CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 293/GT/2019

Coram:

Shri P.K. Pujari, Chairperson
Shri I.S. Jha, Member
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member

Date of Order: 31st March 2022

IN THE MATTER OF

Petition for revision of tariff of Doyang Hydro Electric Power plant (75 MW) of North Eastern Electric Power Corporation Limited, Shillong for the 2014-19 tariff period after truing-up exercise.

AND

IN THE MATTER OF

North Eastern Electric Power Corporation Limited,
Corporate Office: Brookland Compound,
Lower New Colony,
Shillong-793003 **…. Petitioner**

Vs

1. Assam Power Distribution Company Limited,
"Bijulee Bhawan" Paltanbazar,
Guwahati-781001, Assam

2. Meghalaya Power Distribution Corporation Limited,
Lumjinshai, Short Round Road,
Shillong-799001, Meghalaya

3. Tripura State Electricity Corporation Limited,
Bidyut Bhavan, North Banamalipur,
Agartala-799001, Tripura

4. Power & Electricity Department,
Government of Mizoram, New Secretariat Complex,
Kawlpetha, Aizwal-796001

5. Manipur State Power Distribution Company Limited,
3rd Floor, New Directorate Building, Near 2nd M.R. Gate

Imphal-Dimapur Road,
Imphal-795001, Manipur

6. Department of Power,
Government of Arunachal Pradesh, Vidyut Bhawan,
Itanagar-791111

7. Department of Power,
Government of Nagaland,
Electricity House, AG Colony
Kohima-797001

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

9. North Eastern Regional Load Despatch Centre,
Dongtieh, Lower Nongrah,
Lapalang, Shillong-793006 **…..Respondent**

Parties Present:
Shri Prabal Mukhopadhaya, NEEPCO
Shri Devapriya Choudhury, NEEPCO
Shri Elizabeth Pyrbot, NEEPCO

ORDER

This petition has been filed by the Petitioner, NEEPCO, for truing-up of tariff of Doyang Hydroelectric Project (3 x 25 MW) (hereinafter referred to as "the generating station") for the 2014-19 tariff period, in terms of Regulation 8 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations").

Background

2. The project comprises of three units of 25 MW capacity each and is a run of the river scheme with pondage having a Head Race Tunnel and a surface Powerhouse with a corresponding reservoir. The date of commercial operation of the units/station is as under:

Units	Actual COD
I	29.06.2000
II	05.07.2000
III / **Generating Station**	08.07.2000

3. Petition No. 43/GT/2015 was filed by the Petitioner for approval of tariff of the generating station for the 2014-19 tariff period and the Commission vide its order dated 13.1.2016 approved the annual fixed charges of the generating station. Subsequently, by Corrigendum order dated 7.3.2016, the annual fixed charges were revised after applying the effective tax rate applicable for the year 2014-15 for all the years for the 2014-19 tariff period, as under:

Annual Fixed Charges allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	4164.88	4202.76	4237.50	4251.55	4255.34
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Depreciation	1021.86	1066.17	1114.75	1133.28	1138.49
Interest on Working Capital	334.84	351.05	368.23	385.26	402.83
O & M Expenses	3900.10	4159.22	4435.56	4730.26	5044.54
Total	**9421.67**	**9779.19**	**10156.05**	**10500.35**	**10841.21**

4. The Petitioner has filed the present petition for truing-up of tariff of the generating station for the 2014-19 tariff period and has claimed the capital cost and the annual fixed charges for the 2014-19 tariff period as stated below:

Capital Cost claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	63806.14	64174.27	65085.55	65221.51	65408.32
Add: Addition during the year / period	442.78	873.07	240.91	201.42	667.20
Less: De-capitalization during the year / period	74.65	0.55	104.95	18.87	3.48
Less: Reversal during the year / period	0.00	1.69	0.00	0.00	769.17
Add: Discharges during the year / period	0.00	40.44	0.00	4.26	0.00
Closing Capital Cost	**64174.27**	**65085.55**	**65221.51**	**65408.32**	**65302.88**

Annual Fixed Charges claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	4146.62	4443.93	5353.09	4752.92	4273.86
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Depreciation	986.12	1086.27	1063.07	1108.17	737.24
Interest on Working Capital	333.60	357.06	371.91	369.24	355.29
O & M Expenses	3900.10	4159.22	4435.56	4730.26	5044.54
Total	**9366.44**	**10046.48**	**11223.63**	**10960.60**	**10410.93**

5. The matter was heard through Video conferencing on 27.7.2020 and the Commission vide Record of the Proceedings (ROP) directed the Petitioner to submit certain additional information and for parties to complete pleadings in the matter. The Petitioner vide affidavit dated 14.8.2020 has filed the additional information. Reply has been filed by the Respondent, Assam Power Distribution Company Limited vide its affidavit dated 28.8.2020 and the Petitioner has filed its rejoinder vide affidavit dated 9.9.2020 to the said reply. Thereafter, the matter was heard again through video conferencing and the Commission after directing the Petitioner to file certain additional information, reserved its order in the petition. In response, the Petitioner vide affidavit dated 7.9.2021 has filed the additional information and served copies of the same on the Respondents. Taking into consideration the submissions of the parties and the documents available on record, we proceed for truing-up the tariff of the generating station, on prudence check, as stated in the subsequent paragraphs.

Capital Cost

6. Regulation 9 of the 2014 Tariff Regulations provides as under:

"9 (3) The Capital cost of an existing project shall include the following:

(a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;

(b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and

(c) expenditure on account of renovation and modernization as admitted by this Commission in accordance with Regulation 15."

(4) The capital cost in case of existing/new hydro generating station shall also include:

(a) cost of approved rehabilitation and resettlement (R&R) plan of the project inconformity with National R&R Policy and R&R package as approved; and

(b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) project in the affected area."

7. The Commission vide its order dated 28.9.2015 in Petition No. 458/GT/2014 had approved the closing capital cost of Rs.63806.14 lakh as on 31.3.2014. Accordingly, in terms of Regulation 9 of the 2014 Tariff Regulations, the closing capital cost of Rs.63806.14 lakh has been considered as the opening capital cost as on 1.4.2014, for the purpose of tariff.

Additional Capital Expenditure

8. Clause (3) of Regulation 7 of the 2014 Tariff Regulations provides that the application for determination of tariff shall be based on admitted capital cost including any additional capital expenditure already admitted upto 31.3.2014 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2014-15 to 2018-19. Regulation 14 of the 2014 Tariff Regulations, provides as under:

"14 (1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the commission, subject to prudence check:

(i) Undischarged liabilities recognized to be payable at a future date;
(ii) Works deferred for execution;
(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;
(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and
(v) Change in law or compliance of any existing law:

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.

(2) The capital expenditure incurred or projected to be incurred in respect of the new project on the following counts within the original scope of work after the cut-off date may be admitted by the Commission, subject to prudence check:

(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;

(ii) Change in law or compliance of any existing law;

(iii) Deferred works relating to ash pond or ash handling system in the original scope of work; and

(iv) Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.

(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:

(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;

(ii) Change in law or compliance of any existing law;

(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;

(iv) Deferred works relating to ash pond or ash handling system in the original scope of work;

(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;

(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;

(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal / lignite-based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;

(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and

any other expenditure which has become necessary for successful and efficient operation of transmission system; and

(x) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialization of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers computers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2014:

Provided further that any capital expenditure other than that of the nature specified above in (i) to (iv) in case of coal/lignite based station shall be met out of compensation allowance:

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation.

(4) In case of de-capitalization of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of de-capitalization shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalization takes place, duly taking into consideration the year in which it was capitalized."

9. The Commission vide its order dated 13.1.2016 in Petition No. 43/GT/2015 had allowed the year-wise, net projected additional capital expenditure for the 2014-19 tariff period as under:

(Rs.in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
705.00	1290.97	540.00	200.00	0.00	2735.97

10. The year-wise break-up of actual additional capital expenditure (including discharges of liabilities) claimed by the Petitioner for the 2014-19 tariff period, is as under:

(Rs.in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Additions during the year/period (a)	442.78	873.07	240.91	201.42	667.20
Less: De-capitalization during the year/ period (b)	74.65	0.55	104.95	18.87	3.48
Less: Reversal during the year/ period (c)	0.00	1.69	0.00	0.00	769.17
Add: Discharges during the year/	0.00	40.44	0.00	4.26	0.00

	2014-15	2015-16	2016-17	2017-18	2018-19
period (d)					
Net additional capital expenditure claimed (e)=(a)-(b)-(c)+(d)	**368.13**	**911.28**	**135.96**	**186.81**	**(-) 105.44**

11. As regards actual additional capital expenditure claimed, the Petitioner has submitted the following:

> *"The additional capital expenditure claimed relates to certain works which were necessarily undertaken for efficient operation of the generating station or were part of the original scope of work. The capital expenditure on this account and justification for carrying out these works has been included in the claim.*
>
> *There are certain expenditures of capital nature, which have been allowed by the Commission while determining AFC for Doyang Hydro Electric project for the period of 2014-19 vide its order order dated 13.01.2016 in Petition No. 43/GT/2015 but could not be completed by the petitioner within the stipulated period of 31.03.2019 due to various practical constraints. It is humble submission of NEEPCO before the Hon'ble Commission for allowing to carry on the remaining works relating to the aforesaid allowed expenditures during the subsequent years based on the application submitted before the CERC for the control period 2019-24.*
>
> *The impact on AFC due to the capitalization is being claimed after excluding the amount incurred on minor items/ expenditures of O&M nature/spares etc., which are not allowable as additional capitalization for Tariff purpose as per provisions of Tariff Regulations, 2014.*

12. The Respondent, APDCL has submitted that the additional capital expenditure claimed by the Petitioner is to be within the limit of additional capital expenditure allowed by order dated 13.1.2016 in Petition No. 43/GT/2015. The Respondent has submitted that the Commission may look into the matter and allow the additional capital expenditure only after prudence check. The Petitioner, in its rejoinder has clarified that it has furnished detailed justification for the actual additional capital expenditure claimed, duly supported by auditor certificate, in terms of the 2014 Tariff Regulations.

13. It is observed that in Petition No.43/GT/2015, the Petitioner had claimed projected additional capital expenditure in respect of certain assets/ works which were projected to be capitalized during the 2014-19 tariff period, and the same was allowed by order dated 13.1.2016. However, in the present petition, the Petitioner

has also claimed actual additional capital expenditure in respect of some new assets/ works, which were not projected earlier and, hence, there is variation between the actual additional capital expenditure claimed as against the projected additional capital expenditure allowed in order dated 13.1.2016 in Petition No. 43/GT/2015. The claims of the Petitioner year-wise, is examined in the table below:

2014-15

14. The admissibility of the actual additional capital expenditure claimed by the Petitioner and allowed for 2014-15, based on prudence check of the justification furnished by the Petitioner are as under:

(Rs. in lakh)

Works/ Items	Amount claimed	Regulation	Justification by the Petitioner/Submission of the Respondents	Admissibility	Amount allowed
Construction of Boundary Wall at colony	39.41	14(3)(i)	The Petitioner has submitted that for security and safety of the colony the expenditure on boundary wall is necessary.	The expenditure incurred is in respect of assets / works which was already allowed vide order dated 13.1.2016 in Petition No. 43/GT/2015. The present colony is devoid of any fencing which is required for protection of the station and employees. Hence, the actual additional capital expenditure incurred for the work is **allowed** under Regulation 14(3)(i) of the 2014 Tariff Regulations.	39.41
Digital Governor System	373.35	14(3)(viii)	The Petitioner submits that in order to maintain grid discipline and for grid stability and to prevent collapse of grid, Free Governing and Restricted Governing Mode of Operation was introduced and implemented. To cater to the demand the old EHG system was replaced with the new digital governor system where response and control of machine is faster, quicker, leading to stability of the system and also the	Considering the fact that the asset is necessary for successful and efficient operation of the generating station, the additional capital expenditure incurred by the Petitioner on this asset is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations. The Petitioner has claimed its de-capitalization in 2015-16. However, the	373.35

Works/ Items	Amount claimed	Regulation	Justification by the Petitioner/Submission of the Respondents	Admissibility	Amount allowed
			machine. This asset has facilitated the successful and efficient operation of the Plant. The Respondent APDCL has submitted that the Petitioner should have discussed with NERPC and the beneficiary States about the necessity of this expenditure before installing the governor. It has, however, stated that the Commission may examine the same and decide keeping the interest of both sides.	Petitioner has indicated the de-capitalized value of Rs. 1.69 lakh on account of replacement of digital governor system based on assumed deletion. Based on the approach adopted in paragraph 25 and paragraph 26 below, the expenditure for Rs. 188.60 lakh is considered under '**Assumed deletion**'.	
Catchment Area Treatment (CAT) Plan	30.02	14(3)(viii)	The Doyang CAT plan was approved by MOE&F, GOI for an estimated amount of Rs. 328.00 lakh vide letter No. 14-68/80-IAI dated 14.9.2000. The scheme was implemented by Forest and Soil Conservation Department, Nagaland under statutory monitoring of MOE&F, Norther Eastern Regional Office (NERO), Shillong. Based on the recommendation of the Conservator of Forest (Central), MOE&F, Shillong for release of final balance amount, an amount of Rs. 30.01.620 was released towards final payment for implementing CAT plan of Doyang Hydro Electric Plant. The Respondent APDCL has submitted that the documents submitted by the Petitioner does not clarify that the expenditure shall be borne by the beneficiaries also the same shall not qualify under Regulations 14(3)(viii).	The Petitioner has submitted that the expenditure has been incurred due to compensatory afforestation, works in agriculture, development of Micro enterprise etc. The Petitioner has also furnished the MOE&F approval letter dated 14.9.2000 for Catchment Area Treatment Plan of the generating station. In view of this and since the payment released is the final balance amount, the expenditure incurred by the Petitioner on this item is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations.	30.02
Total amount Claimed	**442.78**				
Total amount Allowed					**442.78**

2015-16

15. The admissibility of the actual additional capital expenditure claimed by the Petitioner and allowed for 2015-16, on prudence check of the justification furnished by the Petitioner are as under:

(Rs.in lakh)

Works/ Items	Amount claimed	Regulation under which claimed	Justification by the Petitioner/Submission of the Respondents	Admissibility	Amount allowed
Construction of additional quarters as per entitlement	767.56	14(3)(viii)	In addition to the construction of quarters, ancillary works like approach road, side drains, boundary wall, security booth etc were also taken up which led to increase in additional expenditure. The Respondent APDCL has submitted that the amount approved by the Commission is for additional quarter as per entitlement only and the Petitioner should have taken prior permission of the Commission before carrying out the ancillary works.	The Commission vide order dated 13.1.2016 in Petition No. 43/GT/2015 had allowed the additional capitalization of Rs. 650 lakh for this work. The actual cost incurred by the Petitioner is as per the work executed as per the actual site conditions and necessity. In view of the above the additional capitalization claimed is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations.	767.56
Parapet wall at Dam top	5.29	14(3)(viii)	For safety of human life, parapet wall was necessary at the downstream side of the Dam Top. The Respondent APDCL has submitted that the Commission may examine and decide accordingly.	The work is considered necessary for safety of the employees working at site and in turn will facilitate the efficient and successful operation of the plant. As the additional capital expenditure incurred is in respect of assets/ works which were already allowed vide order dated 13.1.2016 in Petition No. 43/GT/2015, the same is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations.	5.29
Replacement of 220 V, 600 AH, 2 V/Cell Battery Bank	71.76	14(3)(viii)	The Petitioner has submitted that due to prolonged usage that is for over 15 years of the existing 110 Nos. (2V each), 220 V, 600 AH Battery Bank, it was felt necessary that the same needed to be replaced by procuring a new set. The Battery Bank supplies 220 V DC to all the local and remote	As the expenditure incurred is in respect of assets/ works which was already allowed vide Commission's order dated 13.1.2016 in Petition No. 43/GT/2015, the same is **allowed** under Regulation 14(3)(viii) of	71.76

Works/ Items	Amount claimed	Regulation under which claimed	Justification by the Petitioner/Submission of the Respondents	Admissibility	Amount allowed
			controls and relays of DHEP Power Station and Switchyard Panels and, in turn, failure of this Battery Bank would jeopardize the running of the Power Station. The existing Battery Bank had completed its service life and hence replacement was necessary. The Respondent APDCL has submitted that the Commission may examine and decide accordingly.	the 2014 Tariff Regulations. Against the projected expenditure allowed, the Petitioner, has capitalised an amount of Rs.71.76 lakh in 2015-16, but has not indicated the de-capitalized value of old asset. Hence, the de-capitalized value of the old asset has been considered under "**Assumed Deletions**".	
Replacement of 5 MVA, 132/33 kV Station Service Transformer	28.46	14(3)(viii)	The 5 MVA, 132/33 kV, CGL make Station Transformer was commissioned in the year 1999. However, due to recurring problems the same was taken out of service and instead a 2.5 MVA, 132/33 kV Areva make transformer was put into service in January 2011. After inspection of the Core Coil assembly of the 5 MVA Transformer it was found that copper granules were scattered in the tank and burnt out marks were also visible in the top disc of the Y-Phase. The service engineer from M/s CGL, due to recurring problems history of the said transformer, recommended for replacement of all 3 nos. (both HV and LV) coils for restoration of the transformer. Accordingly, complete repair and renovation of the 5 MVA 132/33 kV Station Service Transformer was done at a cost of Rs. 28.46 lakhs and the 5MVA Station Service Transformer put into service in the FY 2015-16 and performing satisfactorily since then. The Respondent APDCL has submitted that the Commission may examine and decide accordingly.	As the expenditure incurred is in respect of assets/ works which was already allowed vide Commission's order dated 13.1.2016 in Petition No. 43/GT/2015, the same is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations. Against the projected expenditure allowed, the Petitioner has capitalised an amount of Rs.28.46 lakh in 2015-16, but has not indicated the de-capitalized value of old asset. Hence, the de-capitalized value of the old asset has been considered under "**Assumed Deletions**".	28.46
Total amount Claimed	**873.07**				
Total amount Allowed					**873.07**

2016-17

16. The admissibility of the actual additional capital expenditure claimed by the Petitioner and allowed for 2016-17, on prudence check of the justification furnished by the Petitioner are as under:

(Rs. in lakh)

Works/ Items	Amount claimed	Regulation under which claimed	Justification by the Petitioner/Submission of the Respondents	Admissibility	Amount allowed
Construction of additional quarters as per entitlement	95.84	14(3)(viii)	In addition to the construction of quarters, ancillary works like approach road, side drains, boundary wall, security booth etc were also taken up which led to increase in additional expenditure.	We have allowed the expenditure on account of construction of additional quarters as per entitlement in 2015-16. Since the additional capital expenditure claimed in 2016-17 is on account of balance work incurred, the additional capitalization claimed is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations.	95.84
Installation of Air Coolers for Generator	58.54	14(3)(viii)	The Petitioner has submitted that the old stator air coolers has been repaired several times and most of the tubes are blocked thereby the overall effective cooling of stator winding has been drastically affected, which may lead to rise in stator winding temperature and ultimately will lead to stator insulation failure. In order to maintain proper stator winding and core temperature and to protect stator winding insulation failure and for longevity of the machine new set of stator air coolers for one machine was urgently procured. This asset has facilitated the successful and efficient operation of the Plant. The Respondent APDCL has submitted that the Commission may examine and decide accordingly.	As the additional capital expenditure incurred is in respect of assets/ works which were already allowed vide Commission's order dated 13.1.2016 in Petition No. 43/GT/2015, the same is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations. Against the projected expenditure allowed, the Petitioner has capitalised an amount of Rs.58.54 lakh in 2016-17 and has indicated the de-capitalized value of old asset as Rs. 14.91 lakh under "Assumed Deletions". However, as per methodology adopted the 'assumed deletions' works out to Rs. 26.82 lakh.	58.54
AC System at Powerhouse	39.56	14(3)(viii)	The old Air Conditioning System procured from M/s	In our view, the additional capital	0.00

Works/ Items	Amount claimed	Regulation under which claimed	Justification by the Petitioner/Submission of the Respondents	Admissibility	Amount allowed
			Carrier Aircon Ltd. and installed in the Powerhouse Control Room at the time of commissioning of the Units was not functioning properly and breakdowns occurred frequently. Spares were also not available as the Air Conditioning System had become obsolete. As a result, the normal functioning of the relays was affected. The old and worn-out AC system was replaced with more energy efficient AC system (Variable Refrigerant Flow System) for proper functioning of the Control & Relay Panels The capitalized value on the date of COD is Rs. 7.84 lakh. The Respondent APDCL has submitted that the items which were already disallowed by the Commission should not be considered for capitalization.	expenditure incurred by the Petitioner does not directly relate to the operation of the generating station and is in the nature of O&M expenses. Also, this claim was disallowed by order dated 13.1.2016 in 43/GT/2015. Hence, the additional capital expenditure is **not allowed**.	
Tail race Channel Excavation	46.97	14(3)(viii)	The Petitioner has submitted that due to land slide the riverbed level has increased and affected tail water level of the tail pool area. It is found that there is a loss in head and turbine output. These losses are because of the constricted flow of water and the high bed level of the tail race channel. Project Authority had proposed for excavation of hard rock and removal of loose material from the river bed. The Respondent APDCL has submitted that the items which were already disallowed by the Commission should not be considered for capitalization.	In our view, the additional capital expenditure incurred by the Petitioner does not directly relate to the operation of the generating station and is in the nature of O&M expenses. Also, this claim was disallowed by order dated 13.1.2016 in 43/GT/2015. Hence, the additional capital expenditure is **not allowed.**	0.00
Total amount Claimed	**240.91**				
Total amount Allowed					**154.38**

2017-18

17. The admissibility of the actual additional capital expenditure claimed by the Petitioner and allowed for the year 2017-18, on prudence check of the justification furnished by the Petitioner are as under:

(Rs.*in lakh)*

Works/ Items	Amount claimed	Regulation under which claimed	Justification by the Petitioner/Submission of the Respondents	Admissibility	Amount allowed
RTU Model 6049-E70 for 3x25 MW generating station	31.51	14(3)(viii)	The Petitioner has submitted that the RTU (Remote Terminal Unit) has become mandatory for generating station for proper real time grid operation. The Real Time Data becomes necessary for proper implementation of load flow studies and for proper operation of grid, and to maintain grid discipline. Moreover, as per IEGC 2010, cl. 5.2 (q) each user, STU, RLDC, NLDC and CTU shall provide and maintain adequate and reliable communication facility internally and with other users /STUs /RLDCs /SLDC to ensure exchange of data / information necessary to maintain reliability and security of the grid. In order to cater to the requirement for grid operation and for better stability of machine, the old RTU panel which was non-functional and beyond repair was replaced by an updated version of RTU. With the installation of new RTU panel better co-ordination and stability in the machine and grid was achieved. This asset has facilitated the successful and efficient operation of the Plant. The Respondent APDCL has submitted that the Petitioner should have discussed with NERPC and the beneficiary States about the necessity of this expenditure before installing the RTU Model. It has, however, stated that the Commission may examine the same and decide keeping the	As the expenditure incurred is in respect of assets/ works which was already allowed vide order dated 13.1.2016 in Petition No. 43/GT/2015, the same is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations. Against the projected expenditure allowed, the Petitioner has capitalised an amount of Rs. 31.51 lakh in 2017-18, but has not indicated the de-capitalized value of the old asset. Hence, the de-capitalized value of the old asset has been considered under "**Assumed Deletions**".	31.51

Works/ Items	Amount claimed	Regulation under which claimed	Justification by the Petitioner/Submission of the Respondents	Admissibility	Amount allowed
			interest of both sides.		
Mainframe computer, LAN	34.09	14(3)(viii)	The earlier Local Area Network of DHEP was purely on temporary basis and it was very difficult to maintain and extend new connection. Therefore, it was decided to install Structured Local Area Network connectivity with extended connectivity to DHEP Hospital and Powerhouse from Administrative Building. The Proposal was processed and approved by HQ C&P and Finance and Order was place from HQ C&P. The Respondent APDCL has submitted that the claim of the Petitioner is in respect of expenditure on minor items and, hence, cannot be part of determination of tariff.	In our view, the additional capital expenditure incurred by the Petitioner does not directly relate to the operation of the generating station and is in the nature of O&M expenses. Hence, the additional capital expenditure claimed is **not allowed.**	0.00
Pmt. Building (Residential)	19.09	14(3)(viii)	For related ancillary work of the newly constructed building. The Respondent APDCL has submitted that the Petitioner should have taken prior permission of the Commission before carrying out the ancillary works and has requested the Commission to examine and decide accordingly.	In our view, the additional capital expenditure incurred by the Petitioner does not directly relate to the operation of the generating station and is in the nature of O&M expenses. Hence, the additional capital expenditure claimed is **not allowed.**	0.00
Excitation Transformer 500 KVA; Mandatory spares for DAVR; Field discharges circuit & TGB Cooling water piping	63.27	14(3)(viii)	The Petitioner has submitted that Spares having Individual Value above 5 Lakhs capitalised during 2017-2018 as per IND AS 16(8). This is expected to be used for more than one year and future economic benefit will flow to the entity. The Respondent APDCL has submitted that the Commission may examine and decide accordingly.	In our view, the additional capital expenditure incurred by the Petitioner is in the nature of capital spares, and no capital spares are allowed to be capitalized after the cut-off date. Hence, the additional capital expenditure claimed is **not allowed.**	0.00
GT Winding Assembly complete set & H V Coil assembly.	53.47		Spares having Individual Value above 5 Lakhs capitalised during 2017-2018 as per IND AS 16(8). This is expected to be used for more than one year and future economic benefit will flow to the entity.		0.00

Works/ Items	Amount claimed	Regulation under which claimed	Justification by the Petitioner/Submission of the Respondents	Admissibility	Amount allowed
			The Respondent APDCL has submitted that the Commission may examine and decide accordingly.		
Total amount Claimed	**201.42**				
Total amount Allowed					**31.51**

2018-19

18. The admissibility of the actual additional capital expenditure claimed by the Petitioner and allowed for 2018-19, on prudence check of the justification furnished by the Petitioner are as under:

(Rs.in lakh)

Works/ Items	Amount claimed	Regulation under which claimed	Justification by the Petitioner/Submission of the Respondents	Admissibility	Amount allowed
Construction of additional quarters as per entitlement	579.91	14(3)(viii)	In addition to the construction of quarters, ancillary works like approach road, side drains, boundary wall, security booth etc were also taken up which led to increase in additional expenditure.	We have allowed the expenditure on account of construction of additional quarters as per entitlement in 2015-16. The expenditure claimed in 2018-19 is on account of balance work incurred. In view of the above the additional capitalization claimed is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations.	579.91
Installation of Continuous Online Vibration Monitoring System	52.15	14(3)(viii)	The Petitioner has submitted that for online condition monitoring of the units, a Continuous On Line Vibration Monitoring System was installed and commissioned in the FY 2018-19. The Continuous Online Vibration Monitoring System was a Statutory requirement as advised by the Regional Inspector Office, CEA, Shillong. This System is a completely new one which was required to be procured based on the recommendation by CEA.	It is noticed that the Commission vide Order dated 13.1.2016 in Petition No. 43/GT/2015 had allowed the additional capitalization of Rs. 75.00 lakh on account of this work. The actual cost incurred by the Petitioner is as per the actual execution of work as per the actual site conditions and necessity. In view of the above the additional capitalization claimed is **allowed** under Regulation 14(3)(viii) of	52.15

Works/ Items	Amount claimed	Regulation under which claimed	Justification by the Petitioner/Submission of the Respondents	Admissibility	Amount allowed
			The Respondent APDCL has submitted that the Commission may examine and decide accordingly.	the 2014 Tariff Regulations.	
Air Cell Conservator Tanks for Generator Transformers of Bharat Bijlee make	13.98	14(3)(viii)	For Generator Transformers the existing conventional conservators were to be replaced by Air Cell Type Conservators which shall keep a proper moisture free environment of the Transformer resulting more life expectancy and enhancing the performance of the GTs. Accordingly, the conventional conservators were replaced by Air Cell Type Conservators which facilitated the efficient operation of the Plant. The Respondent APDCL has submitted that the Commission may examine and decide accordingly.	As the expenditure incurred is in respect of assets/ works which was already allowed vide Commission's order dated 13.1.2016 in Petition No. 43/GT/2015, the same is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations. Against the said expenditure allowed on projection basis, the Petitioner, in this petition, has capitalised an amount of Rs. 13.98 lakh in 2018-19 and has indicated the de-capitalized value of old asset as Rs. 3.32 lakh under "Assumed Deletions". However, as per methodology adopted, assumed deletions works out to Rs. 5.81 lakh and the same is allowed.	13.98
Main Frame Computer	11.13	14(3)(viii)	The PCs and other Peripherals of DHEP were very old and it was becoming very difficult to perform the day-to-day work of the Plant. Therefore, PCs, Printers, UPS and other Peripheral's ware procured time to time for the smooth functioning of the Plant. The Respondent APDCL has submitted that the Commission may examine and decide accordingly.	In our view, the additional capital expenditure incurred by the Petitioner does not directly relate to the operation of the generating station and is in the nature of O&M expenses. Hence, the additional capital expenditure claimed is **not allowed.**	0.00
Main Frame Computer	10.03	14(3)(viii)	The Local Area Network connectivity in-between Administrative Building and Power House was on Wireless Network, which was giving recurring problem. Therefore, it was decided to lay Optical Fibre Cable In-between Administrative		0.00

Works/ Items	Amount claimed	Regulation under which claimed	Justification by the Petitioner/Submission of the Respondents	Admissibility	Amount allowed
			Building and Power House of DHEP. The Proposal was processed and approved by HQ C&P and Finance and Order was place from HQ C&P. The Respondent APDCL has submitted that the Commission may examine and decide accordingly.		
Total Claimed	**667.20**				
Total Allowed					**646.04**

19. Based on the above discussion, the actual additional capital expenditure, excluding discharge of liabilities, allowed for the 2014-19 tariff period is as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
442.78	873.07	154.38	31.51	646.04	**2147.78**

Exclusions

[capitalized in books but not to be claimed for purpose of tariff]

20. The following are the year-wise expenditure incurred by the Petitioner towards the replacement of minor assets, purchase of capital spares, residential building, plant & machinery, electrical & auxiliaries, ancillary services, purchase of miscellaneous assets etc:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
11.39	112.03	288.39	41.12	44.10	**497.03**

21. The above expenditure incurred towards the procurement/replacement of minor assets and capital spares are not allowed for the purpose of tariff, after the cut-off date, in terms of the provisions of the 2014 Tariff Regulations. Accordingly, the Petitioner has put these additions under exclusion category. The aforesaid exclusion of positive entries, as effected by the Petitioner, are allowed for the purpose of tariff.

De- capitalization

22. The Petitioner has claimed the following de-capitalization as per Form 9Bi, for assets/works such as special tools and plants, transport equipment, office equipment, permanent residential building, freehold land, switchgear including cable connection, survey equipment, special tools & plants, etc. due to various reasons such as asset handed over to State authorities, obsolete assets/ works, assets/ works disposed of, etc., during the 2014-19 tariff period:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
74.65	0.55	104.95	18.87	3.48	202.49

23. Regulation 14(4) of the 2014 Tariff Regulations provides as under:

> *"In case of de-capitalization of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of de-capitalization shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalization takes place, duly taking into consideration the year in which it was capitalized."*

24. Since these assets are not in use, the de-capitalization as claimed by the Petitioner is allowed. Further the Petitioner has claimed certain items in generating station which were capitalized earlier and the excess capitalization for the assets were withdrawn by the Petitioner in the current Petition. The excess capitalization amounting to Rs.1.68 lakh pertaining to generating station in 2014-15 and Rs.769.17 lakh pertaining to Spillway and tunnel in 2018-19 were withdrawn and de-capitalized. The Petitioner has also provided the corresponding de-capitalization against the same.

Assumed Deletions

25. As per consistent methodology adopted by the Commission in its orders, the expenditure on replacement of assets, if found justified, is allowed for the purpose of

tariff provided that the capitalization of the said asset, is followed by de-capitalization of the gross value of the old asset. However, in certain cases, where the de-capitalization is proposed to be effected during the future years to the year of capitalization of the new asset, the de-capitalization of the old asset for the purpose of tariff, is shifted to the very same year in which the capitalization of the new asset is allowed. Such de-capitalization which is not a book entry in the year of capitalization is termed as “Assumed Deletion”. Accordingly, the amounts considered by the Petitioner under this head are given below:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
1.69	0.00	2.28	0.00	3.32	**7.29**

26. On scrutiny of the assumed deletions claimed by the Petitioner and considering the vintage of the plant, the de-capitalized value furnished by the Petitioner appears to be low. The gross value of the assets de-capitalized under ‘assumed deletions’ as considered by the Petitioner based on WPI and capitalized value of new asset is not acceptable. Therefore, the methodology of arriving at the fair value of the de-capitalized asset, i.e. escalation rate of 5% per annum from the COD has been considered in order to arrive at the gross value of old asset in comparison to the cost of new asset. The year of COD of the generating station is 2002-03. We have considered the value of asset under consideration as on COD as 100 and escalated it @5% till the year during which additional capital expenditure is claimed against replacement of the same. The amount claimed for additional capital expenditure against the asset is multiplied by the derived ratio from above two values i.e. value in year of COD divided by value in capitalized year.

27. Further, the Petitioner has claimed assets/ works on replacement basis, such as Digital Governor system; Installation of Air Coolers for Generator; Air Cell

Conservator Tanks for Generator Transformers of Bharat Bijlee make, etc., which were allowed on projection basis in order dated 13.1.2016 in Petition No. 43/GT/2015. However, in the present petition, the Petitioner has claimed these assets on replacement basis, but the de-capitalized value of the old assets has not been furnished. Accordingly, the de-capitalized value of the assets/ works has been calculated in terms of the above-mentioned methodology (paragraph 26 above). Accordingly, the 'assumed deletions' claimed and allowed for the purpose of tariff are detailed as under:

(Rs. in lakh)

	Assets/Works	**Additions claimed for new assets/works**	**Assumed Deletions for old assets/works**	
			Claimed	**Allowed**
2014-15				
	Digital Governor system	373.35	1.69	188.57
2015-16				
	Replacement of 220V 600AH, 2V/Cell Battery Bank	71.76	0.00	34.52
	Replacement of 5MVA, 132/33KV Station Service Transformer	28.46	0.00	13.69
2016-17				
	Installation of Air Coolers for Generator	58.54	14.91	26.82
2017-18				
	RTU Model 6049-E70 for 3 X 25 of generating station	31.51	0.00	13.75
2018-19				
	Air Cell Conservator Tanks for Generator Transformers of Bharat Bijlee make	13.98	3.32	5.81

28. Accordingly, the net additional capital expenditure allowed, excluding discharge of liabilities, is as under:

(Rs. *in lakh)*

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Additions allowed (a)	442.78	873.07	154.38	31.51	646.04
Deletions considered (b)	74.65	0.55	82.19	18.87	0.00
Deletion of assets on account of rectification (item wrongly capitalized in earlier years) (c)	0.00	1.69	0.00	0.00	769.17
Assumed deletions allowed (d)	188.57	48.21	26.82	13.75	5.81
Net additional capital expenditure claimed (d)=[(a)-(b)-(c)-(d)]	**179.56**	**822.63**	**45.37**	**(-) 1.11**	**(-) 128.94**

Discharge of Liabilities

29. The Petitioner has considered the following discharge of liabilities in 2014-19:

(Rs. in lakh)

	Amount
Liabilities as on 31.3.2014	186.19
Discharges during 2015-16	40.44
Discharges during 2017-18	4.26
Liabilities as on 31.3.2019	**141.48**

30. It is observed that in the Commission while truing up of tariff of the generating station for 2009-14 period vide its order dated 28.9.2015 in Petition No. 458/GT/2014 had considered an un-discharged liability of Rs.1248.59 lakh as on 1.4.2009. Further, no discharge of liability was claimed by the Petitioner during the 2009-14 tariff period. However, in the present petition, the Petitioner has claimed un-discharged liability of Rs.186.19 lakh as on 1.4.2014, but has not furnished any clarification in this regard. Hence the un-discharged liability as claimed by Petitioner has been considered as opening liability for 2014-19 tariff period.

31. Further, the discharge of liabilities amounting to Rs. 40.44 lakh in 2015-16 and Rs. 4.26 lakh in 2017-18 as claimed by the Petitioner, has been considered for the purpose of tariff.

32. Accordingly, the closing liability as on 31.3.2019 stands at Rs.141.48 lakh only.

Additional Capitalization allowed for 2014-19

33. Based on the above discussion, the capital cost allowed for the 2014-19 tariff period is as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Net additional capital expenditure allowed	179.56	822.63	45.37	(-)1.11	(-)128.94
Add: Discharges of liabilities	0.00	40.44	0.00	4.26	0.00
Total	**179.56**	**863.07**	**45.37**	**3.15**	**(-) 128.94**

Capital Cost allowed for the 2014-19 tariff period

34. Accordingly, the capital cost allowed for the 2014-19 tariff period is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost (a)	63806.14	63985.70	64848.77	64894.14	64897.29
Additional Capitalization allowed (b)	179.56	863.07	45.37	3.15	(-) 128.94
Closing Capital Cost (c)=(a)+(b)	**63985.70**	**64848.77**	**64894.14**	**64897.29**	**64768.35**
Average Capital Cost (d)=[(a)+(c)/2]	63895.92	64417.24	64871.46	64895.71	64832.82

Debt-Equity Ratio

35. Regulation 19 of the 2014 Tariff Regulations provides as under:

"19. Debt-Equity Ratio: (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:
i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:

ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.

Explanation.-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2)The generating company or the transmission licensee shall submit the resolution of the Board of the company or approval from Cabinet Committee on Economic Affairs(CCEA) regarding infusion of fund from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.

(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014, the Commission shall

approve the debt: equity ratio based on actual information provided by the generating company or the transmission licensee as the case may be.

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation."

36. The debt-equity ratio of 70:30 has been considered for the additional capitalization during 2014-19 period in terms of Regulation 19 of the 2014 Tariff Regulations for the purpose of tariff. De-capitalization of assets has been deducted from the corresponding loan as well as equity taking into consideration the debt equity ratio (1:1.05) applied in the year in which it was capitalized as per Regulation 14 (4) of 2014 Tariff Regulations.

(Rs. in lakh)

Asset	**As on 1.4.2014**		**Additional Capitalization during 2014-19**		**De-capitalization during 2014-19**		**As on 31.3.2019**	
	Amount	**%**	**Amount**	**%**	**Amount**	**%**	**Amount**	**%**
Debt	30992.91	48.57	1534.73	70.00	600.13	48.78	31927.51	49.29
Equity	32813.23	51.43	657.74	30.00	630.13	51.22	32840.84	50.71
Total	**63806.14**	**100.00**	**2192.47**	**100.00**	**1230.26**	**100.00**	**64768.35**	**100.00**

Return on Equity

37. Regulation 24 of the 2014 Tariff Regulations provides as under:

"24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

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

Provided that:

i. in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:

ii. the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

iii. additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

iv. the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of *the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:*

v. as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

vi. additional RoE shall not be admissible for transmission line having length of less than 50 kilometers."

38. Regulation 25 of the 2014 Tariff Regulations provides as under:

"Tax on Return on Equity: (1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non-generation or non-transmission business, as the case may be) shall not be considered for the calculation of "effective tax rate"

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

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

Where "t" is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2014-15 to 2018-19 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under-recovery or over recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term transmission customers/DICs as the case may be on year to year basis."

39. Ministry of Power, GOI vide letter dated 13.3.2009 had approved the financial package of this project and according to this, *"the tariff will be enhanced at the rate of 5 per cent during the tariff period five years beginning form 2009-2010. Thereafter, the tariff will so increase in the very first year of tariff period beginning from 2014-*

2015 to give return of 10 per cent on equity." This was recognised by the Commission in order dated 24.12.2012 in Petition No. 63/2010 for approval of tariff of the generating station for 2009-14 period.

40. In term of Regulation 25(3) of the 2014 Tariff Regulations, the generating company or the transmission licensee as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax, including interest received from the income tax authorities, pertaining to the period from 2014-15 to 2018-19, on actual gross income of any financial year. The base rate of return on equity as allowed vide the financial package approved by the Ministry of Power, GOI is required to be grossed up with the effective tax rate of the respective financial years.

41. For the purpose of Tax rate for grossing up of the rate of Return on Equity (ROE), the Commission vide ROP of the hearing dated 27.7.2020 prescribed a proforma and directed the Petitioner to furnish details as per the said proforma, with tax audit report for each year. In compliance to the same, the Petitioner has furnished the details as per the proforma, duly certified by Chartered Accountant vide affidavit dated 14.8.2020.

42. Further, by order dated 7.6.2021 in Petition No. 273/GT/2019 (truing-up of Ranagandi HEP for 2014-19 tariff period), the Commission had considered the tax rates for the generating station of the Petitioner as under:

Year	Effective Tax Rate (%)
2014-15	20.2521
2015-16	25.9099
2016-17	34.6080
2017-18	27.3764

Year	Effective Tax Rate (%)
2018-19	21.5488

43. Since effective tax rate is considered on the basis of actual tax paid in the respect of the financial year, in line with the provisions of the relevant Finance Acts, by the concerned generating company, the tax rate as worked out and allowed in order dated 7.6.2021 in Petition No. 273/GT/2019, has been considered for the computation of ROE for this generating station, as below:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity (a)	32813.23	32811.25	33059.46	33049.94	33043.96
Addition of Equity due to additional capital expenditure (net of de-capitalisation) (b)	(-) 1.98	248.22	(-) 9.52	(-) 5.98	(-) 203.13
Closing Equity (c)=[(a)+(b)]	32811.25	33059.46	33049.94	33043.96	32840.84
Average Equity (d)=[(a)+(c)/2]	32812.24	32935.35	33054.70	33046.95	32942.40
Base Rate (%) (e)	10.000%	10.000%	10.000%	10.000%	10.000%
Effective Tax Rate (%) (f)	20.252%	25.910%	34.608%	27.376%	21.549%
Effective ROE Rate (%) (g)=[(e)/(1-f)]	12.540%	13.497%	15.292%	13.770%	12.747%
Return on Equity (h)=[(d)*(g)]	**4114.65**	**4445.28**	**5054.73**	**4550.57**	**4199.17**

<u>Interest on Loan</u>

44. Regulation 26 of the 2014 Tariff Regulations provides as under:

"26. Interest on loan capital: (1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of Decapitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalization of such asset

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

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered: Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered

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

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such refinancing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

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

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute: Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan."

45. The normative loan of the generating station has already been repaid. The normative loan on account of admitted additional capital expenditure during the respective years of the 2014-19 tariff period has also been considered as fully paid, as the admitted depreciation is more than the amount of normative loan in these years. As such, the Interest on loan during the 2014-19 tariff period is 'Nil'.

Depreciation

46. Regulation 27 of the 2014 Tariff Regulations provides as under:

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

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the *units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.*

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

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset: Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff: Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

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

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

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

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.

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

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

47. COD of the generating station is 8.7.2000. Since the project has completed 12 years of commercial operation as on 8.7.2012, the remaining depreciable value has

been spread over the balance useful life of the project from 2013-14 onwards. Accordingly, depreciation has been computed as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost (a)	63806.14	63985.70	64848.77	64894.14	64897.29
Closing Capital Cost (b)	63985.70	64848.77	64894.14	64897.29	64768.35
Average Capital Cost (c)=[(a)+(b)/2]	63895.92	64417.24	64871.46	64895.71	64832.82
Rate of Depreciation (%) (e)=[(j)/(c)]	1.76	1.80	1.82	1.83	1.82
Depreciable Value (f)=[90%*(c)]	57506.33	57975.51	58384.31	58406.14	58349.54
Balance life (g)	21.27	20.27	19.27	18.27	17.27
Cumulative depreciation beginning (h)	33526.62	34511.29	35641.83	36760.19	37925.94
Remaining Depreciable Value (i) = [(f)-(h)]	23979.71	23464.22	22742.48	21645.96	20423.60
Depreciation during the period (j)=[(i)/(g)]	**1127.43**	**1157.62**	**1180.24**	**1184.82**	**1182.64**
Cumulative depreciation (k)=[(h)+(j)]	34654.05	35668.91	36822.07	37945.00	39108.58
Less: Adjustment on account of de-capitalisation (L)	142.76	27.08	61.88	19.07	396.49
Net Cumulative Depreciation (M)	**34511.29**	**35641.83**	**36760.19**	**37925.94**	**38712.09**

<u>Operation & Maintenance Expenses</u>

48. Regulation 29(3)(a) of the 2014 Tariff Regulations provides as under:

> *"29. Operation and Maintenance Expenses:*
> *(a) Following operations and maintenance expense norms shall be applicable for hydro generating stations which have been operational for three or more years as on 01.04.2014:*
>
> *Doyang hydro generating station of NEEPCO:*
>
> **(Rs.*in lakh)***
>
> | ***2014-15*** | ***2015-16*** | ***2016-17*** | ***2017-18*** | ***2018-19*** |
> |---|---|---|---|---|
> | *3900.10* | *4159.22* | *4435.56* | *4730.26* | *5044.54* |

49. The Petitioner, in Petition No. 43/GT/2015, had claimed O&M expenses for the 2014-19 tariff period in terms of Regulation 29(3)(a) of the 2014 Tariff Regulations and the same was allowed vide order dated 13.1.2016. In the present petition, the Petitioner has claimed O&M expenses for the 2014-19 tariff period in terms of the above Regulation and in addition, has claimed the impact of wage revision. Considering the fact that the generating station is in operation for three or more years as on 1.4.2014, the normative O&M expenses as allowed by the Commission vide order dated 13.1.2016 in Petition No. 43/GT/2015, in terms of the

above regulation, has been allowed. As regard the impact of wage revision, the same is examined below:

Additional O&M Expenditure on account of Pay revision

50. The Petitioner has claimed an amount of Rs.15.72 crore as additional O&M expenses, on account of wage revision of its employees and for Meghalaya Home Guards for the period from 1.1.2017 to 31.3.2019. The Petitioner has prayed that the additional O&M expenses may be allowed to be recovered from the Respondents as a one-time payment under provisions of Regulation 54 (Powers to Relax) and Regulation 55 (Powers to Remove Difficulties) of the 2014 Tariff Regulations. The Petitioner has also submitted audited statements showing the details of the impact of wage revision. The audited statements, showing the details of the impact of wage revision as submitted by the Petitioner, are as under:

(Rs. in lakh)

	2016-17			**2017-18**			**2018-19**		
	Pre-Revised	**Post-Revised**	**Wage Revision Impact**	**Pre-Revised**	**Post-Revised**	**Wage Revision Impact**	**Pre-Revised**	**Post-Revised**	**Wage Revision Impact**
1.1 Basic Pay	19.45	491.19	296.70	773.05	1951.77	1178.73	591.13	1457.06	865.93
1.2 Dearness Allowance	233.16	0.00	(-)233.16	940.44	20.98	(-)919.46	719.14	85.60	(-)633.54
1.3 HRA	0.00	0.00	0.00	0.04	0.00	-0.04	38.00	76.87	38.88
1.4 Allowances Perquisites	147.93	170.99	23.07	362.97	680.31	317.34	315.99	694.43	378.43
1.5 PRP/Ex-Gratia	0.00	60.88	60.88	0.00	0.00	0.00	0.00	0.00	0.00
2.1 Super Annulation benefits	5.83	19.80	13.97	55.19	110.23	55.05	27.68	83.04	55.36
2.2 Gratuity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.3 Leave Encashment	3.20	9.86	6.65	21.90	65.70	43.80	6.80	20.41	13.61
Total	**584.60**	**752.72**	**168.12**	**2153.58**	**2829.01**	**675.42**	**1698.74**	**24147.41**	**718.66**
Net Employee Cost	**584.60**	**752.72**	**168.12**	**2153.58**	**2829.01**	**675.42**	**1698.74**	**24147.41**	**718.66**

51. The Respondent, APDCL has submitted that the claim of the Petitioner for reimbursement of wage revision of employees and for Home Guards under Regulation 54 and Regulation 55 of the 2014 Tariff Regulations cannot be allowed and the Petitioner should file a separate petition with legal grounds to claim the same.

52. The Petitioner vide its rejoinder has submitted that the amount claimed is in accordance with the Commission's order dated 13.1.2016 in Petition No. 43/GT/2015.

53. As regards the claim of the Petitioner for additional O&M expenses of Rs.15.72 crore on account of wage revision from 1.1.2017 to 31.3.2019, the Commission vide ROP of the hearing dated 27.7.2020, directed the Petitioner to submit the following details:

> "(i) PRP/Incentive included in the wage revision impact claimed (year wise details duly certified by the Auditor);
>
> (ii) Comparative statement of the normative O&M expenses allowed to the station versus the actual audited O&M expenses for the period from 2014-15 to 2018-19;"

54. In response, the Petitioner vide affidavit dated 14.8.2020, has submitted the details of actual O&M expenses as shown under:

(Rs. in lakh)

	Normative O&M expenses	**Actual audited O&M expenses**
2014-15	3900.10	4826.63
2015-16	4159.22	5105.47
2016-17	4435.56	5492.01
2017-18	4730.26	7058.23
2018-19	5044.54	6491.60

55. Further, it is observed that in addition to ex-gratia charges and Performance related pay (PRP), filing fee, community development expense and RLDC Fees and Charges have also been included under O&M expenses for the 2014-19 tariff period as tabulated below:

Heads	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Ex-gratia	13.00	5.00	0.00	20.88	8.00
Performance Related Pay (PRP)	171.14	177.56	78.62	136.61	0.00
Filing Fees	4.52	3.30	3.30	3.30	3.30
Community Development Expense	103.33	17.57	67.71	22.06	47.12
RLDC Fees and Charges	112.04	41.51	49.52	46.69	41.04
Total	**404.03**	**244.94**	**199.15**	**229.53**	**99.47**

56. As the charges under the heads as indicated in the table under paragraph 55 above are not directly related to the operation and maintenance of the generating stations, these expenses have not been considered for working out the normative O&M expenses. Accordingly, the O&M expenses for the 2014-19 tariff period, after normalization and its comparison with Normative O&M expenses is shown as under:

(**Rs.*****in lakh)***

	Normative O&M expenses	**Normalized actual audited O&M expenses**
2014-15	3900.10	4422.60
2015-16	4159.22	4860.53
2016-17	4435.56	5292.86
2017-18	4730.26	6828.70
2018-19	5044.54	6392.13

57. SOR to the 2014 Tariff Regulations stipulates the following, with respect to recovery of wage revision impact by a generator:

"29.26 Some of the generating stations have suggested that the impact of pay revision should be allowed on the basis of actual share of pay revision instead of normative 40% and one generating company suggested that the same should be considered as 60%. In the draft Regulations, the Commission had provided for a normative percentage of employee cost to total O&M expenses for different type of generating stations with an intention to provide a ceiling limit so that it does not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission would however, like to review the same considering the macroeconomics involved as these norms are also applicable for private generating stations. In order to ensure that such increase in employee expenses on account of pay revision in case of central generating stations and private generating stations are considered appropriately, the Commission is of the view that it shall be examined on case-to-case basis, balancing the interest of generating stations and consumers.

33.2 The draft Regulations provided for a normative percentage of employee cost to total O&M expenses for generating stations and transmission system with an intention to provide a ceiling limit so that the same should not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission shall examine the increase in employee expenses on case-to-case basis and shall consider the same if found appropriate, to ensure that overall impact at the macro level is sustainable and thoroughly justified. Accordingly, clause 29(4) proposed in the draft Regulations has been deleted. The impact of wage revision shall only be given after seeing impact of one full year and if it is found that O&M norms provided under Regulations are inadequate/insufficient to cover all justifiable O&M expenses for the particular year including employee expenses, then balance amount may be considered for reimbursement."

58. It is observed that the above methodology as indicated in the SOR suggests a comparison of the normative O&M expenses with the actual O&M expenditure on year-to-year basis. In this respect, the following facts need consideration:

a. The norms are framed based on the averaging of the actual O&M expenses of past five years to capture the year-on-year variations in sub-heads of O&M;

b. Certain cyclic expenditure may occur with a gap of one year or two years and as such adopting a longer duration i.e., five years for framing of norms also captures such expenditure which is not incurred on year to year basis;

c. Generators when they find that their actual expenditure has gone beyond the normative O&M in a particular year put departmental restrictions and try to bring the expenditure for the next year below the norms.

59. In consideration of above facts, the Commission finds it appropriate to compare the normative O&M expenses with the normalized O&M expenses for a longer duration, so as to capture the variation in the sub-heads of O&M. Accordingly, it is decided that for ascertaining 'whether the O&M norms provided under Regulations are inadequate/ insufficient to cover all justifiable O&M expenses including employee expenses', a comparison of the normative and normalized O&M expenses in this case is made for three years i.e. 2016-19 on combined basis, which is commensurate with the wage revision claim being spread over these three years. The comparative statement of the normative O&M expenses allowed to the generating station for the 2016-19 tariff period versus the normalized audited O&M expenses incurred for the said period are as under:

(Rs.in lakh)

	Normative O&M expenses (a)	**Normalized actual audited O&M expenses (b)**	**Difference (c)=[(b)-(a)]**
2016-17	4435.56	5292.86	857.30
2017-18	4730.26	6828.70	2098.44
2018-19	5044.54	6392.13	1347.59

60. From the above submission of the Petitioner, it is observed that the actual O&M expenses which also includes wage revision impact of Rs.1562.20 lakh is more

than the normative O&M expenses received during the 2016-19 period. As such, considering the fact that the normative O&M expenses allowed to the generating station in terms of the 2014 Tariff Regulations for the period 2016-19 is less than the actual audited O&M expenses by more than Rs.1562.20 lakh, the impact of the wage revision amounting to Rs.1562.20 lakh, as claimed by the Petitioner, is allowed.

61. Accordingly, we, in exercise of the Power under Regulation 54 of the 2014 Tariff Regulations, relax Regulation 29(1) of the 2014 Tariff Regulations, and allow the reimbursement of the wage revision impact amounting to Rs.1562.20 lakh, as additional O&M expenses for the period 2016-19. The arrear payments on account of the wage revision impact is payable by the beneficiaries in twelve equal monthly installments starting from the next bill after issue of this order. Keeping in view the consumer interest, we as a special case, direct that no interest shall be charged by the Petitioner on the arrear payments on the wage revision impact allowed in this order. This arrangement, in our view, will balance the interest of both the Petitioner and the Respondents. Also, considering the fact that the impact of wage revision is being allowed in exercise of the power to relax, the expenses allowed are not made part of the O&M expenses and the consequent annual fixed charges determined in this order.

Interest on Working Capital

62. Regulation 28(1)(c) of the 2014 Tariff Regulations provides as under:

> *28. Interest on Working Capital:*
> *(1) The working capital shall cover*
> *(c) Hydro generating station including pumped storage hydroelectric generating station*
> *and transmission system including communication system:*
> *(i) Receivables equivalent to two months of fixed cost;*
> *(ii) Maintenance spares @ 15% of operation and maintenance expense specified in regulation 29; and*
> *(iii) Operation and maintenance expenses for one month."*

Working Capital for Receivables

63. Working Capital for Receivables equivalent to two months of capacity charges has been worked as under:

(Rs.in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1579.72	1686.81	1843.18	1809.83	1804.82

Working Capital for Maintenance Spares

64. Working capital for Maintenance spares @ 15% of O&M expenses are worked out and allowed as under:

(Rs.in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
585.02	623.88	665.33	709.54	756.68

Working Capital for O&M Expenses

65. Working capital for O&M expenses for 1 month of O&M expenses for the purpose of working capital are as under:

(Rs.in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
325.01	346.60	369.63	394.19	420.38

66. Clause (3) of Regulation 28 of the 2014 Tariff Regulations provides as under:

> *"(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later."*

67. Interest on Working Capital has been calculated in terms of the above regulations. Also, in terms of Regulation 28(3) of the 2014 Tariff Regulations, the Bank Rate of 13.50% (Base Rate + 350 Basis Points) as on 1.4.2014 as claimed by the Petitioner, has been considered in calculation of tariff. Accordingly, Interest on Working Capital is worked out and allowed as under:

(Rs.in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for O&M expenses (One month of O&M expenses)	325.01	346.60	369.63	394.19	420.38
Working Capital for Maintenance Spares (15% of O&M Expenses)	585.02	623.88	665.33	709.54	756.68
Working Capital for Receivables (2 months of annual fixed cost)	1579.72	1686.81	1843.18	1809.83	1804.82
Total Working Capital	**2489.74**	**2657.29**	**2878.14**	**2913.56**	**2981.88**
Rate of interest on working capital (%)	13.500	13.500	13.500	13.500	13.500
Interest on Working Capital	**336.11**	**358.73**	**388.55**	**393.33**	**402.55**

Annual Fixed Charges

68. Based on the above, the annual fixed charges allowed in respect of the generating station for the 2014-19 tariff period is summarized as under:

(Rs.in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1127.43	1157.62	1180.24	1184.82	1182.64
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	4114.65	4445.28	5054.73	4550.57	4199.17
O&M Expenses	3900.10	4159.22	4435.56	4730.26	5044.54
Interest on Working Capital	336.11	358.73	388.55	393.33	402.55
Total	**9478.29**	**10120.85**	**11059.07**	**10858.97**	**10828.90**

Note: (1) All figures are on annualized basis. (2) All figures under each head have been rounded. The figure in total column in each year is also rounded. As such the sum of individual items may not be equal to the arithmetic total of the column.

Normative Annual Plant Availability Factor (NAPAF)

69. Clause (4) of Regulation 37 of the 2014 Tariff Regulations provides for the Normative Annual Plant Availability Factor (NAPAF) for hydro generating stations already in operation. Accordingly, the NAPAF of 73% has been considered for this generating station for the 2014-19 tariff period in this order.

Design Energy

70. The Commission in its order dated 13.1.2016 in Petition No. 43/GT/2015 had considered the annual Design Energy (DE) of 227.24 million units for this generating

station. This DE has been considered for this generating station for the period 2014-19 as per month-wise details as under:

Months	**Design Energy (MU)**
April	11.52
May	12.79
June	22.90
July	14.29
August	55.80
September	31.96
October	20.01
November	11.52
December	11.90
January	11.90
February	10.75
March	11.90
Total	**227.24**

71. The difference between the annual fixed charges determined by this order and the annual fixed charges recovered by the Petitioner in terms of the Commission's order dated 7.3.2016 in corrigendum to Order dated 13.1.2013 in Petition No. 43/GT/2015 shall be adjusted in terms of Regulation 8 (13) of the 2014 Tariff Regulations.

Summary

72. The summary of the annual fixed charges allowed after truing up of 2014-19 tariff period is as below:

(Rs.in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Annual Fixed Cost	9478.29	10120.85	11059.07	10858.97	10828.90
Impact of Wage Revision			168.12	675.42	718.66

73. Petition No. 293/GT/2020 is disposed in terms of the above.

Sd/-	***Sd/-***	***Sd/-***	***Sd/-***
(Pravas Kumar Singh)	**(Arun Goyal)**	**(I.S. Jha)**	**(P.K. Pujari)**
Member	**Member**	**Member**	**Chairperson**

Annexure I

Calculation of Weighted Average Rate of Depreciation for 2014-19 Tariff Period

(Rs.in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost (a)	63806.14	63985.70	64848.77	64894.14	64897.29
Closing Capital Cost (b)	63985.70	64848.77	64894.14	64897.29	64768.35
Average Capital Cost (c)=[(a)+(b)/2]	63895.92	64417.24	64871.46	64895.71	64832.82
Depreciable Value (f)=[90%*(c)]	57506.33	57975.51	58384.31	58406.14	58349.54
Balance life (g)	21.27	20.27	19.27	18.27	17.27
Cumulative depreciation beginning (h)	33526.62	34511.29	35641.83	36760.19	37925.94
Remaining Depreciable Value (i) = [(f)-(h)]	23979.71	23464.22	22742.48	21645.96	20423.60
Depreciation during the period (j)=[(i)/(g)]	**1127.43**	**1157.62**	**1180.24**	**1184.82**	**1182.64**
Weighted Average Rate of Depreciation h=[(j)/(c)]	**1.76%**	**1.80%**	**1.82%**	**1.83%**	**1.82%**