CENTRAL ELECTRICITY REGULATORY THE COMMISSION
New Delhi

Petition No. 46/MP/2024

Coram:
Shri Jishnu Barua, Chairperson
Shri Ramesh Babu , Member
Shri Harish Dudani, Member

Date of Order: 17th March, 2025

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 the generating station in 2021-22 in respect of Parbati-III Hydropower Station.

AND

IN THE MATTER OF:

NHPC Limited,
NHPC Office Complex, Sector-33,
Faridabad (Haryana) - 121 003 **…. Petitioner**

Vs

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

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

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

4. Engineering Dept. 1st Floor,
UT Chandigarh, Sector-9 D, Chandigarh-160009.

5. BSES Rajdhani Power Ltd., BSES Bhawan,
Nehru Place, New Delhi-110019.

6. BSES Yamuna Power Ltd.,
Shakti Kiran Building, Karkadooma, Delhi-110072

7. Tata Power Delhi Distribution Ltd.
(erstwhile North Delhi Power Ltd)
Grid Sub-station Building, Hudson Lines,

Kingsway Camp, Delhi-110009.

8. Uttaranchal Power Corporation Ltd., Urja Bhawan,
Kanwali Road, Dehradun - 248 001 (Uttarakhand).

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

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

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

11. Power Development Department, New Secretariat
Jammu (J&K)-180001.

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

ORDER

The Petitioner, NHPC Ltd has filed this petition seeking the following relief:

a) Commission may kindly allow recovery of energy charges amounting to Rs 10.57 Crs against the shortfall in generation of 85.45 MU, which is beyond control of generating station, in FY 2021-22 as per regulation 44(6) of CERC Tariff Regulations, 2019.

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

c) To allow recovery of shortfall in energy charges along with interest as mentioned in prayer 1 to 2 in six equal monthly installments.

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

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

Submissions of the Petitioner

2. NHPC Limited 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. Parbati-III Hydro Power station (hereinafter called 'Parbati-III' HEP) of NHPC comprises 4 units of 130 MW each (total 520 MW), is

located in the State of Himachal Pradesh, achieved COD on 6.6.2014. The power generated from this station is being supplied to 13 Bulk Power Customers/ Beneficiaries/Successor utilities in the Northern Region. The approved annual Design Energy (DE) of Parbati-III HEP is 701.40 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 602.90 MU. The month-wise breakup of saleable scheduled energy vis-a-vis saleable design energy for 2021-22 is tabulated below:

2021-22

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' 2021	44.76	38.47	14.98	-23.49	35.22
2.	May' 2021	66.49	57.15	33.62	-23.53	66.80
3.	June' 2021	114.71	98.60	68.63	-29.97	92.68
4.	July' 2021	147.09	126.43	125.65	-0.78	101.01
5.	August' 2021	116.81	100.41	98.41	-2.00	97.47
6.	September' 2021	74.17	63.75	77.04	13.29	96.64
7.	October' 2021	37.37	32.12	33.91	1.79	69.46
8.	November' 2021	24.91	21.41	17.76	-3.65	40.77
9.	December' 2021	19.74	16.97	12.27	-4.70	27.75
10.	January' 2022	17.18	14.77	10.69	-4.08	24.49
11.	February' 2022	13.71	11.78	9.46	-2.32	24.02
12.	March' 2022	24.46	21.02	17.25	-3.77	37.85
Total		**701.40**	**602.89**	**519.68**	**-83.21**	**59.73**

3. The Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (in short 'the 2019 Tariff Regulations') provides for the recovery of shortfall in the Energy charges for reasons beyond the control of the generating station during the period 2019-24. As such, the present application filed by the Petitioner NHPC under Regulation-44(6) of the 2019 Tariff) Regulations, is for the recovery of shortfall in the Energy charges, due to a shortfall in energy generation, and the same is extracted 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."

4. Further, the methodology for the recovery of shortfall in Energy charges is provided under Regulation 44(7) of the 2019 Tariff Regulations, as under:

"44. (7) Shortfall in energy charges in comparison to fifty percent of the annual fixed cost shall be allowed to be recovered in six equal monthly installments:

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

5. As mentioned above, the saleable scheduled energy during 2021-22 is 519.68 MU, and the saleable design energy is 602.89 MUs. Hence, there was a total shortfall of 83.21 MU (602.89 MU – 519.68 MU) during 2021-22. The reasons for the shortfall of 83.21 MU are as under:

A. Shortfall due to reasons beyond the control of the Petitioner	
Energy shortfall due to less inflow from design inflow	-124.95
Energy generated due to excess inflow from design inflow	42.48
Energy loss due to silt flushing	-2.98
Total (A)	**-85.45**

6. It is clear from the above that there is a total shortfall of 83.21 MU. However, the reasons for the shortfall of 85.45 MU are beyond the Petitioner's control.

7. The Petitioner filed Petition No. 96/GT/2020 for truing up of tariff of the generating station for the period 2014-19 and for determination of tariff for the period 2019-24 based on projected capital expenditure. Under Regulation 10(4) of the 2019 Tariff Regulations, provisional billing from 1.4.2019 onwards is permissible based on the approved tariff for the year 2018-19. Accordingly, billing is being done based on the tariff approved by the Commission's order dated 23.4.2019 in Petition No.6/GT/2017.

8. In view of the above, the Petitioner's claim for the recovery of energy charges is based on the tariff allowed for 2018-19 vide order dated 23.4.2019 in Petition No.

6/GT/2017, which is subject to revision based on the determination of tariff in Petition No. 96/GT/2020 for the period 2021-22. The present submission of the Petitioner for the recovery of the shortfall in the Energy charge for 2021-22 is based on the tariff allowed in 2018-19, as detailed below:

	Schedule energy* (Ex-bus) (MU)	Free energy* (MU)	Net energy billed (MU)	Annual Fixed Charges (Rs Crs.)	Energy charges to be recovered based on DE of 701.40 MU and ECR based on DE 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
2021-22	597.33	77.65	519.68	519.52	92.80	79.97	-12.82

* *Schedule Energy & Free Energy are based on the Regional Energy Account issued by NRPC.*
*** Energy charges as per bill of the respective year based on provisional AFC.*

9. It is clear from the above table that the generating station has recovered energy charges amounting to Rs.79.97 crores, corresponding to the saleable scheduled energy of 519.68MU, against energy charges of Rs.92.80 crores for 2021-22 based on design energy of 701.40 MU. The reasons for the shortfall in energy generation based on the Petitioner's submission and daily generation details are tabulated below:

SHORTFALL SUMMARY	
(A) Saleable Design Energy (MU)	602.90
(B) Saleable Schedule (MU)	519.68
(C) Shortfall between saleable DE and Saleable Schedule (MU) (B-A)	-83.21
(D) Saleable Ex Bus Energy (MU)	534.29
(E) Shortfall between saleable DE and Saleable Ex Bus Energy (MU) (D-A)	-68.61
REASONS BEYOND CONTROL	**ENERGY SHORTFALL (MU)**
Energy shortfall due to less inflow from design inflow on some days	-124.95
Energy generated due to excess inflow from design inflow on some days	42.48
Energy loss due to silt flushing	-2.98
TOTAL ENERGY SHORTFALL DUE TO REASONS BEYOND CONTROL (A)	**-85.45**
WITHIN CONTROL REASONS	**ENERGY SHORTFALL (MU)**
Energy generated by depleting reservoir level on some days	24.37*
less generation for increasing reservoir level on some days	-11.77*
Other constraints (partial load/ ramping up/down during peaking/ high inflow/TRT level etc)	4.24

Difference between saleable schedule and saleable ex bus	-14.60**
TOTAL ENERGY SHORTFALL DUE TO REASONS WITHIN CONTROL (B)	**2.24**
SUMMARY	
TOTAL ENERGY SHORTFALL DUE TO REASONS BEYOND CONTROL (A)	**-85.45**
TOTAL ENERGY SHORTFALL DUE TO REASONS WITHIN CONTROL (B)	2.24
TOTAL ENERGY SHORTFALL (excluding the energy generated under DSM) (C)=(A)+(B)	-83.21
Net Energy Shortfall considering the DSM energy (-83.21+14.60)	**-68.61**

*Note: The Petitioner's claim is mapped from the daily generation report and corrected accordingly.
**Energy accounted under DSM (-) sign indicated the Difference between saleable schedule and saleable ex bus

10. There is a total under-recovery of the Energy charges of Rs. 12.82 Cr for the period 2021-22. However, the Petitioner has claimed an Energy charge shortfall of Rs. 10.57 Cr after adjusting the revenue earned from the energy of 14.60 MU, accounted under DSM, during the period. 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 the DSM. The revenue from DSM energy @ Energy Charge Rate is Rs 2.25 Cr (=14.60*1.539/10). It is observed that in some of the recent orders issued by this Commission, the revenue earned from DSM energy (Rs 5.47 Cr) or the revenue that could have been earned from DSM energy @ ECR (Rs 2.25 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 10.57 Cr (=Rs 12.82 Cr – Rs 2.25 Cr).

11. As the revenue from DSM Energy has been reduced from the total shortfall in energy charges, the total shortfall in energy generation (83.21 MU) has also been reduced by DSM Energy (14.60 MU). Thus, the total net shortfall in energy, on an ex-Bus basis, works out to 68.60 MU (83.20-14.60), out of which 85.45 MU is beyond the control of the generating station.

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

Total shortfall in generation during FY 2021-22 (after adjustment of DSM) (83.20 MU – 14.60 MU)	A	68.60 MU
Total under-recovery of energy charges during FY 2021-22 (after adjustment of DSM) (12.82 – 2.25)	B	Rs 10.57 Cr
Shortfall in generation due to reasons beyond control	C	85.45 MU
Shortfall in energy charges to be recovered for FY 2021-22	D=B	**Rs10.57 Cr**

13. As per Regulation 44(7) of the 2019 Tariff Regulations, once, the recovery for energy charges is allowed, the shortfall in energy charges is to be recovered in six (6) equal monthly installments. However, subsequent to the issuance of the final tariff order for the period 2019-24, the Petitioner is to raise the supplementary bill for recovery of the shortfall on the basis of the revised energy charge. Further, the 2019 Tariff Regulations provide 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, the Petitioner has requested to allow billing of the under-recovered amount with interest as above. The Petitioner has pointed out that in the past, CEA/CWC was requested to certify the actual inflow data of Parbati-III HEP, and the inflow series data for 20 years as sought by CWC, vide letter dated 29.04.2024 is still under compilation.

Hearing dated 19.4.2024

14. The petition was admitted on 19.4.2024, and certain additional information was sought from the Petitioner, with directions to the parties to complete pleadings. In response, the Respondents UPPCL, BRPL, and PSPCL have filed their replies, and a rejoinder on the same has been filed by the Petitioner. Thereafter, the matter was heard on 10.10.2024, and the Commission, after hearing the parties, directed the Petitioner to submit the following additional information and reserved its order in the Petition:

(a) The status of the certification of the shortfall in energy generation due to inflows for the period 2020-21. In case the same is pending, the CWC is to be pursued for an early response by providing the available data;

(b) To check with the other PSUs as to whether the CWC has issued certificates with regard to their claims for shortfall in the energy generation due to inflows.

Reply of the Respondents

15. The Respondent UPPCL vide reply affidavit dated 7.6.2024 submitted as under:

a) The Petitioner has computed a shortfall between saleable design energy (ex-bus) and saleable scheduled energy (ex-bus) as 68.61 MU. against (-) 83.21 MU as per the Petition. However, the shortfall in energy beyond the control of the Petitioner has been computed at 85.45 MU in the petition.

b) The shortfall in energy during 2021-22 (- 83.21 MU) as per Regulation- 44 (6) of the 2019 Tariff Regulations is less than the shortfall in energy for reasons beyond control (- 85.45 MU). The shortfall for reason beyond control cannot be more than the difference between "Saleable Scheduled energy (ex-bus)" (519.68 MU) and "Saleable design energy (Ex-bus) 602.89 MU, which is (-) 83.21 MU. As such, there appears some mistake in the computation of the Petitioner.

16. The Respondent BRPL vide reply affidavit dated 10.06.2024 submitted as under:

(a) The Petitioner seeks Rs.10.57 Crores for an 85.45 MU generation shortfall in 2021-22, citing uncontrollable factors. Hydropower, with no input costs, should not receive variable charges like thermal plants and likens it to renewables, which lack such charges. Regulation 44 of the 2019 Tariff Regulations allowing energy charges is unfair and contradicts the consumer protection principles under Section 61 of the Electricity Act, 2003. Regulation may be amended to avoid unwarranted cost recovery. Recovery for energy shortfall without input costs is deemed unreasonable.

(b) The shortfall in energy and the commensurate recovery of the energy charges computed by the Petitioner are on higher side as under: -

Particular	Petitioner	UPPCL	Excess Claim
Overall Shortfall in gen due to reasons beyond control. (MU) {-85.45-(-)68.61}	-85.45	-68.61	-16.84
Net allowable un-recovery EC (Rs. Cr) {-10.57-(-)8.33}	-10.57	-8.33	-2.24

17. The Respondent PSPCL vide reply affidavit dated 20.6.2024 submitted as under:

(a) Petitioner claims inadequate generation compared to its saleable design energy, asserting that its capital cost is serviced by tariffs paid by beneficiaries, including PSPCL, who would also bear the burden of less

generation. The Petitioner attributes the shortfall to reduced inflow from the design inflow but provides no supporting evidence.

(b) Hydrology principles establish that actual inflow varies from design inflow—sometimes less, sometimes more. The Petitioner cannot demand recovery of energy charges every time inflow falls short. Being a hydro power generator, it should anticipate inflow variability, which is neither unforeseen nor beyond its control. Thus, the Petitioner has no valid basis for relief based on inflow shortfalls.

(c) The Petitioner, engaged in hydro power generation, should have accounted for risks like silt flushing. Common issues inherent to hydro power generation cannot be deemed beyond the Petitioner's control.

(d) The Petitioner's claim of shortfall due to reasons beyond its control is inconsistent. Despite alleging less inflow, it mitigated the issue by generating excess energy through reservoir depletion. Beyond the control of the generating station implies reasons that cannot be mitigated, which is not the case here. Thus, less inflow is not beyond the Petitioner's control.

(e) Regulation 44(7) of the 2019 Tariff Regulations applies only when the total generation is below the design energy due to reasons beyond the hydro station's control. The reasons cited by the Petitioner, including less inflow, are common and foreseeable for hydro power projects and, thus, not beyond its control.

(f) The daily generation data (Annexure-III) shows that less inflow on some days caused a shortfall, while on others led to excess generation. This indicates that reduced inflow doesn't always result in shortfall and was manageable by the Petitioner. The Commission may seek authentic and reliable inflow data, as shortfall due to outages is inadmissible per previous orders.

(g) NHPC acknowledges that the inflow data certification by CWC is pending, as the 20-year inflow series data sought on 29.4.2024 is still being compiled. The six-month delay highlights NHPC's lackadaisical approach, with the delay attributed to NHPC itself.

Rejoinder of the Petitioner

18. In response to the above, the Petitioner, in its rejoinder affidavits, submitted the following:

Rejoinder to Reply of the Respondent UPPCL

(a) Regulations 44(6) and 44(7) of the 2019 Tariff Regulations provide that the shortfall shall be calculated as the difference between Saleable Design Energy (602.90 MU) and Saleable Schedule Energy (519.68 MU), which is 83.22 MU. When the shortfall in energy for reasons beyond the control of the generating

station was calculated on the basis of daily analysis, the same came out to be 85.45 MU. The Respondent has tried to calculate the base data for the calculation of the shortfall in energy charges based on its own calculation, However, a few errors have been made by the Respondent in its calculation. The Respondent has mentioned that the shortfall beyond the control is 85.45 MU and then this energy has been adjusted with the shortfall within the control of the generating station to again calculate the overall shortfall beyond the control, which is not correct. It is a clear understanding that the sum of the shortfall within control and the shortfall beyond control shall result in a total shortfall. As the Respondent has not considered the DSM energy for shortfall within control, the sum of shortfall within control and shortfall beyond control shall result in total shortfall after adjustment of DSM, which is 68.61 MU.

Rejoinder to Reply of the Respondent BRPL

(b) The Respondent's challenge to the 2019 Tariff Regulations is legally impermissible. They misunderstand the recovery mechanism for AFC in hydro power plants, where 50% is recovered through energy charges based on generation, and the other 50% through capacity charges based on availability. Unlike thermal plants, where the AFC recovery depends entirely on availability, the hydro plants use a balanced approach tied to both availability and generation. The Respondent’s comparison of hydro and thermal variable charges ignores this distinction.

Rejoinder to the Reply of the Respondent PSPCL

(c) The cost of hydropower plants in the form of AFC is recovered from the beneficiaries in two parts, i.e., capacity charges and energy charges. The present petition is filed by the Petitioner to recover the shortfall in energy charges which is the component of AFC, which the Petitioner is unable to recover due to reasons beyond its control. Thus, the submission of the Respondent that this is an additional burden beyond AFC, is not correct and denied. The Petitioner has submitted the detailed daily analysis report and the daily generation reports to substantiate its claim. Further, the Petitioner has also submitted the rainfall data of the upstream of the dam along with the petition.

(d) The petition has been filed under Regulation 44(6) of the 2019 Tariff Regulations for recovery of the under-recovered energy charges for shortfall due to uncontrollable factors. The shortfall relates to the design energy, based on the dependable inflow data and the machine availability. Actual inflow below the design inflow causes a shortfall, and silt flushing is not accounted for in design energy.

(e) The Respondent's claim about the reservoir adjustment for extra generation overlooks the operational realities. Scheduling is based on the estimated inflow, and any shortfall requires reservoir adjustments to meet the schedules and avoid penalties under the DSM Regulations. However, the reservoir regulation depends on factors like limited head variation, especially during monsoons. Thus, the

Respondent's contention is illogical and denied.

(f) The reasons for which shortfall in energy has been claimed are beyond the control of the 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.

Analysis and decision

19. Based on submissions and documents on record, we now examine the claim of the Petitioner regarding the shortfall in energy charges. The Respondents have submitted that the recovery of the under-recovered energy charges due to the shortfall in energy generation amounts to double benefits. However, the Petitioner has clarified that there is no case of any double benefit, and the relief claimed is covered under provisions of the 2019 Tariff Regulations. We agree with this submission, as the relief claimed is in terms of the provisions of the 2019 Tariff Regulations, and the Respondents cannot, in effect, challenge the provisions of the Regulations through this Petition. Also, the contention of the Respondents that the Petitioner has not been able to utilize the full potential of the inflows and that the Petitioner has allowed water to spill over is not acceptable, as the Petitioner has accounted the shortfall due to managing reservoir level and other constraints under the reasons within its control. As regards the contention of the Respondent that the data submitted by the Petitioner has not been verified by any independent agency, we note that the provisions under the 2019 Tariff Regulations do not provide for any vetting of the inflow data by an independent agency. However, the Commission had directed the Petitioner to furnish certain additional information, as mentioned in para 14 above. In response, the Petitioner, vide affidavit dated 30.10.2024, stated that the data/ information (to submit the inflow series data for 20 years) sought by CWC vide its letter dated 29.4.2024 is being compiled by the Petitioner. As regards the information relating to whether CWC has issued certificates (of inflow data related to energy shortfalls) to other PSUs, the

Petitioner has sought the status from other PSUs, viz., NTPC, SJVN, NEEPCO, and THDC. While NEEPCO confirmed the CWC certification for its Ranganadi HEP, THDC reported no shortfall. It is pertinent to mention that in Petition Nos. 13/MP/2014 and 139/MP/2016 filed by NEEPCO, the Commission had relied upon the CWC certification to adjudicate energy shortfall claims due to less inflow. No response has been received from NTPC and SJVN in this regard.

20. Further, the Respondent PSPSCL, while pointing out that the Petitioner's delay hindered the CWC certification, submitted that the Petitioner's contention that CWC's inability to certify inflow data is unfounded. This submission of the Respondent is incorrect. It is noticed that CWC vide letter dated 29.4.2024 requested NHPC to submit the inflow series data for 20 years, and the required information was submitted by the Petitioner to CWC vide letter dated 31.10.2024 and e-mail dated 24.12.2024. It is noticed that, in response, the CWC vide its letter dated 29.1.2025 has expressed its inability to certify the inflow series at Parbat-HEP for the period from April, 2021-March, 2022. The relevant portion of the CWC letter dated 29.1.2025 (received from the Petitioner), is extracted below:

"In this regard, it is again reiterated that it may not be possible to certify the inflow series at Parbati-III for the period from April 2021-March 2022"

This issues with the approval of Chief Engineer (HSO), CWC, New Delhi"

Shortfall due to reasons beyond the control of Petitioner

21. As a next step in our analysis for ascertaining the claim of the Petitioner towards shortfall in energy due to reasons beyond its control, the following formulae have been used to calculate the maximum possible saleable ex-bus generation corresponding to actual inflows available during each day of 2021-22:

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. where 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.

22. Further, the above-derived value of maximum possible saleable ex-bus generation for a day is subject to a ceiling of 10.19 MUs (520MW x 24 x 0.87 x 0.988 x 0.95/1000), 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.

23. Following the above methodology, the annual maximum possible saleable ex-bus generation for the year 2021-22 works out to 520.42 MU, which is the same as calculated by the Petitioner. Accordingly, we consider the values submitted by the Petitioner, for further calculations.

Low inflows in comparison to the design inflows associated with the design year.

24. The Petitioner has enclosed CWC letters dated 31.1.2017 wherein, the CWC categorically mentioned its inability to certify the inflow data in respect of the other generating stations of the Petitioner. Subsequently, a CWC letter dated 29.1.2025 also indicates the inability of CWC to certify the inflow data of this generating station for 2021-22. Though the inflow data has not been vetted by the CEA/CWC, the rainfall data, as per IMD reports, indicates a low rainfall. in comparison to long-period averages. The table for the same is given below:

Year	JAN (R/F, Dep %)	FEB (R/F, Dep %)	MAR (R/F, Dep %)	APR (R/F, Dep %)	MAY (R/F, Dep %)	JUN (R/F, Dep %)	JUL (R/F, Dep %)	AUG (R/F, Dep %)	SEP (R/F, Dep %)	OCT (R/F, Dep %)	NOV (R/F, Dep %)	DEC (R/F, Dep %)
2021	40.3, 49	27.8, -70	74.1, -40	200.8, 166	74.1, 7	80.2, -1	329.3, 91	96.2, -40	202, 122	71.3, 161	0.3, -99	42.2, 9
2022	168.8, 92	122.8, 18	1, -92	22, -72	70.4, 1	68.1, 22	296.7, 61	260.2, 44	115.1, 19	60.8, 145	32.5, 17	11.5, -72

Note; R/F is average rainfall of statins under district, Dep% is Departure of rainfall from the long term

period of averages of rainfall for the district

25. In view of the above, we consider the inflow data as submitted by the Petitioner, on prudence check, for further analysis.

Shortfall due to Silt flushing

26. With regard to the Energy shortfall of (-) 2.98 due to Silt flushing on 31. 8.2021, 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 (-) 2.98 MU, and the Petitioner has claimed the same. This has been considered. As such, the claim of the Petitioner towards the 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 (-) 2.98 MU is allowed under the silt flushing.

27. In view of the above discussion, the shortfall due to reasons beyond the control is allowed, as calculated below:

Shortfall due to reasons beyond the control of Petitioner	
Energy shortfall due to less inflow from design inflow (i)	(-) 124.95
Excess Energy due to excess inflow from design inflow (ii)	42.48
Net energy shortfall due to less inflows (iii)= (i)+(ii)	(-) 82.47
Energy Loss Due to Silt Flushing (iv)	(-) 2.98
Total Energy Shortfall due to reasons beyond the control of the Petitioner (iii)+(iv)	(-)85.45

Shortfall due to reasons within the control of the Petitioner

28. As a further step in our analysis, for ascertaining the claim of the Petitioner towards shortfall due to reasons within the control of the Petitioner. The energy generated by depleting reservoir level on some days is 24.37 MU and less generation

for increasing reservoir level on some days is (-) 11.77 MU as per the daily actual generation calculations sheet (the Petitioner has indicated the same energy values alternately assigned to opposite categories, the same has been rectified and indicated at para 14) and other constraints (partial load/ ramping up/down during peaking/ high inflow/TRT level., etc. is 4.24 MU, and the difference between saleable schedule and saleable ex bus is 14.60 MU. The net shortfall of energy due to reasons within the control, as claimed by the Petitioner, is in order. This has reduced the quantum of total shortfall in energy generation, and accordingly, we allow the same.

Adjustment of the Energy and Revenue generated under DSM

29. As regards the details of the energy accounted under DSM and the corresponding revenue earned, the Petitioner has submitted the day-wise details of the scheduled energy, actual energy injected in the grid, and the energy accounted for in DSM, along with the revenue earned from DSM during 2021-22. The Petitioner has also submitted that the energy accounted under DSM during the said period was 14.60 MU and has earned revenue of Rs. 5.47 crore for the same energy that would have been scheduled to the beneficiaries, based on ECR of Rs.1.539/kWh, as per the Commission's order dated 23.4.2019 in Petition No.6/GT/2017 and the beneficiaries would have paid Rs.2.25 crore (14.60 MU @ ECR of Rs.1.539/kWh). The Petitioner has claimed the shortfall in energy, considering the adjustment of this amount, as per the decision of the Commission in its similar previous orders. The lower of the two amounts has been adjusted against the total shortfall in energy charges. As a result, the total shortfall in energy charges has been reduced to Rs.10.57 crore (Rs.12.82 crore – Rs.2.25 crore).

30. As per the REA, the total (net) shortfall is 83.21 MU. As per the submission of Petitioner, the shortfall of energy beyond its control is 85.45 MU, and the shortfall of energy within its control is 2.24 MUs, and as such, the net shortfall works out as 83.21

MU. Accordingly, the total shortfall allowed after the adjustment of DSM energy works out to 68.61 MU (83.21-14.60).

31. Based on the above, the Petitioner is required to be compensated for an energy shortfall of (-) 68.61 MU, which has occurred due to reasons beyond the control of the Petitioner, after adjusting the energy accounted under DSM, out of a total energy shortfall of (-) 83.21 MU. As such, the energy charge to be recovered from the beneficiaries, for the net shortfall in energy generation of (-) 68.61 MU, works out as Rs. 10.56 crores (i.e. 68.61*1.539/10) considering the ECR of Rs. 1.539/kWh.

32. Accordingly, in terms of Regulation 44(6) of the 2019 Tariff Regulations, we allow the Energy charge shortfall of Rs. 10.56 crore after adjustment of the DSM charges for 2021-22. The said amount shall be recovered by the Petitioner in six equal monthly interest-free installments by raising supplementary bills on the beneficiaries in terms of Regulation 44(7) of the 2019 Tariff Regulations. Further, the difference in the energy charge shortfall, to be recovered for 2021-22, which may arise after the truing-up order dated 31.3.2024 in Petition No. 96/GT/2020 in respect of the generating station, for the period 2019-24, shall be recovered by the Petitioner directly, from the beneficiaries, through supplementary bills.

33. Petition No. 46/MP/2024 is disposed of in terms of the above.

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