

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Review Petition No.13/RP/2021

in

Petition No 348/MP/2018

Coram:

Shri P.K. Pujari, Chairperson

Shri I.S. Jha, Member

Shri Arun Goyal, Member

Date of order: 10th September, 2021

In the matter of

Petition seeking review of the Commission's order dated 4.2.2021 in Petition No 348/MP/2018.

And

In the matter of

Application under Regulation 31(6) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for recoupment of under recovered energy charges due to shortfall in energy generation for reasons beyond the control during the year 2016-17 in respect of Chamera-II Power Station.

And

In the matter of

NHPC Limited,
NHPC Office Complex,
Sector- 33, Faridabad-121003 (Haryana)

.....Review Petitioner

Vs

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

2. Harayana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula- 134109

3. Uttar Pradesh Power Corporation Limited,
Shakti Bhawan, 14-Ashok Marg,
Lucknow- 226001



4. Engineering Department,
1st Floor, U.T Chandigarh, Sector-9 D,
Chandigarh-160009
5. BSES Rajdhani Power Limited,
BSES Bhawan, Nehru Place,
New Delhi- 110019
6. BSES Yamuna Power Limited,
Shakti Kiran Building, Karkadooma,
Delhi- 110072
7. Tata Power Delhi Distribution Limited,
Grid Sub-station Building, Hudson Lines,
Kingsway Camp, Delhi- 110009
8. Uttaranchal Power Corporation Limited,
Urja Bhawan, Kanwali Road,
Dehradun- 248 001
9. Jaipur Vidyut Vitaran Nigam Limited,
Vidyut Bhawan, Janpath, Jyoti Nagar,
Jaipur- 302005
10. Ajmer Vidyut Vitaran Nigam Limited,
Old Power House, Hatthi Bhatta, Jaipur Road,
Ajmer- 305 001
11. Jodhpur Vidyut Vitaran Nigam Limited,
New Power House, Industrial Area,
Jodhpur- 342 003
12. Power Development Department,
New Secretariat, Jammu (J&K) – 180001
13. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House,
Shimla- 171 004

....Respondents

Parties Present:

Shri Rajiv Shankar Dwivedi, Advocate, NHPC
Shri M.G. Gokhale, NHPC



ORDER

Petition No. 348/MP/2018 was filed by the Review Petitioner, NHPC Limited for recoupment of under-recovered energy charges due to shortfall in energy generation for reasons beyond the control during 2016-17 in respect of Chamera-II Hydro Power Station (in short 'the generating station') under Regulation 31(6) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations") and the Commission vide order dated 4.2.2021 disposed of the same. Aggrieved thereby, the Review Petitioner, NHPC Limited has filed the Review Petition challenging the impugned order dated 4.2.2021 on the following grounds:

“(A) To rectify the error in calculation of shortfall in generation beyond the control of the generating station;

“(B) To rectify the error in calculation of Energy Charges for shortfall in generation beyond the control of the generating station.”

2. The Commission, after hearing the learned counsel for the Review Petitioner, on 'admission' through virtual hearing on 20.7.2021, reserved its order on admissibility of the Review Petition. Based on the submissions of the Review Petitioner and the documents available on record, we proceed to dispose of the issues raised in the Review Petition, as stated in the subsequent paragraphs.

(A) Error in calculation of shortfall in generation beyond the control of the generating station

3. The Review Petitioner has submitted that it had claimed shortfall in generation of 55.84 MU, which is the difference of the Design Energy (1499.89 MU) and Actual Energy (1444.05 MU). It has also submitted that out of the total shortfall of 55.84 MU, the Review Petitioner, in the original petition, had submitted the reasons for shortfall



beyond the control of the generating station and shortfall within the control of the generating station. The Review Petitioner has pointed out that it is evident from the following table that the total shortfall in generation comes to 55.84 MU, as the shortfall in generation beyond the control of the generating station has been calculated as 70.88 MU [65.24 MU + 5.64 MU] in paragraph 41(a) of the impugned order dated 4.2.2021 and the shortfall in generation within the control of the generating station has been calculated as 15.04 MU (15.93 MU - 0.89 MU) in paragraph 41(b) of the said order:

Particulars	As per Petitioner	As per Commission
A. Shortfall for reasons beyond the control of generating station	(-) 70.88 MU (Paragraph-8 of Petition no 348/MP / 2018)	(-) 70.88 MU ((-) 65.24 MU + (-) 5.64 MU) as per paragraph 41(a) of impugned order dated 4.2.2021.
B. Shortfall for reasons within the control of generating station	15.04 MU (Paragraph-8 of Petition No. 348/MP/ 2018)	15.04 MU (+) 15.93 MU + (-) 0.89 MU as per paragraph 41(b) of impugned order dated 4.2.2021.
C. Total shortfall (A+B)	(-) 55.84 MU	(-) 55.84 MU

4. The Review Petitioner has further submitted that the Commission, in paragraph 43 of the impugned order dated 4.2.2021, while calculating the shortfall in generation not under the control of the generating station, has again adjusted (-) 0.89 MU (due to unit outage) from the total shortfall of 55.84 MU, which had already been adjusted for reasons within the control of the generating station, as in paragraph 41(b), thereby resulting in double adjustment of unit outages of 0.89 MU, which is incorrect. It has been submitted that even if the energy shortfall of 0.89 MU has to be adjusted again, it needs to be adjusted in shortfall for reasons beyond the control of the generating station, which is 70.88 MU, as calculated in paragraph 41(a) of the impugned order dated 4.2.2021 and the total shortfall in generation beyond the control of the generating station works out to be [70.88 MU - 0.89 MU = 69.99 MU] which, being higher than the total shortfall, shall be restricted to the total shortfall in generation, which is 55.84 MU.



Accordingly, the Review Petitioner has submitted that there is error apparent on the face of the order dated 4.2.2021 and the shortfall in generation of 54.95 MU as worked out in paragraph 43 of the said order, may be revised to 55.84 MU.

5. The learned counsel for the Review Petitioner, during the hearing on 18.6.2021, reiterated the above submissions and prayed that review on this count may be allowed.

6. We have examined the matter. The reasons for shortfall in generation of 55.84 MU as submitted by the Petitioner, in the original petition, is as follows:

A. Shortfall due to reasons beyond the control of Petitioner	
Energy shortfall due to less inflow from design inflow on some days	- 196.35 MU
Energy generated due to excess inflow from design inflow on some days	131.11 MU
Energy loss due to silt flushing	- 5.64 MU
Total (A)	- 70.88 MU
B. Shortfall due to reasons within the control of Petitioner	
In order to meet grid requirements, sometimes powerhouse is operated at higher load resulting into depletion of reservoir and at suitable time, reservoir is to be filled again causing loss of generation. In this process, the figure of gain/loss of energy is as under:	
Energy generated by depleting reservoir level on some days	20.75 MU
Less generation for increasing reservoir level on some days	- 4.82 MU
Unit Outage	- 0.40 MU
Other constraint (Partial load/ramping up/down during peaking/ high inflow/ TRT level etc.	- 0.49 MU
Total (B)	15.04 MU
Net Generation loss (A+B)	- 55.84 MU

7. In the impugned order dated 4.2.2021, the Commission had decided the following:

“41. To assess maximum possible annual generation with available actual inflows after accounting for the generation loss for the reasons which were beyond the control of the Petitioner and which are attributable to the Petitioner, the possible generation at generator terminal has been assessed as under against the actual generation of 1444.05 MU:

(a) Possible generation assessed at generator terminal after accounting for the generation loss due to reasons beyond the control of the Petitioner as discussed above:



1	Design Energy of the instant generating station	1499.89 MU
2	Energy shortfall due to less inflows (on net basis)	(-)65.24 MU
3	Energy that could have been generated by utilizing available actual inflows $3=1+2$	1434.65 MU
4	Energy loss due to silt flushing	(-)5.64 MU
5	Remaining Energy that could be generated $5=3+4$	1429.01 MU

(b) Possible energy generation at generator terminal after accounting for the reasons within the control of the Petitioner:

		Based on actual available flow at 100% machine capacity
1	Remaining Energy that could be generated after taking into account reasons beyond control	1429.01 MU
2	Excess generation due to reasons within the control of Petitioner (as claimed by the Petitioner)	15.04 MU {(+)15.93 MU by managing the reservoir level and (-) 0.89 MU due to unit outages etc.}
3	Remaining Energy that could be generated $3=(1+2)$	1444.05 MU

42. In view of the above calculations and the fact that actual generation of the generating station i.e. 1444.05 MU is in agreement with the theoretical calculations, it is held that Petitioner has been able to generate according to the actual inflows after accounting for the reasons under its control and reasons beyond its control. Accordingly, the Petitioner cannot be faulted with inefficient operation of the plant and non-utilization of maximum power potential of actual inflows or excessive spillage.

43. In light of above deliberations, the Commission is of the view that the Petitioner shall be allowed to recover shortfall in energy charges in proportion to the energy shortfall which occurred due to reasons which were not under the control of the Petitioner i.e. (-) 70.88 MU. However, the Petitioner by managing the reservoir level has managed to generate additional energy of 15.93 MU. The Petitioner has accounted this additional generation under the reasons which were under the control of the Petitioner, nevertheless the same needs to be adjusted for arriving at the allowable recovery of energy charges. Accordingly, out of total shortfall of (-) 55.84 MU, shortfall for reasons under the control of the Petitioner has been taken as (-) 0.89 MU (due to plant outages etc.) and shortfall for the reasons not under the control of the Petitioner has been taken as (-) 54.95 MU {(-) 70.88 MU+15.93 MU}.”

8. The Review Petitioner has submitted that the adjustment of 0.89 MU (due to unit outage) from the total shortfall of 55.84 MU in paragraph 43 of the impugned order dated 4.2.2021, has resulted in double adjustment of 0.89 MU, as the same had already been adjusted in paragraph 41(b) of the said order. It is pertinent to mention that the Commission, in order to assess the maximum possible annual generation with available



actual inflows after accounting for the generation loss for reasons which were beyond the control of the Review Petitioner and which were attributable to the Review Petitioner, had assessed the possible generation at generator terminal against the actual generation of 1444.05 MU. Accordingly, the possible generation assessed at generator terminal, after accounting for the generation loss due to reasons beyond the control of the Review Petitioner was discussed in paragraph 41(a) of the impugned order dated 4.2.2021 (*refer table under paragraph 7 above*) and the possible generation assessed at generator terminal, after accounting for the generation loss due to reasons within the control of the Petitioner, was discussed in paragraph 41(b) of the said order. The Review Petitioner had claimed excess generation of 15.04 MU due to reasons within its control, after adjustment of additional generation of 15.93 MU (by managing the reservoir level) with (-) 0.89 MU due to unit outages etc. However, the Commission, in order to arrive at the allowable recovery of energy charges, had, in paragraph 43 of the impugned order dated 4.2.2021, adjusted the shortfall in generation due to reasons which were beyond its control i.e. 70.88 MU with the additional generation of 15.93 MU as aforesaid. Based on this, the total shortfall in generation, for reasons not under the control of the Review Petitioner was considered as 54.95 MU (70.88 MU - 15.93 MU) and the total shortfall for reasons under the control of the Petitioner was taken as 0.89 MU (due to plant outages etc.) keeping in view that the loss of generation due to forced outages/ other constraints cannot be passed on to the beneficiaries. Accordingly, the details of the claim of the Petitioner and those allowed by the Commission in the impugned order dated 4.2.2021 can be summarized as under:



A. Shortfall due to reasons beyond the control of Petitioner	Claimed by Petitioner	Allowed by Commission	Remarks
Energy shortfall due to less inflow from design inflow on some days	-196.35 MU	-196.35 MU	Allowed
Energy generated due to excess inflow from design inflow on some days	131.11 MU	131.11 MU	Allowed
Energy loss due to silt flushing	-5.64 MU	-5.64 MU	Allowed
Total (A)	-70.88 MU	-70.88 MU	Allowed
B. Shortfall due to reasons within the control of Petitioner			
In order to meet grid requirements, sometimes powerhouse is operated at higher load resulting into depletion of reservoir and at suitable time, reservoir is to be filled again causing loss of generation. In this process, the figure of gain/loss of energy is as under:			
Energy generated by depleting reservoir level on some days	20.75 MU	20.75 MU	Allowed
Less generation for increasing reservoir level on some days	-4.82 MU	-4.82 MU	Allowed
Unit Outage	-0.40 MU	Nil	Not allowed by the Commission being under control of the Petitioner and loss of generation due to Forced outages / Other constraints cannot be passed on to the beneficiaries
Other constraint (Partial load/ramping up/down during peaking/ high inflow/ TRT level etc.	-0.49 MU	Nil	
Total (B)	15.04 MU	15.93 MU	
Net Generation loss (A+B)	- 55.84 MU	- 54.95 MU	

9. In view of the clear findings in the impugned order dated 4.2.2021, the claim of the Review Petitioner that there has been double deduction of 0.89 MU in paragraph 43 of the said order is misconceived. We, therefore, hold that there is no error apparent on the face of the order and the review sought on this ground is rejected.

10. The issue (A) is decided accordingly.



(B) Error in calculation of Energy Charges for shortfall in generation beyond the control of the generating station

11. The Review Petitioner has submitted that the actual generation at generator terminal of 1444.05 MU is the total generation from the generating station and is the sum of (i) Schedule generation (ex-bus) (ii) energy generated under Deviation Settlement Mechanism (in short 'DSM') and (iii) Auxiliary Energy Consumption and the claimed shortfall in generation of 55.84 MU, is the difference between the Design Energy of 1499.89 MU and the actual generation of 1444.05 MU. Thus, while calculating the shortfall in energy, the Review Petitioner has already taken into account the energy generated under DSM. The Review Petitioner has submitted that it had, in the original petition, provided the bifurcation of shortfall in generation of 55.84 MU and as the shortfall in generation beyond the control of the generating station i.e. 70.88 MU, was more than the total shortfall in generation (i.e. 15.04 MU), the Review Petitioner had requested for recovery of energy charges for total shortfall in generation. It has also submitted that since the shortfall in generation of 55.84 MU is beyond the control of the generating station, the energy charges that could have been recovered if the energy of 55.84 MU had been generated, needs to be reimbursed to the Review Petitioner. Referring to Regulation 31(4) of the 2014 Tariff Regulations regarding the procedure for billing of energy charges payable to the generating station, the Review Petitioner has submitted that the energy charges recoverable due to shortfall in generation of 55.84 MU is Rs 4.75 crore. The Review Petitioner has further stated that the Commission, in paragraphs 48, 49 and 50 of the impugned order dated 4.2.2021, had calculated the energy charges for shortfall in generation of 54.95 MU as Rs 3.49 crore, by adjusting the energy generated under DSM, which has already been accounted by the Review Petitioner while calculating shortfall in generation. Accordingly, the Review Petitioner



has submitted that there is error apparent on the face of the impugned order dated 4.2.2021 and the energy charges to be recovered for shortfall in generation may be revised to Rs.4.75 crore.

12. The learned counsel for the Review Petitioner, during the hearing on 18.6.2021, reiterated the above submissions and prayed that the review on this count may be allowed.

13. We have considered the submissions and the documents available on record. As regards energy charge shortfall, the Commission in the impugned order dated 4.2.2021 decided as follows:

“48. In the instant case, the Petitioner has been able to generate revenue to the tune of Rs. 1006.06 Lakh for the energy accounted for in DSM i.e. 48.42 MU. On the other hand, if this DSM energy would have been scheduled, the scheduled energy would have increased to 1440.18 (=1391.76 + 48.42) MU and the energy charge shortfall of the generating station would have reduced in comparison to the claimed energy charge shortfall of Rs.8.19 crore. The following table captures the reduction in energy charge shortfall after adding the DSM energy in the actually scheduled energy:

	Schedule Energy (Ex-Bus) (MU)	Free Energy (MU)	Net Energy Billed (MU)	ECR (₹/Unit)	Allowed Energy Charges (Rs. crore)	Energy Charges actually recovered (Rs. crore)	Energy charge shortfall (Rs. crore)
	1	2	3=1-2	4	5	6=3x4/10	7=5-6
<i>As claimed by the petitioner based on actually scheduled energy</i>	1391.76	171.79	1219.97	0.978	127.50	119.31	8.19
<i>As modified by adding the DSM energy in the actually scheduled energy</i>	1440.18 (=1391.76 +48.42)	172.82	1267.36	0.978	127.50	123.95	3.55

50. From the above table, it is concluded that the energy charges recoverable for the DSM energy would have been Rs.4.64 (=123.95 - 119.31) crore as against Rs.10.06 crore recovered by the generator from the DSM pool. In terms of above decision, since the energy charge attached to DSM energy (Rs.4.64 crore) is on lower side as compared to revenue earned from the DSM pool (Rs.10.06 crore), the actual shortfall of Rs.8.19 crore



reduces to Rs.3.55 (=8.19-4.64) crore. Accordingly, the energy charge allowed to be recovered in the FY 2018-19 due to shortfall in energy generation from the Design Energy during 2016-17 has been calculated as under:

Total Shortfall in generation during FY 2016-17 (MU)	A	55.84
Total under recovery of energy charges during FY 2016-17 (₹ crore)	B	8.19
Total under-recovery of energy charges during FY 2016-17 after accounting for the revenue which would have been earned if the energy accounted under DSM would have been scheduled to the beneficiaries (in ₹ crore)	C	3.55 (=8.19-4.64)
Shortfall in generation due to reasons beyond control (MU)	D	54.95
Shortfall in energy charges to be recovered during FY 2018-19 (₹ crore)	E=C*D/A	3.49

14. It is evident from the above that the Commission had calculated and allowed the total shortfall in energy charges to be recovered as Rs. 3.49 crore (for shortfall in generation of 54.95 MU due to reasons beyond the control of the generating station) as per Regulation 31(6)(b) of the 2014 Tariff Regulations, after considering the impact of the revenue earned from the energy generated under DSM. It is, however, noticed that the submissions of the Review Petitioner in the Review Petition differs from the submissions made by the Review Petitioner in the original petition (Petition No.348/MP/2018). In the original petition, the Review Petitioner had claimed shortfall in energy charges in 2016-17 as Rs.8.19 crore, due to shortfall in energy generation of 55.84 MU under Regulation 31(6)(b) of 2014 Tariff Regulations (as evident from paragraphs 4(i) and 15 (a) of the impugned order dated 4.2.2021). However, in the instant Review Petition, the Petitioner has revised the said submissions and has claimed shortfall in energy charges recoverable as Rs. 4.75 crore, corresponding to the same quantum of shortfall in energy generation i.e., 55.84 MU, under Regulation 31(4) of the 2014 Tariff Regulations. The Review Petitioner, in our view, cannot be permitted to make submissions which are different from the submissions made in the original petition and seek review of the order dated 4.2.2021.



15. As the findings of the Commission in the impugned order dated 4.2.2021 are based on the submissions of the parties, including the Review Petitioner, we find no reason to entertain the present revised submissions of the Review Petitioner for review the impugned order dated 4.2.2021. Thus, there is no error apparent on the face of the order and the review on this count stands rejected.

16. The issue (B) is decided accordingly.

17. Review Petition No.13/RP/2021 is disposed of at the 'admission stage' in terms of the above.

Sd/-
(Arun Goyal)
Member

Sd/-
(I.S. Jha)
Member

Sd/-
(P.K. Pujari)
Chairperson

