CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No.282/GT/2018

Coram:
Shri P.K. Pujari, Chairperson
Dr. M.K. Iyer, Member
Shri I.S. Jha, Member

Date of Order: 28th January, 2020

In the matter of

Revision of tariff of Chamera-III Hydroelectric Project (231 MW) for the period 2012-14-Truing up of tariff determined by Commission's order dated 24.3.2015 in Petition No. 26/GT/2013

And

In the matter of

NHPC Ltd
NHPC Office Complex,
Sector-33, Faridabad,
Haryana-121003 **....Petitioner**

Vs

1. Punjab State Power Corporation Ltd
The Mall, Near Kali Badi Mandir,
Patiala – 147 001

2. Uttar Haryana Bijli Vitran Nigam Limited
Vidyut Sadan, Plot No. C16, Sector-6
Panchkula- 134109

3. Dakshin Haryana Bijli Vitran Nigam Limited
Vidyut Sadan, Vidyut Nagar,
Hisar- 125005

4. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6,
Panchkula- 134109

5. Uttar Pradesh Power Corporation Ltd
Shakti Bhawan, 14, Ashok Marg,
Lucknow – 226 001

6. Engineering Department,
Union Territory of Chandigarh,
1st Floor, UT Secretariat, Sector 9D,
Chandigarh – 160 009

7. North Delhi Power Ltd
33 KV Sub-station, Hudson Lane, Kingsway Camp,
Delhi – 110 009

8. BSES Yamuna Power Ltd
Shakti Kiran Building, Karkardooma,
New Delhi – 110 032

9. BSES Rajdhani Power Ltd
BSES Bhawan, Nehru Place,
New Delhi – 110 019

10. Rajasthan Rajya Vidyut Prasaran Nigam Ltd,
Vidyut Bhawan, Janpath, Jyoti Nagar,
Jaipur – 302 205

11. Jaipur Vidyut Vitran Nigam Ltd
Vidyut Bhawan, Janpath
Jaipur – 302 005

12. Ajmer Vidyut Vitran Nigam Ltd
Old Power House,
Hatthi Bhatta, Jaipur Road,
Ajmer – 305 001

13. Jodhpur Vidyut Vitran Nigam Ltd,
New Power House, Industrial Area,
Jodhpur – 342 003

14. Uttarakhand Power Corporation Ltd,
Urja Bhawan, Kanwali Road,
Dehradun – 248001

15. Power Development Department,
New Secretariat,
Jammu.

16. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House
Shimla – 171 004 **…Respondents**

Parties Present:

Shri Rajiv Shankar Dvivedi, Advocate, NHPC
Shri Piyush Kumar, NHPC
Shri M.G Gokhale, NHPC
Shri V.N Tripathi, NHPC
Shri C.K Dhanush, NHPC
Shri R.B Sharma, Advocate, BRPL & BYPL
Shri Mohit K. Mudgal, Advocate, BRPL & BYPL
Ms. Sonya Sood, Advocate, BRPL & BYPL
Shri Sanjay Srivastava, BRPL

ORDER

The Petitioner, NHPC has filed this Petition for revision of tariff of Chamera-III Hydroelectric Project (3x 77 MW) ('the generating station') for the period 2012-14 after truing-up exercise, in terms of Regulation 6 of the Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2009 ('the 2009 Tariff Regulations').

2. The generating station located in the Chamba District of the State of Himachal Pradesh was designed as a run of the river scheme with pondage, designed to operate as a peaking plant to generate 1108 MUs in a 90% dependable year. The generating station comprises of 3 (three) units of 77 MW each, with annual design energy of 1108.17 MUs. Ministry of Power (MoP), GOI has allocated power amongst the beneficiaries vide its Notification dated 27.3.2012. The Respondent, Himachal Pradesh has been allocated a share of 16.356%, which includes 13% free power, out of which 12% free power is for the home State and the additional 1% is for Local Area Development Fund (LADF). The home state is to provide matching 1% from its 12% free power towards LADF corpus.

3. The administrative approval and expenditure sanction for the project was accorded by the Ministry of Power, GOI vide letter dated 1.9.2005 at an estimated cost of ₹140563 lakh, including IDC & FC of ₹11966 lakh, based on February, 2005 Price Level. As per administrative approval, the generating station was scheduled to be commissioned within 5 years from the date of its issue, that is, by 31.8.2010. However, the units of the generating station have been declared under commercial operation as under:

Unit-II	30.6.2012
Unit-III	30.6.2012
Unit-I	4.7.2012

Background

4. Petition No. 26/GT/2013 was filed by the Petitioner for determination of annual fixed charges of the generating station for the period from anticipated date of commercial operation (1.7.2012) till 31.3.2014. In the said petition, the Petitioner had claimed tariff based on the capital expenditure of ₹201772.38 lakh (as on 1.7.2012) which includes normative IDC of ₹8461 lakh till 31.3.2012 and ₹517 lakh for the period from 1.4.2012 to 30.6.2012, excluding un-discharged liabilities of ₹4904.97 lakh as on the COD. The Petitioner had further claimed projected additional capital expenditure of ₹8310.62 lakh for the period 4.7.2012 to 31.3.2013, inclusive of amount of ₹4904.97 lakh on account of discharge of un-discharged liabilities and ₹3138.50 lakh for the year 2013-14. Thus, the tariff claimed by the Petitioner was based on capital cost of ₹213221.50 lakh. The Petitioner had also engaged M/s Aquagreen Engineering Management Pvt Ltd., the Designated Independent Agency (DIA) for vetting of capital cost of the generating station and furnished a copy of the appraisal report of DIA, after serving copy of the same on the beneficiaries. The Petitioner also submitted that it had resubmitted the proposal for approval of the RCE by MOP, GOI vide its letter dated 5.5.2014 indicating the completion cost of ₹204944 lakh. Accordingly, the Commission by order dated 24.3.2015, allowed the capital cost for the period 30.6.2012 to 31.3.2014 as under:

(₹ in lakh)

Capital cost for the purpose of tariff as on 30.6.2012 (2 Units) (a)	128351.09
Capital cost for the purpose of tariff as on 4.7.2012 (3 Units/ Station) (b)	192526.64
Admitted projected additional capital expenditure for the period from 4.7.2012 to 31.3.2013 (c)	8310.62
Opening capital cost as on 1.4.2013 (d) = (b) + (c)	200837.26
Allowed Projected additional capital expenditure for the period for 2013-14 (e)	3138.50
Closing Capital cost as on 31.3.2014 (f) = (d) + (e)	**203975.76**

5. Based on the above, the annual fixed charges allowed vide order dated 24.3.2015 is as under:

(₹ in lakh)

	30.6.2012 to 3.7.2012	4.7.2012 to 31.3.2013	2013-14
	(2 Units)	(3 Units)	(3 Units)
Depreciation	71.55	7427.72	10295.31
Interest on Loan	70.14	7084.81	12154.45
Return on Equity	73.76	7822.11	11299.34
Interest on Working Capital	6.50	680.18	1013.31
O&M Expenses	27.91	3006.33	4280.72
Total	**249.86**	**26021.15**	**39043.13**

6. Thereafter, Petition No.194/GT/2015 was filed by the Petitioner for revision of annual fixed charges of the generating station for the period 2012-14 in terms of the 2009 Tariff Regulations and Petition No. 249/GT/2014 for determination of tariff of the generating station for the period 2014-19 in accordance with the provisions of the 2014 Tariff Regulations. Since approval of Revised Cost Estimate (RCE) of the project was pending before the MOP, GOI, the Commission by a common order dated 6.2.2017 disposed of these petitions granting liberty to the Petitioner to approach the Commission after approval of RCE. The Commission had also in the said order, directed that the annual fixed charges determined by order dated 24.3.2015 in Petition No.26/GT/2013 shall continue to be in operation till tariff of the generating station is determined based on the approved RCE. The relevant portion of the order is extracted hereunder:

> *"9. We have examined the matter. As stated by the Petitioner, RCE of the generating station is pending for approval by the MoP, GOI. In view of this and considering the fact that there will be revision in the capital cost of the generating station after approval of RCE by the Central Government, we find no reason to keep this petitions pending………*
>
> *xxx*
>
> *10. In line with the above decision, we are inclined to dispose of these petitions, with liberty to the Petitioner to approach the Commission with fresh petition for truing-up of tariff for the period 2012-14 and for determination of tariff for the period 2014-19 in respect of the generating station after approval of RCE by the Central Government. We direct accordingly. We also direct that the annual fixed charges determined by order dated 24.3.2015 in Petition No.26/GT/2013 shall*

continue to be in operation till the tariff of the generating station is determined based on the approved RCE. The filling fees deposited by the Petitioner shall be adjusted against the fresh petition to be filed for determination of tariff for the period 2014-19 in terms of the liberty granted above."

7. Subsequently, by communication dated 3.7.2018, the Petitioner was advised to file tariff petitions in respect of their generating stations, by enclosing (i) Board approval of the actual cost of the Company and (ii) at least one of the documents namely (a) the DIA report (b) cost approved by CEA/PIB (c) cost approved by CCEA.

8. In terms of the liberty granted by the Commission vide order dated 6.2.2017 read with the communication dated 3.7.2018, the Petitioner has filed the present petition on 7.8.2018 for revision of tariff of the generating station for the period 2012-14. It has also filed Petition No.321/GT/2018 for determination of tariff of the generating station for the period 2014-19. The Petitioner has submitted that the Board of Directors of the Petitioner Company in its 385th meeting on 29.6.2015 had approved the RCE of the project at ₹204944 lakh. The Petitioner has further submitted that it had pursued the matter with the MOP, GOI for approval of RCE amounting to ₹208401 lakh. It has also submitted that CEA vide its letter dated 24.9.2012 had advised the Petitioner to resubmit the proposal for vetting of capital cost of the generating station. The Petitioner has stated that it had submitted the final revised cost of ₹204811 lakh and CEA vide its letter dated 4.5.2016 has recommended the project cost for ₹204811 lakh and based on this, the Standing Committee for time & cost overrun, after detailed analysis, has recommended the completion cost of the project as ₹200412 lakh, up to the cut-off date of the generating station i.e. 31.3.2015. The Petitioner has clarified that RCE is pending for approval by MOP, GOI.

9. As stated, the Petitioner has filed this petition for revision of tariff of the generating station for the period 2012-14. It has also submitted that the present

petition is a resubmission of Petition No.194/GT/2015, which was duly certified by the statutory auditor and there is no change in the financial data. The Petitioner has further submitted that the re-auditing of the same data has not been done and has accordingly requested the Commission to consider the same, for determination of tariff of the generating station for the period 2012-14. Accordingly, capital cost claimed by the Petitioner in Form 5B is as under:-

(₹ in lakh)

	Expenditure as on 30.6.2012 (2 Units)	Expenditure as on 4.7.2012 (all 3 units)
Capital Cost without IDC, FC, FERV & Hedging cost	114060.64	170793.93
IDC, FC, FERV & Hedging cost		
Interest During Construction (IDC)*	23639.19	35505.94
Financing Charges (FC)	227.40	341.10
Foreign Exchange Rate Variation (FERV)	140.71	211.06
Hedging cost	0.00	0.00
Total of IDC, FC, FERV & Hedging cost	24007.30	36058.11
Capital cost including IDC, FC, FERV & Hedging cost (a+b)	**138067.94**	**206852.03**
Less: Liability	5072.51	7605.19
Capital cost, on cash basis	**132995.44**	**199246.84**

**IDC amount claimed on the COD includes normative IDC amounting to ₹7738.08 lakh and ₹11616.46 lakh respectively.*

10. Based on the above, the annual fixed charges claimed by the Petitioner for the period from 30.6.2012 to 31.3.2014 are as under:

(₹ in lakh)

	30.6.2012 to 3.7.2012	4.7.2012 to 31.3.2013	2013-14
	(2 Units)	(3 Units)	(3 Units)
Depreciation	93.98	7680.74	10495.23
Interest on Loan	119.93	9512.27	12021.70
Return on Equity	105.83	8835.63	12705.39
Interest on Working Capital	9.10	775.76	1062.25
O&M Expenses	31.46	3197.40	4552.79
Total	**360.29**	**30001.80**	**40837.35**

11. The Petition was heard on 6.2.2019 and the Commission after hearing the parties, vide ROP had sought certain additional information. Thereafter the Petition was heard on 14.5.2019 and Petitioner was directed to file certain additional information. Subsequently, the matter was heard on 27.8.2019 and the Commission after directing the Petitioner to file additional information, reserved

its order in the Petition. In response to the above, the Petitioner vide affidavits dated 6.3.2019, 29.5.2019 & 26.9.2019 has filed the additional information with copy to the Respondents. Reply has been filed by the Respondent UPPCL vide its affidavit dated 7.9.2018 and Respondent BRPL vide affidavit dated 12.7.2019. Rejoinder to the said replies has been filed by the Petitioner vide its affidavit 29.3.2019 and 24.7.2019 respectively. The submissions made by the parties in Petition No. 26/GT/2013 & 194/GT/2015 have also been considered.

Time Overrun

12. As per administrative approval, the generating station was scheduled to be commissioned within 5 years from the date of approval i.e. by 31.8.2010. However, the generating station achieved COD on 4.7.2012, with a delay of 22 months and 4 days. As already noted, Regulation 7 of the 2009 Tariff Regulations provides for vetting of capital cost of hydro power projects by an independent agency or expert, designated by the Commission. The Commission has from time to time empanelled independent agencies for vetting of capital cost of new hydro projects. The Commission vide its order dated 2.8.2010 has also issued guidelines for vetting of the capital cost by designated independent agencies or experts. The Petitioner had engaged M/s Aquagreen Engineering Management Pvt. Ltd., as the Designated Independent Agency (DIA) for vetting of capital cost of the generating station. The Commission while determining the tariff of the generating station for the period 2012-14 in Petition No. 26/GT/2013, had considered the report of the DIA on time overrun and had concluded vide order dated 24.3.2015 that the delay was beyond the control of the Petitioner. The relevant portion of the order is extracted hereunder:

> ***"Time Overrun***
> *12. In accordance with the administrative approval and expenditure sanction the generating station was to be commissioned by 31.8.2010. However, it was declared*

under commercial operation on 4.7.2012, with time overrun of about 22 months. The factors responsible for time overrun as considered by DIA and reflected in the appraisal report are summarized as under:

*(a) **Consent to Establish - 7 Months**: The contract for Civil works was awarded on 21.9.2005 immediately after issue of the administrative approval by Ministry of Power. However, HP Govt. insisted on the Petitioner to obtain 'Consent to Establish' from HP Pollution Control Board before start of work. 'Consent to Establish' was accorded by the State Pollution Control Board on 18.4.2006.*

*(b) **Law and Order – 3 Months**: Work at site came to a complete halt from 11.6.2006 to 24.8.2006 because of incidents of violence/riots involving killing of three labourers and setting the dam site on fire by unionized labour of the contractor, M/s HCC. Execution of work was resumed in single shift on 25.8.2006 and so continued till 19.9.2006.*

*(c) **Dam Works – 7 Months**: Extra time was taken in completion of construction of dam for reasons of (i) increase in quantity of excavation from 170000 cum, reinforcement from 5000 MT and RCC work from 85000 cum (50000 cum in piers and 35000 cum in raft and dam body) to 217351 cum, 10247 MT and 111947 cum respectively, (ii) collapse of Tower Crane on different locations due to massive and intermittent rock falls, causing excessive damage and hindrances in execution of civil and hydro-mechanical works, (iii) washing away of U/S & D/S Coffer dam on 8.7.2007 and (iv) toppling of water from U/S coffer dam on 13.8.2008 resulting in accumulation of water in the working area and submergence of contractor's machinery. As a consequence of above unforeseen occurrences, dam originally scheduled to be completed by 8.3.2010 was actually completed on 14.10.2010.*

*(d) **Head Race Tunnel (HRT) – 9 Months**: The crushing plant installed by contractor at Adit III to serve aggregate requirement for HRT works through Adit II, III, IV and V was stopped on 28.2.2009 on agitation by the villagers alleging illegalities in grant of NOC for operation of the crushing plant. After an enquiry, DC, Chamba in his order of 1.10.2009 upheld the validity of NOC. Consequently, on 6.10.2009 the State Geologist ordered to restart the crushing plant. Because of this, lining work of HRT was delayed. Extra time of 40 days was taken on pouring of concrete in the approved Geological over Break since quantity poured was more than that envisaged. Another extra time of 26 days was taken on account of damage/blockage of the road leading to the site location of Adit IV and V. Yet another reason for delay in completion of HRT is stated to be the increase in quantum of consolidation grouting from 660 M to 4120 M.*

*(e) **Lower Expansion Gallery (LEG) – 6 Months:** In general, rock mass was in poor category with closely foliated/jointed and quartzite Phyllite. During the benching excavation from RD 380 to 370 m, some ribs collapsed and loose rock started falling after blast on 20.4.2010. The fallen loose rock mass filled LEG from RD 340 to RD 380 m. As per geological report, rock was in class IV between RD 260 to 406 M. The highly shattered strata of Phyllite dipping towards LEG from right side frequently gave trouble during execution because of rock mass slide, cavity/chimney formation causing distortion and displacement of ribs and concrete backfill behind ribs. Remaining work of LEG was carried out cautiously by adopting for poling with grouting which slowed the progress. As such, LEG work suffered due to unforeseen formation of cavity for which various methodologies were adopted from time to time based on prevailing site conditions for early completion of the work. Due to these reasons the work of lining was completed on 28.12.2011 instead of 2.7.2009, as originally scheduled.*

*(f) **Surge Shaft:** Due to the unforeseen incident of cavity formation in Surge Shaft in December 2008, the work of Surge Shaft excavation came to a halt. Additional rock support measures were adopted for safety purposes. The*

additional time of nearly 9 months was taken on cavity treatment and installation of additional rock support measures. Other reasons for the delay in excavation of surge shaft were such as delay in shifting the school situated in vicinity of surge shaft locations, overlapping of PWD road alignment with surge shaft road, additional work in surge shaft, frequent breakdown of machinery at site, change of location portal of Adit 6 because of geological conditions of rock which caused collapse of the portal, delay in lining of vertical portion of pressure shaft, shortage of adequate manpower, machinery and material, etc.

*(g) **Power House:** The main reasons of time overrun indicated in the appraisal report are on account of delay of about 6 months (November 2007 to April 2008) in start of interface work by the contractor, M/s Alstom and of about 14 months (October 2007 to December 2008) in start of erection work of penstock by HM contractor, shortage of adequate labor and material for all the working fronts of the power house, shortage of equipment such as concrete pumps, millers, excavators and aggregates etc.*

*(h) **Fire Fighting Tank – 7 Months: T**he location of the firefighting tank was changed from EL 1210 M to EL 1281 M along hill slope adjoining GIS and DG building. As the revised location was not accessible for transportation of material and machinery, the work was considered as additional work in the context of the contract agreement. The excavation at the new location was carried out through traditional methods of drilling blasting using jack hammers, mucking with manual pick axe, spades, crowbars, etc. and placing concrete and transportation of reinforcement to the new location took additional time.*

*(i) **Diversion Tunnel Plug:** The diversion tunnel remained in operation for more than 6 years. After lowering of diversion tunnel inlet gates there was large quantum of leakage due to erosions that occurred at the diversion tunnel inlet. There were extreme problems in execution of the diversion tunnel plug. The plug was finally completed on 16.3.2012 as a last major civil activity.*

*(j) **Hill Slope Leakages – 3 Months:** With the plugging of Diversion Tunnel, the next step of project testing and commissioning activity was to commence which was to be followed by commercial operation of the generating station. However, there was leakage from the hill slopes adjoining surge shaft area, because of which the local villagers down the hill slopes resorted to agitation. This caused delay in commissioning of the generating station which was finally declared under commercial operation on 4.7.2012.*

13. Based on the above facts, DIA has observed that the generating station could have been commissioned in the month of March 2012 itself, but was actually commissioned in July 2012. According to DIA, the delay of about 3 months after the DT plugging in March, 2012 is to the account of the Petitioner. DIA has, therefore, recommended that IDC of `2644 lakh for this period may not be considered towards the capital cost of the generating station.

14. The cumulative item-wise delay far exceeds the actual delay of 22 months. This is for the reason that many activities were carried out in parallel. Out of the net delay of 22 months, DIA has attributed the delay of 3 months, after plugging of Diversion Tunnel to the Petitioner and has recommended deduction of IDC for this part of the delay. No part of the delay of the remaining 19 months prior to 16.3.2012 has been attributable to the Petitioner. Accordingly, we conclude that the delay was beyond the control of the Petitioner. As regards reduction in IDC amounting to ₹2644 lakh for the time overrun of 3 months, we are of the view that the delay in commissioning of the plant after plugging of diversion tunnel, due to agitation by local villagers cannot said to be within the control of the Petitioner. As *such, there shall not be reduction in capital cost on account of IDC of ₹2644 lakh for this three months period of delay."*

13. As regards Cost overrun, the Commission in the said order dated 24.3.2015, based on the observations of the DIA, had allowed the completion cost and worked out the capital cost of the generating station as on 4.7.2012 as stated below:

"37. In consideration of the above discussions, the following completion cost of the generating station has been allowed subject to truing-up:

(₹ in lakh)

	Government Approved Cost	***Completion Cost***
I-Works		
A-Preliminary	*555.00*	*463.86*
B- Land	*3688*	*7350.20*
C-Works	*21828.06*	*26543.52*
J-Power plant civil works	*54220.10*	*51134.23*
K-Buildings	*2412.00*	*3719.62*
O-Misc.	*3190.00*	*4709.00*
P-Maintenance during construction	*825.00*	*683.80*
Q-Special Tools & Plants	*203.00*	*307.00*
R-Communication	*3980.00*	*6672.74*
X-Environment & Ecology	*5362.00*	*8419.03*
Y-Losses on Stock	*206.89.00*	*26.15*
Total of I-Works	*96470.00*	*110029.15*
II-Establishment	*4602.00*	*30114.42*
III-Tools & Plants	*483.00*	*5.02*
IV-Suspense	*0.00*	*0.00*
V-Receipt & Recoveries	*(-) 527.00*	*(-) 4403.24*
Total Direct Charges	*101028.00*	*135745.35*
Indirect Charges		
Capitalized value of abatement of Land		
Audit & Account Charges	*965.00*	*1695.84*
Total Indirect charges	*965.00*	*1695.84*
Total Civil works	*101993.00*	*137441.19*
Electrical Works	*26604.01*	*41417.46*
Total Cost (Civil+ Electrical)	*128597.01*	*178858.65*
Interest During Construction	*11376.00*	*23852.33*
Financing Charges	*590.00*	*341.10*

Total net cost with IDC & financing charges	***140563.01***	***203052.08***

"38. Against the estimated completion cost of ₹203052.08 lakh we consider the following capital cost, including normative IDC of ₹8978 lakh as on COD of station as claimed by the Petitioner. Accordingly, for the purpose of tariff, the following capital cost has been considered based on the latest balance sheet as on 31.3.2012. The Petitioner is directed to submit on affidavit, at the time of truing-up, the actual treatment of normative IDC as carried out in the books of accounts duly authorized by the auditor".

(₹in lakh)

Capital cost for the purpose of tariff as on 30.6.2012 (COD of 2 Units)	*128351.09*
Capital cost for the purpose of tariff as on 4.7.2012 (COD of 3 Units)	*192526.64*

14. As stated by the Petitioner, the RCE of the project was approved by the Board of Directors of the Petitioner Company in its 385th Board Meeting held on 29.6.2015. The Petitioner has submitted the RCE amounting to ₹204944 lakh in MOP/CEA on 5.5.2014, which was subsequently revised to ₹204811 lakh. This project cost has been appraised by CEA vide its letter dated 4.5.2016. The Petitioner has stated that based on the CEA recommendations, the Standing Committee on time and cost overrun, after detailed analysis has recommended the completion cost of the project as ₹200413 lakh upto the cut-off date (31.3.2015) vide its letter dated 11.1.2019. The Petitioner has added that the cost appraisal by CEA, the recommendations by the Standing Committee, PIB and approval by CCEA is normal process for approval. The Petitioner has contended that the approved RCE by GOI is not a mandatory requirement. Accordingly the Petitioner has submitted that the project cost as on COD (4.7.2012) and 31.3.2014 are ₹187630 lakh and ₹192624 lakh respectively (excluding normative IDC of ₹11616 lakh) and the same is within the recommended cost of the Standing Committee.

15. The Respondent UPPCL in its reply has submitted that the Board of Directors have approved the completion cost of the project as ₹204944 lakh subject to the

approval of competent authority, which is the GOI. It has stated that since CCEA/MOP has not yet approved the RCE, the completion cost of ₹204944 lakh is still unapproved. The Respondent has also submitted that the CEA has only done technical appraisal in respect of the technical aspect namely (i) Design changes in Civil Structures (ii) Technical Deviations in RCE (iii) Memo of Design Changes in RCE (iv) RCE at completion level of E&M work and (v) Power evacuation System and had cleared them. The Respondent has stated that the time overrun and cost overrun have also not been approved by either CEA or CCEA and hence the revision of tariff cannot be undertaken till approval by the competent authority. The Respondent BRPL has submitted that RCE is at very preliminary stage and is expected to take some time. It has however stated that the recommendation of the Standing Committee of the MOP, GOI and the PIB meeting under Ministry of Finance, GOI is a case of 'conflict of interest' as in this case there is situation in which the GOI cannot make fair decisions because they will be effected by the results having a major equity in the Petitioner Company. The Respondent has added that since there is no specific regulation to deal with the issue of time overrun related costs, the principle laid down by the APTEL in its judgment dated 24.7.2011 in Appeal No. 72 of 2010 (MSPGCL vs MERC & ors) may be considered. The Petitioner in its rejoinder has reiterated the submissions made in its Petition. It has however clarified that the approval process of RCE is well defined and there is no conflict of interest in the different departments of GOI. Accordingly the Petitioner has prayed that tariff on basis of actual capital cost may be allowed,

16. The recommendations of the Standing Committee on Time and Cost Overrun in its report dated 11.1.2019 are extracted as under:

> *a) The project has been declared under commercial operation w.e.f. 04.07.2012. The Committee noted that the Revised Cost Estimate amounting to ₹2049.44 crore has been approved by Board of Directors of NHPC in its meeting held on 29.06.2015.*

b) The Committee observed that the project has incurred a time overrun of 22 months and 4 days. The main reasons of the delay as force majeure condition, disruption/suspension of aggregate crushing and processing plant, shooting stones, collapse of tower crane and excessive leakages of diversion tunnel gate, etc. as given at above para, which were found convincing by the Committee.

c) Committee observed that the issue of fixing of Sunset Date of hydro projects i.e. the maximum period up to which the expenditure should be allowed in RCEs, was deliberated in detail during the discussions w.r.t. approval of completion cost of Uri, Stage-ll, Sewa, Stage-ll and Rampur HE Projects. In response to the query MOP has taken a stand that the Cutoff Date, as per provisions of CERC regulations, shall be considered as Sunset Date of hydro projects already executed, Therefore, in consistent to the above stand, the Sunset Date of Chamera HE Project, Stage-Ill shall be 31.03.2015.

d) Committee observed that the expenditure up to Cutoff Date i.e. 31.03.2015 is Rs. 2004.13 crore with time overrun of 22 months & 4 days.

e) On examining the reasons of cost and time overrun, Committee is of the opinion that reasons for cost and time over-run were beyond the control of any agency or person, hence no individual /agency can be held responsible for the same."

17. The Standing Committee after examining the reasons for Time and Cost Overrun has made the following recommendations:

"In view of above deliberations, Revised Cost Committee recommended that in case of Chamera HE Project, Stage-Ill, the expenditure up to Cutoff Date i.e. 31.03.2015 may be considered for finalization of RCE cost as ₹2004.13 crore at completion with time overrun of 22 months & 4 days for consideration of the PIB."

18. We have examined the observations and recommendations of the Standing Committee on time and cost overrun and the submissions of the parties as aforesaid. As stated earlier, the issue of time and cost overrun has been considered by the Commission in order dated 24.3.2015 in Petition No. 26/GT/2013 in terms of the recommendations of the DIA. In the present case, it is noticed that the Standing Committee on time & cost overrun, has, after detailed analysis of the submissions of the Petitioner, brought out the various factors responsible for time and cost overrun of the project, namely, the delay due to force majeure conditions, disruption/suspension of aggregate crushing and processing plant, shooting stones, collapse of tower crane and excessive leakages of diversion tunnel gate, etc., and has based its recommendations on the same. Also, the Standing Committee has examined the reasons which have attributed to the increase in the

cost of the project by ₹59849 lakh, over the sanctioned cost. Accordingly, after detailed scrutiny of report of the Standing Committee, we accept the recommendations of the Standing Committee that the time overrun of 22 months & 4 days and the Cost overrun of ₹59849 lakh on account of time overrun were beyond the control of any agency or person and the Petitioner cannot be held responsible for the same. Accordingly, the completion cost/RCE of ₹200412 lakh, as recommended by Standing Committee, is allowed as the ceiling cost for the purpose of tariff, subject to actual cash expenditure. In the event RCE is approved by the CCEA/MOP, the same shall be brought to the notice of the Commission.

Capital Cost

19. Clause (1) of Regulation 7 of the 2009 Tariff Regulations provides as under:-

> *"(1) Capital cost for a project shall include:-*
>
> *(a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii)being equal to the actual amount of loan in the event of the actual equity less than 30% of the fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.*
>
> *(b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and*
>
> *(c) additional capital expenditure determined under regulation 9:*
>
> *Provided that the assets forming part of the project, but not in use shall be taken out of the capital cost. (2) The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff:*
> *xxx*
> *Provided also that the Commission may issue guidelines for vetting of capital cost of hydro-electric projects by independent agency or expert and in that event the capital cost as vetted by such agency or expert may be considered by the Commission while determining the tariff for the hydro generating station:*
>
> *Provided also that the Commission may issue guidelines for scrutiny and commissioning schedule of the hydro-electric projects in accordance with the tariff policy issued by the Central Government under section 3 of the Act from time to time.*
>
> *Provided also that in case the site of a hydro generating station is awarded to a developer (not being a State controlled or owned company), by a State Government by following a two stage transparent process of bidding, any*

expenditure incurred or committed to be incurred by the project developer for getting the project site allotted shall not be included in the capital cost:

Provided also that the capital cost in case of such hydro generating station shall include:

(a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity 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:

Provided also that the capital cost of the generating station shall include the cost for creating infrastructure for supply of power to the rural households located within a radius of five kilometers of the power station if the generating company does not intend to meet such expenditure as part of its Corporate Social Responsibility.

Provided also that where the power purchase agreement entered into between the generating company and the beneficiaries or the implementation agreement and the transmission service agreement entered into between the transmission licensee and the long-term transmission customer, as the case may be, provide for ceiling of actual expenditure, the capital expenditure admitted by the Commission shall take into consideration such ceiling for determination of tariff."

20. The Commission vide its order dated 24.3.2015 in Petition No. 26/GT/2013 had approved the following capital cost as on COD of the units/station upto 31.3.2014:

(₹ in lakh)

Capital cost for the purpose of tariff as on 30.6.2012 (2 Units) **(a)**	128351.09
Capital cost for the purpose of tariff as on 4.7.2012 (3 Units/ Station) **(b)**	192526.64
Admitted additional capital expenditure for the period from 4.7.2012 to 31.3.2013 **(c)**	8310.62
Opening capital cost as on 1.4.2013 **(d) = (b) + (c)**	200837.26
Admitted additional capital expenditure for the period for 2013-14 **(e)**	3138.50
Closing Capital cost as on 31.3.2014 (f) = (d) + (e)	**203975.76**

21. The Commission while allowing the above capital cost had observed in the said order that the capital cost considered was based on the latest balance sheet as on 31.3.2012 and had also directed the Petitioner to submit on affidavit, the actual treatment of normative IDC as carried out in the books of accounts, duly authorized by auditor, at the time of truing-up exercise. The Petitioner in the present petition has submitted the audited balance sheet for the years 2012-13 & 2013-14 and claimed the capital cost as under:

(₹ in lakh)

	2012-13		2013-14
	30.6.2012 to 3.7.2012 (2 units)	**4.7.2012 to 31.3.2013 (3 units)**	
Opening Capital Cost	132995.44	199246.85	201500.26
Net additional capital expenditure	66251.41	2253.41	2740.95
Closing Capital Cost	199246.85	201500.26	204241.21

22. Before proceeding, we notice that the Petitioner has claimed additional capital expenditure of ₹66251.41 lakh for the period from 30.6.2012 to 3.7.2012. It is also noticed that the additional capital expenditure claimed pertains to 3rd Unit (Unit-I) which achieved COD on 4.7.2012. Thus, the additional capital expenditure of ₹66251.41 lakh form part of the actual expenditure as on 4.7.2012. In our view, the claim for capital expenditure can only be considered from the date of COD of the generating station i.e. 4.7.2012. Accordingly, the Petitioner's claim for additional expenditure for the period prior to 4.7.2012 is not justifiable, considering the fact that the interest on loan portion of these capitalized amounts (70%) form part of the IDC till 4.7.2012. Therefore, the said amount has not been considered as additional capital expenditure for the period from 30.6.2012 to 3.7.2012.

23. The capital cost claimed by the Petitioner as on COD of Units II & III (30.6.2012) for ₹132995.44 lakh and the COD of Unit-I/ generating station (4.7.2012) for ₹199246.85 lakh includes hard cost of ₹14060.64 lakh & ₹170793.93 lakh, respectively. Considering the fact that the delay of 22 months and 4 days has been condoned by the Commission and the hard cost claimed above is within the completion cost of ₹200412 lakh, as recommended by Standing Committee and allowed by the Commission as above, the same is allowed for the purpose of tariff.

Interest During Construction (IDC)

24. The amount of IDC claimed by the Petitioner vide Form 5B, is as below:-

(₹ in lakh)

30.6.2012 (2 units)	4.7.2012 (all 3 units)
23639.19	35505.94

25. The IDC claimed as above is inclusive of Normative IDC. The break-up of the same is as under:

(₹ in lakh)

	30.6.2012 (2 units)	4.7.2012 (all 3 units)
IDC on loan	15901.11	23889.48
Normative IDC	7738.08	11616.46
Total	**23639.19**	**35505.94**

26. The Petitioner has furnished the details of amount, date of drawl, rate of interest etc. in respect of loans. The Petitioner was directed vide ROP dated 6.2.2019, to furnish documentary evidences/ correspondences from the banks with respect to the reset of rate of interest. In response, the Petitioner has furnished the same vide its affidavit dated 6.3.2019. Based on the details, IDC has been calculated up to COD of the generating station and allowed as under:

(₹ in lakh)

30.6.2012 (2 units)	4.7.2012 (all 3 units)
15901.11	23889.48

Normative IDC

27. In addition to the IDC on actual loan, the Petitioner has claimed IDC on normative loan, in terms of Regulation 7 (1) (a) (ii) of the 2009 Tariff Regulations, as under:

(₹ in lakh)

30.6.2012 (2 units)	4.7.2012 (all 3 units)
7738.08	11616.46

28. The Petitioner has submitted the calculation of normative IDC, duly certified by Auditor. For calculation of normative IDC, the Petitioner has applied weighted average rate of interest in respect of loans availed by the company as a whole for

the period before drawl of the loans for the project. For the period after the drawl of actual loan for the project, the rate of interest applicable for actual loan has been considered, the details of which have been furnished vide its affidavit dated 7.8.2018. The Commission vide ROP of the hearing dated 6.2.2019 directed the Petitioner to furnish the balance sheets of the generating station since 1st infusion of the fund and the same has been furnished by the Petitioner vide affidavit dated 6.3.2019. Based on the details furnished by the Petitioner, normative IDC has been worked out and allowed as under:

(₹ in lakh)

30.6.2012 (2 units)	4.7.2012 (all 3 units)
7738.08	11607.21

Financing Charges

29. The Petitioner has claimed financing charges as on the COD of the Units as under:

(₹ in lakh)

30.6.2012 (2 units)	4.7.2012 (all 3 units)
227.40	341.10

30. The Financing charges claimed by the Petitioner as above in Form 5B has been duly certified by Auditor. The Petitioner vide ROP of the hearing dated 6.2.2019 was directed to furnish the break-up details of the financing charges claimed along with documentary evidence. In response, the Petitioner has furnished the details vide affidavit dated 6.3.2019. Based on the said details, the financing charges claimed by the Petitioner have been considered for the purpose of capital cost.

Un-discharged liabilities

31. The Petitioner has claimed un-discharged liabilities as on COD of the Units as under:

(₹ in lakh)

30.6.2012 (2 units)	4.7.2012 (all 3 units)
5072.51	7605.19

32. The Petitioner has furnished the liability flow statement and asset wise/ party- wise details of the un-discharged liabilities, duly certified by Auditor, confirming the claim of the Petitioner. Accordingly, the un-discharged liability claimed by the Petitioner has been considered for the purpose of tariff.

33. Based on the above discussions, the capital cost allowed for the purpose of tariff is as under:

(₹ in lakh)

	30.6.2012 (2 units)	4.7.2012 (all 3 units)
Hard Cost	114060.64	170793.93
IDC	15901.11	23889.49
Normative IDC	7738.08	11607.21
Financial Charges	227.40	341.10
Contract FERV	140.71	211.06
Total Capital cost	**138067.94**	**206842.78**
Liability	5072.51	7605.19
Capital Cost	**132995.43**	**199237.59**

Additional capital expenditure for the period from COD (4.7.2012) to 31.3.2014

34. Regulation 9 (1) of the 2009 Tariff Regulations provides as under:

"9 (1) The capital expenditure 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;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares within the original scope of work, subject to the provisions of regulation 8;

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

(v) Change in law:

Provided that the details of works included in the original scope of work along with estimates of expenditure, un-discharged liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff."

35. The additional capital expenditure claimed by the Petitioner for the period from COD to 31.3.2014, including discharge of the liabilities, is as under:-

(₹ in lakh)

	4.7.2012 to 31.3.2013 (for 2 units)	1.4.2013 to 31.3.2014 (for 3 units)
1) Additional capital expenditure claimed	**462.98**	**2481.84**
(i) Liability discharged related to COD	2370.01	1682.89
(ii) Liability discharged related to additional capital expenditure	0.00	243.24
2) Add: Total liabilities discharged (i+ii)	**2370.01**	**1926.13**
3) Less : Un-discharged liability related to Additional capital expenditure	428.22	1021.28
4) Net total additional capital expenditure for purpose of tariff (1+2-3)	**2404.77**	**3386.69**
5. De-capitalisation	151.37	645.75
6. Net additional capital expenditure claimed (4-5)	**2253.40**	**2740.94**

36. The Respondent UPPCL in its reply has submitted that the additional capitalization during the years 2012-13 and 2013-14 have not been approved either by the CEA or CCEA. The Respondent BRPL has submitted that the Form- 9 is incomplete in many respects as it contains no justification, including the specific regulation under which the additional capitalization is claimed. The Petitioner has however clarified that the project cost of the generating station as on COD (4.7.2012) and 31.3.2014 are ₹187630 lakh and ₹192624 lakh respectively (excluding normative IDC of ₹11616 lakh) and the same is within the Standing Committee recommended cost and has prayed that the Commission may consider the capital cost claimed, which also includes the normative IDC of ₹11616 lakh. The Petitioner has also reiterated that the additional capital expenditure deployed after COD of the project, indicated in Form-9 contains information as per requirement of the Form and the same may be considered for determination of tariff.

37. The matter has been considered. As stated, the COD of the generating station is 4.7.2012 and hence, the cut-off date of the generating station is 31.3.2015. The capital cost allowed as on the COD of the generating station is ₹199237.59 lakh, which includes the Normative IDC of ₹11607.21 lakh. As such, the capital cost

allowed for works within the original scope as on the COD of the generating station is ₹187630.38 lakh (₹199237.59 – ₹11607.21) whereas, the ceiling capital cost of the project for works within the original scope of work is ₹200412 lakh, as recommended by the Standing Committee and allowed by the Commission. Accordingly, an amount of ₹12781.61 lakh (₹200412.00 – ₹187630.38) is available for consideration of the additional capital expenditure on balance works/assets which are within the original scope of work of the project, upto the cut-off date. We now proceed to examine the additional capital expenditure claimed by the Petitioner, in the subsequent paragraphs.

Discharge of liabilities

38. The Petitioner has claimed discharge of liabilities amounting to ₹2370.01 lakh for the period from COD to 31.3.2013 and ₹1926.13 (1682.89+243.24) lakh from 1.4.2013 to 31.3.2014 as a part of additional capital expenditure in Form-9 of the petition. Also, the Petitioner has claimed un-discharged liabilities of ₹428.22 lakh in 2012-13 and ₹1021.28 lakh in 2013-14 related to additional capital expenditure. The Petitioner has submitted the liability flow statement in Appendix-III to Form-9, duly certified by Auditor. The details are as under:

(₹ in lakh)

1	Un-discharged liabilities as on COD	**7605.19**
2	Less: Liability Discharged out of COD during 2012-13	2370.01
3	Less: Liability Discharged out of COD during 2013-14	1682.89
4	Un-discharged liabilities as on 31-3-2014 (out of COD liabilities) (1-2-3)	**3552.29**
5	Add: Liabilities addition during 2012-13 (out of additional capital expenditure)	428.22
6	Add: Liabilities addition during 2013-14 (out of additional capital expenditure)	1021.28
7	Less: Liability discharged during 2012-13	0.00
8	Less: Liability discharged during 2013-14	243.24
9	**Total un-discharged liabilities as on 31-3-2014 (4+5+6-7-8)**	**4758.55**

39. Based on the details certified by Auditor, the discharge of liabilities of ₹2370.01 and ₹1926.13 lakh (₹1682.89 + ₹243.24) and the un-discharged liabilities for ₹428.22 lakh and ₹1021.28 lakh as claimed by the Petitioner is allowed.

40. The details of the net additional capital expenditure from COD of the generating station (4.7.2012) to 31.3.2014 are as under:

(₹ in lakh)

	4.7.2012 to 31.3.2013	2013-14
Land – Freehold	0.00	139.00
Roads and Bridges (other than kutcha road)	0.00	37.77
Building containing Hydro Electric Generating Plant	154.17	153.09
Buildings-Others	82.10	47.63
Office building	1.26	0.00
Dam and Barrages, Power Channels, Power Tunnels and Pipelines, Penstocks, Tailrace Channels, Hydro mechanical works -Dams and Barrages, Hydro mechanical works- Tunnels and canals, Hydro mechanical works- Tail race including Draft Tube gates	(-) 42.21	630.10
Main Generating Equipment, Generator step up transformer, Other power plant transformer, Cooling water systems, EHV Switchgear systems, DC Systems / Battery systems, Power and control cables, Air conditioning and ventilation, Control, Metering and Protection	(-) 109.16	1316.19
Plant and Machinery-Sub station	0.00	42.36
Plant and Machinery-Transmission lines	0.38	0.00
Plant and Machinery- Others	0.14	0.18
Construction Equipment	18.94	0.39
Water Supply System/Drainage and Sewerage	15.40	0.00
Vehicles	36.55	55.82
Furniture and Fixture	17.89	29.52
I.T Equipment-Computers	20.27	8.79
Communication Equipment	0.00	(-) 2.08
Air Conditioner- Portable	0.00	0.00
Office Equipment's	6.92	9.60
I.T Equipment-Intangible assets	3.41	(0.10)
Other assets	39.97	5.19
Capital Expenditure on assets not owned by NHPC	56.84	(-) 642.88
Fixed assets of minor value	8.05	6.39
Obsolete / surplus assets	0.69	(0.69)
Environment & Ecology	0.00	0.00
Sub-Total	**311.62**	**1836.10**
Add : Liability discharged pertaining to COD	2370.01	1682.89
Add : Liability discharged related to additional capital expenditure	0.00	243.24
Less : Un-discharged liability pertaining to additional capital expenditure	428.22	1021.28
Net total additional capital expenditure for purpose of tariff	**2253.41**	**2740.95**

41. It is pertinent to mention that the total additional capital expenditure claimed by the Petitioner (₹4994.36 lakh) is within the balance amount of ₹12781.61 lakh with regard to the completion cost approved by the Standing

Committee. After considering the claims of additions, deletions and liabilities, the claim of the Petitioner for additional capital expenditure is revised as per the following breakup:

(₹ in lakh)

	4.7.2012 to 31.3.2013	2013-14
Add : Addition during the year / period	462.98	2481.84
Add : Liability discharged pertaining to COD	2370.01	1682.89
Add : Liability discharged related to additional capital expenditure	0.00	243.24
Less : Un-discharged liability pertaining to additional capital expenditure	428.22	1021.28
Less : De-capitalization during the year / period	151.37	645.75
Net additional capital expenditure	**2253.40**	**2740.94**

Additional Capital Expenditure from 4.7.2012 to 31.3.2013

42. The Petitioner has claimed additional capital expenditure of ₹2832.99 lakh for the period from 4.7.2012 to 31.3.2013, which includes an amount of ₹462.98 lakh for additions during the year and ₹2370.01 lakh towards discharge of liabilities created upto 4.7.2012. The additional capital expenditure of ₹462.98 lakh claimed by the Petitioner for assets/works within the original scope of the project broadly consists of expenditure towards Building, Office building, Plant & Machinery, Construction Equipment's, Water Supply System/Drainage and Sewerage, Vehicles, Furniture & fixtures, I.T. Equipment's, Office Equipment's, I.T Equipment-Intangible assets, Other assets, Capital expenditure on assets not owned by the Petitioner, Fixed assets of minor value, etc., It is observed that the Petitioner has claimed amount of Rs. 56.84 lakh towards 'Assets not owned by the Petitioner' and the same has not been allowed for the purpose of tariff. The additional capital expenditure claimed by the Petitioner on assets, other than those not owned by Petitioner, is mostly towards assets/works within the original scope of work of the project. Accordingly, on prudence check, an expenditure of ₹406.14 lakh (₹462.98 - ₹56.84) is allowed in terms of Regulation 14 (1)(ii) of the 2009 Tariff Regulations.

2013-14

43. The Petitioner has claimed additional capital expenditure of ₹4407.97 lakh for the period 2013-14, which includes an expenditure of ₹2481.84 lakh as additions during the year, an amount of ₹1682.89 lakh towards discharge of liabilities created upto 4.7.2012 and ₹243.24 lakh towards liability discharged relating to additional capital expenditure. The additional capital expenditure of ₹2481.84 lakh claimed by the Petitioner in respect of assets/works under the original scope of work, broadly consists of expenditure towards, Land, Roads & Bridge, Dam & Barrages, Main generating equipment, Sub-station, Buildings, Office buildings, Plant & Machinery, Construction equipment's, Vehicles, Furniture & fixtures, I.T Equipment's, Office Equipment's, I.T Equipment-Intangible assets, Other assets, Fixed assets of minor value, etc., Accordingly, the additional capital expenditure of ₹2481.84 lakh is allowed in terms of Regulation 14(1)(ii) of the 2009 Tariff Regulations.

44. Based on the above, the additional capital expenditure allowed for the period from 4.7.2012 to 31.3.2014 is summarised as under:

(₹ in lakh)

	4.7.2012 to 31.3.2013 (for 2 units)	**1.4.2013 to 31.3.2014 (for 3 units)**
Additional Capital Expenditure		
Claimed	462.98	2481.84
Disallowed	56.84	0.00
Allowed	**406.14**	**2481.84**

De-capitalization

45. The Petitioner has claimed the de-capitalization of amounts from COD of the generating station from 4.7.2012 to 31.3.2014 as under:

(₹ in lakh)

4.7.2012 to 31.3.2013	**2013-14**
151.37	**645.75**

46. The Petitioner has submitted that it has de-capitalized an amount of ₹642.88 lakh in 2013-14 towards expenditure on capital assets not owned by the Petitioner. It is noticed that this de-capitalized amount also includes an amount of ₹56.84 lakh, which was capitalized in 2012-13 under the same head and the capitalization of the same was not allowed in 2012-13. Since, the expenditure was not considered for the purpose of tariff in 2012-13, the deletion of ₹56.84 lakh in 2013-14 has been excluded for the purpose of tariff. Accordingly, the de-capitalization allowed for assets which are obsolete, not in use and assets not owned by the Petitioner are as under:

(₹ in lakh)

4.7.2012 to 31.3.2013	2013-14
151.37	588.91

Capital Cost for the period from 30.6.2012 to 31.3.2014

47. Accordingly, the capital cost approved for the purpose of tariff is as under:

(₹ in lakh)

		30.6.2012 to 3.7.2012 (2 Units)	4.7.2012 31.3.2013 (all 3 Units)	1.4.2013 to 31.3.2014
1	Opening Capital Cost	**132995.43**	**199237.59**	**201434.15**
2	Additional capital expenditure allowed	-	406.14	2481.84
3	Add : Liability discharged pertaining to COD allowed	-	2370.01	1682.89
4	Add : Liability discharged related to additional capital expenditure allowed	-	0.00	243.24
5	Less : Un-discharged liability pertaining to additional capital expenditure	-	428.22	1021.28
6	Net total capital expenditure for purpose of tariff (2+3-5)	-	2347.93	3386.69
7	De-capitalisation	-	151.37	588.91
8	Addition during the period (6-7)	-	2196.56	2797.78
9	**Closing capital cost (1+8)**	**132995.43**	**201434.15**	**204231.93**

Debt-Equity Ratio

48. Regulation 12 of the 2009 Tariff Regulations provides as under:

> *"12. Debt-Equity Ratio (1) For a project declared under commercial operation on or after 1.4.2009, 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 where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:*

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.

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, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the generating station or the transmission system.

(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 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."

49. Accordingly, the debt equity ratio of 70:30 has been considered in terms of the above regulation for the purpose of tariff.

Return on Equity

50. Regulation 15 of the 2009 Tariff Regulations provides as under:

"15. Return on Equity. (1)Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12.

(2) Return on Equity shall be computed on pre-tax basis at the base rate of 15.5% for thermal generating stations, transmission system and run of the river generating station, and 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage and shall be grossed up as per clause (3) of this regulation:

Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in Appendix-II: Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.

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

51. In accordance with the above regulations, Return on Equity has been computed as follows:

(₹ In lakh)

	30.6.2012 to 3.7.2012 (2 Units)	4.7.2012 to 31.3.2013 (all 3 Units)	1.4.2013 to 31.3.2014
Opening Equity	39898.63	59771.28	60430.25
Addition due to additional capital expenditure	0.00	658.97	839.33
Closing Equity	39898.63	60430.25	61269.58
Average Equity	39898.63	60100.76	60849.91
Return on Equity (Base Rate)*	15.500%	15.832%	16.500%
Tax rate for the year	20.008%	20.008%	20.961%
Rate of Return on Equity (Pre Tax)	19.377%	19.792%	20.876%
Return on Equity (Pre Tax) (pro-rata)	**84.73**	**8831.74**	**12703.03**

**Rate on return on equity has been increased from 15.5% to 16.5% w.e.f 1.1.2013 by through third amendment to 2009 Tariff Regulations.*

Interest on Loan

52. Regulation 16 of the 2009 Tariff Regulations provides as under:

> *"(1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.*
>
> *(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.*
>
> *(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year.*
>
> *(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 annual depreciation allowed.*
>
> *(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project. 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 re-financing 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 beneficiary or the transmission customers 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."

53. The other salient features of computation of interest on loan allowed in tariff are summarized below:

i) The opening gross normative loan has been arrived at in accordance with Regulation 16 of the 2009 Tariff Regulations.
ii) The weighted average rate of interest has been worked out on the basis of the actual loan portfolio of respective year applicable to the project.
iii) The repayment for the year of the tariff period has been considered equal to the depreciation allowed for that period.
iv) The interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest.

54. Accordingly, Interest on loan has been computed as under:

(₹ in lakh)

	30.6.2012 to 3.7.2012 (2 Units)	**4.7.2012 to 31.3.2013 (all 3 Units)**	**1.4.2013 to 31.3.2014**
Gross Normative Loan	93096.80	139466.32	141003.91
Cumulative Repayment up to previous year	0.00	75.24	7754.54
Net loan-Opening	93096.80	139391.08	133249.37
Repayment during the period	75.24	7679.30	10493.28
Additional capitalization	0.00	1537.59	1958.45
Net Loan-closing	93021.56	133249.37	124714.54
Average loan	93059.18	136320.22	128981.95
Weighted Average Rate of Interest on loan	9.41%	9.40%	9.32%
Interest (pro-rata)	**96.01**	**9511.79**	**12021.21**

Depreciation

55. Regulation 17 of the 2009 Tariff Regulations provides as under:

"(1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

(2) 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 stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site: Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

(3) 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.

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III 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 date of commercial operation shall be spread over the balance useful life of the assets.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting 3[the cumulative depreciation including Advance against Depreciation] as admitted by the Commission up to 31.3.2009 from the gross depreciable value of the assets.

(6) 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."

56. The weighted average rate of depreciation calculated in terms of the above regulations has been considered for calculation of depreciation. Accordingly, depreciation has been worked out and allowed as under:

(₹ in lakh)

	30.6.2012 to 3.7.2012 (2 Units)	**4.7.2012 to 31.3.2013 (all 3 Units)**	**1.4.2013 to 31.3.2014**
Opening Gross Block	132995.43	199237.59	201434.15
Additional Capitalization	0.00	2196.56	2797.78
Closing Gross Block	132995.43	201434.15	204231.93
Average Gross Block	132995.43	200335.87	202833.04
Cost of free hold land	78.21	117.31	256.31
Rate of depreciation (annualised)	5.16%	5.16%	5.17%
Depreciable value	119625.50	180196.70	182319.06
Remaining depreciable value	119625.50	180121.47	174570.34
Depreciation (pro-rata)	**75.24**	**7679.30**	**10493.28**

O&M Expenses

57. Regulation 19(f) (v) of the 2009 Tariff Regulations provides as under:

"In case of hydro generating station declared under commercial operation on or after 1.4.2009, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding rehabilitation & resettlement works) and shall be subject to annual escalation of 5.72% per annum for subsequent years."

58. The Petitioner has submitted that capital expenditure for original scope of work has been spilled over beyond the cut-off date i.e. 31.3.2015. Accordingly, the

Petitioner has claimed O&M expenses based on the capital cost as on 31.3.2019 as follows:

(₹ in lakh)

2012-13		2013-14
30.6.2012 to 3.7.2012 (2 units)	**4.7.2012 to 31.3.2013 (all 3 units)**	
31.46	3197.40	4552.79

59. However, considering the fact that the original project cost (cut-off date cost) is not available, the capital cost as on COD of the units and the closing capital cost as on 31.3.2014 , excluding proportionate R&R cost, has been considered for the purpose of calculating the allowable O&M expenses. Based on the above, the admissible O&M expenses are worked out as under:

(₹ in lakh)

	30.6.2012 to 3.7.2012 (2 Units)	4.7.2012 to 31.3.2013 (all 3 Units)	1.4.2013 to 31.3.2014
Capital cost considered as on COD of units/station	132995.43	204231.93	-
Less: R&R expenses	102.67	154.00	-
Capital cost for the purpose of O&M expenses	132892.76	204077.93	-
Annualized O&M expenses @ 2% of above	2657.86	4081.56	4315.02
Number of days	4.00	271.00	365.00
O&M expenses allowed (pro-rata)	**29.13**	**3030.42**	**4315.02**

Interest on working capital

60. The Petitioner is entitled to claim interest on working capital as per provisions of Regulation 18 of the 2009 Tariff Regulations. The components of the working capital and the Petitioner's entitlement to interest thereon are discussed hereunder.

(i) **Receivables**

61. As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables as a component of working capital are equivalent to two months' of fixed cost.

Accordingly, receivables have been worked out on the basis of 2 months' fixed cost as under:

(₹ in lakh)

30.6.2012 to 3.7.2012 (2 Units	4.7.2012 to 31.3.2013 (all 3 Units)	1.4.2013 to 31.3.2014
48.77	4969.94	6763.59

(ii) **Maintenance spares**

62. Regulation 18 (1) (c) (ii) of the 2009 Tariff Regulations provides for maintenance spares @ 15% per annum of the O & M expenses as part of the working capital. The value of maintenance spares has accordingly been worked out as under:

(₹ in lakh)

30.6.2012 to 3.7.2012 (2 Units	4.7.2012 to 31.3.2013 (all 3 Units)	1.4.2013 to 31.3.2014
4.37	454.56	647.25

(iii) **O & M expenses (1 month)**

63. Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The Petitioner has claimed O&M expenses for 1 month of the respective year. This has been considered in the working capital as under:

(₹ in lakh)

30.6.2012 to 3.7.2012 (2 Units	4.7.2012 to 31.3.2013 (all 3 Units)	1.4.2013 to 31.3.2014
2.43	252.53	359.59

64. Regulation 18(3)(ii) of 2009 Tariff Regulations, as amended on 21.6.2011, provides as under:

18.
…….
"(3) Rate of interest on working capital shall be on normative basis and shall be considered as follows:
(i)……
(ii) SBI Base Rate plus 350 basis points as on 1.7.2010 or as on 1st April of the year in which the generating station or a unit thereof or the transmission system, as the case may be, is declared under commercial operation, whichever is later, for

the units or station whose date of commercial operation lies between the period 1.7.2010 to 31.3.2014:

65. The State Bank of India base rate was 10% as on 1.4.2012. Accordingly, rate of interest on working capital has been considered as 13.5%. Necessary computations in support of interest on working capital are as under:

(₹ in lakh)

	30.6.2012 to 3.7.2012 (2 Units)	**4.7.2012 to 31.3.2013 (all 3 Units)**	**1.4.2013 to 31.3.2014**
Maintenance Spares	4.37	454.56	647.25
O & M Expenses	2.43	252.53	359.59
Receivables	48.77	4969.94	6763.59
Total	55.56	5677.04	7770.43
Interest Rate	13.50%	13.50%	13.50%
Interest on Working Capital (*pro-rata*)	**7.50**	**766.40**	**1049.01**

Fixed Charges

66. Based on the above, the fixed charges allowed for the purpose of tariff for the period from 2012-14 on *pro-rata* basis is summarised as under:

(₹ in lakh)

	30.6.2012 to 3.7.2012 (2 Units)	**4.7.2012 to 31.3.2013 (all 3 Units)**	**1.4.2013 to 31.3.2014 (all 3 Units)**
Return on Equity	84.73	8831.74	12703.03
Interest on Loan	96.01	9511.79	12021.21
Depreciation	75.24	7679.30	10493.28
Interest on Working Capital	7.50	766.40	1049.01
O & M Expenses	29.13	3030.42	4315.02
Total	**292.60**	**29819.64**	**40581.55**

Normative Annual Plant Availability Factor (NAPAF)

67. The NAPAF of 85% as considered by the Commission in its order dated 24.3.2015 in Petition No. 26/GT/2013 has been considered in this order.

Design Energy

68. Design Energy of 1108.17 MUs of the generating station as approved by CEA has been allowed. The month-wise 10 daily design energy is as under:

Month	10 Daily	Design Energy (MUs)
April	I	19.41
	II	28.12
	III	33.01
May	I	44.71
	II	52.67
	III	57.93
June	I	52.67
	II	52.67
	III	49.13
July	I	51.29
	II	52.67
	III	57.93
August	I	52.67
	II	52.67
	III	57.93
September	I	46.57
	II	39.12
	III	34.09
October	I	29.63
	II	24.95
	III	24.21
November	I	19.67
	II	17.89
	III	15.29
December	I	13.73
	II	12.69
	III	11.63
January	I	11.09
	II	9.83
	III	9.77
February	I	9.14
	II	9.23
	III	6.38
March	I	9.70
	II	15.68
	III	22.40
Total		**1108.17**

69. The difference between the annual fixed charges already recovered by the Petitioner and the annual fixed charges determined under this order shall be adjusted in terms of the clause (6) of Regulation 6 of the 2009 Tariff Regulations.

70. Petition No.282/GT/2018 is disposed of in terms of the above.

Sd/-	Sd/-	Sd/-
(I.S Jha)	**(Dr. M.K Iyer)**	**(P.K Pujari)**
Member	**Member**	**Chairperson**