CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 168/GT/2013

Coram:
Shri Gireesh B. Pradhan, Chairperson
Shri M.Deena Dayalan, Member
Shri A.K. Singhal, Member

Date of Hearing: 24.10.2013
Date of Order: 20.6 2014

IN THE MATTER OF

Approval of generation tariff of Nathpa Jhakri Hydro Electric Power Station (6 x 250 MW) for the period from 1.4.2009 to 31.3.2014.

AND

IN THE MATTER OF

SJVN Limited, New Shimla **…Petitioner**

Vs

1. Punjab State Power Corporation Ltd.
The Mall, Patiala – 147001

2. Haryana Power Purchase Centre,
Shakti Bhawan, Sector VI,
Panchkula - 134019,

3. Delhi Transco Ltd,
Shakthi Sadan, Kotla Road
New Delhi -110002

4. Tata Power Delhi Distribution Ltd.
33 kV Sub-station, Hudson Lines,
Kingsway Camp, Delhi – 110009

5. BSES Rajdhani Power Ltd.
2nd Floor, B Block, Nehru Place,
New Delhi 110019

6. BSES Yamuna Power Ltd.
Shakti Kiran Building, Karkardooma,
Delhi – 110092

7. Ajmer Vidyut Vitran Nigam Ltd.
Old Power House, Hathi Bhsata,
Jaipur Road, Ajmer

8. Jaipur Vidyut Vitran Nigam Ltd.
Vidyut Bhawan, Janpath,
Jaipur – 302005

9. Jodhpur Vidyut Vitran Nigam Ltd.
New Power house, Industrial Area, Jodhpur

10. Himachal Pradesh State Electricity Board Ltd,
Vidyut Bhawan,
Shimla – 171004

11. Power Development Department (J&K),
Government of J&K,
Mini Secretariat, Jammu

12. Power Department,
Union Territory of Chandigarh,
Additional Office Building, Sector 9D,
Chandigarh

13. Uttar Pradesh Power Corporation Ltd.
Shakti Bhawan, 14, Ashoka Road,
Lucknow – 226001

14. Uttranchal Power Corporation Ltd.
Urja Bhawan, Kanwali Road,
Dehradun- 248001

15. Government of Himachal Pradesh,
H.P. Secretariat,
Shimla -171002 … **Respondents**

Parties Present:

For Petitioner: Shri Rajeev Agarwal, SJVNL
Shri Sanjay Kumar, SJVNL
Shri Romesh Kapoor, SJVNL
Shri V. Sankaranarayanan, SJVNL

For Respondents: Shri R.B. Sharma, Advocate, BRPL
Shri Gaurav Singh, Advocate, TPDDL
Shri Padamjit Singh, PSPCL

ORDER

The petitioner, SJVN Ltd has filed this petition for determination of generation tariff of Nathpa Jhakri Hydroelectric Power Station, (6x250 MW) (*hereinafter referred to as "the generating station"*) for the period from 1.4.2009 to 31.3.2014, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 ("the 2009 Tariff Regulations").

2. The generating station, located in the State of Himachal Pradesh, with an installed capacity of 1500 MW (6X250 MW) has been constructed by the petitioner, a joint venture between the Government of India and Government of Himachal Pradesh, as a run-of-river project with pondage. The generating station is designed to generate energy to the extent of 6984 MUs per annum in a 90% dependable year and 1500 MW of peak power. The dates of commercial operation of the different units of the generating station are as under:

Units	Date of commercial operation
Unit- 5	6.10.2003
Unit – 6	2.1.2004
Unit – 4	30.3.2004
Unit – 3	31.3.2004
Unit – 2	6.5.2004
Unit – 1 ***(generating station)***	**18.5.2004**

Background

3. Petition No.184/2004 was filed by the petitioner filed for approval of provisional tariff for the generating station for the period 1.4.2004 to 31.3.2009 and the Commission vide its order dated 17.6.2005 allowed provisional tariff @ `2.35/kWh (translated into two part tariff) for the years 2004-05 and 2005-06, based on the consensus reached between the petitioner and the beneficiaries of Northern Region. The annual fixed charges of `133525 lakh and `141483 lakh were provisionally allowed for the years 2004-05 and 2005-06 respectively. Subsequently, the Commission approved the continuation of

provisional tariff @ `2.35/kwh up to 31.3.2007. The Commission further extended the continuation of the provisional tariff till 31.3.2008 and approved the annual fixed charges of `127812 lakh for 2007-08 on the basis of RCE–II approved cost of `766631 lakh vide order dated 5.9.2007 in I.A. No.13/2007. Thereafter, Petition No. 20/2008 was filed by the petitioner for approval of final tariff of the generating station for the period 2004-09 and the Commission by its order dated 31.12.2008 approved the annual fixed charges of the generating station based on the capital cost of `501786.89 lakh as on 31.3.2004, as under:

(` in lakh)

	1.4.2004 to 5.5.2004	6.5.2004 to 17.5.2004	18.5.2004 to 31.3.2005	2005-06	2006-07	2007-08	2008-09
Days	35	12	318	365	365	366	365
Interest on Loan	2153	942	30413	32321	27847	22911	18134
Interest on Working Capital	17	3	2307	3403	3388	3390	3379
Depreciation	1168	510	16725	19704	19797	19930	19930
Advance Against Depreciation	0	0	5387	19879	19621	20024	20024
Return on Equity	3282	1437	46401	55347	55410	55936	55936
O & M Expenses	703	308	9771	12304	12797	13308	13841
Total	**7322**	**3200**	**111003**	**142958**	**138860**	**135499**	**131243**

4. Thereafter, Petition No. 27/2011 was filed by the petitioner for revision of annual fixed charges for the generating station for the period from 1.4.2004 to 31.3.2009, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004 and the Commission by its order dated 16.1.2013 disposed of the said petition. In the said order dated 16.1.2013, the Commission had observed as under:

"11. It is evident from the above that the petitioner was granted liberty to approach this Commission for revision of tariff only after the same is included in the RCE and approved by the Central Government. The petitioner after discharging some of the liabilities / settling some of the disputed claims has got the expenditure approved by its Board and submitted the proposal to the Central Government for approval of RCE-IV during 2011. Pending approval by the Central Government, the petitioner has approached this Commission through this petition for revision of tariff based on the approval of its Board. In view of our direction that the expenditure can be capitalised only after the RCE is approved by the Central

Government, the present petition is premature to that extent. The Commission had also directed that the petitioner would claim the expenditure as per the prevailing regulations. To this, the respondent BRPL has submitted that the petitioner cannot claim these expenditures under the 2004 Tariff Regulations as it has approached the Commission after expiry of the 2004-09 tariff period. We have considered the objections. It is noticed that most of the expenditures have been incurred after discharging the liabilities/settling the claims during the 2004-09 period and some expenditure have been incurred during the 2009-14 tariff period. Moreover, some more liabilities are yet to be discharged. The petitioner has taken up the matter with the Central Government for approval of RCE-IV which is still awaited. At such long distance of time, it will not be prudent to keep the tariff for the period 2004-09 open to be finally determined after approval of RCE-IV. This will also delay the process for determination of the tariff for the period 2009-14 for which petition has already been filed by the petitioner. In our view, the petitioner should approach the Commission for capitalisation of additional expenditure included in the present petition after approval of RCE-IV in accordance with the provisions of the 2009 Tariff Regulations, which is consistent with our order dated 31.12.2008 granting liberty to the petitioner to approach the Commission in accordance with the prevailing regulations. Though the order in the petition was reserved on the issue of maintainability, we consider it fit to dispose of this petition finally, since all expenditure claimed in the present petition have been included in RCE-IV, and there is no claim left in the petition for consideration and approval. The petitioner is however granted liberty to approach the Commission for capitalisation of expenditure after RCE-IV is approved by Central Government. The staff of the Commission is directed to process the tariff petition filed by the petitioner for the period 2009-14 for disposal at the earliest"

5. Aggrieved by the said order, the petitioner filed Review Petition (Petition No. 1/RP/2013) on various issues and the Commission by its order dated 22.8.2013 disposed of the same. As regards the regulations applicable for consideration of actual capital expenditure for the generating station for the period 2004-09, the Commission in the said order had observed as under:

"*14. The submissions of the parties have been considered. Admittedly, most of the disputes have been settled by the petitioner during the period prior to 31.3.2009 and the expenditure on this count has been considered in the RCE-IV which is pending for approval of the Central Government. Accordingly, the petitioner has submitted that in line with the observations of the Commission, the prevailing regulations would be the 2004 Tariff Regulations applicable for the period 2004-09 and not the 2009 Tariff Regulations. We agree with the submissions of the petitioner. Though the petition for additional capitalization for the generating station for the period 2004-09 was filed by the petitioner after the said period was over, the same has been filed pursuant to capitalization of expenditures after settlement of disputes/claims, pending approval of RCE-IV by the Central Government. Moreover, the said expenditure claimed by the petitioner has actually been incurred by the petitioner and the beneficiaries-respondents have reaped the benefits of such expenditure during 2004-09. Denying the benefit of tariff to the petitioner for the assets which have been capitalized and put to use, would in our view, result in denying recovery of reasonable cost of supply of electricity by the petitioner. Also, the servicing of the expenditure incurred by the petitioner cannot be postponed to a future date and should be governed by the prevailing regulations at the time of the actual capital expenditure. These aspects have been lost sight of by the Commission at the time of passing the order dated 16.1.2013. This is an error apparent on the face of the order dated 16.1.2013 and review of order on this count is allowed. Accordingly, we are of the considered view that the claim of the petitioner for actual additional capital expenditure incurred during the period 2004-09 is to be governed by the 2004 Tariff Regulations, and not the 2009 Tariff Regulations. We direct accordingly. However, since RCE-IV is* *yet to be approved by the Central Government, the revision of tariff of the generating station for 2004-09 shall be considered by the Commission after submission of the approved RCE by the petitioner, through an appropriate application. However, the petitioner shall not be entitled for any carrying costs till the approval of RCE-IV by the Central Government"*

6. The petitioner, during the hearing of this petition has submitted that the RCE-IV submitted during the year 2011 is pending for approval of the Central Government. In the above background, we consider this petition for determination of tariff of this generating station for 2009-14 in terms of the provisions of the 2009 Tariff Regulations.

7. The annual fixed charges claimed by the petitioner for the period 2009-14 are as under:

(` in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	82895.19	86946.62	87879.37	88094.42	88094.42
Interest on Loan	15690.41	12536.69	9119.61	4727.21	1134.40
Depreciation	43352.49	44208.57	44930.33	45107.92	45107.92
Interest on Working Capital	4308.83	4443.11	4496.17	4500.78	4518.91
O & M Expenses	26999.08	28952.81	30747.92	32506.70	34366.08
Total	**173246.00**	**177087.80**	**177173.39**	**174937.03**	**173221.73**

8. The petitioner has filed additional submissions as sought for by the Commission and has served copies of the same on the respondents. The respondents, PSPCL, UPPCL and TPDDL have filed replies to the petition and the petitioner has filed its rejoinder to the same.

Capital Cost

9. The last proviso to Regulation 7 of the 2009 Tariff Regulations, as amended on 21.6.2011 provides as under:

"Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding un-discharged liability, if any, as on 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff."

10. The opening capital cost as on 1.4.2009 as considered by the petitioner for the purpose of tariff is `845485.37 lakh as against gross block of `854729 lakh. The year-wise opening capital cost/closing capital cost including additional capital expenditure excluding un-discharged liabilities claimed by the petitioner is as under:

(` in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Opening capital cost	845485.37	857735.63	878204.42	885154.83	886805.40
Additional Capital Expenditure claimed	12250.26	20468.79	6950.41	1650.57	4305.00
Closing capital cost	**857735.63**	**878204.42**	**885154.83**	**886805.40**	**891110.40**

11. As regards the capital cost to be considered as on 1.4.2009 for determination of tariff of the generating station, the petitioner during the hearing on 24.10.2013 has submitted as under:

(a) The Commission has determined the tariff of the generating station for the period 2004-09 vide its order dated 31.12.2008 in Petition No 20/2008. Subsequently by order dated 16.1.2013 in Petition No.27/2011, the Commission had granted liberty to the petitioner to approach the Commission for capitalization of expenditure after Revised Cost Estimate-IV (RCE-IV) is approved by the Central Government. As the tariff for the generating station for the period 2004-09 and 2009-14 is yet to be finally decided by the Commission due to want of RCE-IV, there is huge cash flow problem in respect of this generating station.

(b) RCE-III has been approved by the Central Government for `8187.713 crore. However, the Commission in its order dated 31.12.2008 had approved tariff of generating station for the period 2004-09 based on the capital cost for `7990.80 crore including additional capitalization till the year 2006-07.

(c) Against the approved cost of `7990.80 crore, the petitioner has incurred actual cost of `8868.05 crore till 31.3.2013 and hence there is a difference of `878 crore. However, capital cost as on 31.3.2009 amounting to `8454.85 crore as on 31.3.2009 has been considered as the base for purpose of tariff in the petition. The impact of the huge arrears for the tariff period 2004-09 and 2009-14 will cause severe financial burden on the consumers.

(d) In view of settlement of various claims, advances and payments besides adjustment of advances has been claimed in this petition. Also liabilities discharged against un-discharged liabilities have been claimed and the Commission may consider the same for tariff.

(e) The Commission may consider the grant of provisional tariff up to 95% of the annual fixed charges of the project considering the actual capital cost of `8868.05 crore, subject to adjustment as per Regulation 5(3) of the 2009 Tariff Regulations.

12. The respondent, PSCPCL while objecting to the above submissions of the petitioner has stated that the Central Government being the owner of the generating station should have expedited the

approval of the RCE-IV of the generating station. It has further submitted that in view of the delay, tariff could only be allowed based on the capital cost of `7990.80 crore only. The learned counsel for the respondent, BRPL has also objected to the submissions of the petitioner and has submitted that since tariff for the period 2004-09 has not been finalized, the capital cost as claimed by the petitioner in this petition cannot be considered. The learned counsel while pointing out that there is time and cost overrun involved in the generating station and RCE-IV has also not yet been approved by the Central Government, has submitted that provisional tariff, if any, to be granted for the generating station shall be based only on the capital cost of `7990.80 crore as allowed by the Commission in its earlier order.

13. We have considered the submissions of the parties. The RCE-III of the generating station was approved by the Central Government vide Ministry of Power letter dated 14.8.2007 at `818771 lakh, including IDC of `195181 lakh but, excluding an expenditure of `14500 lakh which had already been incurred as advances to contractors on account of extension of time (EOT), Dispute Review Board (DRB) and other claims in respect of major civil works. However, the Commission vide its order dated 31.12.2008 in Petition No. 20/2008 while granting liberty to the petitioner to approach the Commission after settlement of the disputed claims and capitalization of the said expenditure, had determined the tariff of the generating station for the period 2004-09 considering the capital cost of `799080.19 lakh as on 1.4.2007, based on the additional capital expenditure upto 31.3.2007. The petitioner, after discharging some of the liabilities/settling some of the disputed claims got the same approved by its Board and had submitted the RCE-IV for approval of the Central Government during the year 2011, which is still awaited. Considering the fact that the expenditure claimed has been included in RCE-IV which was pending for approval of the Central Government, the Commission by its order dated 16.1.2013 in Petition No.27/2011 disposed of the petition granting liberty to the petitioner to approach the Commission for capitalization of expenditure after approval of RCE-IV by the Central Government. Similar view was

taken by the Commission in its order dated 22.8.2013 in Petition No. 1/RP/2013. Since the approved RCE-IV has not yet been submitted by the petitioner, the revision of tariff of the generating station for 2004-09 could not be finalized. In this backdrop, the question for consideration in this petition is the quantum of capital cost which is to be considered for determination of tariff of the generating station as on 1.4.2009.

14. It is noticed from the submissions of the petitioner that as against the RCE-III approved cost of `818771.30 lakh, the Commission in its order dated 31.12.2008 had considered the capital cost of `799080.19 lakh, including additional capitalization upto 2006-07.It is further noticed that the capital cost as on 31.3.2009 is `845485.00 lakh and the actual capital expenditure incurred by the petitioner as on 31.3.2013 is `886805.00 lakh. While the petitioner has submitted that there are huge cash flow problems in respect of this generating station, the respondents PSPCL and BRPL have submitted that the admitted capital cost of `799080.19 lakh should only be considered. We have given our anxious consideration to this issue. It is noticed that the capital cost of `799080.19 lakh approved by order dated 31.12.2008 was inclusive of additional capitalization incurred upto 2006-07. The petitioner was required to get the RCE approved by including the expenditure incurred for the years 2007-08 and 2008-09 and approach the Commission for tariff. However, the petitioner approached the Commission for approval of tariff by filing Petition No. 27/2011 considering the additional capital expenditure for the years 2007-08 and 2008-09 without approved RCE and the same was disposed of by the Commission with a direction to approach the Commission for revision of tariff after obtaining approval of RCE-IV. Thus, the additional capital expenditure for the period 2007-09 was not considered pending approval of RCE-IV by the Central Government. It was expected that the RCE–IV would be approved by the Central Government within a reasonable period of time and thereafter the expenditure would be allowed in tariff. However, RCE-IV is still pending for approval of the Central Government. The absence of approved RCE-IV for a

considerable length of time has resulted in non-servicing of the expenditure incurred by the petitioner through tariff for the period 2004-09 which has resulted in huge cash flow problems to the petitioner. We are of the considered view that the petitioner cannot be made to suffer on this count. There is no denying the fact that while the petitioner has incurred expenditure for the generating station, the respondent beneficiaries have reaped the benefits of such expenditure by way of supply of power. The denial of tariff to the petitioner for assets which has been capitalized and put to use, in our view, would result in the denial of reasonable recovery of cost of supply of electricity by the petitioner. Moreover, the impact of recovery of huge arrears of tariff for the period 2004-09 and 2009-14 would cause severe financial constraints and burden on the respondents/consumers of the generating station. The submission of respondent BRPL that since time and cost overrun is involved in the generating station, the capital cost of `799080.19 lakh should only be considered, is not acceptable since the Commission in its order dated 31.12.2008 had examined the said issue and had concluded that the petitioner cannot be held responsible for the same. Considering the above factors in totality and in order to minimize the burden on the respondents in terms of the impact of huge differential annual fixed charges, we are of the considered view that the approved RCE-III cost of `818771.30 lakh, including IDC of `195181 lakh as on 31.3.2009 should be considered for determination of tariff as against the capital cost of `845485.00 lakh claimed by the petitioner as on 31.3.2009. This according to us, would help the petitioner recover some portion of the expenditure actually incurred on assets put to use, and would thereby lessen the burden on the respondents. We order accordingly. The tariff determined as above would however be subject to submission of liability flow from the date of COD of the generating station to 31.3.2014 and based on RCE-IV approved by the Central Government, at the time of truing-up in terms of Regulation 6(1) of the 2009 Tariff Regulations. However, the Revised Capital cost has to be first approved by the Company as per their system of investment and submitted to the Commission.

15. Based on the above deliberations, the RCE-III approved cost of `818771.30 lakh has been considered as the opening capital cost of the generating station as on 1.4.2009 for determination of tariff for 2009-14.

Additional Capital Expenditure for 2009-14

16. Regulation 9 of the 2009 Tariff Regulations, as amended on 21.6.2011 and 31.12.2012, provides as under**:**

> *"9. **Additional Capitalisation.** (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) Un-discharged 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;*
>
> *(iii) 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.*
>
> *(2) The capital expenditure incurred or projected to be incurred on the following counts after the cut-off date may, in its discretion, 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;*
>
> *(ii) Change in law;*
>
> *(iii) Deferred works relating to ash pond or ash handling system in the original scope of work;*
>
> *(iv) 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) including due to geological reasons after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation; and*

(v) 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 of switchyard equipment due to increase of fault level, emergency restoration system, insulators cleaning infrastructure, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system:

Provided that in respect sub-clauses (iv) and (v) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, 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. 1.4.2009.

(vi) In case of gas/liquid fuel based open/ combined cycle thermal generating stations, any expenditure which has become necessary on renovation of gas turbines after 15 year of operation from its COD and the expenditure necessary due to obsolescence or non-availability of spares for successful and efficient operation of the stations.

Provided that any expenditure included in the R&M on consumables and cost of components and spares which is generally covered in the O&M expenses during the major overhaul of gas turbine shall be suitably deducted after due prudence from the R&M expenditure to be allowed.

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

(viii) Any un-discharged liability towards final payment/withheld payment due to contractual exigencies for works executed within the cut-off date, after prudence check of the details of such deferred liability, total estimated cost of package, reason for such withholding of payment and release of such payments etc.

(ix) Expenditure on account of creation of infrastructure for supply of reliable power to rural households 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."

17. The petitioner has claimed the following additional capital expenditure on actual basis for the years 2009-10 to 2012-13 and on projected basis for the year 2013-14:

(` in lakh)

2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
12250	20469	6950	1651	4305

18. We now consider the additional capital expenditure claim of the petitioner on prudence check, considering the submissions of the parties and the documents available on record as discussed in the subsequent paragraphs.

2009-10

19. The petitioner has claimed additional capital expenditure of `12250.26 lakh during the year under the provisions of Regulations 9(2) of the 2009 Tariff Regulations, as under:

Description	` *in lakh*
Liabilities to meet award of arbitration - Regulation 9(2)(i)	9599.30
Expenditure due to additional works which has become necessary for efficient plant operation- Regulation 9(2)(iv)	5188.56
Expenditure on minor assets- Regulation 9(2)(iv)	145.72
Less :Deletions	2683.32
Total amount claimed	**12250.26**

Liabilities to meet award of arbitration - Regulation 9(2)(i)

20. It is observed that the claim for the above expenditure `9599.30 lakh relate to the adjustment of advances for prior period, payment of enhanced compensation after settlement, DRB claims, award of arbitration and discharge of liabilities etc. after settlement of the disputed claims. Based on the justification submitted by the petitioner, the capitalization of the expenditure has been allowed under Regulation 9(2)(i) for the purpose of tariff. However, discharge of liabilities included in the said claim have been allowed under Regulation 9(2)(viii) of the 2009 Tariff Regulations.

Expenditure on additional works which has become necessary for efficient plant operation- Regulation 9(2)(iv)

21. The petitioner has claimed expenditure of `5188.46 lakh on account of additional works which have become necessary for efficient operation of the generating station under Regulation 9(2)(iv). It is observed that the expenditure claimed do not form part of the RCE-IV pending for approval of the Central Government. On prudence check, the expenditure claimed in respect of the assets/works during 2009-10 is examined and deliberated as under:

(a) Expenditure of `411.28 lakh has been claimed towards acquisition of land for the petitioner's corporate office in Shimla. The Commission in its order dated 26.4.2006 in Petition No.3/2006 while determining the tariff of generating stations of NTPC for 2004-09 had disallowed the expenditure incurred towards the construction of corporate office and other offices in tariff. Only the O&M expenses (including depreciation) incurred is allowed to be recovered by way of allocation of the Corporate O&M expenses to various plants under operation and for plants under construction. In line with the said decisions, the expenditure claimed by the petitioner has not been allowed for the purpose of tariff.

(b) The petitioner has claimed expenditure of `4059.02 lakh for purchase of additional capital spares like runners, guide vanes, moveable seal ring, fixed seal ring etc. The petitioner in justification of the said expenditure has submitted that the silt level under which the plant is operating is very high and the process of repairing the damaged components takes considerable time resulting in loss of precious peaking power. Accordingly, the petitioner, In order to avoid stoppage of the plant/ reduce the down time, has procured the additional spares. In terms of Regulation 8 of the 2009 Tariff Regulations, initial spares to the extent of 1.5% of original project cost shall be capitalized for the purpose of tariff. It is observed that the percentage of initial spares as specified had already been considered in respect of the generating station and the claim for spares would exceed the limit specified under the said regulations. We notice that the silt level under which the generating station operates is very high which leads to higher wear and tear of underwater parts. The in-house procurement of additional spares and in- house maintenance techniques developed by the petitioner i.e coating of underwater parts with wear resistant material etc. has resulted in higher availability of the generating station. It is observed that the petitioner had procured additional spares amounting to `1144.06 lakh during 2007-08 and had submitted that by way of these additional spares, the maintenance period of the generating station had drastically reduced from 72 days during 2005-06 to 7 days during 2011-12. We are of the considered view that the higher availability of the generating station due to pro-active efforts of the petitioner as above has indeed benefitted the respondents by way of more energy and more peaking power, at marginal costs. In view of this, we are inclined to allow the additional capital expenditure of spares amounting to `4059.02 lakh by this order. However, the question as to whether such expenditure would form part of the capital cost or should be amortised over a suitable period shall be considered by the Commission at the time of truing-up of tariff in terms of Regulation 6(1) of the 2009 Tariff Regulations.

(c) Expenditure for `58.35 lakh for CCTV surveillance system claimed under Regulation 9(2)(iv) has been allowed as the asset is considered necessary for safe and efficient operation of the generating station.

(d) Expenditure for `1.62 lakh towards water level indicator comprising of electrical pressure transducer and automatic data acquisition for dam site has been allowed under Regulation 9(2)(iv) as the asset is considered to be necessary for safe and efficient operation of the generating station

(e) Expenditure for `24.84 lakh for Dredging pump and `15.92 lakh for dewatering pump has been claimed based on the following justification:

> "*The experience gained after the flood in River Satluj, wherein silt and Muck was filled in the Dam thus reducing its capacity, the requirement of acquiring dredging and dewatering pump at dam site were envisaged. It also helped to make arrangement automatic and to improve the efficiency of operation and to avoid dependency on manual operation. This is a standby arrangement at different location near the desilting complex at dam with automatic switching on and off facility."*

In consideration of the above justification and since the asset is considered necessary for safe and efficient operation of the generating station, the expenditure claimed has been allowed under Regulation 9(2)(iv) of the 2009 Tariff Regulations.

(f) Expenditure for `7.68 lakh towards Gantry Crane has been claimed and the justification submitted by the petitioner is as under:

"The trench weir gate of Sholding was being operated through mobile hydra crane (12 T) available at Jhakri as and when required. In emergency situation, deployment of Hydra crane from Jhakri was very time consuming. Further at time, the roads are either blocked or hydra is not available/busy elsewhere at Jhakri.

It is submitted that necessity of independent operating system arose with the experience at later stage after the commissioning of project. Therefore in order to ensure reliable operation at trench weir gates at Sholding, the monorail hoist (fixed type) of capacity (25 T) had been procured & installed under regulation 9 (2) (iv) during FY 2009-10."

Since the asset is considered necessary for safe and efficient operation of the generating station, the expenditure claimed has been allowed under Regulation 9(2)(iv) of the 2009 Tariff Regulations.

(g) Expenditure for `8.17 lakh for Conference Hall and `14.14 lakh for Electrical Control Room has been claimed based on the following justification:

"*In view of the visits of various high dignitaries, experts etc. to Dam Site Nathpa related to operational difficulties, a need was felt to construct a conference hall for meetings, presentations etc.*

After commissioning of new fire station, a centralized Control room with HT & LT control & open switch yard was reconstructed at building vacated by CISF Fire Wing; this had helped Project to effectively & efficiently provide the supply to colony & Power House with optimum manpower.

It is submitted that the necessity of work was felt at later stage with the increase of various activities after the commissioning of project and therefore the cost was capitalized under regulation 9 (2) (iv) during FY 2009-10

Since the assets are considered necessary for successful and efficient operation of the generating station, the expenditure claimed has been allowed under Regulation 9(2)(iv) of the 2009 Tariff Regulations.

(h) Expenditure for `28.53 lakh towards Construction of road has been claimed by the petitioner based on the justification that road has been constructed from alternate road to type-B accommodation at the generating station. Since the expenditure incurred is towards the benefit of the employees of the project and is considered necessary for efficient operation of the generating station, the claim has been allowed under Regulation 9(2)(iv) of the 2009 Tariff Regulations.

(i) Expenditure for `329.75 lakh claimed towards Construction, metal lining and tarring of approach roads has been allowed under Regulation 9(2)(iv) considering the fact that quality approach roads are necessary for efficient and reliable operation of the generating station.

(j) Expenditure for `23.38 lakh claimed towards residential buildings has been allowed under Regulation 9(2)(iv) as the same is considered necessary for the benefits of employees.

(k) Expenditure for `5.67 lakh for additional accommodation of DPS school and `3.83 lakh for Satluj club has been claimed and the petitioner has provided the following justification:

> *"The strength of students studying in Delhi Public School at Jhakri had gradually increased and it was felt necessary to provide additional accommodation for school.*
>
> *The existing Satluj Club Building for employees was situated in the temporary Tin Shed building. With the increase of employees deployed during operation, the available space of Satluj Club was found insufficient for various social activities. The employees had also demanded some indoor sports facilities like gym, table tennis so that they could keep themselves healthy and pay more attention towards their work.*
>
> *It is submitted that the necessity of work was felt at later stage with the increase of various activities after the commissioning of project and therefore the cost was capitalized under regulation 9(2)(iv) during FY 2009-10."*

Based on the above justification and considering the fact that the expenditure incurred is for the benefit of the employees of the generating station working in remote area, the claim of the petitioner has been allowed under Regulation 9(2)(iv) of the 2009 Tariff Regulations.

(l) Expenditure for `1.57 lakh incurred by the petitioner for Construction of room for transformer cable and complaint room and `28.20 lakh for Construction of RCC storage tank at HTI, Kotla has been allowed as the respective assets are considered necessary for efficient and reliable operation of the generating station.

(m) Expenditure for `4.70 lakh towards procurement of aluminum ladders, garbage containers etc., has not been allowed in terms of the proviso to Regulation 9(2) of the 2009 Tariff Regulations as the same are in the nature of minor assets.

(n) Expenditure for `47.72 lakh towards purchase of new vehicles has been claimed based on the following justification:

"It is submitted that new vehicles were procured as per requirement and also against five old vehicles which were declared as unusable/obsolete."

Considering the above justification for expenditure on replacement of vehicles and since the same is considered necessary for efficient operation of the generating station, the claim has been allowed under Regulation 9(2)(iv) of the 2009 Tariff Regulations.

(o) Expenditure for `90.47 lakh and `23.68 lakh towards the procurement of computer hard ware and software respectively, has not been allowed in terms of the proviso to Regulation 9(2) of the 2009 Tariff Regulations as the same are in the nature of minor assets.

22. Based on the above deliberations, the expenditure allowed is summarized as under:

(` in lakh)

Asset	Amount
Capital spares like runners, guide vanes, moveable seal ring, fixed seal ring etc.	4059.02
CCTV surveillance system	58.35
Water level indicator consisting of electrical pressure transducer and automatic data acquisition for Dam site	1.62
Dredging pump and dewatering pump	40.76
Gantry Crane	7.68
Conference Hall	8.17
Electrical Control Room	14.14
Road Township	28.53

Construction, metal ling and tarring of approach roads	329.75
Residential buildings	23.38
Additional accommodation of DPS school	5.67
Satluj club	3.83
Transformer cable and complaint room,	1.57
RCC storage tank at Hydel Training Institute, kotla	28.20
Vehicles	47.72
Total	**4658.39**

Expenditure on Minor assets

23. The petitioner has claimed expenditure of `145.72 lakh towards the procurement of minor assets like air conditioners, furniture, ceiling fans etc. As expenditure on minor assets is not allowed for the purpose of tariff in terms of the proviso to Regulation 9(2) of the 2009 Tariff Regulations, the expenditure claimed has not been allowed.

Deletions

24. An amount of `2683.32 lakh has been allowed as 'deletions' as the corresponding assets like capital spares, assets reported lost etc. do not render any useful service in the operation of the generating station and are hence required to be removed for the purpose of tariff in terms of the proviso to Regulation 7 (1)(c) of the 2009 Tariff Regulations.

25. Accordingly, the additional capital expenditure allowed for 2009-10 is summarized as under:

(`in lakh)

Description	
Liabilities to meet award of arbitration - Regulation 9(2)(i)	9599.30
Expenditure due to additional works which has become necessary for efficient plant operation- Regulation 9(2)(iv)	4658.39
Expenditure on Minor assets- Regulation 9(2)(iv)	0.00
Less :Deletions	2683.32
Total Additional Capital Expenditure allowed	**11574.37**

2010-11

26. The petitioner has claimed additional capital expenditure for `20468.79 lakh during 2010-11 as detailed under:

(` in lakh)

Description	
Liabilities to meet award of arbitration - Regulation 9(2)(i)	14791.24
Expenditure due to additional works which has become necessary for efficient plant operation- Regulation 9(2)(iv)	5082.55
CAT Plan approved before Commercial Operation	700.00
Expenditure on minor assets- Regulation 9(2)(iv)	153.54
Less :Deletions	258.54
Total	**20468.79**

27. On prudence check, the expenditure claimed in respect of the assets/works during 2010-11 is examined as deliberated below:

Liabilities to meet award of arbitration - Regulation 9(2)(i)

28. It is observed that the claim for the above expenditure `14791.24 lakh relate to the adjustment of advances for prior period, payment of enhanced compensation after settlement, DRB claims, award of arbitration and discharge of liabilities etc. after settlement of the disputed claims. Based on the justification submitted by the petitioner, the capitalization of the expenditure has been allowed under Regulation 9(2)(i) for the purpose of tariff. However, discharge of liabilities included in the said claim have been allowed under Regulation 9(2)(viii) of the 2009 Tariff Regulations.

Expenditure on additional works which has become necessary for efficient plant operation- Regulation 9(2)(iv)

29. The petitioner has claimed expenditure of `5082.55 lakh on account of additional works which have become necessary for efficient operation of the generating station under Regulation 9(2)(iv). It is observed that the expenditure claimed do not form part of the RCE-IV pending for approval of the Central Government. On prudence check, the expenditure claimed is examined as deliberated below:

(a) Expenditure for `14.09 lakh during 2010-11 incurred towards registration of the land acquired for petitioner's corporate office in Shimla during 2009-10 has not been allowed as the expenditure towards acquisition of land has not been allowed during 2009-10 for the reasons stated in para 21(a) of this order.

(b) Expenditure for `4331.37 lakh has been towards procurement of Bye-pass valves for main inlet valve, Automatic back filtration system of MIV's seal system, 420 kV/2000 Amp, Circuit breakers and Insurance spares. and the justification submitted by the provided is as under:

> ***"Bye- pass valves***
> *Initially, only one bye pass Valve was procured as a spare with main equipment. However during Operation and Maintenance Stage of plant, it was observed that bye pass Valve got stucked due to accumulation of silt during high flow season and the repair of valve needs 3-4 days; therefore 02 Nos. additional valve were procured to avoid outage of turbine due to non-availability of spare valve. This helps in reduction in maintenance of MIV's. It is submitted that the necessity of work was felt at later stage and therefore the cost was capitalized for the efficient operation of the plant."*
>
> ***"Automatic back Flush Filtration of MIV seals***
> *The existing MIV seal control system is not provided with foolproof locking mechanism to avoid accidental disengagement of seals, which could be catastrophic when the water conducting parts of turbine are open. The issue was taken up with the Original Equipment Manufacturer (OEM) of seal system i.e. M/s. Tiefenbah. After its examination at project site, they suggested the installation of "Automatic Back Flush System" which was further procured and installed. This system has a mechanism for automatic cleaning of the filters without interrupting the clean water flow or dropping the water pressure of the seals. It is submitted that the necessity of work was felt at later stage and therefore procured and the cost was capitalized for the efficient operation of the plant."*
>
> **"420 KV/ 2000 A Circuit Breakers**
> *Initially, 2 Nos. Generator Circuit Breaker & 01 No line Circuit Breaker were procured as spare along with main switchgear (400 KV GIS). Subsequently, 6 no. of Circuit Breakers were failed one after another during FY 2009-10 and consequently one No. 400 Kv Jhakri-Abdullahapur line remain out of circuit for one year due to non-availability of 400 KV breaker. It is submitted that the necessity of work was felt at later stage and therefore Circuit breaker was procured in order to ensure reliability of system and cost was capitalized for the efficient operation of the plant."*
>
> ***"Insurance Spares***
> *The lists of insurance spares procured to meet unforeseen contingencies are enclosed at Exhibit-IV. The failure of these spares in operating equipment cannot be predicted and resulted into Shut down of the machine. It is submitted that necessity of work was felt at later stage and therefore insurance spare were procured in order to ensure reliability of system and cost was capitalized for the efficient operation of the plant."*

(m) On scrutiny of the justification submitted by the petitioner, we are inclined to allow the expenditure for `157.80 lakh towards procurement of Spare bye-pass valve considering the fact that the generating station has been facing problems of high silt conditions. We are of the considered view that this spare asset would greatly help in the reduction of maintenance time and also provide the respondent beneficiaries with additional energy and peaking power. Hence, allowed. As stated, the question as to whether such expenditure would form part of the capital cost or should be amortised over a suitable period shall be considered by the Commission at the time of truing-up of tariff in terms of Regulation 6(1) of the 2009 Tariff Regulations. Also, an expenditure for `541.66 lakh towards replacement of faulty Circuit Breakers has been allowed under Regulation 9(2)(iv) as the asset would ensure high system reliability and availability for the generating station.

(c) Expenditure for `113.07 lakh incurred on "Automatic Back Flush System" for ensuring safe operation of the generating station has been allowed under Regulation 9(2)(iv) as the asset is considered necessary for efficient and reliable operation of the generating station.

(d) Expenditure of `3591.89 lakh towards Insurance spares has not been allowed as the generating station has already exceeded the percentage (1.5%) spares of the original capital cost as on cut-off date. As such, the claim has been disallowed and the petitioner may book these spares to O&M expenses on consumption.

(e) Expenditure for `37.47 lakh incurred for CCTV surveillance system has been allowed under Regulation 9(2)(iv) as the same is considered necessary for safe operation of the generating station.

(f) Expenditure for `2.18 lakh incurred for procurement of robot stool and aluminum ladder has not been allowed as these are of in the nature of minor nature.

(g) Expenditure for `273.10 lakh towards Bhabha Tail Race Diversion Tunnel (BTRDT) work has been capitalized during 2010-11 and the justification provided by the petitioner is as under:

"*Initially during starting phase of operation stage, NJHPS was commissioned with Dam height as EL 1490 mtrs. This lead to danger of submergence of tail race of Bhaba HEP (3x40 MW) owned by HPSEB. Subsequently, Bhabha Tail Race Diversion Tunnel (BTRDT) works were completed & Tail Race of Bhaba HEP was re-aligned to the downstream of Nathpa Dam & the full reservoir level of DAM height was increased upto EL 1495 in the year 2007. With more height, the efficiency of Nathpa Dam w.r.t. settlement of silt has been increased besides more storage of water to meet peak load demand.*"

Based on the above justification and considering the need to avoid submergence of tail race of downstream plant, the expenditure has been allowed under Regulation 9(2)(iv) of the 2009 Tariff Regulations.

(h) Expenditure for `12.70 lakh towards New CISF Barracks has been capitalized during 2010-11 and the justification submitted by the petitioner is as under:

"*In order to mitigate the various threats and time to time suggestion by the intelligence agencies, more deployment of CISF personal at Dam Site, Nathpa was essential for security reason. To provide accommodation to the CISF personals, barracks have been constructed.*

In view of the above justification, the expenditure claimed has been allowed for the purpose of tariff under Regulation 9(2)(iv) as the same is considered necessary for safe operation of the generating station.

(i) Expenditure for `19.79 lakh towards Acoustic chamber in hard coating workshop has been capitalized during 2010-11 and the justification for the same has been submitted by the petitioner as under:

"NJHPS has installed a hard coating workshop after necessity of work was felt at later stage considering the delay of work and expenditure incurred during maintenance of underwater water component. In the hard coating workshop, an acoustic chamber had also been got installed in 2011 for the safety & health hazards for the personals to avoid exposure of excessive noise"

Based on the above justification and since the asset is considered necessary for providing safe working environment to the employees of the generating station, the expenditure has been allowed for the purpose of tariff under Regulation 9(2)(iv) of the 2009 Tariff Regulations.

(j) Expenditure for `90.71 lakh for creation of a memorial park in memory of employees of the generating station has not been allowed for the purpose of tariff.

(k) Expenditure for `5.70 lakh incurred towards construction of canteen hall at dam site has been allowed under Regulation 9(2)(iv) as the same is considered necessary for the benefit of employees working at remote site.

(l) Expenditure for `3.90 lakh and `16.24 lakh towards the procurement of real time energy meters has been allowed under Regulation 9(2)(iv) as the Energy meters are considered necessary for efficient operation of the generating station.

(m) Expenditure for `3.21 lakh towards procurement of Treadmill and garbage container has not been allowed as the assets are of minor nature.

(n) Expenditure for `50.09 lakh towards procurement of vehicles for the project and for Ambulance has been allowed under Regulation 9(2)(iv) as these vehicles are considered necessary for efficient operation of the generating station.

(o) Expenditure for `49.60 lakh towards Control cabling work at dam site has been claimed and the justification submitted by the petitioner is as under:

> *":Initially during the Operation and Maintenance stage, control signals of all gates of Nathpa Dam site viz radial gates, Main Intake gates, HRT gates and SFT gates were not routed to RTU installed at Dam Control Room from their respective control panels to Power House, Jhakri.*
>
> *It is submitted that the necessity of all above signals were felt at later stage and therefore procured and the cost was capitalized after the cut-off date of the plant for the efficient operation of the plant."*

As the works/assets pertaining to control cabling work is considered necessary for efficient operation of the generating station, the expenditure has been allowed under Regulation 9(2)(iv) of the 2009 Tariff Regulations.

(p) Expenditure for `115.39 lakh and `57.03 lakh towards procurement of computer hardware and software has not been allowed as the assets are of minor nature and are not allowed for the purpose of tariff as per proviso to Regulation 9(2)(iv). of the 2009 Tariff Regulations.

30. In view of above deliberations, the additional capital expenditure for 2010-11 allowed under Regulation 9(2)(iv) is summarized as under:

(` in lakh)

Asset/works	Amount
Bye-Pass valves	157.80
Automatic back filtration system of MIV's seal system	113.07
420 KV/ 2000 A Circuit Breakers	541.66
CCTV surveillance system	37.47
Bhabha Tail Race Diversion Tunnel (BTRDT) work	273.10
CISF Barracks	12.70
Acoustic chamber in hard coating workshop	19.79
Construction of canteen hall	5. 70
Real time energy meters	20.13
Vehicles and ambulance for the project.	50.09
Control cabling work at dam site.	49.60
Total additional capital expenditure allowed	**1281.11**

Expenditure on CAT Plan

31. Expenditure for `700.00 lakh incurred towards Catchment Area Treatment paid by the petitioner in phased manner, to the Forest Department of the State of Himachal Pradesh has been allowed under Regulation 9(2)(iv) since the expenditure is a statutory requirement and since the same is as per the approved plan.

Expenditure on Minor assets

32. The petitioner has claimed expenditure of `153.54 lakh towards the procurement of minor assets like Furniture, water cooler, water filter, fax machine etc. As expenditure on minor assets is not allowed

for the purpose of tariff in terms of the proviso to Regulation 9(2) of the 2009 Tariff Regulations, the expenditure claimed has not been allowed.

Deletions

33. An amount of `258.54 lakh has been allowed as 'deletions' as the corresponding assets like capital spares, assets reported lost etc. do not render any useful service in the operation of the generating station and are hence required to be removed for the purpose of tariff in terms of the proviso to Regulation 7(1)(c) of the 2009 Tariff Regulations.

34. Accordingly, the additional capital expenditure allowed for 2010-11 is summarized as under:

(` in lakh)

Description	
Liabilities to meet award of arbitration - Regulation 9(2)(i)	14791.24
Expenditure due to additional works which has become necessary for efficient plant operation- Regulation 9(2)(iv)	1281.11
CAT plan (a statutory requirement, paid in phased manner to Himachal Pradesh Forest Department.	700.00
Expenditure on minor assets- Regulation 9(2)(iv)	0.00
Less :Deletions	258.54
Total	**16513.81**

2011-12

35. The petitioner has claimed additional capital expenditure of `6950.41 lakh during the year 2011-12 as detailed hereunder:

(` in lakh)

Description	Additional capital expenditure
Liabilities to meet award of arbitration - Regulation 9(2)(i)	144.93
Expenditure on additional works which has become necessary for efficient plant operation- Regulation 9(2)(iv)	5317.27
Adjustment of liabilities	1534.27
Expenditure on minor assets- Regulation 9(2)(iv)	66.45
Less :Deletions	112.52
Total	**6950.41**

36. On prudence check, the expenditure claimed in respect of the assets/works during 2011-12 is examined as deliberated below:

Liabilities to meet award of arbitration - Regulation 9(2)(i)

37. It is observed that the claim for the above expenditure ` 144.93 lakh relate to the adjustment of advances for prior period, payment of enhanced compensation after settlement, DRB claims, award of arbitration and discharge of liabilities etc. after settlement of the disputed claims. Based on the justification submitted by the petitioner, the capitalization of the expenditure has been allowed under Regulation 9(2)(i) for the purpose of tariff. However, discharge of liabilities included in the said claim have been allowed under Regulation 9(2)(viii) of the 2009 Tariff Regulations.

Expenditure on additional works which has become necessary for efficient plant operation- Regulation 9(2)(iv)

38. The petitioner has claimed expenditure of ` 5317.27 lakh on account of additional works which have become necessary for efficient operation of the generating station under Regulation 9(2)(iv). It is observed that the expenditure claimed do not form part of the RCE-IV pending for approval of the Central Government. On prudence check, the expenditure claimed in respect of the assets/works which have been considered necessary for efficient and reliable operation of the generating station as stated in the following table has only been allowed for the purpose of tariff.

(` in lakh)

Asset/Works	Amount
Acoustic enclosure for D.G sets	8.28
Alternative outfall Tunnel works	97.95
Metalling and tarring of alternate approach road	108.60
Laying and fixing of M.S pipe line	6.04
Vehicles for the project	51.39
V-Sat based communication system	92.20
Total amount allowed	**364.46**

39. The expenditure claimed by the petitioner in respect of balance assets, like Generating Plant Machinery, Data processing equipment, Generator and other electrical items, under Regulation 9(2)(iv) of the 2009 Tariff Regulations have not been allowed for the purpose of tariff as proper justification has not been submitted by the petitioner. However, liberty is granted to the petitioner to claim the expenditure on these assets at the time of final determination of tariff, subject to the submission of proper justification which shall be considered in accordance with law.

Adjustment of liabilities

40. The petitioner in its claim has indicated that the un-discharged liabilities decreased from `10782 lakh (out of this `2183 lakh pertain to land) as on 31.3.2011 to `9202 lakh (inclusive of land value of `2172 lakh) as on 31.3.2012. Also, liability to the tune of `35.32 lakh for hydraulic control valves (butterfly valves) were reversed during this period. Accordingly, an amount of `1534.27 lakh as claimed has been allowed under Regulation 9(2)(viii) towards discharge of liabilities. As already stated in para 14 above the petitioner has been directed to furnish the liability flow from the date of COD of the generating station to 31.3.2014 at the time of final truing-up of tariff in terms of Regulation 6(1) of the 2009 Tariff Regulations.

Expenditure on Minor assets

41. The petitioner has claimed expenditure of `66.45 lakh towards the procurement of minor assets like furniture, laboratory equipment, water coolers etc. As expenditure on minor assets is not allowed for the purpose of tariff in terms of the proviso to Regulation 9(2) of the 2009 Tariff Regulations, the expenditure claimed has not been allowed.

Deletions

42. An amount of `112.52 lakh has been allowed as 'deletions' as the corresponding assets like capital spares, assets reported lost etc. do not render any useful service in the operation of the generating station and are hence required to be removed for the purpose of tariff in terms of the proviso to Regulation 7(1)(c) of the 2009 Tariff Regulations.

43. Accordingly, the additional capital expenditure allowed for 2011-12 is summarized as under:

(` in lakh)

Description	
Liabilities to meet award of arbitration - Regulation 9(2)(i)	144.93
Expenditure due to additional works which has become necessary for efficient plant operation- Regulation 9(2)(iv)	364.46
Adjustment of liabilities (Discharge of liabilities)	1534.27
Expenditure on minor assets	0.00
Less :Deletions	112.52
Total	**1931.14**

2012-13

44. The petitioner has claimed additional capital expenditure of `1650.57 lakh during the year 2012-13 as detailed hereunder:

(` in lakh)

Description	
Liabilities to meet award of arbitration - Regulation 9(2)(i)	29.49
Expenditure due to additional works which has become necessary for efficient plant operation- Regulation 9(2)(iv)	1525.20
Expenditure on minor assets- Regulation 9(2)(iv)	106.03
Less :Deletions	10.18
Total	**1650.57**

Liabilities to meet award of arbitration - Regulation 9(2)(i)

45. It is observed that the claim for the above expenditure `29.49 lakh relate to the adjustment of advances for prior period, payment of enhanced compensation after settlement, DRB claims, award of arbitration and discharge of liabilities etc. after settlement of the disputed claims. Based on the justification submitted by the petitioner, the capitalization of the expenditure has been allowed under

Regulation 9(2)(i) for the purpose of tariff. However, discharge of liabilities included in the said claim have been allowed under Regulation 9(2)(viii) of the 2009 Tariff Regulations.

Expenditure on additional works which has become necessary for efficient plant operation- Regulation 9(2)(iv)

46. The petitioner has claimed expenditure of `1525.20 lakh on account of additional works which have become necessary for efficient operation of the generating station under Regulation 9(2)(iv). It is observed that the expenditure claimed do not form part of the RCE-IV pending for approval of the Central Government. On prudence check, the expenditure claimed in respect of the assets/works which have been considered necessary for efficient and reliable operation of the generating station as stated in the following table has only been allowed for the purpose of tariff.

(` in lakh)

Asset/Works	Amount
Expansion/modification of existing hydrogen and oxygen cylinder bank for hard coating facility	11.39
Works of concrete cladding wall along both banks of river (*as recommended by Dam safety organization, Nasik and BBMB)*	354.62
Office building for inspector of CISF	15.90
Site development work for handling gas cylinders covered under Chief Controller of Explosives	6.91
Additional accommodation for police station	5.92
Main seismic observatory room	16.96
Security guard room	15.69
Flexible pavement for road from BTRDT Pump House to Access tunnel portal	62.94
LT Distribution net work to avoid accidents due to overhead conductors	34.30
Balance work of ventilation and air conditioning package of plant	130.97
Total amount allowed	**655.60**

47. The expenditure claimed by the petitioner in respect of balance assets, like capital spares, head race tunnel, Town ship roads etc. under Regulation 9(2)(iv) of the 2009 Tariff Regulations have not been allowed for the purpose of tariff for the reason(a) that proper justification has not been submitted by the petitioner and (b) that the works like Head Race Tunnel including Sholding, Township roads etc. and (c)

Capital spares procured over and above the limit of 1.5% are within the original scope of work and the payment/enhanced payment appear to be covered under RCE-IV pending for approval. However, liberty is granted to the petitioner to claim the expenditure on these assets at the time of final determination of tariff after approval of RCE-IV by Central Government.

48. Accordingly, the additional capital expenditure allowed for 2012-13 is summarized as under:

(` in lakh)

Description	Additional capital expenditure
Liabilities to meet award of arbitration - Regulation 9(2)(i)	29.49
Expenditure due to additional works which has become necessary for efficient plant operation- Regulation 9(2)(iv)	655.60
Expenditure on minor assets- Regulation 9(2)(iv)	0.00
Less :Deletions	10.18
Total amount allowed	**674.91**

2013-14

49. The petitioner has claimed additional capital expenditure of `4304.73 lakh on projected basis during 2013-14 towards additional works which has become necessary for efficient operation of the generating station under Regulation 9(2)(iv) of the 2009 Tariff Regulations. On prudence check, the expenditure claimed in respect of the assets/works which have been considered necessary for efficient and reliable operation of the generating station as stated in the following table has only been allowed for the purpose of tariff.

(` in lakh)

Asset/Works	Amount
Fire protection and safety equipment-Linear heat sensing cable along with fire alarm panel unit at dam site	54.00
Runner lifting device	7.75
D.G sets for dam site and main office building	33.00
Left bank protection works based on recommendations of Dam Safety Organization ,Nasik and BBMB	350.00
Servomotor for butterfly valve	11.50
CAT plan (a statutory requirement, paid in phased manner to Himachal Pradesh Forest Department.	782.19
Intake structure (trash rack panel, walkway)	127.00

Installation of six nos. of Rope Drum Hoists based on CEA recommendation	495.39
Non residential buildings- security assets including check post, permanent entrance gate etc.	799.81
Construction of bridge based on the recommendations of I.B for movement of villagers	80.00
Construction of 24nos. Type- B quarters	345.82
Water supply system for various locations of dam site	18.40
Extension of HT line for providing power to New Office Building at Jhakri	4.00
Boom Barrier for CISF	56.10
Expansion system type accumulator for reducing pressure pulsations in cooling water system	65.00
Fire fighting solutions and biometric access system	21.00
EPABX exchange and LAN connectivity in New office building.	102.59
General illumination including High Mast Lighting System for Dam Site	51.00
Total amount allowed	**3404.55**

50. The expenditure claimed by the petitioner in respect of balance assets, like capital spares, Dam site roads, roads (other), model rooms, communication type equipment under Regulation 9(2)(iv) of the 2009 Tariff Regulations have not been allowed for the purpose of tariff for the reason(a) that proper justification has not been submitted by the petitioner and (b) that the works like Dam site roads, roads (other) are within the original scope of work and the payment/enhanced payment appear to be covered under RCE-IV pending for approval. However, liberty is granted to the petitioner to claim the expenditure on these assets at the time of final determination of tariff after approval of RCE-IV by Central Government. Accordingly, the additional capital expenditure of `3404.55 lakh has only been allowed for 2013-14 for the purpose of tariff.

51. Based on above deliberations, the additional capital expenditure allowed for the purpose of tariff for the period 2009-14 is summarized as under:

(` in lakh)

2009-10	2010-11	2011-12	2012-13	2013-14
11574.37	16513.81	1931.14	674.91	3404.55

52. Accordingly, the capital cost allowed for the purpose of tariff for 2009-14 is as under:

(` in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Opening capital cost	818771.30	830345.67	846859.48	848790.62	849465.53
Additional capital expenditure	11574.37	16513.81	1931.14	674.91	3404.55
Closing capital cost	**830345.67**	**846859.48**	**848790.62**	**849465.53**	**852870.08**

Debt-Equity Ratio

53. The debt-equity ratio of 50:50 has been considered in line with the decision contained in order dated 31.12.2008 in Petition No. 20/2008.

Return on Equity

54. Regulation 15 of the Tariff Regulations, 2009 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:

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

Where "t" is the applicable tax rate in accordance with clause (3) of this regulation.

(5) The generating company or the transmission licensee, as the case may be, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:

Provided further that Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations.

Illustration.-
(i) In case of the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 11.33% including surcharge and cess:

Rate of return on equity = 15.50/ (1-0.1133) = 17.481%

(ii) In case of generating company or the transmission licensee paying normal corporate tax @ 33.99% including surcharge and cess:

Rate of return on equity = 15.50/ (1-0.3399) = 23.481%"

55. In terms of the provisions of the above regulations, the Rate of Return on Equity is worked out and allowed as under:

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Base Rate	15.5%	15.5%	15.5%	15.5%/16.5%	16.5%
Applicable Tax Rate	11.330%	11.330%	11.330%	11.330%	11.330%
MAT Rate	10.000%	10.000%	10.000%	10.000%	10.000%
Surcharge	10.000%	10.000%	10.000%	10.000%	10.000%
Education cess	3.000%	3.000%	3.000%	3.000%	3.000%
Rate of Return on equity (pre-tax)	17.481%	17.481%	17.481%	17.762%	18.608%

Note: - Base Rate has been changed from 15.5% to 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage vide Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Third Amendment) Regulations, 2012, The rate of ROE (pre-tax) for the year 2012-13 (17.762%) is the composite rate calculated for the year.

Interest on Loan

56. Regulation 16 of the Tariff Regulations provides as under:

*"16. **Interest on loan capital.** (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."

57. The salient features of computation of interest on loan allowed in tariff are summarized as under:

(a) The opening gross normative loan as on 1.4.2009 has been arrived at in accordance with the above regulations

(b) The weighted average rate of interest has been worked out on the basis of the actual loan portfolio of respective year applicable to the generating station.

(c) The repayment for the year of the tariff period 2009-14 has been considered equal to the depreciation allowed for that year.

(d) The interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest.

(e) Cumulative Repayment as on 31.3.2009 has been increased proportionately for the purpose of tariff due to change in capital cost. Thus, the cumulative repayment of loan has been considered as `249140.87 lakh (243149.08 x 409385.65 /`399540.00), where cumulative repayment as per order dated 31.12.2008 in Petition No. 20/2008 is `243149.08 lakh.

Depreciation

58. The provisions relating to charging of depreciation are contained in Regulation 17 of the Tariff Regulations 2009, which is extracted hereunder:

> *"17. **Depreciation.** (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 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."*

59. The weighted average rate of depreciation of 5.05%, 5.03%, 5.08%, 5.10% and 5.10% for the years 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 respectively, as per the above regulation has been considered for the calculation of depreciation. Cumulative Depreciation as on 31.3.2009 has been increased proportionately for the purpose of tariff due to change in capital cost. Thus, the cumulative

depreciation has been considered as `189564.74 lakh (185005.74 x 818771.30 /`799080.00), where cumulative depreciation as per order dated 31.12.2008 Petition No. 20/2008 is `185005.74 lakh.

Operation & Maintenance Expenses

60. Regulation 19 (f) (iv) of the 2009 Tariff Regulations provides as under:

> ***"Hydro generating station***
>
> *19(f)(iv)…In case of the hydro generating stations, which have not been in shall be fixed at 2% of the original project cost (excluding cost of rehabilitation & resettlement works). Further, in such case, operation and maintenance expenses in first year of commercial operation shall be escalated @5.17% per annum up to the year 2007-08 and then averaged to arrive at the O&M expenses at 2007-08 price level. It shall be thereafter escalated @ 5.72% per annum to arrive at operation and maintenance expenses in respective year of the tariff period. 4[The impact of pay revision on employee cost for arriving at the operation and maintenance expenses for the year 2009-10 shall be considered in accordance with the procedure given in proviso to sub-clause (ii) of clause (f) of this regulation"*

61. Based on the above, the petitioner has claimed the following year-wise O&M expenses.

(` in lakh)

2009-10	2010-11	2011-12	2012-13	2013-14
26999.08	28952.81	30747.92	32506.70	34366.08

62. The date of commercial operation of the generating station is 18.5.2004 and as such the generating station has not completed five years of commercial operation as on 1.4.2009. However, based on the project cost of `788355.63 lakh as on cut-off date approved by the Commission (original project cost), the year-wise allowable O&M expenses has been worked out and allowed for the purpose of tariff as under:

(` in lakh)

2009-10	2010-11	2011-12	2012-13	2013-14
23836.31	25199.75	26641.18	28165.05	29776.09

Interest on Working Capital

63. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder.

(i) Receivables: 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. In the tariff being allowed, receivables have been worked out on the basis of 2 months' fixed cost.

(ii) Maintenance spares: 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.

(iii) O & M expenses: 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.

(iv) Rate of interest on working capital: In accordance with clause (3) of Regulation 18 of the tariff regulations, as amended, rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2009 or on 1st April of the year in which the generating station or a unit thereof is declared under commercial operation, whichever is later. In the instant case, SBI PLR of 12.25% as on 1.4.2009 has been considered in for working out Interest on Working Capital.

64. Necessary computations in support of interest on working capital are as under:

(` in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Maintenance Spares	3575.45	3779.96	3996.18	4224.76	4466.41
O & M expenses	1986.36	2099.98	2220.10	2347.09	2481.34
Receivables	25907.24	25829.84	25713.69	25502.45	25959.28
Total	31469.05	31709.78	31929.97	32074.29	32907.04
Interest on Working Capital @12.25%	**3854.96**	**3884.45**	**3911.42**	**3929.10**	**4031.11**

65. Accordingly, the annual fixed charges allowed for the generating station for the period 2009-14 is summarized as under:

(` in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	71868.20	72604.72	73088.37	74332.67	77986.98
Interest on Loan	14243.78	11108.42	7571.67	3282.35	551.96
Depreciation	41640.20	42181.71	43069.51	43305.53	43409.56
Interest on Working Capital	3854.96	3884.45	3911.42	3929.10	4031.11
O & M Expenses	23836.31	25199.75	26641.18	28165.05	29776.09
Total	**155443.46**	**154979.04**	**154282.16**	**153014.70**	**155755.70**

66. The annual fixed charges allowed above is subject to adjustment as per proviso to Clause (3) of Regulation 5 and is subject to truing up in terms of Regulation 6(1) of the 2009 Tariff Regulations.

67. As stated in order dated 22.8.2013 in Petition No.1/RP/2013, the tariff of the generating station for 2004-09 shall be revised after submission of the approved RCE-IV by the petitioner, through an appropriate application.

Sd/-	Sd/-	Sd/-
[A.K.Singhal]	**[M. Deena Dayalan]**	**[Gireesh B. Pradhan]**
Member	**Member**	**Chairperson**