 19.8.2019, the Petitioner has submitted a daily generation report for the above period. On perusal of the same, it is noted that the total shortfall due to Silt Flushing is 9.95 MU, and the Petitioner has also claimed the same. As such, the claim of the Petitioner towards energy shortfall due to silt flushing is in order. With regard to the claim of the Petitioner that such shortfall is beyond the control of the Petitioner, the Commission, in similar petitions, has already held that generation needs to be stopped for Silt flushing to avoid turbine damage as and when the silt level in the reservoir reaches beyond the permissible limits, and such loss is not accounted for in the design energy calculations approved by CEA. Accordingly, an energy shortfall of (-) 9.95 MU is allowed under the shortfall beyond the control of the Petitioner.

38. With regard to the energy shortfall of (-) 11.77 MU due to High Silt for the period from 17.8.2019 to 19.8.2019, the Petitioner has submitted a daily generation report for the above period. On perusal of the same, it is noted that the total shortfall due to High Silt is 11.77 MU, and the Petitioner has also claimed the same. As such, the claim of the Petitioner towards energy shortfall due to High Silt is in order. With regard to the claim of the Petitioner that such shortfall is beyond the control of the Petitioner, the Commission, in similar petitions, has already held that generation needs to be stopped for High Silt to avoid turbine damage as and when the silt level in the reservoir reaches beyond the permissible limits, and such loss is not accounted for in the design energy calculations approved by CEA. Accordingly, an energy shortfall of (-) 11.77 MU is allowed under the shortfall beyond the control of the Petitioner.

39. With regard to the energy shortfall of (-) 16.96 MU due to Transmission Constraints, for the period from 24.5.2019 to 14.12.2019, the Petitioner has submitted a daily generation report for the above period. On perusal of the same, it is noted that the total shortfall due to Transmission Constraints works out to (-) 20.93 MU. However, the Petitioner has claimed 16.96 MU. As such, the claim of the Petitioner towards energy shortfall due to Transmission Constraints is considered (being lower side). With regard to the claim of the Petitioner that such shortfall is beyond the control of the Petitioner, the Commission, in similar petitions, has already held that shortfall in generation due to Transmission Constraints is beyond the control of the Petitioner. Accordingly, an energy shortfall of (-) 16.96 MU is allowed under the shortfall beyond the control of the Petitioner.

40. With regard to the energy shortfall of (-) 3.75 MU due to Rim Treatment Work for the period from 10.7.2019 to 26.8.2019, the Petitioner has submitted a daily generation report as per the annexure for the above period. On perusal of the same, it is noted that the Petitioner has claimed 3.75 MU, The Petitioner has submitted that the loss is calculated as a difference between the maximum possible generation and the actual generation of the day. As such, the claim of the Petitioner towards energy shortfall due to Rim Treatment Work is considered. With regard to the claim of the Petitioner that such shortfall is beyond the control of the Petitioner, the Commission, in similar petitions has already held that shortfall in generation due to Rim Treatment Work is beyond the control of the Petitioner. Accordingly, an energy shortfall of (-) 3.75 MU is allowed under the shortfall beyond the control of the Petitioner.

41. In view of the above deliberations, the shortfall due to reasons beyond the control of Petitioner as per our calculations is as under:

Shortfall due to reasons beyond the control of Petitioner	
Energy shortfall due to less inflow from design inflow (i)	**(-) 62.55**
Excess Energy due to excess inflow from design inflow (ii)	**(+) 99.88**
Net energy shortfall due to less inflows (iii)= (i)+(ii)	**+37.33**
Energy Loss Due To Silt Flushing (iv)	-9.95
Energy Loss Due To High Silt (v)	-11.77
Energy Loss Due To Transmission Constraints (vi)	-16.96
Energy Loss Due To Rim Treatment Work (vii)	-3.75
Total Energy Shortfall Due To Reasons Beyond Control (iii)+(iv)+(v)+(vi)+(vii)	**-5.10**

Note: Accordingly, out of the total shortfall of (-)37.92 MUs (after DSM adjustment), the balance shortfall of (-) 32.82 MUs {(-)37.92-(-)5.10} is for reasons within the control of the Petitioner

42. Based on the above deliberations, the Petitioner needs to be compensated for an energy shortfall of (-) 5.10 MU, which has occurred due to reasons beyond the control of the Petitioner out of a total energy shortfall of (-) 37.92 MU. Accordingly, the energy charge to be recovered from the beneficiaries for the shortfall in energy generation of (-) 5.10 MU works out to Rs. 0.99 crores (5.10*1.939/10) considering ECR of Rs. 1.939 Rs./kWh.

43. Accordingly, in terms of Regulation 44(6) of the 2019 Tariff Regulations, we allow the energy charge shortfall of Rs.0.99 crore for FY 2019-20. The same shall be recovered in six equal monthly interest-free instalments by raising supplementary bills to the beneficiaries as per Regulation 44(7) of CERC (Terms and Conditions of Tariff) Regulation 2019. Further, the difference in energy charge shortfall to be recovered for the FY 2019-20, which may arise after the determination and true up of tariff for the

period 2019-24, shall be recovered directly by the generating station from the beneficiaries through supplementary bills after true-up.

Petition No. 4/MP/2022(Chamera-III Power Station):

Shortfall for the year 2020-21:

44. The approved annual design energy (DE) of Chamera-III Power Station is 1108.17 MU, and after accounting for the provision of 1.2% as auxiliary consumption, 1% of LADF and 12% as free power to the home state, the saleable design energy (ex-bus) works out to 952.54 MU.

45. In the FY 2020-21, saleable scheduled energy is 850.97 MU, and saleable design energy is 952.54 MU. As such, there is a total energy shortfall of (-) 101.57 MU (850.97-952.54) in generation during 2020-21.

46. The month-wise breakup of saleable scheduled energy (ex bus) vis- a-vis saleable design energy (ex bus) for FY 2020-21, as reported by the Petitioner, is as under:

FY 2020-21

Sl. No.	Month	Design Energy (MU)	Saleable design energy (MU)	Saleable scheduled energy (MU)	Shortfall (-) / Excess (+) (MU)	Actual PAF (%)
1	2	3	4	5	6=5-4	8
1.	April' 2020	80.54	69.23	70.38	1.15	105.16
2.	May' 2020	155.31	133.50	123.53	-9.97	105.16
3.	June' 2020	154.47	132.78	141.23	8.45	105.16
4.	July' 2020	161.89	139.15	143.97	4.82	101.77
5.	August' 2020	163.27	140.34	134.89	-5.45	96.68
6.	September' 2020	119.78	102.96	102.05	-0.91	105.16
7.	October' 2020	78.79	67.72	43.57	-24.15	105.16

8.	November' 2020	52.85	45.43	22.89	-22.45	105.16
9.	December' 2020	38.05	32.71	14.06	-18.65	71.46
10.	January' 2021	30.69	26.38	16.39	-9.99	75.54
11.	February' 2021	24.75	21.27	17.05	-4.22	91.11
12.	March' 2021	47.78	41.07	20.96	-20.11	101.74
	Total	**1108.17**	**952.54**	**850.97**	**-101.57**	**97.40**

47. Further, the energy charge shortfall for the year 2020-21 based on the saleable schedule energy billed is as under:

	Schedule energy * (Ex-bus) (MU)	Free energy * (MU)	Net energy billed (MU)	Annual Fixed Charges (Rs Crs.)	Energy charges to be recovered (Rs Crs.)	Energy charges actually recovered * (Rs Crs.)	Under-recovery of energy charges (Rs Crs.)
	1	2	3=1-2	4	5=50% of 4	6	7=6-5
2020-21	977.80	126.83	850.97	375.31	187.66	167.64	-20.02

*As Per REA

48. The reasons for such shortfall of (-) 101.57 MU (850.97-952.54) as submitted by the Petitioner are as under:

SHORTFALL SUMMARY	
CHAMERA -III (2020-2021)	
(A) Saleable Design Energy (MU)	**952.54**
(B) Saleable Schedule (MU)	**850.97**
(C) Shortfall Between Saleable DE and Saleable Schedule (MU) (B-A)	**-101.57**
(D) Saleable Ex Bus Energy (MU)	**863.42**
(E) Shortfall between Saleable DE and Saleable Ex Bus Energy (MU) (D-A)	**-89.12**
Beyond Control Reasons	**Energy (MU)**
Energy Shortfall due to Less Inflow from Design Inflow on some days	-100.58
Energy Generated Due To Excess Inflow From Design Inflow on Some Days	51.47
Energy Loss Due To Silt Flushing	-5.90
Energy Loss Due To Transmission Constraints	-0.27
Total Energy Shortfall due to reasons beyond control (A)	**-55.28**

Within Control Reasons	Energy (MU)
Energy Generated By Depleting Reservoir Level On Some Days	-11.68
Less Generation For Increasing Reservoir Level On Some Days	5.43
Unit Outages	-24.87
Other Constraint (Partial Load / Ramping Up / Down During Peaking / High Inflow / TRT Level etc)	-2.72
Difference Between Saleable Ex Bus And Saleable Schedule*	-12.45
Total Energy Shortfall Due To Reasons Within Control (B)	**-46.29**
Summary	
Total Energy Shortfall Due To Reasons Beyond Control (A)	**-55.28**
Total Energy Shortfall Due To Reasons Within Control (B)	**-46.29**
Total Energy Shortfall (A)+(B)	**-101.57**

*(-) 12.45 MU represents the DSM energy

49. The Petitioner, in reply to the ROP letter dated 5.10.2023, has claimed Energy Charge shortfall of Rs. 10.90 Cr for the period 2020-21. The Petitioner has also submitted the Day-wise details of scheduled energy, actual energy injected in the grid and energy accounted for in DSM, along with the revenue earned from DSM for such energy. The revenue earned from DSM energy @ Energy Charge Rate of Rs. 1.970 Rs./kWh is Rs 2.45 Cr (=12.45*1.970/10)

50. In the recent orders issued by the Commission, the revenue earned from DSM energy (Rs 3.50 Cr) or the revenue that could have been earned from DSM energy @ ECR, whichever is lower, has been adjusted against the total shortfall in energy charges. Thus, the total shortfall in energy charges is reduced to Rs 17.57 Cr (=Rs 20.02 cr – Rs 2.45 cr).

51. As the revenue from DSM energy has been reduced from the total shortfall in energy charges, the total shortfall has also been reduced by DSM energy. Thus, the total shortfall in energy on an ex-Bus basis works out to 89.12 MU out of which 55.28 MU is beyond the control of the generating station.

52. Based on the above calculation, the shortfall in energy charges in respect of shortfall in energy for reasons beyond the control of generating station is as under:

Total shortfall in generation during FY 2020-21 (after adjustment of DSM)	A	89.12 MU
Total under-recovery of energy charges during FY 2020-21 (after adjustment of DSM)	B	Rs 17.57 Crs
Shortfall in generation due to reasons beyond control	C	55.28 MU
Shortfall in energy charges to be recovered for FY 2020-21	D=C*B/A	Rs 10.90 Crs

Analysis and decision

53. As a first step in our analysis for ascertaining the claim of the Petitioner towards shortfall due to reasons beyond the control of Petitioner (Reference table at para 46 above), the following formulae have been used to calculate the maximum possible saleable ex-bus generation corresponding to actual inflows available during each day of 2020-21:

Maximum possible saleable ex-bus generation for a day =

Design energy for the day x Actual inflow (cumecs)x 0.87x0.988/Design Inflow

Where 0.87 represents the multiplying factor to account for the 1% LADF & Free Energy of 12% to home states, and 0.988 represents the multiplying factor to account for the auxiliary consumption of 1.2%. Further, design inflow has been restricted to 95% of the combined design discharge of all units.

54. Further, the above-derived value of maximum possible saleable ex-bus generation for a day is subject to a ceiling of 4.53 MUs (231MWx24x0.87x0.988x0.95/1000) where 0.95 is to account for the machine availably which is also used for calculation of design energy. Summation of 365 such derived values represents the maximum possible saleable ex-bus generation for the year using 95% machine availability.

55. Following the above methodology, the annual maximum possible saleable ex-bus generation for the year 2020-21 works out to 897.82 MU, whereas the Petitioner has calculated as 903.42 MU by utilizing 95% of installed capacity against saleable ex-bus design energy of 952.54 MU. We have considered the value of Petitioner being on the higher side. As such, the difference between these two figures, i.e (-)49.11 MU (903.42-952.54), represents the Net Shortfall in energy due to less inflows as compared to design inflows during the year. As such, it is held that the energy shortfall of (-) 49.11 MU due to fewer inflows was beyond the control of the Petitioner.

56. With regard to the energy shortfall of (-) 5.90 due to Silt flushing, i.e., the period from 5.7.2020 to 9.8.2020, the Petitioner has submitted a daily generation report for the above period. On perusal of the same, it is noted that the total shortfall due to Silt Flushing is 6.06 MU, and the Petitioner has claimed (-)5.90 MU. We have considered the same (being the lower side). As such, the claim of the Petitioner towards energy shortfall due to silt flushing is in order. With regard to the claim of the Petitioner that such shortfall is beyond the control of the Petitioner, the Commission, in similar petitions, has already held that generation needs to be stopped for Silt flushing to avoid turbine damage as and when the silt level in the reservoir reaches beyond the permissible limits, and such loss is not accounted for in the design energy calculations approved by CEA. Accordingly, an energy shortfall of (-) 5.90 MU is allowed under the shortfall beyond the control of the Petitioner.

57. With regard to the energy shortfall of (-) 0.72 due to Transmission Constraints for the period from 27.5.2020 to 6.7.2020, the Petitioner has submitted a daily generation report for the above period. On perusal of the same, it is noted that the total shortfall

due to Transmission Constraints works out to (-) 0.32 MU, and the Petitioner has claimed (-)0.27 MU. We have considered the same (being on the lower side). As such, the claim of the Petitioner towards energy shortfall due to Transmission Constraints is considered. With regard to the claim of the Petitioner that such shortfall is beyond the control of the Petitioner, the Commission in similar petitions, has already held that shortfall in generation due to Transmission Constraints is beyond the control of the Petitioner. Accordingly, an energy shortfall of (-) 0.27 MU is allowed under the shortfall beyond the control of the Petitioner.

58. In view of the above deliberations, the shortfall due to reasons beyond the control of Petitioner, as per our calculations is as under:

Shortfall due to reasons beyond the control of Petitioner	
Energy shortfall due to less inflow from design inflow (i)	**(-) 100.58**
Excess Energy due to excess inflow from design inflow (ii)	**(+) 51.47**
Net energy shortfall due to less inflows (iii)= (i)+(ii)	**-49.11**
Energy Loss Due To Silt Flushing (iv)	-5.90
Energy Loss Due To Transmission Constraints (v)	-0.27
Total Energy Shortfall Due To Reasons Beyond Control (iii)+(iv)+(v)	**-55.28**

Note: Accordingly, out of the total shortfall of (-)89.12 MUs (after DSM adjustment), the balance shortfall of (-) 33.84 MUs {(-)89.12-(-)55.28} is for reasons within the control of the Petitioner

Based on the above deliberations, the Petitioner needs to be compensated for an energy shortfall of (-) 55.28 MU, which has occurred due to reasons beyond the control of the Petitioner out of a total energy shortfall of (-)89.12 MU. Accordingly, the energy charge to be recovered from the beneficiaries for the shortfall in energy generation of (-) 55.28 MU works out to Rs. 10.89 crores (55.28*1.970/10) considering ECR of Rs. 1.970 Rs./kWh.

59. Accordingly, in terms of Regulation 44(6) of the 2019 Tariff Regulations, we allow the energy charge shortfall of Rs.10.89 crore for the FY 2020-21. The same shall be

recovered in six equal monthly interest-free instalments by raising supplementary bills to the beneficiaries as per Regulation 44(7) of CERC (Terms and Conditions of Tariff) Regulation 2019. Further, the difference in energy charge shortfall to be recovered for the FY 2020-21, which may arise after the determination and true up of tariff for the period 2019-24 shall be recovered directly by the generating station from the beneficiaries through supplementary bills after true-up.

60. Replies, Rejoinders and analysis in petition no. 4/MP/2022 have already been covered in the above paragraphs. It is noticed that after the submission of the revised claim by the Petitioner in reply to ROP of the hearing dated 18.08.2023, none of the Respondents have filed new submissions/replies in other petitions except, PSPCL, who has filed its reply on 9.11.2023 in petition no. 66/MP/2022.

Accordingly, in line of the above methodology and analysis, the Shortfall for other generating stations in various petitions is given below:

Petition No. 54/MP/2022 (Kishanganga Power Station):

Shortfall for the year 2019-20:

61. The approved annual design energy (DE) of Kishanganga Power Station is 1712.96 MU and after accounting for the provision of 1.2% as auxiliary consumption, 1% towards LADF and 12% as free power to home state, the saleable design energy works out to 1472.39 MU.

62. In the FY 2019-20, saleable scheduled energy is 723.72 MU and saleable design energy is 1472.39 MU. As such, there is a total energy shortfall of (-) 748.67 MU (723.72 -1472.39) in generation at Ex-Bus during 2019-20.

63. The month wise breakup of saleable scheduled energy (ex bus) vis- a-vis saleable design energy (ex-bus) for FY 2019-20 as reported by the Petitioner is as under:

FY 2019-20

Sl. No.	Month	Design Energy (MU)	Saleable design energy (MU)	Saleable scheduled energy (MU)	Shortfall (-) / Excess (+) (MU)	Actual PAF (%)
1	**2**	**3**	**4**	**5**	**6=5-4**	**8**
1.	April' 2019	225.72	194.02	102.86	-91.16	56.118
2.	May' 2019	233.24	200.48	87.99	-112.49	45.075
3.	June' 2019	225.72	194.02	100.94	-93.08	54.139
4.	July' 2019	233.24	200.48	112.43	-88.05	57.566
5.	August' 2019	197.55	169.81	66.84	-102.96	35.462
6.	September' 2019	154.66	132.94	87.75	-45.19	65.307
7.	October' 2019	145.33	124.92	49.72	-75.20	65.597
8.	November' 2019	53.73	46.18	35.27	-10.91	65.125
9.	December' 2019	14.69	12.63	29.94	17.32	63.021
10.	January' 2020	26.59	22.86	13.30	-9.55	38.712
11.	February' 2020	35.58	30.58	12.00	-18.58	31.110
12.	March' 2020	166.90	143.46	24.66	-118.80	12.080
Total		**1712.96**	**1472.39**	**723.72**	**-748.67**	**49.087**

64. Further, the energy charge shortfall for the year 2019-20 based on saleable schedule energy billed is as under:

	Schedule energy * (Ex-bus) (MU)	Free energy * (MU)	Net energy billed (MU)	Annual Fixed Charges (Rs Crs.)	Energy charges to be recovered (Rs Crs.)	Energy charges actually recovered ** (Rs Crs.)	Under-recovery of energy charges (Rs Crs.)
	1	2	3=1-2	4	5=50% of 4	6	7=6-5
2019-20	833.55	109.83	723.72	564.83	282.41	138.81	-143.61

65. The reasons for such shortfall of (-) 748.67 MU (723.72 -1472.39) as mapped by the Petitioner are as under:

SHORTFALL SUMMARY	
KISHANGANGA (2019-2020)	
(A) Saleable Design Energy (MU)	**1472.39**
(B) Saleable Schedule (MU)	**723.72**
(C) Shortfall between saleable DE and Saleable Schedule (MU) (B-A)	**-748.67**
(D) Saleable Ex Bus Energy (MU)	**735.04**
(E) Shortfall between saleable DE and Saleable Ex Bus Energy (MU) (D-A)	**-737.35**
BEYOND CONTROL REASONS	**ENERGY (MU)**
Energy Shortfall due to Less Inflow From Design Inflow on some days	-186.68
Energy Generated Due to Excess Inflow From Design Inflow on some days	118.11
Energy Loss Due To High Trash	-9.02
Energy Loss Due To Transmission Constraints	-10.52
Total Energy Shortfall Due To Reasons Beyond Control (A)	**-88.11**
Within Control Reasons	**ENERGY (MU)**
Energy Generated by Depleting Reservoir Level on some days	19.30
Less Generation For Increasing Reservoir Level on some days	-29.54

Unit Outages	-628.83
Other Constraint(Partial Load/ Ramping Up/Down During Peaking/ High Inflow/TRT Level etc)	-10.18
Difference Between Saleable Ex Bus And Saleable Schedule	-11.32
Total Energy Shortfall Due To Reasons Within Control (B)	**-660.57**
SUMMARY	
Total Energy Shortfall Due To Reasons Beyond Control (A)	**-88.11**
Total Energy Shortfall Due To Reasons Within Control (B)	**-660.57**
Total Energy Shortfall (A)+(B)	**-748.69**

*(-) 11.32 MUs represents the DSM energy

66. The Petitioner, in reply to the ROP letter dated 5.10.2023, has claimed an Energy Charge shortfall of Rs. 16.90 Cr for the period 2019-20. The Petitioner has also submitted the Day-wise details of scheduled energy, actual energy injected in the grid, and energy accounted for in DSM along with the revenue earned from DSM for such energy. The revenue earned from DSM energy @ Energy Charge Rate of 1.918 Rs./kWh is Rs 2.17 Cr (=11.32*1.918/10)

67. In the recent orders issued by the Commission, the revenue earned from DSM energy (Rs 2.31 Cr) or the revenue that could have been earned from DSM energy @ ECR (Rs 2.17 Cr), whichever is lower, has been adjusted against the total shortfall in energy charges. Thus, the total shortfall in energy charges is reduced to Rs 141.44 Cr (=Rs 143.61-Rs 2.17).

68. As the revenue from DSM energy has been reduced from the total shortfall in energy charges, the total shortfall has also been reduced by DSM energy. Thus, the

total shortfall in energy on an ex-Bus basis works out to 737.35 MU, out of which 88.11 MU is beyond the control of the generating station.

69. Based on the above calculation, the shortfall in energy charges with respect to shortfall in energy for reasons beyond the control of generating station is as under:

Total shortfall in generation during FY 2019-20 (after adjustment of DSM)	A	737.35 MU
Total under-recovery of energy charges during FY 2019-20 (after adjustment of DSM)	B	Rs 141.44 Crs
Shortfall in generation due to reasons beyond control	C	88.11 MU
Shortfall in energy charges to be recovered for FY 2019-20	D=C*B/A	**Rs 16.90 Crs**

Analysis and decision:

70. In view of the above deliberations, the shortfall due to reasons beyond the control of Petitioner, as per our calculations, is as under:

Shortfall due to reasons beyond the control of Petitioner	
Energy shortfall due to less inflow from design inflow (i)	-186.68
Excess Energy due to excess inflow from design inflow (ii)	118.11
Net energy shortfall due to less inflows (iii)= (i)+(ii)	**-68.57**
Energy Loss Due To High Trash (iv)	-9.02
Energy Loss Due To Transmission Constraints (v)	-10.52
Total Energy Shortfall Due To Reasons Beyond Control (iii)+(iv)+(v)	**-88.11**

*Accordingly, out of the total shortfall of (-)737.35 MUs (after DSM adjustment), the balance shortfall of (-) 649.24 MUs {(-)737.35-(-)88.11} is for reasons within the control of the Petitioner

71. Based on the above deliberations, the Petitioner needs to be compensated for an energy shortfall of (-) 88.11 MU, which has occurred due to reasons beyond the control of the Petitioner out of a total energy shortfall of (-) 748.69 MU. Accordingly, the energy charge to be recovered from the beneficiaries for the shortfall in energy generation of (-)

88.11 MU works out to Rs. 16.90 crores (88.11*1.939/10) considering ECR of Rs. 1.918 Rs./kWh.

72. Accordingly, in terms of Regulation 44(6) of the 2019 Tariff Regulations, we allow the energy charge shortfall of Rs.16.90 crore for the FY 2019-20. The same shall be recovered in six equal monthly interest-free instalments by raising supplementary bills to the beneficiaries as per Regulation 44(7) of CERC (Terms and Conditions of Tariff) Regulation 2019. Further, the difference in energy charge shortfall to be recovered for the FY 2019-20, which may arise after the determination and true up of tariff for the period 2019-24, shall be recovered directly by the generating station from the beneficiaries through supplementary bills after true-up.

Petition No. 54/MP/2022 (Kishanganga Power Station):

Shortfall for the year 2020-21:

73. The approved annual design energy (DE) of Kishanganga Power Station is 1712.96 MU, and after accounting for the provision of 1.2% as auxiliary consumption and 12% as free power to the home state, the saleable design energy (ex-bus) works out to 1472.39 MU.

74. In FY 2020-21, saleable scheduled energy is 940.36 MU, and saleable design energy is 1472.39 MU. As such, there is a total energy shortfall of (-) 532.03 MU (940.36 -1472.39) in generation during 2020-21.

75. The month-wise breakup of saleable scheduled energy (ex bus) vis- a-vis saleable design energy (ex bus) for FY 2020-21, as reported by the Petitioner, is as under:

FY 2020-21

Sl. No.	Month	Design Energy (MU)	Saleable design energy (MU)	Saleable scheduled energy (MU)	Shortfall (-) / Excess (+) (MU)	Actual PAF (%)
1	**2**	**3**	**4**	**5**	**6=5-4**	**8**
1.	April' 2020	225.72	194.02	7.47	-186.55	4.539
2.	May' 2020	233.24	200.48	118.57	-81.91	57.471
3.	June' 2020	225.72	194.02	118.12	-75.90	59.602
4.	July' 2020	233.24	200.48	142.15	-58.33	68.397
5.	August' 2020	197.55	169.81	141.68	-28.13	68.397
6.	September' 2020	154.66	132.94	117.72	-15.22	69.623
7.	October' 2020	145.33	124.92	56.98	-67.94	79.750
8.	November' 2020	53.73	46.18	40.75	-5.44	78.644
9.	December' 2020	14.69	12.63	38.81	26.19	79.920
10.	January' 2021	26.59	22.86	27.91	5.06	58.235
11.	February' 2021	35.58	30.58	36.05	5.46	48.545
12.	March' 2021	166.90	143.46	94.16	-49.30	65.172
Total		**1712.96**	**1472.39**	**940.36**	**-532.03**	**61.724**

76. Further, the energy charge shortfall for the year 2020-21 based on the saleable schedule energy billed is as under:

	Schedule energy * (Ex-bus) (MU)	Free energy * (MU)	Net energy billed (MU)	Annual Fixed Charges (Rs Crs.)	Energy charges to be recovered (Rs Crs.)	Energy charges actually recovered ** (Rs Crs.)	Under-recovery of energy charges (Rs Crs.)
	1	2	3=1-2	4	5=50% of 4	6	7=6-5
2020-21	1083.99	143.63	940.36	579.83	289.91	185.16	-104.75

77. The reasons for such shortfall of (-) 532.03 MU (940.36-1472.39) as mapped by the Petitioner are as under:

SHORTFALL SUMMARY	
KISHANGANGA (2020-2021)	
(A) Saleable Design Energy (MU)	**1472.39**
(B) Saleable Schedule (MU)	**940.36**
(C) Shortfall between saleable DE and Saleable Schedule (MU) (B-A)	**-532.03**
(D) Saleable Ex Bus Energy (MU)	**961.18**
(E) Shortfall between saleable DE and Saleable Ex Bus Energy (MU) (D-A)	**-511.21**
BEYOND CONTROL REASONS	**ENERGY (MU)**
Energy Shortfall Due To Less Inflow From Design Inflow On Some Days	-134.81
Energy Generated Due To Excess Inflow From Design Inflow On Some Days	141.84
Total Energy Shortfall Due To Reasons Beyond Control (A)	**7.04**
WITHIN CONTROL REASONS	**ENERGY (MU)**
Energy Generated By Depleting Reservoir Level On Some Days	-11.86
Less Generation For Increasing Reservoir Level On Some Days	5.18
Unit Outages	-501.29
Other Constraints (Partial Load/ Ramping Up/Down During Peaking/ High Inflow/TRT Level etc)	-10.27
Difference Between Saleable Ex Bus And Saleable Schedule	-20.82
Total Energy Shortfall Due To Reasons Within Control (B)	**-539.07**
SUMMARY	
Total Energy Shortfall Due To Reasons Beyond Control (A)	**7.04**
Total Energy Shortfall Due To Reasons Within Control (B)	**-539.07**
Total Energy Shortfall (A)+(B)	**-532.03**

*(-) 20.82 MU represents the DSM energy

78. The Petitioner, in reply to the ROP letter dated 5.10.2023, has not claimed any Energy Charge shortfall for the period 2020-21. The Petitioner has also submitted the Day-wise details of scheduled energy, actual energy injected in the grid and energy accounted for in DSM, along with the revenue earned from DSM for such energy. The revenue earned

from DSM energy @ Energy Charge Rate of 1.969 Rs./kWh is Rs 4.09 Cr (=20.82*1.969/10)

79. After revision of calculations as per the Commission in the ROP, there is no shortfall in energy due to reasons beyond the control of the generating station & the claim for shortfall in energy charges for reasons beyond the control of the generating station for FY 2020-21 is 'NIL'.

80. In view of the above deliberations, the shortfall due to reasons beyond the control of Petitioner as per our calculations is as under:

Shortfall due to reasons beyond the control of Petitioner	
Energy Shortfall Due To Less Inflow From Design Inflow On Some Days	-134.81
Energy Generated Due To Excess Inflow From Design Inflow On Some Days	141.84
Net energy shortfall due to less inflows (iii)= (i)+(ii)	**7.03**
Energy Loss Due To any Reasons (iv)	0.00
Total Energy Shortfall Due To Reasons Beyond Control (iii)+(iv)	**7.03**

*Accordingly, out of the total shortfall 0f (-)511.21 MUs (after DSM adjustment), the balance shortfall of (-) 518.24 MUs {(-)511.21-7.03} is for reasons within the control of the Petitioner.

81. Accordingly, the energy charge to be recovered from the beneficiaries worked out is 'NIL'.

Petition No. 63/MP/2022 (Rangit Power Station)

Shortfall for the year 2020-21

82. The approved annual design energy (DE) of Rangit Power Station is 338.61 MU, and after accounting for the provision of 1.2% as auxiliary consumption and 12% as free power to the home state, the saleable design energy (ex-bus) works out to 294.40 MU.

83. In the FY 2020-21, saleable scheduled energy is 247.39 MU, and saleable design energy is 294.40 MU. As such, there is a total energy shortfall of (-) 47.01 MU (247.39 –

294.40) in generation during 2020-21.

84. The month-wise breakup of saleable scheduled energy (ex bus) vis-a-vis saleable design energy (ex bus) for FY 2020-21, as reported by the Petitioner, is as under:

FY 2020-21

Sl. No.	Month	Design Energy (MU)	Saleable design energy (ex bus) (MU)	Saleable scheduled energy (ex bus) (MU)	Shortfall (-) / Excess (+) (MU)	Actual PAF (%)
1	2	3	4	5	6=5-4	8
1.	April’ 2020	22.83	19.85	14.57	-5.28	102.90
2.	May’ 2020	30.29	26.34	26.18	-0.15	101.76
3.	June’ 2020	41.04	35.68	35.32	-0.36	102.68
4.	July’ 2020	42.41	36.87	27.86	-9.01	88.13
5.	August’ 2020	42.41	36.87	18.84	-18.03	55.99
6.	September’ 2020	41.04	35.68	32.08	-3.60	100.54
7.	October’ 2020	40.10	34.86	30.70	-4.16	98.17

8.	November' 2020	24.44	21.25	16.92	-4.33	102.90
9.	December' 2020	15.04	13.08	11.04	-2.03	77.00
10.	January' 2021	13.46	11.70	11.00	-0.70	61.60
11.	February' 2021	11.88	10.33	9.26	-1.07	70.67
12.	March' 2021	13.67	11.89	13.59	1.70	78.85
Total		**338.61**	**294.40**	**247.39**	**-47.01**	**86.73**

85. Further, the energy charge shortfall for the year 2020-21 based on the saleable schedule energy billed is as under:

FY	Schedule energy * (Ex-bus) (MU)	Free energy * (MU)	Net energy billed (MU)	Annual Fixed Charges (Rs Crs.)	Energy charges to be recovered (Rs Crs.)	Energy charges actually recovered ** (Rs Crs.)	Under-recovery of energy charges (Rs Crs.)
	1	2	3=1-2	4	5=50% of 4	6	7=6-5
2020-21	281.12	33.73	247.39	112.18	56.09	47.13	- 8.96

86. The reasons for such shortfall of (-) 101.57 MU (850.97-952.54) as mapped by the Petitioner are as under:

SHORTFALL SUMMARY	
RANGIT (2020-2021)	
(A) Saleable Design Energy (MU)	**294.40**
(B) Saleable Schedule (MU)	**247.39**
(C) Shortfall between saleable DE and Saleable Schedule (MU) (B-A)	**-47.01**
(D) Saleable Ex Bus Energy (MU)	**249.46**
(E) Shortfall between saleable DE and Saleable Ex Bus Energy (MU) (D-A)	**-44.94**
BEYOND CONTROL REASONS	**ENERGY (MU)**

Energy Shortfall Due To Less Inflow From Design Inflow On Some Days	-12.82
Energy Generated Due To Excess Inflow From Design Inflow On Some Days	19.47
Energy Loss Due To Silt Flushing/High Silt	-23.27
Energy Loss Due To Transmission Constraints	-0.12
Damage Of Link Line Tower Due To Landslide	-6.90
Total Energy Shortfall Due To Reasons Beyond Control (A)	**-23.64**
WITHIN CONTROL REASONS	**ENERGY (MU)**
Energy Generated By Depleting Reservoir Level On Some Days	1.44
Less Generation For Increasing Reservoir Level On Some Days	-5.33
Unit Outages	-13.49
Other Constraint(Partial Load/ Ramping Up/Down During Peaking/ High Inflow/TRT Level etc)	-3.92
Difference Between Saleable Ex Bus And Saleable Schedule	-2.07
Total Energy Shortfall Due To Reasons Within Control (B)	**-23.37**
SUMMARY	
Total Energy Shortfall Due To Reasons Beyond Control (A)	**-23.64**
Total Energy Shortfall Due To Reasons Within Control (B)	**-23.37**
Total Energy Shortfall (A)+(B)	**-47.01**

87. The Petitioner, in reply to the ROP letter dated 5.10.2023, has claimed an Energy Charge shortfall of Rs. 4.51 Cr for the period 2020-21. The Petitioner has also submitted the Day-wise details of scheduled energy, actual energy injected in the grid, and energy accounted for in DSM, along with the revenue earned from DSM for such energy. The revenue earned from DSM energy @ Energy Charge Rate of 1.905 Rs./kWh is Rs 0.39 Cr (=2.07*1.905/10)

88. In the recent orders issued by this Commission, the revenue earned from DSM energy (Rs 0.49 Cr) or the revenue that could have been earned from DSM energy @ ECR (Rs 0.39 Cr), whichever is lower, has been adjusted against the total shortfall in energy charges. Thus, the total shortfall in energy charges is reduced to Rs 8.57 Cr (=Rs 8.96-Rs 0.39).

89. As the revenue from DSM energy has been reduced from the total shortfall in energy charges, the total shortfall has also been reduced by DSM energy. Thus, the total shortfall in energy on ex-Bus basis works out to 44.94 MU, out of which 23.64 MU is beyond the control of the generating station.

90. Based on the above calculation, the shortfall in energy charges in respect of shortfall in energy for reasons beyond the control of the generating station is as under:

Total shortfall in generation during FY 2019-20 (after adjustment of DSM)	A	44.94 MU
Total under-recovery of energy charges during FY 2019-20 (after adjustment of DSM)	B	Rs 8.57 Crs
Shortfall in generation due to reasons beyond control	C	23.64 MU
Shortfall in energy charges to be recovered for FY 2019-20	D=C*B/A	**Rs 4.51 Crs**

91. In view of the above deliberations, the shortfall due to reasons beyond the control of Petitioner as per our calculations is as under:

Shortfall due to reasons beyond the control of Petitioner	
Energy shortfall due to less inflow from design inflow (i)	-12.82
Excess Energy due to excess inflow from design inflow (ii)	19.47
Net energy shortfall due to less inflows (iii)= (i)+(ii)	**6.65**
Energy Loss Due To Silt Flushing/High Silt (iv)	-23.27
Energy Loss Due To Transmission Constraints (v)	-0.12

Damage Of Link Line Tower Due To Landslide (vi)	-6.90
Total Energy Shortfall Due To Reasons Beyond Control (iii)+(iv)+(v)+(vi)	**-23.64**

*Accordingly, out of the total shortfall 0f (-)44.94 MUs (after DSM adjustment), the balance shortfall of (-) 25.22 MUs {(-)44.94-(-)21.30} is for reasons within the control of the Petitioner.

92. Based on the above deliberations, the Petitioner needs to be compensated for an energy shortfall of (-) 23.64 MU, which has occurred due to reasons beyond the control of the Petitioner out of a total energy shortfall of (-)44.94 MU. Accordingly, the energy charge to be recovered from the beneficiaries for the shortfall in energy generation of (-) 23.64 MU works out to Rs. 4.50 crores (23.64*1.905/10) considering ECR of Rs. 1.905 Rs./kWh.

93. Accordingly, in terms of Regulation 44(6) of the 2019 Tariff Regulations, we allow the energy charge shortfall of Rs.4.50 crore for the FY 2020-21. The same shall be recovered in six equal monthly interest-free instalments by raising supplementary bills to the beneficiaries as per Regulation 44(7) of CERC (Terms and Conditions of Tariff) Regulation 2019. Further, the difference in energy charge shortfall to be recovered for the FY 2020-21, which may arise after the determination and true up of tariff for the period 2019-24 shall be recovered directly by the generating station from the beneficiaries through supplementary bills after true-up.

Petition No. 66/MP/2022 (Parbati-III Power Station)

Shortfall for the year 2019-20

94. The approved annual design energy (DE) of Parbati-III Power Station is 701.40MU, and after accounting for the provision of 1.2% as auxiliary consumption, 1%

towards LADF and 12% as free power to the home state, the saleable design energy works out to 602.90 MU.

95. In FY 2019-20, saleable scheduled energy is 592.54 MU, and saleable design energy is 602.90 MU. As such, there is a total energy shortfall of (-) 47.67 MU (592.54 - 602.90) in generation at Ex-Bus during 2019-20.

96. The month-wise breakup of saleable scheduled energy (ex bus) vis- a-vis saleable design energy (ex bus) for FY 2019-20 as reported by the Petitioner, is as under:

FY 2019-20

Sl. No.	Month	Design Energy (MU)	Saleable design energy (MU)	Saleable scheduled energy (MU)	Shortfall (-) / Excess (+) (MU)	Actual PAF (%)
1	**2**	**3**	**4**	**5**	**6=5-4**	**8**
1.	April' 2019	44.76	38.47	34.15	-4.32	54.120
2.	May' 2019	66.49	57.15	42.60	-14.55	84.792
3.	June' 2019	114.71	98.60	71.50	-27.10	98.072
4.	July' 2019	147.09	126.43	130.68	4.24	98.340
5.	August' 2019	116.81	100.41	146.33	45.92	95.060
6.	September' 2019	74.17	63.75	71.91	8.16	98.769
7.	October' 2019	37.37	32.12	28.20	-3.92	64.430
8.	November' 2019	24.91	21.41	17.12	-4.29	40.606
9.	December' 2019	19.74	16.97	12.96	-4.01	29.582
10.	January' 2020	17.18	14.77	12.11	-2.65	26.868
11.	February' 2020	13.71	11.78	11.16	-0.63	25.304
12.	March' 2020	24.46	21.02	13.82	-7.20	25.032
Total		**701.40**	**602.90**	**592.54**	**-10.36**	**61.825**

97. Further, the energy charge shortfall for the year 2019-20 based on the saleable schedule energy billed is as under:

	Schedule energy * (Ex-bus) (MU)	Free energy * (MU)	Net energy billed (MU)	Annual Fixed Charges (AFC) (Rs Crs.)	Energy charges to be recovered based on design energy of 701.40 MU and ECR based on Design Energy of 1963.29 MU (Rs Crs.)	Energy charges actually recovered ** (Rs Crs.)	Under-recovery of energy charges (Rs Crs.)
	1	2	3=1-2	4	5=AFCx701.40 / 2x1963.29	6	7=6-5
2019-20	680.98	88.45	592.54	519.5226	92.80166	91.19116	-1.61051

98. The reasons of such shortfall of (-) 10.36 MU (592.54-602.90) as mapped by the Petitioner are as under:

SHORTFALL SUMMARY	
Parbati -III (2019-2020)	
(A) Saleable Design Energy (MU)	**602.90**
(B) Saleable Schedule (MU)	**592.54**
(C) Shortfall between saleable DE and Saleable Schedule (MU) (B-A)	**-10.36**
(D) Saleable Ex Bus Energy (MU) – including DSM	**601.00**
(E) Shortfall between saleable DE and Saleable Ex Bus Energy (MU) (D-A)	**-1.90**
BEYOND CONTROL REASONS	**Energy (MU)**
Energy Shortfall Due To Less Inflow From Design Inflow On Some Days	-86.40
Energy Generated Due To Excess Inflow From Design Inflow On Some Days	96.99
Energy Loss Due To Silt Flushing	-6.42
Energy Loss Due To High Silt	-10.75
Total Energy Shortfall Due To Reasons Beyond Control (A)	**-6.58**

Within Control Reasons	Energy (MU)
Energy Generated By Depleting Reservoir Level On Some Days	20.79
Less Generation For Increasing Reservoir Level On Some Days	-7.28
Unit Outages	-6.77
Other Constraint(Partial Load/ Ramping Up/Down During Peaking/ High Inflow/TRT Level etc)	-2.05
Difference Between Saleable Ex Bus And Saleable Schedule (DSM Energy)	-8.46*
Total Energy Shortfall Due To Reasons Within Control (B)	**-3.78**
SUMMARY	
Total Energy Shortfall Due To Reasons Beyond Control (A)	**-6.58**
Total Energy Shortfall Due To Reasons Within Control (B)	**-3.78**
Total Energy Shortfall (A)+(B)	**-10.36**

*(-) 8.46 MUs represent the DSM energy

99. The Petitioner, in reply to the ROP letter dated 5.10.2023, has claimed an Energy Charge shortfall of Rs. 1.07 Cr for the period 2019-20. The Petitioner has also submitted the Day-wise details of scheduled energy, actual energy injected in the grid, and energy accounted for in DSM, along with the revenue earned from DSM for such energy. The revenue earned from DSM energy @ Energy Charge Rate of 1.539 Rs./kWh is Rs 1.30 Cr (=8.46*1.539/10)

100. In the recent orders issued by the Commission, the revenue earned from DSM energy (Rs 2.15 Cr) or the revenue that could have been earned from DSM energy @ ECR (Rs 1.30 Cr), whichever is lower has been adjusted against the total shortfall in energy charges. Thus, the total shortfall in energy charges, excluding DSM charges @ECR is Rs 0.31 Cr (=Rs 1.61 cr – Rs 1.30 cr).

101. As the revenue from DSM energy has been reduced from the total shortfall in energy charges, the total shortfall has also been reduced by DSM energy. Thus, the total shortfall in energy on an ex-Bus basis works out to 1.90 MU, whereas a shortfall of 6.58 MU is beyond the control of the generating station.

102. Based on the above calculation, the shortfall in energy charges in respect of shortfall in energy for reasons beyond the control of the generating station claimed by the Petitioner is as under:

Total shortfall in generation during FY 2019-20 (after adjustment of DSM)	A	1.90 MU
Total under-recovery of energy charges during FY 2019-20 (after adjustment of DSM)	B	Rs 0.31 Crs
Shortfall in generation due to reasons beyond control	C	6.58 MU
Shortfall in energy charges to be recovered for FY 2019-20 (equivalent to Shortfall beyond control x ECR)	D=C*B/A	**Rs 1.07 Crs**

102.1. The Respondent PSPCL, in its reply to submissions made by the petitioner in compliance with RoP dated 18.08.2023, has mainly submitted that the entire capital cost invested by the Petitioner is serviced by payment of tariff by the beneficiaries, including PSPCL. Even the additional burden of less generation will now have to be borne by the beneficiaries. The data for 2019 shows that when there was less rainfall, the generator was generating excess power, and when there was excess rainfall the generator showed a shortfall in generation. The Petitioner has just referred to a 2017 letter wherein the CWC has expressed its inability to certify the inflow series and has not submitted specific support documents for the project. The petitioner has been filing petitions for claiming shortfall charges without adjusting the revenue earned through DSM. The Petitioner has not filed its rejoinder to the above reply of PSPCL.

102.2. The submission of PSPCL has been considered. With regard to servicing of the entire capital cost as payment of tariff by the beneficiaries, it is to be mentioned that in the case of the hydro generating station, the 50% of annual fixed charges i.e., Energy Charges allowed is to be recovered if the generating station is able to generate energy equal to design energy. Since the Petitioner is not able to generate up to the design energy during 2019-20 and 2020-21, accordingly, there is a shortfall in recovery of energy charges (which in turn is under-recovery of Annual Fixed Charges), which the Petitioner has claimed in these petitions. The Respondent PSCPL has further submitted that the Petitioner has been filing petitions for claiming shortfall charges without adjusting the revenue earned through DSM. In this regard, it is to be mentioned that the Petitioner, in reply to the ROP of the hearing dated 18.08.2023, has revised the claim after adjusting the energy and revenue accounted under DSM

103. In view of the above deliberations, the shortfall due to reasons beyond the control of Petitioner as per our calculations is as under:

Shortfall due to reasons beyond the control of Petitioner	
Energy Shortfall Due To Less Inflow From Design Inflow On Some Days	-86.40
Energy Generated Due To Excess Inflow From Design Inflow On Some Days	96.99
Net energy shortfall due to less inflows (iii)= (i)+(ii)	**(+)10.59**
Energy Loss Due To Silt Flushing (iv)	-6.42
Energy Loss Due To High Silt (v)	-10.75
Total Energy Shortfall Due To Reasons Beyond Control (iii)+(iv)+(v)	**(-)6.58**

*Accordingly, out of the total shortfall 0f (-)1.90 MUs (after DSM adjustment), the balance shortfall of (-) 4.68 MUs {(-)1.90-(-)6.58} is for reasons within the control of the Petitioner

Based on the above deliberations, the Petitioner needs to be compensated for a total energy shortfall of (-) 1.90 MU which has occurred, including reasons beyond the control of the

Petitioner out of a total energy shortfall of (-) 6.58 MU. Accordingly, the energy charge to be recovered from the beneficiaries for the shortfall in energy generation of (-) 1.90 MU works out to Rs. 0.29crores (1.90*1.539/10) considering ECR of Rs. 1.539 Rs./kWh.

104. Accordingly, in terms of Regulation 44(6) of the 2019 Tariff Regulations, we allow the energy charge shortfall of Rs.0.29 crore for FY 2019-20. The same shall be recovered in six equal monthly interest-free instalments by raising supplementary bills to the beneficiaries as per Regulation 44(7) of CERC (Terms and Conditions of Tariff) Regulation 2019. Further, the difference in energy charge shortfall to be recovered for the FY 2019-20, which may arise after the determination and true up of tariff for the period 2019-24, shall be recovered directly by the generating station from the beneficiaries through supplementary bills after true-up.

Petition No. 66/MP/2022(Parbati-III Power Station)

Shortfall for the year 2020-21

105. The approved annual design energy (DE) of Parbati-III Power Station is 701.40MU, and after accounting for the provision of 1.2% as auxiliary consumption, 1% towards LADF and 12% as free power to the home state, the saleable design energy works out to 602.90 MU.

106. In the FY 2020-21, saleable scheduled energy is 525.52 MU, and saleable design energy is 602.90 MU. As such, there is a total energy shortfall of (-) 77.38 MU (525.52 -602.90) in generation at Ex-Bus during 2019-20.

107. The month-wise breakup of saleable scheduled energy (ex bus) vis- a-vis

saleable design energy (ex bus) for FY 2020-21, as reported by the Petitioner, is as under:

FY 2020-21

Sl. No.	Month	Design Energy (MU)	Saleable design energy (MU)	Saleable scheduled energy (MU)	Shortfall (-) / Excess (+) (MU)	Actual PAF (%)
1	**2**	**3**	**4**	**5**	**6=5-4**	**8**
1.	April' 2020	44.76	38.47	23.81	-14.66	51.005
2.	May' 2020	66.49	57.15	44.74	-12.41	91.597
3.	June' 2020	114.71	98.60	83.02	-15.58	100.057
4.	July' 2020	147.09	126.43	111.68	-14.75	99.310
5.	August' 2020	116.81	100.41	121.14	20.73	64.347
6.	September' 2020	74.17	63.75	62.48	-1.27	86.189
7.	October' 2020	37.37	32.12	26.89	-5.23	57.953
8.	November' 2020	24.91	21.41	14.90	-6.51	34.863
9.	December' 2020	19.74	16.97	11.86	-5.11	26.879
10.	January' 2021	17.18	14.77	9.16	-5.61	20.935
11.	February' 2021	13.71	11.78	7.19	-4.59	17.947
12.	March' 2021	24.46	21.02	8.65	-12.37	19.768
Total		**701.40**	**602.90**	**525.52**	**-77.37**	**56.083**

108. Further, the energy charge shortfall for the year 2020-21 based on the saleable schedule energy billed is as under:

	Schedule energy * (Ex-bus) (MU)	Free energy * (MU)	Net energy billed (MU)	Annual Fixed Charges (AFC) (Rs Crs.)	Energy charges to be recovered based on design energy of 701.40 MU and ECR based on Design Energy of 1963.29 MU (Rs Crs.)	Energy charges actually recovered ** (Rs Crs.)	Under-recovery of energy charges (Rs Crs.)
	1	2	3=1-2	4	$5=\frac{AFCx701.40}{2x1963.29}$	6	7=6-5
2020-21	604.05	78.53	525.52	519.5226	92.80166	80.87804	-11.92362

109. The reasons for such shortfall of (-) 77.37 MU (525.52-602.90) as mapped by the Petitioner are as under:

SHORTFALL SUMMARY	
Parbati -III (2020-2021)	
(A) Saleable Design Energy (MU)	**602.90**
(B) Saleable Schedule (MU)	**525.52**
(C) Shortfall Between Saleable DE And Saleable Schedule (MU) (B-A)	**-77.37**
(D) Saleable Ex Bus Energy (MU)	**537.14**
(E) Shortfall Between Saleable DE and Saleable Ex Bus Energy (MU) (D-A)	**-65.76**
Beyond Control Reasons	**Energy (MU)**
Energy Shortfall Due To Less Inflow From Design Inflow On Some Days	-112.93
Energy Generated Due To Excess Inflow From Design Inflow On Some Days	40.63
Energy Loss Due To Silt Flushing	-3.25
Total Energy Shortfall Due To Reasons Beyond Control (A)	**-75.55**
Within Control Reasons	**Energy (MU)**
Energy Generated By Depleting Reservoir Level On Some Days	19.08
Less Generation For Increasing Reservoir Level On Some Days	-12.06
Unit Outages	-0.40
Other Constraint (Partial Load / Ramping Up / Down During Peaking / High Inflow / TRT Level etc)	3.17

Difference Between Saleable Ex Bus And Saleable Schedule	-11.61
Total Energy Shortfall Due To Reasons Within Control (B)	**-1.82**
Summary	
Total Energy Shortfall Due To Reasons Beyond Control (A)	**-75.55**
Total Energy Shortfall Due To Reasons Within Control (B)	**-1.82**
Total Energy Shortfall (A)+(B)	**-77.37**

*(-) 11.61 MUs represent the DSM energy

110. The Petitioner, in reply to the ROP letter dated 5.10.2023, has claimed an Energy Charge shortfall of Rs. 11.65 Cr for the period 2020-21. The Petitioner has also submitted the Day-wise details of scheduled energy, actual energy injected in the grid, and energy accounted for in DSM along with the revenue earned from DSM for such energy. The revenue earned from DSM energy @ Energy Charge Rate 1.939 Rs./kWh is Rs 1.78 Cr (=11.61*1.539/10)

111. In the recent orders issued by the Commission, the revenue earned from DSM energy (Rs 3.55 Cr) or the revenue that could have been earned from DSM energy @ ECR (Rs 1.78 Cr), whichever is lower, has been adjusted against the total shortfall in energy charges. Thus, the total shortfall in energy charges is reduced to Rs 10.14 Cr (=Rs 11.92 cr – Rs 1.78 cr).

112. As the revenue from DSM energy has been reduced from the total shortfall in energy charges, the total shortfall has also been reduced by DSM energy. Thus, the total shortfall in energy on an ex-Bus basis works out to 65.76 MU, including a shortfall of 75.55 MU, which is beyond the control of the generating station.

113. Based on the above calculation, the shortfall in energy charges in respect of shortfall energy for reasons beyond the control of the generating station claimed by the Petitioner is as under:

Total shortfall in generation during FY 2020-21 (after adjustment of DSM)	A	65.76 MU
Total under-recovery of energy charges during FY 2020-21 (after adjustment of DSM)	B	Rs 10.14 Crs
Shortfall in generation due to reasons beyond control	C	75.55 MU
Shortfall in energy charges to be recovered for FY 2020-21 (equivalent to Shortfall beyond control x ECR)	D=C*B/A	**Rs 11.65 Crs**

114. In view of the above deliberations, the shortfall due to reasons beyond the control of Petitioner as per our calculations is as under:

Shortfall due to reasons beyond the control of Petitioner	
Energy Shortfall Due To Less Inflow From Design Inflow On Some Days	-112.93
Energy Generated Due To Excess Inflow From Design Inflow On Some Days	40.63
Net energy shortfall due to less inflows (iii)= (i)+(ii)	**(-)72.30**
Energy Loss Due To Silt Flushing (iv)	-3.25
Total Energy Shortfall Due To Reasons Beyond Control (iii)+(iv)	**(-)75.55**

*Accordingly, out of the total shortfall 0f (-)65.76 MUs (after DSM adjustment), balance shortfall of (-) 9.79 MUs {(-)65.76-(-)75.55} is for reasons within the control of the Petitioner

Based on the above deliberations, the Petitioner needs to be compensated for a total energy shortfall of (-) 65.76 MU which has occurred including reasons beyond the control of the Petitioner, out of total energy shortfall of (-)75.55 MU. Accordingly, the energy charge to be recovered from the beneficiaries for the shortfall in energy generation of (-) 1.539 MU works out to Rs. 10.12 crores (65.76*1.539/10) considering ECR of Rs. 1.539 Rs./kWh.

115. Accordingly, in terms of Regulation 44(6) of the 2019 Tariff Regulations, we allow the energy charge shortfall of Rs. 10.12 crore for the FY 2020-21. The same shall be recovered in six equal monthly interest-free instalments by raising supplementary bills to the beneficiaries as per Regulation 44(7) of CERC (Terms and Conditions of Tariff) Regulation 2019. Further, the difference in energy charge shortfall to be recovered for the FY 2020-21, which may arise after determination and true up of tariff for the period 2019-24 shall be recovered directly by the generating station from the beneficiaries through supplementary bills after true-up.

Petition No. 70/MP/2022 (Nimoo Bazgo Power Station)

Shortfall for the year 2020-21

116. The approved annual design energy (DE) of Nimoo Bazgo Power Station is 239.33 MU, and after accounting for actual auxiliary consumption (i.e. 2.9%), 1% towards LADF and 12% as free power to the home state, the saleable design energy works out to 202.18 MU.

117. In the FY 2020-21, saleable scheduled energy is 181.34 MU, and saleable design energy is 202.18 MU. As such, there is a total energy shortfall of (-) 20.84 MU (181.34 -202.18) in generation at Ex-Bus during 2019-20.

118. The month-wise breakup of saleable scheduled energy (ex bus) vis- a-vis saleable design energy (ex bus) for FY 2020-21 as reported by the Petitioner is as under:

FY 2020-21

Sl. No.	Month	Design Energy (MU)	Saleable design energy (MU)	Saleable scheduled energy (MU)	Shortfall (-) / Excess (+) (MU)	Actual PAF (%)
1	**2**	**3**	**4**	**5**	**6=5-4**	**8**
1.	April' 2020	11.31	9.55	11.99	2.44	100
2.	May' 2020	22.95	19.40	17.55	-1.85	100
3.	June' 2020	30.76	26.00	22.76	-3.24	100
4.	July' 2020	31.81	26.90	17.99	-8.91	100
5.	August' 2020	31.81	26.90	22.60	-4.30	100
6.	September' 2020	30.78	26.00	23.77	-2.23	100
7.	October' 2020	19.83	16.80	19.53	2.73	68.92
8.	November' 2020	14.79	12.50	12.65	0.15	47.67
9.	December' 2020	13.48	11.40	9.46	-1.94	36.07
10.	January' 2021	11.47	9.70	7.17	-2.53	30.19
11.	February' 2021	9.81	8.30	5.89	-2.41	30.89
12.	March' 2021	10.53	8.90	9.97	1.07	56.04
Total		**239.33**	**202.18**	**181.34**	**-20.84**	**72.67**

119. Further, the energy charge shortfall for the year 2019-20 based on saleable schedule energy billed is as under:

	Schedule energy * (Ex-bus) (MU)	Free energy * (MU)	Saleable Schedule (MU)	Annual Fixed Charges (Rs Crs.)	Energy charges to be recovered (Rs Crs.)	Energy charges actually recovered ** (Rs Crs.)	Under-recovery of energy charges (Rs Crs.)
	1	2	3=1-2	4	5=50% of 4	6	7=6-5
2020-21	208.43	27.10	181.34	180.82	90.41	81.09	-9.32

120. The reasons of such shortfall of (-)20.84 MU (181.34-202.18) as mapped by the Petitioner are as under:

SHORTFALL SUMMARY
NIMOO BAZGO (2020-2021)

(A) Saleable Design Energy (MU)	**202.18**
(B) Saleable Schedule (MU)	**181.34**
(C) Shortfall between saleable DE and Saleable Schedule (MU) (B-A)	**-20.84**
(D) Saleable Ex Bus Energy (MU)	**181.34**
(E) Shortfall between saleable DE and Saleable Ex Bus Energy (MU) (D-A)	**-20.84**
BEYOND CONTROL REASONS	**ENERGY (MU)**
Energy Shortfall Due To Less Inflow From Design Inflow On Some Days	-4.78
Energy Generated Due To Excess Inflow From Design Inflow On Some Days	16.46
Energy Loss Due To Transmission Constraints	-7.42
Total Energy Shortfall Due To Reasons Beyond Control (A)	**4.26**
WITHIN CONTROL REASONS	**ENERGY (MU)**
Energy Generated By Depleting Reservoir Level On Some Days	1.23
Less Generation For Increasing Reservoir Level On Some Days	-4.83
Unit Outages	-18.93
Other Constraint (Partial Load/ Ramping Up/Down During Peaking/ High Inflow/TRT Level etc)	-2.56
Total Energy Shortfall Due To Reasons Within Control (B)	**-25.10**
SUMMARY	
Total Energy Shortfall Due To Reasons Beyond Control (A)	**4.26**
Total Energy Shortfall Due To Reasons Within Control (B)	**-25.10**
Total Energy Shortfall (A)+(B)	**-20.84**

121. The Petitioner in reply to ROP letter dated 5.10.2023 has not claimed any Energy Charge shortfall for the period 2020-21. The Petitioner has also submitted the Day-wise

details of scheduled energy, actual energy injected in the grid. The Petitioner has submitted that there is no DSM energy in Nimoo Bazgo Power Station.

122. After revision of calculations as per the Commission in the ROP, there is no shortfall in energy due to reasons beyond the control of the generating station & the claim for shortfall in energy charges for reasons beyond the control of the generating station for FY 2020-21 is 'NIL'.

In view of the above deliberations, the shortfall due to reasons beyond the control of Petitioner as per our calculations is as under:

Shortfall due to reasons beyond the control of Petitioner	
Energy Shortfall Due To Less Inflow From Design Inflow On Some Days	-4.78
Energy Generated Due To Excess Inflow From Design Inflow On Some Days	16.46
Net energy shortfall due to less inflows (iii)= (i)+(ii)	**(+)11.68**
Energy Loss Due To Transmission Constraints (iv)	-7.42
Total Energy Shortfall Due To Reasons Beyond Control (iii)+(iv)	**4.26**

*Accordingly, out of the total shortfall of (-)20.84 MUs (after DSM adjustment), the balance shortfall of (-) 25.10 MUs {(-)20.84-4.26} is for reasons within the control of the Petitioner.

123. As per the claim of the Petitioner, the claim for shortfall in energy charges for reasons beyond the control of the generating station for FY 2020-21 is 'NIL'. Accordingly, the energy charge to be recovered from the beneficiaries worked out is 'NIL'.

124. A summary of the claim for shortfall in energy charges for reasons beyond the control of generating station is as given under:

	4/MP/2022		54/MP/2022		63/MP/2022	66/MP/2022		70/MP/2022
Energy Charges	**2019-20**	**2020-21**	**2019-20**	**2020-21**	**2019-20**	**2019-20**	**2020-21**	**2020-21**
Claimed in main petition (Rs. in crore)	5.68	16.89	29.30	7.75	5.31	1.61	11.05	2.28
Claim revised in reply to ROP dated 18.8.2023 (Rs. in crore)	0.99	10.90	16.90	Nil	4.51	1.07	11.65	Nil
Allowed in this order (Rs. in crore)	**0.99**	**10.89**	**16.90**	**Nil**	**4.50**	**0.31**	**10.12**	**Nil**

125. Petition No. 4/MP/2022, Petition No. 54/MP/2022, Petition No. 63/MP/2022, Petition No. 66/MP/2022, Petition No. 70/MP/2022 are disposed of in terms of the above.

Sd/	Sd/	Sd/	Sd/
(P.K. Singh)	**(Arun Goyal)**	**(I.S. Jha)**	**(Jishnu Barua)**
Member	**Member**	**Member**	**Chairperson**