

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

**Petition No. 220/MP/2019
and
Petition No. 267/MP/2019**

Coram:

Shri I.S. Jha, Member

Shri Arun Goyal, Member

Shri P.K.Singh, Member

Date of Order: 10th December, 2023.

Petition No. 220/MP/2019

In the matter of

Application under Regulation - 44 (7 & 8) of CERC (Terms and Conditions of Tariff) Regulations, 2019 for Recovery of Shortfall in Energy Charges in comparison to fifty percent of the Annual Fixed Cost (AFC) for reasons beyond the control of generating station during the FY 2017-18 and 2018-19 in respect of Indira Sagar Power Station (ISPS).

And

In the matter of

NHDC Limited,
NHDC Parisar, Shyamla Hills,
Bhopal (M. P.) - 462013.

.....**Petitioner**

Vs

1. M.P. Power Management Co. Ltd (MPPMCL)
Shakti Bhawan, Vidyut Nagar,
Jabalpur (M.P.) – 482008
2. Narmada Valley Development Department,
GoMP, Mantralaya, Vallabh Bhawan,
Bhopal (M. P.) - 462004.

.....**Respondents**



Petition No. 267/MP/2019

In the matter of

Application under Regulation - 44 (7 & 8) of CERC (Terms and Conditions of Tariff) Regulations, 2019 for Recovery of Shortfall in Energy Charges in comparison to fifty percent of the Annual Fixed Cost (AFC) for reasons beyond the control of generating station during the FY 2017-18 and 2018-19 in respect of Omkareshwar Power Station (OSPS).

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NHDC Limited,
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Vs

1. M.P. Power Management Co. Ltd (MPPMCL)
Shakti Bhawan, Vidyut Nagar,
Jabalpur (M.P.) – 482008
2. Narmada Valley Development Department
GoMP, Mantralaya, Vallabh Bhawan,
Bhopal (M. P.) - 462004.

.....**Respondents**

Parties Present:

Shri Naresh Kumar Chellani, NHDC
Shri Sushik Kumar Verma, NHDC
Shri Y Narasimha Rao, NHDC
Shri Aditya Singh, Advocate, MPPMCL

ORDER

NHDC Limited (Petitioner) has filed the present petitions for recovery of unrecovered energy charges due to shortfall in recovery of energy charges due to shortfall



in energy generation for the reasons beyond the control of generating station during the FY 2017-18 and FY 2018-19 in respect of Indira Sagar Power Station (ISPS) and Omkareshwar Power Station (OSPS) seeking the following relief:

Prayer in Petition No. 220/MP/2019:

- a) *Hon'ble Commission may kindly allow the petitioner to recover the shortfall in energy charges for the FY 2017-18 and FY 2018-19 amounting to Rs.156.08 Cr (corresponding to generation (Saleable Scheduled Energy) shortfall of 753.52 MU) as per regulation 44 (7 & 8) of CERC Tariff Regulations, 2019.*
- b) *To allow further recovery/ adjustment of shortfall in energy charges on the basis revision of AFC to be determined by the Hon'ble Commission after truing up for FY 2017-18 and 2018-19 and issuance of water account by NCA for respective years.*
- c) *Pass such other and further order / orders as are deemed fit and proper in the facts and circumstances of the case.*

Prayer in Petition No. 267/MP/2019:

- a) *Hon'ble Commission may kindly allow the petitioner to recover the shortfall in energy charges for the FY 2017-18 and FY 2018-19 amounting to Rs.87.02Cr (corresponding to generation (Saleable Scheduled Energy) shortfall of 289.49 MU) as per regulation 44 (7 & 8) of CERC Tariff Regulations, 2019.*
- b) *To allow further recovery/ adjustment of shortfall in energy charges on the basis revision of AFC to be determined by the Hon'ble Commission after truing up for FY 2017-18 and 2018-19, demonstration of Capacity at corresponding attained Reservoir Level (EL 191.0M & EL 193.0M) and issuance of water account by NCA for respective years.*
- c) *Pass such other and further order / orders as are deemed fit and proper in the facts and circumstances of the case.*



Submission of the Petitioner in Petition No. 220/MP/2019

2. NHDC Limited (formerly known as Narmada Hydroelectric Development Corporation Ltd.), is a Joint Venture Company of NHPC Ltd. & Govt. of Madhya Pradesh with an equity participation of 51% and 49% respectively and is a Central 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.

3. The main objective of the formation of NHDC was development of hydro power potential in Narmada Basin of Madhya Pradesh and for the execution of Unit # I (Dam and Appurtenant Structures) & Unit # III (Power House and water conductor system) of ISP on ownership basis.

4. A Tripartite PPA was signed on 27/04/2007 between NHDC Ltd, GoMP, MP Trading Company (now MPPMCL) and Narmada Valley Development Department, GoMP for purchase of Power from the Indira Sagar Multipurpose Project for period of 35 years from the date of commercial operation (COD).

5. The Indira Sagar Power Station (ISPS) (8x125=1000MW) is located in the state of Madhya Pradesh. The entire power (100%) generated from ISPS is being supplied to its single beneficiary i.e. MPPMCL as per allocation by MoP, GoI, the appropriate government as per section 2(5) (a) of the Electricity Act' 2003, at the tariff determined by CERC under section 62 of the Electricity Act 2003.

6. The generating station comprises of three units, of which Unit-I comprises of dam and appurtenant works, Unit-II comprises of irrigation system and Unit-III is dedicated to power generation. Unit-I is common to both power generation and irrigation system. Unit-



III comprises of power station with installation of 8 machines each of 125 MW installed capacity, associated water conductor system and switchyard. Unit-I and Unit-III are mainly for power generation and named as 'Power Component' and Unit-II is for irrigation system and named as 'Irrigation Component' of this multi-purpose project.

7. The Annual Design Energy (DE) of Indira Sagar Power Station for the period 2017-18 is 1442.70 MU and keeping in view the provision of auxiliary losses (1%), the saleable energy Design Energy is 1428.27 MU. The elaborations are as under:-

“GoMP is executing Unit # II (Canal) of this Multipurpose Project. Depending upon the development of Canal Network and the Irrigation Command, the following three stages of the Power Generation for 90% dependable year, have been defined in the Techno-economic clearance (TEC) dated 22.5.1984 of CEA for ISPS, depending upon the water utilization by the State of MP in the Narmada Basin.

Stage of Irrigation Development	Total Irrigation Utilization in Basin (BM3) by MP	Firm Power (MW)
Stage-I	≤6.00	226
Stage-II	>6.00 ≤ 13.00	From 226 to 125
Stage-III	>13.00 ≤ 18.25	From 125 to 100
Final Stage	≥18.25	100

In order to work out the Reducing Power Benefit i.e. Firm Power during respective periods of Stage –II, CERC has derived the following formula:

$$FP(stage - II) = 226 - \frac{(226 - 125)}{(13 - 6.00)} \times (Q - 6.00)$$

Where,



- $FP_{(stage-II)}$ = Reducing power benefit i.e. Firm Power (in MW) on pro-rata basis during Stage-II period of Indira Sagar Multi-purpose Project.
- Q^* = Actual water utilization (in BM^3) for Irrigation by MP in the Narmada Basin to be notified by NCA for respective years.

*Note: * The value of Q shall be irreversible and shall not be reduced once attained.*

The Irrigation Command vis-à-vis the Consumptive Utilization by GoMP in Narmada Basin is getting increased in a gradual manner as being Notified by NCA on year to year basis. The details of water utilization as verified by NCA and corresponding Power Benefit are as under:

Year	Water Utilization by MP (as Published by NCA) (BM^3)	Reduced Power Benefits (Stg-II)	
		*Firm Power (MW)	*Design Energy (MU)
2015-16	10.249	164.69	1442.70
2016-17	10.072	167.25	1465.10

The value of Water Utilization (Q) is irreversible and shall not be reduced once attained, accordingly, working of Firm Power being done as per Water utilization data of 2015-16.”

8. In compliance to Clause No. 6.4 (16) of the IEGC Regulation 2010, ISPS is furnishing the Capacity Declaration (DC) of the Plant i.e. declaring the ex-power plant capacity in terms of Ex bus MW & MWh, in advance for the next day, i.e., from 00:00 hrs to 24:00 hrs, based on the availability of Generating Units and water releases / Reservoir level (ROT) finalized by SSRRC, NCA.



9. MPSLDC is preparing and finalizing the dispatch schedule of this Hydro Generating Station for optimum scheduling and despatch of electricity within the state, as per Clause No. 6.5 of the IEGC Regulation 2010.

10. In compliance to Clause No. 2.7.2 of the IEGC Regulation 2010, NHDC's Generating Stations are complying with the directions issued by the State Load Despatch Centre.

11. Indira Sagar Power Station was declared under Commercial operation w.e.f. 25.8.2005 and has already completed more than 10 years of operation. The present application is for recovery of short fall in energy charges due to shortfall in generation as per Regulation - 44 (7 & 8) of CERC (Terms and Conditions of Tariff) Regulations, 2019.

12. The Petitioner has submitted that ISPS is one of the components of Multipurpose Project having large storage reservoir and situated across monsoon fed river Narmada. As such, inflows in the reservoir is always subject to risk of hydrological failure in the catchment area of Narmada. In such eventualities of less inflows on account of bad monsoon, the usage of stored water in the reservoir of this Multipurpose Project has got the priorities as per National Water Policy and power generation comes at third priority after Drinking Water and Irrigation.

13. Against the installed capacity of ISPS of 1000 MW, its firm power is 226 MW in Stage-I which reduces to 100 MW in Stage-III, commensurate to consumptive usage of water by State of Madhya Pradesh as per allocation in NWDT award. As such, ISPS has



been envisaged as a peaking power station as one of the components of this Multipurpose Scheme.

14. During the monsoon of years 2017-18 and 2018-19, the Full Reservoir Level at Indira Sagar could not be achieved and consequently, power generation suffered on account measures taken by the State Government for conserving water for priority usages i.e. Drinking water and Irrigation and thereby not allowing Power Generation by depleting the reservoir level upto MDDL.

15. Accordingly, it is respectfully submitted that there has not been any shortfall in Generation which is attributable to the Planned & Forced outage of the Generating Units. The details of actual generation vis-à-vis the Design Energy during the years 2017-18 and 2018-19 are as under:

Year	Firm Power and Design Energy as trued-up by CERC at Para 69 & 70 of Order dated 06-01-2022 in Petition No. 106/GT/2020		Actual Generation (MU)	Shortfall (MU)	
	Firm Power (MW)	Design Energy (MU)		Design Energy	Saleable Design Energy (0.99 x D.E.)
2017-18	164.69	1442.71	881.68	561.03	555.42
2018-19	162.47	1423.26	1309.22	114.04	112.90

16. The Petitioner vide affidavit dated 7.10.2022 has submitted that the instant Petition was filed with Claim Amount of Shortfall in Recovery of Energy Charge for FY 2017-18 as Rs. 125.94 Cr. and for FY 2018-19 as Rs. 30.14 Cr., based on the Provisional Tariff



allowed by CERC for the period 2014-19 and the available water account notified by NCA upto 2016-17, subject to truing-up. Further, CERC vide order dated 6.1.2022 in Petition No. 106/GT/2020, has trued-up the AFC for the respective years of Tariff Period 2014-19 as well as trued-up the Design Energy (Para 69 & 70 of order dated 6.1.2022 in Petition No. 106/GT/2020) based on actual Consumptive usage of water by the State of Madhya Pradesh as per Water Account notified by NCA for the year 2017-18 & 2018-19. Accordingly, based on the trued-up AFC and Design Energy, the claim amounts revised as detailed below:

		FY 2017-18	FY 2018-19
a	Shortfall in Saleable Design Energy	555.42 MU	112.90 MU
b	Trued-up AFC (Rs.)	Rs. 56751.09 Lakhs	Rs. 50811.95 Lakhs
c	Trued-up Saleable Design Energy (i.e. 0.99 x Trued-up DE)	1428.28 MU	1409.03 MU
d	ECR (i.e. 50% Trued-up AFC / Trued-up Saleable Design Energy)	Rs 1.987	Rs 1.803
e	Shortfall in Energy Charge Amount (i.e. Shortfall in Saleable Design Energy x ECR) = a x d/10	Rs 110.362 Cr.	Rs 20.36 Cr.

17. From the above, it is evident that Saleable Scheduled Energy from Indira Sagar Power Station during the year 2017-18 and 2018-19 was less than the Saleable Design Energy of Power Station as given below: -

	FY 2017-18	FY 2018-19
Saleable Design Energy	1428.28 MU	1409.03 MU
Saleable Scheduled Energy	872.86 MU	1296.13 MU
Shortfall in Energy	555.42	112.90
Total Shortfall in Energy	668.32 MU	



18. It is clear from above that there is a total shortfall of 668.32MU (555.42 MU in the FY 2017-18 and 112.90 MU in FY 2018-19). Further the total shortfall of 668.32 MU, occurred due to reasons beyond the control of the petitioner and the corresponding under recovery in energy charges is to be recovered in six equal monthly installments.

19. The Petitioner in the main petition has submitted that as per State Energy Account (SEA) the net energy billed and Energy Charges actually recovered is as under:

Financial Year	Net Energy Billed (SEA) (MU)	Energy Charges actually recovered (Cr.)
2017-18	836.69	178.05
2018-19	1266.53	235.16

Submission of the Petitioner in Petition No.267/MP/2019

Based on above similar grounds, the Petitioner w.r.t. Omkareshwar Power Station (OSPS) has claimed as under:

20. The OSPS (8x65=520MW) is located in the state of Madhya Pradesh. The entire power (100%) generated from ISPS is being supplied to its single beneficiary i.e. MPPMCL as per allocation by MoP, Gol, the appropriate government as per section 2(5) (a) of the Electricity Act' 2003, at the tariff determined by CERC under section 62 of the Electricity Act 2003.

21. Against the installed capacity of OSPS of 520 MW, its firm power is 133.17 MW in Stage-I which reduces to 64.55 MW in Stage-III commensurate to consumptive usage of



water by State of Madhya Pradesh as per allocation in NWDT award. As such, ISPS has been envisaged as a peaking power station as one of the component of this Multipurpose Scheme.

22. During the monsoon of years 2017-18 and 2018-19, the Full Reservoir Level at Mother Reservoir Indira Sagar could not be achieved and consequently, power generation suffered on account of measures taken by the State Government for conserving water for priority usages i.e. Drinking water and Irrigation and thereby not allowing Power Generation by depleting the reservoir level upto MDDL.

23. Accordingly, there had not been any shortfall in Generation which is attributable to the Planned & Forced outage of the Generating Units. The details of actual generation vis-à-vis the Design Energy during the years 2017-18 and 2018-19 are as under:

Year	Firm Power and Design Energy as trued-up by CERC at Para 70 of Order dated 11-03-2022 in Petition No. 107/GT/2020		Actual Generation (MU)	Shortfall (MU)	
	Firm Power (MW)	Design Energy (MU)		Design Energy	Firm Power (MW)
2017-18	85.070	745.22	443.57	301.65	298.63
2018-19	84.070	736.45	612.01	124.44	123.20

24. The Petitioner vide affidavit dated 7.10.2022 has submitted that unlike Run-off-river Hydro Power Generating Station, the Firm Power of Multi-Purpose Schemes like instant case of OSPS depends upon the consumptive usages of stored water of Mother Reservoir Indira Sagar for the designated priorities over Power Generation such as



Drinking Water and Irrigation etc. As such, there cannot be a correlation of Reservoir Level with Firm Power.

25. Accordingly, as already submitted in foregoing paras that CEA / TEC of OSPS envisaged the Power Component of this Multi-Purpose Scheme in three stages viz. in Stage-I with Firm Power of 133.17 MW which corresponds to Design Energy of 1167 MU, Stage-II with Firm Power of 79.41 MW which corresponds to Design Energy of 696 MU and Stage-III with Firm Power of 64.55 MW which corresponds to Design Energy of 565 MU and whereas, Hon'ble CERC has devised the formula for evaluating the reducing Power Benefit of this Multi-Purpose Scheme.

26. In the eventuality of less rainfall owing to deficit monsoon, the power generation from such multipurpose schemes depends on the measures taken by the State Government for conserving the stored water for priority usages and permitting controlled down-stream releases through power houses. Consequent upon deficit monsoon in 2017 and 2018, the State Government had taken all precautionary measures to conserve the water in the reservoir and allowed the restricted water releases through Mother Reservoir Indira Sagar, which has resulted in the shortfall in energy as compared to Design Energy for the respective years.

27. The instant Petition was filed with Claim Amount of Shortfall in Recovery of Energy Charge FY 2017-18 as Rs. 68.94 Cr. and for FY 2018-19 as Rs. 18.08 Cr., based on the Provisional Tariff allowed by CERC for the period 2014-19 and the available water account notified by NCA upto year 2016-17, subject to truing-up. Further, CERC vide order dated 11-03-2022 in Petition No. 107/GT/2020, has trued-up the AFC for the respective years of Tariff Period 2014-19 as well as trued-up the Design Energy (Para 70



of order dated 11-03-2022 in Petition No. 107/GT/2020) based on actual Consumptive usage of water by the State of Madhya Pradesh as per Water Account notified by NCA for the year 2017-18 & 2018-19. Accordingly, based on the trued-up AFC and Design Energy, the claim amounts get revised as detailed below:

		FY 2017-18	FY 2018-19
a	Shortfall in Saleable Design Energy	298.63 MU	123.20 MU
b	Trued-up AFC	Rs. 40558.75 Lakhs	Rs. 40301.30 Lakhs
c	Trued-up Saleable Design Energy (i.e. 0.99 x Trued-up DE)	737.77 MU	729.09 MU
d	ECR (i.e. 50% Trued-up AFC / Trued-up Saleable Design Energy)	Rs 2.749	Rs 2.764
e	Shortfall in Energy Charge Amount (i.e. Shortfall in Saleable Design Energy x ECR) = a x d/10	Rs 82.09 Cr.	Rs 34.05 Cr.

28. From above it is evident that Saleable Scheduled Energy from OSPS during the year 2017-18 and 2018-19 was less than the Saleable Design Energy of Power Station, the Gist is as below:

	FY 2017-18	FY 2018-19
Saleable Design Energy(ex-bus)	737.77 MU	729.09 MU
Saleable Scheduled Energy(ex-bus)	439.13 MU	605.89 MU
Shortfall in Energy	298.63 MU	123.20 MU
Total Shortfall in Energy	421.83 MU	

29. It is clear from above that there is a total shortfall of 421.63 MU (298.63 MU in the FY 2017-18 and 123.20 MU in FY 2018-19). Further the total shortfall of 421.83 MU,



which occurred due to reasons beyond the control of the petitioner and the corresponding under recovery in energy charges is to be recovered in six equal monthly installments.

30. The Petitioner in the main petition has submitted that as per State Energy Account (SEA) the net energy billed and Energy Charges actually recovered are as under:

Financial Year	Net Energy Billed (SEA) (MU)	Energy Charges actually recovered (Cr.)
2017-18	441.93	133.24
2018-19	609.98	181.71

As per SEA net energy billed during the year 2017-18 and 2018-19 is 441.93 MU and 609.98 as against the saleable scheduled energy worked out bases on normative auxiliary consumption is 439.13 MU and 605.89 MU respectively. The revised shortfall in energy is as given below:

	FY 2017-18	FY 2018-19
Saleable Design Energy(ex-bus)	737.77 MU	729.09 MU
Saleable Scheduled Energy(ex-bus)	441.93 MU	609.98 MU
Shortfall in Energy	295.84 MU	119.11 MU
Total Shortfall in Energy	414.95 MU	

Replies and Rejoinder

Reply of Respondent No. 1 (MPPMCL) in 220/MP/2019

31. The Respondent MPPMCL in its reply vide affidavits dated 6.11.2019 and 14.10.2022 has mainly submitted as under:



(i) Petitioner was to approach the Central Electricity Authority with relevant hydrology data for revision of design energy of station. The saleable Scheduled energy for year 2014-15, 2015-16 and 2016-17 was more than the saleable design energy in the tariff period 2014-19 which clearly shows that Petitioner could not fulfill the mandatory condition of Proviso 44(7), i.e. there was no loss of energy for continuous period of 4 years.

(ii) The Petitioner has earned energy charges on account of saleable scheduled energy more than the energy charges recoverable on account of saleable design energy during Tariff period 2014-19 (5 years), and therefore, Petitioner claim is liable to be dismissed.

(iii) Petitioner has failed to produce certified copy of water availability from NCA.

(iv) Petitioner has recovered about Rs. 68.83 Cr as incentive included in Capacity charges on the basis of Plant availability factor during tariff period of 2014-2019.

Rejoinder of the Petitioner to the Reply filed by Respondent, MPPMCL

32. The Petitioner in its rejoinder, vide affidavits dated 29.11.2019 and 20.10.2022, to above replies of MPPMCL has submitted as under:

(i) The interpretation of Respondent -1 as regards said Provision is not appropriate as the shortfall in Generation occurred only in 02 Years (2017-18 & 2018-19), accordingly the shortfall in Energy Charges of these 02 years only has been claimed by Petitioner. However, above clause provides that the Generating Station is required to approach CEA only in case of shortfall occurrence for a continuous period of 4 Years.

(ii) During the tariff period 2014-19, ISPS has achieved Generation beyond Design Energy in the FY 2014-15, 2015-16 and 2016-17, however in FY 2017-18 and 2018-



19, Generation falls short of Design Energy, accordingly NHDC has filed the petitions for shortfall in energy charges for 2017-18 and 2018-19 as per relevant provision of CERC Regulations' 2019.

(iii) Entire right on use of water (i.e. on share of Narmada River water of MP) vests with Narmada Control Authority / GoMP. Further, NHDC has operated units of ISPS as per available water for generation and schedule obtained from MPSLDC, who are special invitee in SSRRC meeting and responsible for scheduling of ISPS by ensuring Ex-OSPS releases as per SSRRC regulation. It is also to submit that there was no spillage of water during the Energy Shortfall claim period of FY 2017-18 & 2018-19.

(iv) As per CERC Regulations, the recovery of AFC in case of hydro power project is in two parts i.e. Capacity Charges and Energy Charges at 50:50 basis. The recovery of energy charges component of AFC i.e. 50% of AFC, is dependent entirely on achievement of generation upto Design Energy and in case of shortfall in generation, the generator is liable to lose revenue.

ROP Compliance:

33. Commission vide ROP dated 22.9.2022 directed the Petitioner to file certain additional information. The Petitioner vide its affidavit dated 7.10.2022 submitted the desired information/clarifications and documents such as Actual water utilization (in BM3) for irrigation by MP in the Narmada Basin as notified by NCA for the period 2017-18 and 2018-19, Planned and forced machine outage data certified by CEA/WRLDC/WRPC and its correlation with energy generation, actual generation during the 2014-15 to 2016-17 tariff period, including calculation of design energy approved by CEA/TEC and correlation of inflows with reservoir level and correlation of reservoir level with firm power. With regard



to design energy, the Petitioner has submitted the calculation of design energy as approved by the Commission. With regard to correlation of inflows with reservoir level and with firm power, the Petitioner has submitted as under:

“unlike Run-off-river Hydro Power Generating Station, the Firm Power of Multi-Purpose Schemes like instant case of ISPS depends upon the consumptive usages of stored water of Reservoir for the designated priorities over Power Generation such as Drinking Water and Irrigation etc. As such, there cannot be a correlation of Reservoir Level with Firm Power.

CEA / TEC of ISPS envisaged the Power Component of this Multi-Purpose Scheme in three stages viz. in Stage –I with Firm Power of 226 MW which corresponds to Design Energy of 1980 MU, Stage –II with Firm Power of 125 MW which corresponds to Design Energy of 1095 MU and Stage –III with Firm Power of 100 MW which corresponds to Design Energy of 876 MU and whereas, CERC has devised the formula for evaluating the reducing Power Benefit of this Multi-Purpose Scheme.”

34. The issues involved in both the petition are similar and common. The reply filed by the Respondent no. 1, MPPMCL are also similar in both the petitions. Accordingly, we are analyzing the issue pertaining in petition no. 220/MP/2019 in detail and the same will be adopted for petition no. 267/MP2019. As such, based on above and documents available on record, we now proceed to determine the allowable shortfall in energy charges w.r.t. petition no. 220/MP/2019.

Analysis and Decision (Petition no. 220/MP/2019)

35. The present application is filed under Regulation 44(7) and 44(8) of CERC (Terms and Conditions of Tariff) Regulation, 2019) is for recovery of short fall in energy charges due to shortfall in energy generation. As per Regulation 44(8) and 44 (7) of CERC (Terms and Conditions of Tariff) Regulation 2019, the recovery mechanism for shortfall in energy charges pertaining to the tariff period 2014-19 (un-recovered portion) is reproduced as under:



“Regulation 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 instalments:

Regulation 44(8)

Any shortfall in the energy charges on account of saleable scheduled energy (ex-bus) being less than the saleable design energy (ex-bus) during the tariff period 2014-19 which was beyond the control of the generating station and which could not be recovered during the said tariff period shall be recovered in accordance with clause (7) of this Regulation.”

36. There has been shortfall in energy charge recovery for the instant generating station due to shortfall in energy generation during the year 2017-18 and 2018-19. The details of actual generation vis-à-vis the Design Energy during the years 2017-18 and 2018-19 (as approved by CERC in Order dated 06-01-2022 in Petition No. 106/GT/2020) are as below:

Year (A)	Design Energy (MU)		Actual Generation (MU)	Shortfall in energy generation (MU)	
	At Generator Terminal (GT) (B)	Saleable Design Energy at Ex-Bus (C)=0.99xB	At Generator Terminal (GT) (D)	At Generator Terminal (GT) (E)=(B)-(D)	At Ex-Bus (F)=0.99 x (E)
2017-18	1442.71	1428.28	881.68	561.03	555.42
2018-19	1423.26	1409.03	1309.22	114.04	112.90

37. The Saleable Scheduled Energy from Indira Sagar Power Station during the year 2017-18 and 2018-19 was less than the Saleable Design Energy of Power Station as given below:



	FY 2017-18	FY 2018-19
Saleable Design Energy (ex-bus)	1428.28 MU	1409.03 MU
Saleable Energy(ex-bus, normative auxiliary consumption of 1%)	872.86 MU	1296.13 MU
Saleable Scheduled Energy(ex-bus)	836.69	1266.33
Shortfall in Energy	555.42	112.90
Total Shortfall in Energy	668.32 MU	

38. Based on above, the Petitioner vide its affidavit dated 7.10.2022 has claimed shortfall in energy charge for the period 2017-18 and 2018-19 as under:

		FY 2017-18	FY 2018-19
a	Shortfall in Saleable Design Energy	555.42 MU	112.90 MU
b	Trued-up AFC	Rs. 56751.09 Lakhs	Rs. 50811.95 Lakhs
c	Trued-up Saleable Design Energy (i.e. 0.99 x Trued-up DE)	1428.28 MU	1409.03 MU
d	ECR (i.e. 50% Trued-up AFC / Trued-up Saleable Design Energy)	Rs. 1.987	Rs 1.803
e	Shortfall in Energy Charge Amount (i.e. Shortfall in Saleable Design Energy x ECR) = a x d/10	Rs 110.362 Cr.	Rs 20.36 Cr.

39. In support of the above, the Petitioner has submitted that ISPS is one of the components of Multipurpose Project having large storage reservoir and situated across monsoon fed river Narmada. As such, inflows in the reservoir is always subject to risk of hydrological failure in the catchment area of Narmada. In such eventualities of less inflows on account of bad monsoon, the usage of stored water in the reservoir of this Multipurpose Project has got the priorities as per National Water Policy and power generation comes at third priority after Drinking Water and Irrigation.



40. Against the installed capacity of ISPS of 1000 MW, its firm power is 226 MW in Stage-I which reduces to 100 MW in Stage-III commensurate to consumptive usage of water by State of Madhya Pradesh as per allocation in NWDT award.

41. During the monsoon of years 2017-18 and 2018-19, the Full Reservoir Level at Indira Sagar could not be achieved and consequently, power generation suffered on account measures taken by the State Government for conserving water for priority usages i.e. Drinking water and Irrigation and thereby not allowing Power Generation by depleting the reservoir level upto MDDL.

42. Indira Sagar Reservoir is the mother reservoir for all downstream cascading projects like Omkareshwar, Maheshwar and Sardar Sarovar. Omkareshwar is a Run of River (ROR) with Pondage type of project with small reservoir capacity and thus the Operation of its units is mainly dependent on releases from ISPS and hence the operation of units of OSPS is done in coordination with operation of units of ISPS.

43. Sardar Sarovar Reservoir Regulatory Committee (SSRRC), a sub-committee of Narmada Control Authority (NCA) has been setup under Narmada Water Disputes Tribunal (NWDT) as a machinery for implementation of its directions and decision. The NCA issues Reservoir Operation Table (ROT) having details of Ex-OSPS release (as Ex-MP releases), reservoir level of ISPS, SSP etc. after consultation and agreement by the party states.

44. The water releases from Ex- OSPS and Reservoir level of Indira Sagar Dam is finalized by SSRRC. Further, the Ex-OSPS releases in ROT are made after considering



all aspect of water utilization/ uses like irrigation, drinking water, industrial, environmental consideration etc. as stipulated in Clause 6.5(10) of IEGC 2010.

45. Further, Petitioner being the owner and operator of Dam and Power House has to comply with the provision of the NWDT Award and the direction of NCA for the water releases from the reservoir of ISPS & OSPS through the operation of Generating units. Also, it is pertinent to mention that MPSLDC, which is a special invitee in SSRRC meetings, is responsible for scheduling of ISPS & OSPS, so that such regulated Ex-OSPS releases to party states shall be ensured.

46. The entire right on use of water (i.e. on share of Narmada River water of MP) vests with Narmada Control Authority / GoMP. Further, NHDC has operated units of ISPS and OSPS as per available water for generation and schedule obtained from MPSLDC.

47. Consequent upon deficit monsoon 2017 and 2018, the State Government had taken all precautionary measures to conserve the water in the reservoir and allowed the restricted water releases through ISPS which has resulted in the shortfall in energy as compared to Design Energy for the respective years.

48. We have examined the submissions of the parties. It is noticed that the reason for shortfall in energy generation was due to less release of water for generation by SSRRC due to poor monsoon in 2017-18 and 2018-19. It is also noticed from the CEA outage report for the year 2017-18 and 2018-19 that the machines of the instant generating station were available during the above period except for annual maintenance period (planned outage) and forced outage period. From above report, it is observed that one unit of the instant generating station was not available due to Rotor issue from 7.8.2017



to 8.8.2017. It is noticed from daily generation data submitted by the Petitioner that during these two days as per SSRRC water releases of 88.00 MCM was planned and saleable design energy for these two days was 3.91 MU. However, the actual release of water for 7.8.2017 was 11.23 MU and for 8.8.2017 it was 0.00 MCM, as such, there is shortfall of 2.41 MU on 7.8.2017 and 3.91 MU on 8.8.2017. Considering the fact that for these days when one unit was under outage, there was less water available for generation and also no spillage was observed during these two days, we are of the view that the , shortfall in energy generation as compared to design energy was not due to forced outage. Accordingly, we consider the shortfall in energy generation of 668.32MU (555.42 MU in the FY 2017-18 and 112.90 MU in FY 2018-19) was beyond the control of the Petitioner and the corresponding shortfall in energy charge shall be compensated to the Petitioner.

49. Further, it is observed from MPSLDC SEA data that actual saleable ex-bus generation is 876.25 MU and 1298.97MU during 2017-18 and 2018-19 respectively, out of which saleable scheduled/billed generation is 836.69 MU and 1266.33 MU during 2017-18 and 2018-19, respectively. The gap of 39.56 MU (876.25-836.69) during 2017-18 and 32.64 MU (1298.97-1266.33) during 2018-19 is the energy accounted under DSM. In this regard, it is further observed that the Petitioner in its revised claim has already adjusted the above energy accounted under DSM.

50. As per SEA actual saleable ex-bus generation is 876.25 MU and 1298.97MU during 2017-18 and 2018-19, respectively. Considering the saleable design energy of 1428.28 MU during 2017-18 & 1409.03 MU during 2018-19, the net shortfall in energy at



ex-bus is works out as 552.03 (1428.28-876.25) MU and 110.06 (1409.03-1298.97) MU during 2017-18 and 2018-19, respectively as against the shortfall in energy claimed by the Petitioner 555.42 MU and 112.90MU during 2017-18 and 2018-19, respectively (based on normative auxiliary consumption). The revised allowed shortfall in energy is as given below:

	FY 2017-18	FY 2018-19
Saleable Design Energy(ex-bus) (a)	1428.28 MU	1409.03 MU
Saleable Energy(ex-bus) (b)	876.25 MU	1298.97 MU
Shortfall in Energy (c)=(a)-(b)	552.03 MU	110.06 MU
Total Shortfall in Energy	441.97 MU	

51. Accordingly, we allow the energy charge shortfall for the period 2017-18 and 2018-19 total shortfall in energy generation as allowed above as under:

		FY 2017-18	FY 2018-19
(a)	Shortfall in energy generation including DSM energy allowed (MU)	552.03	110.06
(b)	ECR as per order 6.1.2022 in Petition No. 106/GT/2020 (Rs./kWh)	1.987	1.803
(c)	Shortfall in Energy Charge allowed Rs. in Cr. (a) x (b)/10	109.69	19.84

52. Accordingly, in terms of Regulation 44(7) of the 2019 Tariff Regulations, we allow the energy charge shortfall for Rs. 109.69 Cr. and Rs. 19.84 Cr. for ISPS (Petition No. 220/MP/2019) for the period 2017-18 and 2018-19, respectively.

53. As discussed earlier, based on the similar analysis in Petition no. 220/MP/2019, we have calculated the shortfall for OSPS (petition no. 267/MP/2019). As per SEA net energy billed during the year 2017-18 and 2018-19 is 441.93 MU and 609.98 as against



the saleable scheduled energy worked out based on normative auxiliary consumption is 439.13 MU and 605.89 MU respectively. The revised allowed shortfall in energy is as given below:

	FY 2017-18	FY 2018-19
Saleable Design Energy(ex-bus) (a)	737.77 MU	729.09 MU
Energy billed (ex-bus) (b)	441.93 MU	609.98 MU
Shortfall in Energy (c)=(a)-(b)	295.84 MU	119.11 MU
Total Shortfall in Energy	414.95 MU	

54. Accordingly, we allow the energy charge shortfall for the period 2017-18 and 2018-19 for total shortfall in energy for scheduled energy at ex-bus as under:

		FY 2017-18	FY 2018-19
a	Total shortfall in energy generation allowed (MU)	295.84	119.11
b	ECR as per order 11.3.2022 in Petition No. 107/GT/2020 (Rs./kWh)	2.749	2.764
c	Shortfall in Energy Charge allowed Rs. in Cr. (a) x (b)/10	81.33	32.92

55. Accordingly, in terms of Regulation 44(7) of the 2019 Tariff Regulations, we allow the energy charge shortfall for Rs. 81.33 Cr. and Rs. 32.92 Cr. for OSPS (Petition No. 267/MP/2019) for the period 2017-18 and 2018-19, respectively.

56. In view of the above deliberations the Petitioner is entitled for recovery of the corresponding energy charge shortfall as given below:

	Energy Charge shortfall claimed by the Petitioner (Rs. Cr.)		Energy charges allowed to be recovered (Rs. Cr.)	
	2017-18	2018-19	2017-18	2018-19
Petition No.220/MP/2019	110.362	20.36	109.69	19.84
Petition No.267/MP/2019	82.09	34.05	81.33	32.92



57. Accordingly, in terms of Regulation 44(7) of the 2019 Tariff Regulations, we allow the energy charge shortfall of Rs. 109.69 Cr. and Rs. 19.84 Cr. in case of Petition No. 220/MP/2019 and of Rs. 81.33 Cr. and Rs. 32.92 Cr. in case of Petition No. 267/MP/2019, for the period 2017-18 and 2018-19, respectively. The same shall be recovered by the Petitioner in six equal interest free monthly installments starting within three months from the date of the order issued by the Commission.

58. Commission vide its order dated 31.5.2016 in Petition No. 265/GT/2014 and order dated 6.1.2022 in Petition No. 106/GT/2020 has approved tariff and true-up order for ISPS for the period 2014-19. Similarly, Commission vide its order dated 26.5.2016 in Petition No. 264/GT/2014 and vide order dated 11.3.2022 in Petition No. 107/GT/2020 has approved the tariff and true-up order for OSPS. In these orders there is change in the Annual Fixed Charge and Design Energy in the true up order as compared to the tariff order for ISPS and OSPS. The energy shortfall has been approved based on the design energy and AFC as per the true-up orders. Accordingly, the Petitioner is directed to ensure that recovery of total energy charges including the shortfall in energy charges allowed in this order is restricted to 0.5xAFC allowed in true-up orders for the years 2017-18 and 2018-19.

59. Petition No. 220/MP/2019 and Petition No. 267/MP/2019 are disposed of in terms of above

Sd/-

**(P. K. Singh)
Member**

Sd/-

**(Arun Goyal)
Member**

Sd/-

**(I. S. Jha)
Member**

