CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 108/2010

Coram: **1. Dr. Pramod Deo, Chairperson**
2. Shri S.Jayaraman, Member
3. Shri V.S.Verma, Member
4. Shri M.Deena Dayalan, Member

DATE OF HEARING: 17.8.2010 **DATE OF ORDER: 14.6.2011**

IN THE MATTER OF

Approval of generation tariff for Loktak Hydroelectric Project (105 MW) for the period 1.4.2009 to 31.3.2014.

AND IN THE MATTER OF

NHPC Ltd, Faridabad ….. **Petitioner**

Vs

1. Assam State Electricity Board, Guwahati
2. Department of Power, Govt. of Arunachal Pradesh, Itanagar,
3. Electricity Department, Govt. of Mizoram, Aizawal,
4. Tripura State Electricity Corporation Ltd., Agartala,
5. Meghalaya State Electricity Board, Shillong,
6. Electricity Department, Govt. of Manipur, Imphal,
7. Electricity Department, Govt. of Nagaland, Kohima, ….**Respondents**

The following were present:

1. Shri Sachin Datta, Advocate, NHPC
2. Shri N.K.Chadha, NHPC
3. Shri Prashant Kaul, NHPC
4. Shri A.K.Tewari, NHPC
5. Shri S.K. Meena, NHPC
6. Shri Ansuman Ray, NHPC
7. Shri M.M.Mishra, NHPC
8. Shri K.K.Goel, NHPC
9. Ms. Reshma Hemrajan, NHPC
10. Ms. Niti Singh, NHPC
11. Shri M.K.Adhikary, ASEB
12. Shri K.Goswami, ASEB

ORDER

This petition has been filed by the petitioner, NHPC Ltd, for approval of Generation Tariff of Loktak Hydroelectric Project (hereinafter referred to as "the generating station") for the period 1.4.2009 to 31.3.2014, based on the Central

Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, (hereinafter referred to as "the 2009 regulations").

2. The generating station with a capacity of 105 MW (3 x 35 MW) was declared under commercial operation on 1.6.1983. The tariff of the generating station for the period from 1.4.2004 to 31.3.2009 was approved by the Commission vide its order dated 4.10.2006 in Petition No.171/2004 which was subsequently revised by order dated 5.9.2007 in Review Petition No.144/2006. Thereafter, the annual fixed charges for the period 2004-05 and 2005-06 were revised by Commission's order dated 27.10.2009 in Petition No.39/2009 after considering the impact of additional capitalization for the period 2004-05 and 2005-06. By order dated 10.2.2010 in Petition No.191/2009, the annual fixed charges for the year 2006-07, 2007-08 and 2008-09 were revised after taking into account the additional capital expenditure incurred during the years 2006-07, 2007-08 and 2008-09, based on the capital cost of ₹14240.52 lakh as on 31.3.2009, as under:

(₹ in lakh)

Particulars	**2006-07**	**2007-08**	**2008-09**
Depreciation	507.28	511.94	520.44
Interest on Loan	0.00	0.00	0.00
Return on Equity	930.26	931.81	934.12
Advance Against Depreciation	0.00	0.00	0.00
Interest on Working Capital	157.15	159.87	162.82
O & M Expenses	3400.74	3400.74	3400.74
TOTAL	**4995.43**	**5004.36**	**5018.12**

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

(₹ in lakh)

Annual Fixed Charges	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Return on Equity	1306.49	1382.91	1417.18	1448.02	1464.39
Interest on Loan	52.58	111.38	121.22	121.66	103.18
Depreciation	628.76	782.20	860.87	943.43	996.05
Interest on Working Capital	411.47	438.65	463.59	489.62	515.68
O & M Expenses	7397.68	7820.83	8268.18	8741.12	9241.12
Total	**9796.99**	**10535.96**	**11131.05**	**11743.86**	**12320.42**

4. The respondent No1, Assam Power Distribution Co. Ltd, (*erstwhile ASEB)* has filed its reply to the petition.

CAPITAL COST

(A) Capital Cost as on 1.4.2009

5. The last proviso of Clause 2 of Regulation 7 of the 2009 Regulations, provides as under:

> *"Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 and the additional capital expenditure 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."*

6. As stated above, the Commission vide its order dated 10.2.2010 in Petition No. 191/2009 had approved the capital cost of ₹14240.52 lakh as on 31.3.2009, and the same has been considered as the opening capital cost as on 1.4.2009.

(B) Additional Capital Expenditure for 2009-14

7. Regulation 9 of the 2009 regulations provides as under:

> *"9. Additional Capitalization. (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, undischarged liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff.*
>
> *(2) The capital expenditure 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.

8. The additional capital expenditure for the period 2009-14 claimed by the petitioner is as stated under:

(₹ in lakh)

Category	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Regulation 9(2)(iv)	2124.54	625.00	631.30	502.50	105.50
Deletions	0.35	21.30	11.28	21.63	1.78
Total additional capital expenditure claimed	**2124.19**	**603.70**	**620.02**	**480.87**	**103.72**

9. After examining the asset-wise details and justification for additional capitalization claimed by the petitioner under various categories and the submissions of the respondent No.1, APDCL, the admissibility of additional capital expenditure, by applying prudence check is discussed in the subsequent paragraphs.

Expenditure necessary for successful and efficient operation of generating station-Regulation 9(2)(iv)

10. The petitioner has claimed an amount of ₹2124.54 lakh, ₹625.00 lakh, ₹631.30 lakh, ₹502.50 lakh and ₹105.50 lakh during the years 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 respectively under this head. The claim of the petitioner is in respect of assets like renovation/modernization of power house, relays, DG sets, penstock, spare CVT, CCTV, residential and hospital buildings,

winding and up-gradation of insulation of generator stator, centralized air conditioner plant, automation of valve house lot, generating transformer, 5 MVA transformer, roads, alternative water supply system, lift for power house, bullet proof vehicle, ambulance, mechanical measuring instrument, buses, computer peripheral and xerox machine, truck and some other assets.

11. The claim of the petitioner for ₹2124.54 lakh for 2009-10 includes an expenditure of ₹1855.37 lakh for Renovation & Modernization (R&M) of power house. The petitioner has submitted that due to long running, the power station has been re-rated from 105 MW to 90 MW and R&M is under process after obtaining approval from CEA for further enhancing the generating capacity of each unit to its original capacity of 35 MW (u3 x 35 MW =105 MW). The respondent No.1, APDCL, in its reply has submitted that the Commission by its order dated 4.10.2006 (in Petition No.171/2006) had directed the petitioner to complete R&M to restore the installed capacity of the generating station from 90 MW to 105 MW by 31.3.2008 and despite this direction, the petitioner is still considering the de-rated capacity of 90 MW for calculation of capacity index. The respondent has further submitted that most of the claims pertain to R&M works under the head 'additional capitalization' even though the 2009 regulations provides for claim under separate heads. The respondent has reiterated that the claims for R&M expenditure shall be made under Regulation 10 of the 2009 regulations and not under 'additional capitalization'. In response, the petitioner has submitted that the capacity index has been replaced by 'Plant Availability Factor' (PAF) from 1.4.2009 and the same is computed and finalized by NERPC which issues the Regional Energy Accounts (REA). It has also been submitted that CEA had allowed time extension for R&M of the generating station for restoration of installed capacity to 105 MW upto the 15th September, 2010 which has been brought to the notice of the Commission by affidavit dated

10.5.2010. The petitioner has also submitted that R&M of the generating station is for restoration of installed capacity from 90 MW to 105 MW and not for extension of useful life of the generating station and hence the claims for additional capital expenditure have been made under Regulation 9 of the 2009 regulations.

12. The above submissions of the parties have been examined. It is observed that the claim of the petitioner in respect of works which are normally in the nature of replacement which has been approved by CEA. The Commission in its order 13.10.2006 in Petition No.171/2004 pertaining to the period from 1.4.2004 to 31.3.2008 has observed as under:

"...the annual design energy of the generating station is 448 MU and the generating station has consistently achieved generation more than its design energy during the previous five years. It was also pointed out that the generating station was giving maximum output of about 90 MW right from the year 1984. The commission has concluded that, since the generating station has been substantially de-rated (by as much as 14%) and the petitioner is making extra money through secondary energy already, it was hereby order that for the purpose of calculation of incentive, the installed capacity shall continue as 105 MW. However, the payment of capacity charge shall be allowed considering the installed capacity as 90 MW, from 1.4.2004 to 31.3.2008. Such a dispensation would ensure that while the petitioner would still recover full AFC and get paid for secondary energy, the beneficiaries shall not have to pay any additional amount as incentive, which would be payable in case capacity index is based on the de-rated capacity. All out efforts shall be made by petitioner to complete renovation and modernization of the generating station so as to restore the installed capacity to 105 MW by 31.3.2008. No further extension on the relaxation shall be allowed beyond 31.3.2008."

13. As the petitioner could not complete the renovation work in time it had approached the CEA for relaxation on account of delay due to law and order problem, insurgency, transportation strike, protected area permit requirement and for problem related to visa for foreign expert. CEA vide its letter no. CEA/PLG/DM/545 (de-rating)/Loktak/2010/308 dated 24.4.2010 had approved the de-rating of the generating station. The proposed date for revival of the units and the dates approved by CEA is as under:

	Unit -1	**Unit -2**	**Unit -3**
Scheduled date of revival of unit ***(proposed by petitioner)***	31st May 2011 (expected)	13th June 2010	5th Sept 2009
Approval of CEA	15th Sept 2010	30th April 2010	15th Sept 2009

14. The work on the two Units (Units-II and III) of the generating station has been completed and said units have been restored to its full capacity on 5th September, 2009 and 13th June, 2010 respectively. The work on Unit-I was expected to be completed by 31st May 2011. Since two Units (Units-II and III) of the generating station had already been revived during the first quarter of 2009-10 and 2010-11, we consider the additional capital expenditure on R&M works on the two units in the corresponding year i.e 2009-10 and 2010-11. As Unit-III is to be revived by 31st May 2011 (the first quarter of 2011-12), the additional capital expenditure for this Unit is to be considered during 2011-12. It is also observed that the R&M work has been done on three parts of each Unit such as, runner, excitation system and governing system. Since these parts form part of the main equipment, the actual gross value of the individual component of the main plant equipment could not be determined separately. As these units were commissioned during 1983, we consider the gross value of the replaced component as 10% of the proposed additional capital expenditure. In view of this, the claim for ₹1855.37 lakh, under this head has been equally apportioned for the years 2009-10, 2010-11 and 2011-12 respectively and the same works out to ₹618.46 lakh each for the said years, which has been allowed.

15. Keeping in view that the restoration of capacity is necessary as the generating station has a useful life of about 8 to10 years and the problems relating to law and order and insurgency, the delay in the restoration of capacity of the generating station needs to be condoned. Accordingly, the payment of capacity charges upto Normative Annual Plant Availability Factor (NAPAF) shall be allowed considering the installed capacity for the periods, as under:

Period	Capacity
1.4.2009 to 4.9.2009	90 MW
5.9.2009 to 12.6.2010	95 MW
13.6.2010 to 30.5.2011	100 MW
31.5.2011 to 31.3.2014	105 MW

16. For the purpose of incentive, the Plant Availability Factor (PAF) shall be computed as per the installed capacity of 105 MW for the period 2009-14.

17. In addition to the above, the asset-wise details and justification for additional capital expenditure for some of the other assets/items claimed by the petitioner for 2009-14 and the reply submissions of the respondent, is examined and the admissibility based on prudence check is discussed as under:

Year	**Items/Assets**	**Amount (₹ in lakh)**	**Findings**
2009-10	Spare CVT	8.50	**Not allowed** since these assets are in the nature of spares
	Laptop/ LCD Projector	2.00	**Not allowed** since these are in the nature of minor assets
	Welding sets (2 nos)	5.00	
	Energy efficient (LED) lighting for power house.	5.00	**Not allowed** since the benefits by way of energy saved would accrue to the petitioner, the cost incurred should be borne by the petitioner.
	Assets, other than the above	**867.13**	**Allowed** as the expenditure is in respect of items/assets which are necessary to increase the efficiency of the generating station and for carrying out R & M work.
2010-11	Automation of valve house lot	10.00	**Not allowed** since the asset in the nature of replacement and the petitioner has also not submitted the gross value of the original asset.
	Generating transformer	200.00	**Not allowed** since these assets are in the nature of spares
	Mechanical Measuring instruments	2.50	**Not allowed** since these assets are tools and tackles, which are minor in nature
	Replace construction of one semi-permanent type building as against O type quarter at surge shaft constructed during 1979-80.	7.00	**Not allowed** since proper justification has not been submitted by the petitioner. Moreover, the useful life of the asset like buildings should be 50 years (approx)
	Construction of Permanent Field Hosted Building	60.00	**Not allowed** since proper justification has not been submitted by the petitioner.
	Assets, other than the above	**963.96**	**Allowed** as the expenditure is in respect of items/assets which are necessary to increase the efficiency of the generating station and for carrying out R & M work.
2011-12	Generating transformer	200.00	**Not allowed** since these assets are in the nature of spares
	Mechanical Measuring instruments	5.00	**Not allowed** since these assets are tools and tackles, which are minor

			in nature
	Replaced Construction of permanent type II Double storied building as against type III quarters of old colony	80.00	**Not allowed** since proper justification has not been submitted by the petitioner. Moreover, the useful life of the asset like buildings should be 50 years (approx)
	Construction of Permanent Field Hosted Building	40.00	**Not allowed** since proper justification has not been submitted by the petitioner.
	Assets, other than the above	**924.76**	**Allowed** as the expenditure is in respect of items/assets which are necessary to increase the efficiency of the generating station and for carrying out R & M work.
2012-13	Generating Transformer	200.00	**Not allowed** since these assets are in the nature of spares
	Computer peripherals and Xerox machine	3.00	**Not allowed** since these are in the nature of minor assets
	Replaced construction of permanent type-III double storied building as against type-III quarters of old colony constructed during the year 1976-77.	52.00	**Not allowed** since proper justification has not been submitted by the petitioner. Moreover, the useful life of the asset like buildings should be 50 years (approx)
	Replaced construction of one double storied permanent building type-I as against O-type quarters at old colony constructed during the year 1978-79	10.00	
	Assets, other than the above	237.50	**Allowed** as the expenditure is in respect of items / assets which are necessary to increase the efficiency of the generating station.
2013-14	Replacement of asset like construction of permanent dispensary building constructed during 1976.	100.00	**Not allowed** since proper justification has not been submitted by the petitioner. Moreover, the useful life of the asset like buildings should be 50 years (approx)
	Assets, other than the above	5.50	**Allowed** as the expenditure is in respect of items/assets which are necessary to increase the efficiency of the generating station.

18. The assets for which expenditure has been allowed as above, on the ground that they are necessary to increase the efficiency of the generating station include R&M, assets like main auxiliary relays, 500 kVA DG set for power house, fixing and fitting of 04 rows of 60 cm dia. concertina coil including 8 rows of Reinforced Barbed Type (RBT) horizontal strength along penstock, construction of RBT concertina coil fencing along both sides of penstock, CCTV for Loktak, Leimatak and Ithai for

purpose of security, construction of 4 nos. CRPF security morchas at zero, new and old colony, construction of CRPF barrack along with WC, bath and kitchen at J/Nagar and Leimatak, replacement of winding and up-gradation of insulation of generator Stator Unit -I, purchase of new 5 MVA transformer (1 no), alternative water supply system at the generating station from power channel, bullet proof vehicle against existing one and some other assets. The petitioner is directed to submit all necessary supporting documents including the recommendations of the Ministry of Home Affairs in respect of claims towards security related items, at the time of truing up.

19. Based on prudence check, the following amounts have been allowed to be capitalized for the period 2009-14, under Regulation 9(2)(iv) :

(₹ in lakh)

Category	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Regulation 9(2)(iv)	867.13	963.96	924.76	237.50	5.50

20. In addition to the capitalization under the above category, the petitioner has de-capitalized an amount of ₹0.35 lakh, ₹21.30 lakh, ₹11.28 lakh, ₹21.63 lakh and ₹1.78 lakh during the years 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 respectively, in respect of gross value of original assets which were not in use, in terms of the proviso to Regulation 7(1) of the 2009 regulations, which provides that "*the assets forming part of the project, but not in use shall be taken out of the capital cost.*"

21. It is observed that some of the assets which are proposed for de-capitalization by the petitioner are linked to assets which are proposed to be replaced by new assets. After prudence check, the claim for some of these assets is not considered. In view of this, the gross value of these original assets which have been proposed to be taken out of service are taken out of deletion, for the respective years as stated overleaf:

(a) 2009-10: As some replaced minor assets like 2 nos. of welding set amounting to ₹5.00 lakh has been disallowed earlier. The gross value for these original assets amounting to ₹0.35 lakh claimed as deletion by the petitioner has not been considered.

(b) 2010-11: Some replaced assets like construction of one semi-permanent type-I building amounting to ₹7.00 lakh have been disallowed earlier. The gross value for these original assets amounting to ₹3.35 lakh as claimed in deletion by the petitioner has not been considered.

(c) 2011-12: Some replaced assets like construction of one permanent type-II double storey building amounting to ₹80.00 lakh have been disallowed earlier. The gross value for these original assets amounting to ₹3.90 lakh as claimed as deletion by the petitioner has not been considered.

(d) 2012-13: Some replaced assets like construction of one permanent type-III double storey building and permanent type-I double storey building amounting to ₹52.00 lakh and ₹10.00 lakh respectively have been disallowed earlier. The gross value for these original assets, amounting to ₹3.90 lakh and ₹2.85 lakh respectively, as claimed as deletion by the petitioner has not been considered.

22. Based on the above, amounts of ₹17.95 lakh, ₹7.38 lakh, ₹14.88 lakh and ₹1.78 lakh for the years 2010-11, 2011-12, 2012-13 and 2013-14 respectively, has been allowed as deletions.

23. As regards some new replaced assets, gross value of the original asset has not been deducted during the respective years of the claim. These assets are as under:

(₹ in lakh)

Asset	Value of Replacement	Gross Value of Old Assets	Year of replacement	Reference
Modernization & Renovation of Power House	618.46	61.85	2009-10	**Sl. No.1, Annexure-9(i), page-23**
Main Auxiliary Relay	13.00	1.68	2009-10	Sl. No.2, Annexure-9(i), page-23
OPU Motor	1.80	0.31	2009-10	Sl. No.4, Annexure-9(i), page-23
Construction of CRPF Barrack	20.00	2.25	2009-10	Sl. No.14, Annexure-9(i), page-24
Total	**653.26**	**66.08**		
Modernization & Renovation of Power House	618.46	61.85	2010-11	**Sl. No.1, Annexure-9(i), page-23**
Winding and Up-gradation of Generator Stator (Unit-I)	150.00	25.77	2010-11	Sl. No.1, Annexure-9(ii), page-26
Centralized AC for	20.00	0.72	2010-11	Sl. No.2, Annexure-

Power House				9(ii), page-26
Lift for Power House	10.00	1.59	2010-11	Sl. No.18, Annexure-9(ii), page-28
Total	**798.46**	**89.92**		
Modernization & Renovation of Power House	618.46	61.85	2011-12	**Sl. No.1, Annexure-9(i), page-23**
Winding and Up-gradation of Generator Stator (Unit-II)	160.00	27.49	2011-12	Sl. No.1, Annexure-9(iii), page-29
Numerical Relay	30.00	1.68	2011-12	Sl. No.4, Annexure-9(iii), page-29
Total	**808.46**	**91.01**		
Winding and Up-gradation of Generator Stator (Unit-III)	170.00	29.21	2012-13	Sl. No.1, Annexure-9(iv), page-32
Total	**170.00**	**29.21**		

24. The gross value of assets amounting to ₹66.08 lakh, ₹89.92 lakh, ₹91.01 lakh and ₹29.21 lakh not deducted by the petitioner during the years in which the assets were replaced have been considered as 'assumed deletions' for the years 2009-10, 2010-11, 2011-12 and 2012-13 respectively for the purpose of tariff. Accordingly, the adjustments made and the total amounts allowed as deletions is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Deletions claimed	0.35	21.30	11.28	21.63	1.78
Less: Deletions disallowed	0.35	3.35	3.90	6.75	0.00
Deletions allowed	**0.00**	**17.95**	**7.38**	**14.88**	**1.78**
Add: Assumed Deletions	66.08	89.92	91.01	29.21	0.00
Total Deletions	**66.08**	**107.87**	**98.40**	**44.09**	**1.78**

Un-discharged/discharged liabilities

25. There are no un-discharged/discharged liabilities for the period 2009-14.

Additional capital expenditure

26. Based on the above discussions, the additional capital expenditure allowed for the purpose of tariff, is as stated overleaf**:**

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Regulation 9(2)(iv)	867.13	963.96	924.76	237.50	5.50
Deletions	0.00	17.95	7.38	14.88	1.78
Assumed Deletions	66.08	89.92	91.01	29.21	0.00
Total additional capitalization allowed	**801.05**	**856.08**	**826.36**	**193.41**	**3.72**

Capital Cost

27. As stated, the Commission had considered the capital cost of ₹14240.52 lakh as on 31.3.2009 in Petition No.191/2009. The same has been considered as the opening capital cost as on 1.4.2009 for the purpose of tariff for the period 2009-14. Based on this, the capital cost approved for the period 2009-14 is as under:

(₹ in lakh)

Year	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost	14240.52	15041.57	15897.65	16724.01	16917.42
Additional Capitalization allowed	801.05	856.08	826.36	193.41	3.72
Capital Cost as on 31st March of the financial year	**15041.57**	**15897.65**	**16724.01**	**16917.42**	**16921.15**

Debt-Equity Ratio

28. Regulation 12 of the 2009 regulations provides that:

"(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 utilised 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 modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.

29. The petitioner has submitted that the additional capital expenditure has been financed through internal resources. In terms of the above said regulations, the debt-equity ratio of 70:30 has been considered on the additional capital expenditure allowed for the purpose of tariff.

Return on Equity

30. Regulation 15 of the 2009 regulations provides that

"(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% to 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 normal tax rate for the year 2008-09 applicable to the concerned generating company or the transmission licensee, as the case may be.

Provided that return on equity with respect to the actual 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 separately for each year of the tariff period along with the tariff petition filed for the next tariff period.
(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.

31. The petitioner has considered the rate of Return on Equity @ 18.674%, based on prevailing MAT rate (Basic rate of 15%+10% surcharge+3% education Cess = 16.995%) for 2009-10.

32. In terms of the provisions of the above regulations, Return on equity has been worked out @17.481% per annum on the normative equity, after accounting for the additional capital expenditure, considering the base rate of 15.5% and MAT rate of 11.33%. Return on equity has been worked out as stated overleaf:

(₹ in lakh)

Return on Equity	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Notional Equity	6677.70	6918.02	7174.84	7422.75	7480.77
Addition due to Additional capitalization	240.31	256.83	247.91	58.02	1.12
Closing Equity	6918.02	7174.84	7422.75	7480.77	7481.89
Average Equity	6797.86	7046.43	7298.79	7451.76	7481.33
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Min Alt. Tax rate for the year 2008-09	11.330%	11.330%	11.330%	11.330%	11.330%
Rate of Return on Equity	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity	**1188.30**	**1231.75**	**1275.87**	**1302.61**	**1307.78**

33. Any change in rate of return on equity due to changes in the tax rate would be considered at the time of truing up.

Interest on loan

34. Regulation 16 of the 2009 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.

35. The normative loan for the generating station has already been repaid. Moreover, the normative loan on account of admitted additional capital expenditure during the respective years of the tariff period has been considered to be paid in full, as the admitted depreciation is more than the amount of normative loan for these years. As such, the interest on loan during the period 2009-14 is 'Nil'.

Depreciation

36. Regulation 17 of the 2009 regulations provides that*:*

"(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 upto 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".

37. The date of commercial operation of the generating station is 1.6.1983. Since the station has completed 12 years of commercial operation as on 1.6.1995, the

remaining depreciable value has been spread over the balance useful life of the assets.

38. Assets amount of ₹66.08 lakh, ₹107.87 lakh, ₹98.40 lakh, ₹44.09 lakh and ₹1.78 lakh have been de-capitalized during 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 respectively. The amount of cumulative depreciation allowed in tariff against these de-capitalized assets has been calculated on pro-rata basis and the same has been adjusted from the cumulative depreciation of the year of de-capitalization. Accordingly, depreciation has been worked out as under:

(₹ in lakh)

Depreciation	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Gross block as on 31.3.2009	14240.52	15041.57	15897.65	16724.01	16917.42
Additional capital expenditure during 2009-14	801.05	856.08	826.36	193.41	3.72
Closing gross block	15041.57	15897.65	16724.01	16917.42	16921.15
Average gross block	14641.04	15469.61	16310.83	16820.72	16919.28
Land related cost	39.89	39.89	39.89	39.89	39.89
Rate of Depreciation	5.1148%	5.1148%	5.1148%	5.1148%	5.1148%
Depreciable value @ 90%	13141.04	13886.75	14643.85	15102.74	15191.46
Balance useful life of the asset	9.17	8.17	7.17	6.17	5.17
Remaining depreciable value	5063.41	5294.49	5465.56	5219.97	4490.09
Depreciation	**552.37**	**648.31**	**762.64**	**846.48**	**869.05**

O&M Expenses

39. Regulation 19 (f) of the 2009 regulations provides for normative operation and maintenance expenses for hydro generating stations as under:

> *"(i) Operation and maintenance expenses, for the existing generating stations which have been in operation for 5 years or more in the base year of 2007-08, shall be derived on the basis of actual operation and maintenance expenses for the years 2003-04 to 2007-08, based on the audited balance sheets, excluding abnormal operation and maintenance expenses, if any, after prudence check by the Commission.*
>
> *(ii) The normalised operation and maintenance expenses after prudence check, for the years 2003-04 to 2007-08, shall be escalated at the rate of 5.17% to arrive at the normalized operation and maintenance expenses at the 2007-08 price level respectively and then averaged to arrive at normalized average operation and maintenance expenses for the 2003-04 to 2007-08 at 2007-08 price level. The average normalized operation and maintenance expenses at 2007-08 price level shall be escalated at the rate of 5.72% to arrive at the operation and maintenance expenses for year 2009-10:*
>
> *Provided that operation and maintenance expenses for the year 2009-10 shall be further rationalized considering 50% increase in employee cost on account of pay revision of the employees of the Public Sector Undertakings to arrive at the permissible operation and maintenance expenses for the year 2009-10.*

(iii) The operation and maintenance expenses for the year 2009-10 shall be escalated further at the rate of 5.72% per annum to arrive at permissible operation and maintenance expenses for the subsequent years of the tariff period.

(iv) In case of the hydro generating stations, which have not been in commercial operation for the period of five years as on 01.04.2009, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation and 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 in respective year of the tariff period. [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.]"

40. The petitioner has claimed the following O&M expenses for the period 2009-14 in terms of the above regulation:

(₹ in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
O & M Expenses	7397.68	7820.83	8268.18	8741.12	9241.12

41. The year-wise break-up of actual O&M expenses for the period 2003-08 furnished by the petitioner, based on which O&M expenses for the period 2009-14 have been claimed are as under:

(₹ in lakh)

	Particulars	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**
1	Consumption of Stores and Spares	18.70	15.55	239.99	82.37	7.67
2	Repair and Maintenance	222.49	307.41	474.63	313.93	240.44
3	Insurance	76.90	78.38	74.17	75.93	76.02
4	Security	0.00	0.00	0.00	0.00	0.00
5	**Administrative Expenses**	86.84	100.47	75.19	128.89	185.51
6	**Employee Cost**	2951.96	3270.77	3508.64	3584.36	4275.58
7	Provisions	0.00	0.00	30.58	9.40	16.36
8	Corporate office expenses	44.60	44.27	29.79	21.89	22.69
9	Others (Specify items)	31.83	83.19	39.63	198.67	185.33
10	**Total (1 to 10)**	**3433.32**	**3900.04**	**4472.62**	**4415.44**	**5009.60**
11	Revenue / Recoveries, if any	27.24	20.01	59.68	26.71	22.07
12	**Net O&M expenses**	**3406.08**	**3880.03**	**4412.94**	**4388.73**	**4987.53**

42. The category of employees considered by the petitioner is as under:

Category of employees	**Number of employees**				
	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
(i) Executives	62	68	59	57	51
(ii) Non-Executives	79	69	55	45	36
(iii) Skilled	315	301	303	295	279
(iv) Non-Skilled	380	363	326	310	301
Total	**836**	**801**	**743**	**707**	**667**
Voluntary Retirement scheme availed	1	27	20	2	11

43. The major components of O&M expenses are:

(a) Consumption of stores and spares
(b) Repairs & maintenance
(c) Insurance
(d) Security
(e) Administrative Expenses
(f) Employees cost
(g) Corporate and Regional offices' expenses

44. The petitioner has considered various items in its calculations for arriving at the percentage of the employee's cost in O&M expenses. The inclusion of these items in O & M expenses is examined as under:

(a) **Consumption of Spares:** It is observed that during 2005-06, the expenditure on account of consumption of stores and spares increased by over 14 times the previous year, since capital spares amounting to ₹115.97 lakh was charged to revenue expenditure during 2005-06 on account of the change in the accounting policy of the petitioner company. In view of this, the said amount of ₹115.97 lakh for 2005-06 has not been considered for the purpose of normalisation of O&M expenses.

(b) **Repairs and Maintenance (R & M):** During 2004-05, the expenses on this count increased by 38% as compared to the previous year. The petitioner has submitted that the increase was mainly on account of increase in expenditure related to R&M of residential colony, roads and bridges, as the project was very old and these assets were in a deteriorated condition. In view of this, the amount claimed has been considered for the purpose of normalisation of O&M expenses. Also, during 2005-06, the R&M increased by 54 % as compared to the previous year on account of undertaking repairs of the residential and office building. Since the increase in expenses due to repairs of the residential colony was already considered during 2004-05, the expenditure for 2005-06 is restricted to 20 % of the expenses for 2004-05 and is considered accordingly.

(c) **Insurance**: The actual expenses claimed by the petitioner on this count have been allowed.

(d) **Security:** The claim on this count has not been made separately as the expenses on security have been included in the employee cost.

(e) **Administrative Expenses:** The break-up details of the administrative expenses claimed by the petitioner is discussed as under:

(₹ in lakh)

	Administrative Expenses	2003-04	2004-05	2005-06	2006-07	2007-08
a	Rent	1.70	1.76	20.17	21.60	35.59
b	Electricity charges	33.14	15.38	0.15	40.56	71.42
c	Travelling and conveyance	33.78	34.13	34.33	48.07	41.66
d	Communication expenses	17.88	19.34	19.20	16.98	33.45
e	Advertising	0.34	4.84	1.26	1.36	3.29
f	Entertainment	0.00	0.02	0.08	0.32	0.10
g	Filing Fees	0.00	25.00	0.00	0.00	0.00
	Total	**86.84**	**100.47**	**75.19**	**128.89**	**185.51**

(i) **Rent:** During 2005-06, the expenditure on rent had increased by 10 times as compared to the previous year due to the increase in rental for self-lease /third party lease and the provision created for Demapur land. The provision for Demapur land has been created on account of payment of rent to the owner of the land. It is noticed that there is a dispute between the present owner and the Indian Railways over the ownership of the said land. However, the expenses claimed on this count have been considered for normalization of O&M expenses. Similarly during 2007-08, the expenses on rent had increased by 65% over the previous year due to booking of hiring charges of construction equipment of the core group for ₹14.30 lakh. However, this amount is not considered for normalization of O&M expenses.

(ii) **Electricity charges**: During 2003-04 the electricity charges was ₹33.14 lakh which is higher in comparison to the following years and no justification has been submitted by the petitioner for the same. Hence the electricity charge for 2003-04 has been considered equal to the following year i.e 2004-05. Also, during 2006-07, electricity charges was Rs 40.56 lakh which included payment of wheeling charges of ₹33.56 lakh to NERLDC (Power Grid). This amount, being a one-time payment has not been considered for purpose of normalization, since no proper justification has been submitted by the petitioner for payment of the said wheeling charges. Also during 2007-08, the electricity charges increased by 76% as compared to the previous year. The petitioner has submitted that the said increase was due to break down of transformer which was generally used for power supply to the project areas from self generated power. The whole requirement was met from Manipur State Electricity department during 2007-08. Hence, the expenditure claimed is not allowed being an abnormal expenditure, and is restricted to 20% of the expenses for the previous year.

(iii)**Communication expenses**: The expense towards communication during 2007-08 increased by 97% as compared to the previous year's normalized expenditure. This was due to internet bandwidth charges for VSAT and charges for LDST and INMARSAT. Hence, the expenses claimed is restricted to 20 % as the rates for communication channels are highly competitive in nature.

(iv)**Entertainment:** Since the expenditure claimed by the petitioner is meagre, the same has been allowed**.**

(v) **Advertisement:** During 2004-05**,** the expenditure on account of advertising was 4.5 lakh more than the previous year**.** This is mainly due to publication of NIT for R&M of the generating station (Rs 2.86 lakh) and towards publication of tariff petition ₹1.19 lakh). However, the amount, ₹1.19 lakh spent towards publication of tariff petition has not been considered for normalisation of O&M

expenses. During 2007-08, the expenditure on advertising was Rs 1.93 lakh more than the previous year. This was due to advertisement on account of recruitment and exhibition & conference expenses and hence allowed.

(vi) **Filing fees**: The claim for ₹25.00 lakh on account of filling fees of has not been considered and the same will be dealt with in accordance with Regulation 42 of regulation 2009.

45. Based on the above, the administrative expenses allowed is as under:

(₹ in lakh)

	2003-04	2004-05	2005-06	2006-07	2007-08
Administrative expenses allowed	69.08	74.28	75.19	95.33	95.12

Employee Cost

46. The petitioner has claimed the following expenses towards employee cost:

(₹ in lakh)

Employee Cost	2003-04	2004-05	2005-06	2006-07	2007-08
Salaries, wages and allowances (Project)	2527.55	2684.48	2763.80	2834.04	3434.06
Salaries, wages and allowances (Allocation of Corporate Office / ED Office Expenses)	0.00	0.00	74.44	75.24	65.22
Salaries, wages and allowances (Security Forces / Kendriya Vidyalaya)	90.17	101.32	80.82	74.79	125.55
Staff welfare expenses	284.97	268.29	296.21	413.63	304.34
Productivity linked incentive	43.22	48.43	166.99	160.23	212.76
Expenditure on VRS	5.69	168.14	126.38	26.43	133.65
Ex-gratia	0.36	0.11	0.00	0.00	0.00
Total	**2951.96**	**3270.77**	**3508.64**	**3584.36**	**4275.58**

47. The provision for ₹186.82 and ₹725.47 lakh respectively for 2006-07 and 2007-08 towards pay revision/arrears payment in respect of employees' has not been considered, since the expenses on account of revision of pay has been dealt with separately, in terms of the provisions of the 2009 regulations.

48. The expenses on account of salaries, wages & allowances in respect of Corporate Office and Regional Office have been considered under Corporate Office expenses and not under this head.

49. The Staff welfare expenses during 2006-07 increased by 40% over the previous year on account of gratuity, encashment of Leave Travel Concession, Liveries & Uniforms, Medical expenses (indoor), post-retirement medical expenses, payment to Kendriya Vidyalaya Sansthan (K.V.S). As the expenses incurred are higher, the same is restricted to an increase of 20 % over the expenses of the previous year.

50. The productivity linked incentives, expenditure of Voluntary Retirement Scheme (VRS) and Ex-gratia have not been included in the employee cost as they have to be borne by the petitioner.

51. Based on the above discussions, the employees cost considered for normalization of O&M expenses is as under:

(₹ in lakh)

	2003-04	**2004-05**	**2005-06**	**2006-07**	**2007-08**
Employee cost allowed	2903.05	3054.20	3140.83	3077.46	3138.48

Corporate Office Expenses

52. The petitioner has submitted that as per its policy, the Corporate Office expenses allocated to the running generating stations are taken @ 1% of sale of energy for the year excluding taxes and duties and in case of construction projects it is considered @ 5% of the project expenditure during the year. However the details of sale of energy from the generating station has not been furnished in the petition.

53. The year-wise details of the total Corporate Office expenses incurred and its apportionment to the running generating stations, construction projects and other activities of the petitioner and the proportionate corporate expenses charged to the generating station are as stated overleaf:

(₹ in lakh)

Sl. No.	ITEMS	2003-04	2004-05	2005-06	2006-07	2007-08
	Net Corporate Expenses (aggregate)	9596.29	10633.19	13610.40	12988.42	16043.03
(B)	**Allocation of Corporate Expenses to various functional activities**					
1	O&M	1392.91	1575.52	1644.49	1801.33	2171.50
2	Contract & Consultancy	104.44	63.42	68.53	202.78	187.74
3	Construction	8098.94	8994.25	11897.38	10984.31	13683.79
	Total	**9596.29**	**10633.19**	**13610.4**	**12988.42**	**16043.03**
(C)	**Allocation of Corporate expenses relating to functional activity of power generation to various generating stations**					
2	**Loktak HEP *(the generating station*)**	**44.60**	**44.27**	**49.97**	**64.85**	**58.88**

54. As stated, the expenses towards ex-gratia have not been considered since it is an incentive and is required to be borne out of from the profit of the petitioner corporation. After excluding the proportionate expenses on account of ex-gratia, incentives and donations paid by the petitioner, the following Corporate Office expenses have been considered towards O&M expenses of the generating station for the period 2003-08.

(₹ in lakh)

	2003-04	2004-05	2005-06	2006-07	2007-08
Net Corporate expenses (aggregate)	9509.25	10349.84	11947.47	12368.53	14831.10

55. The proportion (ratio) of the year-wise corporate expenses considered/allowed to the total corporate expenses claimed is as under:

(₹ in lakh)

	2003-04	2004-05	2005-06	2006-07	2007-08
Total corporate expenses Claimed	9596.29	10633.19	13610.4	12988.42	16043.03
Total corporate expenses allowed	**9509.25**	**10349.84**	**11947.47**	**12368.53**	**14831.10**
Proportional ratio **(r)** (allowed-v-claimed)	0.99093	0.97335	0.87782	0.95227	0.92446

56. Based on the above ratio, the total allocation claimed by the petitioner and approved by the Commission in respect of the generating station, is calculated as stated overleaf:

(₹ in lakh)

	2003-04	2004-05	2005-06	2006-07	2007-08
Total corporate expenses allocated for the generating station	44.60	44.27	49.97	64.85	58.88
Proportional ratio **(r)** (allowed –v- claimed)	0.99093	0.97335	0.87782	0.95227	0.92446
Total corporate expenses proportionate for generating station ***(r x allocated expenses for the corresponding year*)**	44.20	43.09	43.86	61.75	54.43

Regional Office expenses

57. The petitioner has submitted the year-wise details of total Regional Office expenses (Region–III at Kolkata) incurred and its apportionment to the running generating stations, construction projects and other activities of the petitioner and the proportionate regional expenses charged to the generating station as under:

(₹ in lakh)

Sl. No.	ITEMS	2003-04	2004-05	2005-06	2006-07	2007-08
	Net Regional Expenses (Aggregate)	**384.34**	**504.56**	**583.25**	**645.53**	**637.35**
(B)	**Allocation of region-III expenses to various functional activities**					
1	O&M			73.24	52.96	46.01
2	Contract & Consultancy			10.83	49.41	115.69
3	Construction			499.17	543.16	475.66
	Total			583.25	645.53	637.35
(C)	**Allocation of Region-III expenses to power stations/projects falling under Region-III**					
1	**Loktak HEP (generating station)**			**54.24**	**32.27**	**29.03**

58. The petitioner has submitted that for the years 2003-04 and 2004-05, the Regional office expenses have been shown under the natural head of expenditure by the project under the region and thus, these expenditure form part of the expenses of the generating station.

59. The expenditure on account of depreciation and prior period adjustments has not been allowed. Similarly, expenses towards corporate social responsibility (CSR) expenditure have not been considered. The expenses pertaining to Travelling & Conveyance and other expenses where proper justification has not been submitted by the petitioner under the head "administrative expenses", the same has been

restricted to 20 % of the expenses incurred for normalisation of O&M expenses. The regional office expenses approved on prudence check, is as under:

(₹ in lakh)

ITEMS	2003-04	2004-05	2005-06	2006-07	2007-08
Net Corporate O&M expenses	-	-	**54.24**	**32.27**	**29.03**
Proportional ratio **(r)** (considered-v- claimed)	-	-	0.93	0.90	0.72
Total corporate expenses proportionate for Loktak (**r** x allocated expenses for corresponding year)	-	-	**50.44**	**29.04**	**20.90**

Others (specific items)

60. It is observed that Other miscellaneous expenses during 2004-05 has increased substantially as compared to the previous year on account of the increase in the expenditure on training programme, license & registration fees for getting the explosive license for petrol and diesel pump and renewal of power house registration, conferences & seminar, guest house and field hostel consumables, NEREB meeting and miscellaneous office expenditure. After examining the claims and the justification submitted, the expenses on this count have been restricted to an increase of 20% and allowed. Similarly, the expenses for 2005-06, 2006-07 and 2007-08 have been restricted to an increase of 20% of the expenses claimed. Expenses on staff car for the years 2006-07 and 2007-08 have also been restricted to an increase of 20% over the previous year.

61. Based on the above discussions, O & M expenses for 2003-08 considered for calculation of employee cost is as under:

	Breakup of O&M expenses					***(₹ in lakh)***
		2003-04	**2004-05**	**2005-06**	**2006-07**	**2007-08**
1	Consumption of Stores and Spares	18.70	15.55	124.02	82.37	7.67
2	Repair and Maintenance	222.49	307.41	368.89	313.93	240.44
3	Insurance	76.90	78.38	74.17	75.93	76.02
4	Security	0.00	0.00	0.00	0.00	0.00
5	Administrative Expenses	69.08	74.28	75.19	95.33	95.12
6	Employee Cost	2903.05	3054.20	3140.83	3077.46	3138.48
7	(a) Corporate office expenses	44.20	43.09	43.86	61.75	54.43
	(b) Regional office expenses	0.00	0.00	50.44	29.04	20.90

8	Others	31.83	35.08	37.26	45.92	46.25
9	**Total (1 to 10)**	**3366.25**	**3609.18**	**3914.67**	**3781.73**	**3679.30**
10	Revenue/Recoveries, if any	27.24	20.01	59.68	26.71	22.07
11	**Net O&M expenses**	**3339.01**	**3587.98**	**3854.99**	**3755.02**	**3657.23**

62. Based on the above discussions and after prudence check, the following O&M expenses have been considered for the period 2003-08 for calculation of O&M expenses for the tariff period 2009-14:

(₹ in lakh)

	2003-04	**2004-05**	**2005-06**	**2006-07**	**2007-08**
O&M expenses allowed	3339.01	3587.98	3854.99	3755.02	3657.23

63. The average O&M charges for the base year 2007-08, after escalation @ 5.17 % as per Regulation 19(f) (ii) is as under:

(₹ in lakh)

	2003-04	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**Average**
O&M Expenses allowed	3339.01	3587.98	3854.99	3755.02	3657.23	-
Escalation @5.17 % to arrive at normalised expenses at 2007-08 price level	4084.94	4173.75	4263.90	3949.15	3657.23	4025.79

64. The employee cost constitutes about 84% of the total O&M expenses. Accordingly, the year-wise O&M expenses for the generating station after applying escalation @ 5.72% from 2008-09 and 50% increase of employee cost by considering the percentage of employee cost (84 %) in the year 2009-10, for the tariff period 2009-14 in terms of the provision of Regulation 19(f) of the 2009 regulations is as under:

(₹ in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
O&M expenses claimed	7397.68	7820.83	8268.18	8741.12	9241.12
O&M expenses allowed	**6389.31**	**6754.78**	**7141.15**	**7549.62**	**7981.46**

Interest on Working Capital

65. In accordance with sub-clause (c) of clause (1) of Regulation 18 of the 2009 regulations, working capital in case of hydro generating stations shall cover:

(i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 19;

(iii) Operation and maintenance expenses for one month.

66. Clauses (3) and (4) of Regulation 18 of the 2009 regulations, the rate of interest on working capital 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. Interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

67. Working capital has been calculated considering the following elements:

(a) **Receivables**: In terms of the provisions of the above regulations, receivables equivalent to two months of fixed cost, considered for the purpose of tariff, is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Receivables	1414.31	1501.98	1596.56	1686.86	1767.15

(b) **Maintenance Spares:** In terms of the provisions of the above regulations, maintenance spares considered for the purpose of tariff, is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	958.40	1013.22	1071.17	1132.44	1197.22

(c) **O&M Expenses:** In terms of the provisions of the above regulations Operation and maintenance expenses for one month considered for the purpose of tariff, is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
O & M expenses	532.44	562.90	595.10	629.14	665.12

68. In terms of Clauses (3) and (4) of Regulation 18 of the 2009 regulations, the SBI PLR as on 1.4.2009 was 12.25%. This has been considered by the petitioner. The same interest rate has been considered in the calculations, for the purpose of tariff.

69. Necessary computations in support of calculation of interest on working capital is as under:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	958.40	1013.22	1071.17	1132.44	1197.22
O & M expenses (1 month)	532.44	562.90	595.10	629.14	665.12
Receivables	1414.31	1501.98	1596.56	1686.86	1767.15
Total	**2905.15**	**3078.10**	**3262.83**	**3448.44**	**3629.49**
Rate of interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest on working capital	**355.88**	**377.07**	**399.70**	**422.43**	**444.61**

Annual Fixed Charges

70. The annual fixed charges approved for the generating station for the period from 1.4.2009 to 31.3.2014 is as under:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	1188.30	1231.75	1275.87	1302.61	1307.78
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Depreciation	552.37	648.31	762.64	846.48	869.05
Interest on Working Capital	355.88	377.07	399.70	422.43	444.61
O & M Expenses	6389.31	6754.78	7141.15	7549.62	7981.46
Total	**8485.87**	**9011.91**	**9579.35**	**10121.14**	**10602.90**

71. The petitioner shall be entitled to compute and recover the annual fixed charges and energy charges in accordance with Regulation 22 of the 2009 regulations.

72. The recovery of the annual fixed charges shall be subject to truing up in terms of Regulation 6 of the 2009 regulations.

Design Energy

73. The month-wise details of design energy in respect of the generating station is indicated in the following table:

Month	Design Energy (MUs)
April	30
May	31
June	30

July	52
August	52
September	50
October	52
November	30
December	31
January	31
February	28
March	31
Total	**448**

74. Monthly energy charges shall be computed in terms of the provisions contained in Regulation 22 of the 2009 regulations.

Application fee and the publication expenses

75. Regulation 42 of the 2009 regulations provides as under:

> *"The application filing fee and the expenses incurred on publication of notices in the application for approval of tariff, may in the discretion of the Commission, be allowed to be recovered by the generating company or the transmission licensee, as the case may be, directly from the beneficiaries or the transmission customers, as the case may be."*

76. The Commission in its order dated 11.1.2010 in Petition No.109/2009 (pertaining to approval of tariff for SUGEN power plant for the period from DOCO to 31.3.2014) had decided that filing fees in respect of main petitions for determination of tariff and the expenses on publication of notices are to be reimbursed.

77. Accordingly, the expenses incurred by the petitioner as filing fees for the tariff petition amounting to ₹2.10 lakh each for the years 2009-10 and 2010-11, shall be directly recovered from the beneficiaries, on *pro rata* basis. The reimbursement of charges towards the publication of notices in newspapers shall also be recovered on *pro rata* basis on submission of documentary proof of the same.

78. Petition No.108/2010 is disposed of in terms of the above.

Sd/-	Sd/-	Sd/-	Sd/-
(M.DEENA DAYALAN)	**(V.S.VERMA)**	**(S. JAYARAMAN)**	**(DR.PRAMOD DEO)**
MEMBER	**MEMBER**	**MEMBER**	**CHAIRPERSON**