

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 231/2009**

**Coram**

- 1. Dr. Pramod Deo, Chairperson**
- 2. Shri. S. Jayaraman, Member**
- 3. Shri M.Deena Dayalan, Member**

**DATE OF HEARING: 22.7.2010**

**DATE OF ORDER: 27.6.2011**

**IN THE MATTER OF**

Approval of annual fixed charges and Energy charges in respect of NLC TPS-II, Stage-I (630 MW) and Stage-II (840 MW) for the period from 1.4.2009 to 31.3.2014.

**AND**

**IN THE MATTER OF**

Neyveli Lignite Corporation Limited, Chennai

....**Petitioner**

Vs

1. Tamil Nadu Electricity Board, Chennai
2. Power Company of Karnataka Ltd, Bangalore
3. Kerala State Electricity Board, Thiruvananthapuram
4. Puducherry Electricity Department, Puducherry
5. Transmission Corporation of Andhra Pradesh, Hyderabad

.....**Respondent**

**The following were present:**

1. Shri.R.Suresh, NLC
2. Shri Rathinasababathy, NLC
3. Shri.R. Krishnaswami, TNEB

**ORDER**

This petition has been filed by Neyveli Lignite Corporation (NLC), a company owned and controlled by the Central Government, for approval of fixed charges and energy charges for the period 2009-14 in respect of NLC TPS-II, Stage-I (630 MW) and Stage-II (840 MW) (hereinafter referred to as “the generating station”) 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 total capacity of 1470 MW consists of three units with a capacity of 210 MW each under Stage-I and four units with a capacity of 210 MW each under Stage-II. The dates of commercial operation of the units of the generating station of Stage-I and Stage-II are as under:

<b>Stage-I</b>		<b>Stage -II</b>	
Unit I	29.9.1986	Unit I	25.1.1992
Unit II	8.5.1987	Unit II	2.6.1992
Unit III	23.4.1988	Unit III	17.3.1993
		Unit VI	9.4.1994

3. The tariff for the generating station for the period from 1.4.2004 to 31.3.2009 was approved by the Commission by order dated 4.6.2008 in Petition No.118/2007. Subsequently, the tariff in respect of the generating station was revised vide order dated 30.12.2009 in Petition No.11/2009 after considering the impact of additional capital expenditure incurred during the years 2007-08 and 2008-09 and the impact of year-wise pooled lignite price for the period 2007-09 on energy charges and capacity charges. The revised annual fixed charges approved in respect of the generating station by the said order is summarized as under:

**Stage-I**

		<i>(Rs. in lakh)</i>	
		<b>2007-08</b>	<b>2008-09</b>
1	Interest on Loan	0	0
2	Interest on Working Capital	1775	1789
3	Depreciation	1111	1233
4	Advance Against Depreciation	0	0
5	Return on Equity	1813	1746
6	O & M Expenses	7371	7667
	<b>TOTAL</b>	<b>12070</b>	<b>12435</b>

**Stage-II**

		<i>(Rs. in lakh)</i>	
		<b>2007-08</b>	<b>2008-09</b>
1	Interest on Loan	0	0
2	Interest on Working Capital	2467	2490
3	Depreciation	1268	1341
4	Advance Against Depreciation	0	0
5	Return on Equity	3746	3689
6	O & M Expenses	9828	10223
	<b>TOTAL</b>	<b>17309</b>	<b>17742</b>

4. By the same order, the petitioner was permitted to recover the energy charge of ₹121.00 paise/kWh based on the lignite transfer price of ₹977/MT determined by the Commission for the year 2003-04 in Petition No. 5/2002.

5. The petitioner had filed this petition on 14.10.2009 based on the admitted capital cost vide Commission's order dated 4.6.2008 in Petition No.118/2007. Thereafter, the petitioner filed amended petition vide its affidavit dated 6.4.2010, with the following prayers:

(a) To take on record the tariff petition filed now for fixation of tariff for NLC-TPS II, Stage-I (630 MW) and Stage-II (840MW) for the period from 1.4.2009 to 31.03.2014 incorporating the admitted capital additions as on 31-3-2009.

(b) To approve the Energy charges in line with para 15.0 of the petition and Capacity Charges for NLC TPS-II ( Stage-I and Stage-II ) as indicated in Form-1

(c) To approve the claim of Special allowance as per para 9 for Unit-3 and Unit-2 of Stage-I.

(d) To permit the petitioner to approach Hon'ble Commission with an application for revision of tariff for withdrawing the Special allowance claimed from the annual fixed charges and in its place to admit the R&M expenses in line with Regulation 10 if R&M is proposed to be undertaken during the tariff period 2009-14.

(e) To admit the projected additions for the years 2009-14 claimed under Regulation 9(2)(iv) and to admit the projected additions over and above the separate compensation allowance considering that TPS-II (Stages I & II) are adopting Net Fixed Assets Methodology for tariff determination.

(f) To give suitable relief in the O&M expenses for the increase in manpower expenses as per the Commission's order dated 5.2.2009.

(g) To permit the petitioner to recover the filing fee of the petition from the Respondents as the same has not been included in the O&M Charges and

(h) To pass such order(s) as deemed fit by the Hon'ble Commission

6. The annual fixed charges claimed by the petitioner in respect of Stages-I and II of the generating station are as under:

<i>(₹ in lakh)</i>					
<b>Stage - I</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Return on Equity	3227	3461	3123	2423	1992
Interest on Loan	0	0	0	0	0
Depreciation	1859	2867	3695	4866	977
Interest on Working Capital	3194	3366	3555	3645	3750
O&M Expenses	11466	12121	12814	13551	14326
Cost of secondary fuel oil (for coal-based & lignite fired generating stations only)	1626	1626	1631	1626	1626
Separate compensation allowance	410	410	410	410	410
Special allowance in lieu of R&M	0	0	0	1241	2623
<b>Total</b>	<b>21782</b>	<b>23851</b>	<b>25228</b>	<b>27761</b>	<b>25704</b>
<b>Stage - I I</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Return on Equity	6166	6123	6160	6196	6225
Interest on Loan	0	0	0	0	0
Depreciation	1456	1590	1798	2066	2421
Interest on Working Capital	4262	4459	4702	4780	5011
O&M Expenses	15288	16162	17086	18068	19102
Cost of secondary fuel oil (for coal-based & lignite fired generating stations only)	2168	2168	2174	2168	2168
Special allowance in lieu of R&M or separate compensation allowance	294	294	294	294	294
<b>Total</b>	<b>29634</b>	<b>30796</b>	<b>32214</b>	<b>33572</b>	<b>35221</b>

7. Respondent No.1, Tamil Nadu Electricity Board (TNEB) has filed reply to the petition.

8. We have heard the parties and perused the documents on record. Before we proceed to determine tariff for the period 2009-14, the claim of the petitioner for additional capitalization of common assets for the period 2007-09, which was disallowed by the Commission by its order dated 18.12.2009 in Petition No. 14/2009, is examined in the subsequent paragraphs.

**Additional Capitalization for the period 2007-09 for Common Assets**

9. The Commission while considering the claims of the petitioner for additional capital expenditure for the period 2007-09, in respect of Common Assets in Petition No.11/2009, had by order dated 30.12.2009, disallowed the capitalization of ₹60.26 lakh for Stage-I and ₹48.83 lakh for Stage-II pertaining to Common Service Assets under the heads “Furniture & Equipment” and “Office Equipments”, for want of asset-wise details.

10. By the same order, the petitioner was given the liberty to approach the Commission with its claim along with asset-wise details, for consideration in accordance with law. In terms of the above, the petitioner has submitted its claims pertaining to the common assets under the head “Furniture & Equipments” and “Office Equipments” in terms of Regulation 9(2)(ii) of the 2009 regulations, though the original claim for capitalization relate to the period 2004-09.

11. Sub-clause (ii) of clause (2) of Regulation 9 of the 2009 regulations provide for capitalization of expenditure after the cut-off date, on account of ‘change in law’. Since the claim for capitalization relate to the period 2007-09 in terms of the 2004 regulations, there is no justification for the petitioner to claim the said amounts in terms of Regulation 9(2)(ii) of the 2009 regulations. Hence, the additional capitalization of ₹60.26 lakh for Stage-I and ₹48.83 lakh for Stage-II pertaining to Common Service Assets under the heads “Furniture & Equipment” and “Office Equipments” is examined in terms of the provisions of the 2004 Tariff regulations.

12. It is noticed that the details of assets under the head ‘Furniture’ contain assets of following nature:

*“Water Coolers, Hammer, Schools’ furniture, Chairs, Rack, Furniture , Water Heater, Pedestal Fan, Water dispenser, Office furniture, Mast lights, Diatherapy Machine, Cell*

*Phone , 660 Volts , Outdoor type LT panel, Printer, Capacitor Bank, Battery Charger, 700 Litres water Tanks, Centrifugal Pumps, Motor Cycle, Bolero Jeep, Open Lorry, Laser Fax, Electronic balance , EOT Crane, School Bus, Wall Mounting Fans, Rotary Vacuum Paddle Drier with Accessories, Ultrasonic Clear Card, Carbon di-Oxide Analyser, Halogen Operated Light, Radiant Heat Warmer, Binocular Microscope, Fax m/c, Spiral Binding, Dermatology Equipment, Panasonic LCD Projector Light, Digital temperature Controller of Range etc.'*

13. The list of Office equipments include items such as:

*"Stationary X-Ray M/c, Mobile X-ray unit, Digital Flame Photometer, Computerised Vital Parameter Measurement System, Fully Automated Haematology Analyser, Digital alcohol Breathe Analyser, Blood Donor Coach, Automatic B.P. Monitor, Mixer cum grinder, Oracle Software etc."*

14. Assets costing less than Rs.5000 includes assets such as:

*"Steel cots, chair, fire extinguishers, emergency lamp, dining Table, burner, computer chair, TV cabinet, shoe rack, Nebuliser system, digital weighing machine etc".*

15. From the details submitted, it is observed that the assets are either minor in nature or in the nature of O&M. In terms of clause (3) of Regulation 18 of the 2004 regulations, any expenditure on minor assets is not admissible. Moreover, these common assets are generally booked under corporate assets and the normative O&M expenses also include corporate expenses. These expenses are recovered by the petitioner through O&M cost. In view of this, the claim of the petitioner for additional capitalization of ₹60.26 lakh for Stage-I and ₹48.83 lakh for Stage-II pertaining to Common Service Assets under the heads "Furniture & Equipment" and "Office Equipments" for the period 2007-08 and 2008-09 is disallowed.

## **CAPITAL COST**

### **(A) Capital Cost as on 1.4.2009**

16. 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."*

17. The Commission vide its order dated 30.12.2009 in Petition No.11/2009 had admitted the following capital cost for the purpose of tariff after considering additions/deletions for the period 2007-08 and 2008-09:

<i>(₹ in lakh)</i>		
<b>Stage-I</b>		
<b>Particulars</b>	<b>2007-08</b>	<b>2008-09</b>
Opening capital cost as on 1 <sup>st</sup> April of the financial year	60407.72	60584.45
Additional capital expenditure allowed	176.73	1118.51
Closing capital cost as on 31 <sup>st</sup> March of the financial year	60584.45	61702.96
<b>Stage-II</b>		
	<b>2007-08</b>	<b>2008-09</b>
Opening capital cost as on 1 <sup>st</sup> April of the financial year	119534.24	119772.18
Additional Capital expenditure allowed	237.94	1467.32
Closing capital cost as on 31 <sup>st</sup> March of the financial year	119772.18	121239.50

18. The petitioner has considered an opening capital cost as ₹61763 lakh for Stage-I and ₹121288 lakh for Stage-II as on 1.4.2009 inclusive of the additional capital expenditure of ₹60.26 lakh for Stage-I and ₹48.83 lakh for Stage-II on common assets which was disallowed by the Commission during 2007-09.

19. We have by this order, disallowed the additional capital expenditure on common assets amounting to ₹60.26 lakh for Stage-I and ₹48.83 lakh for Stage-II for the reasons mentioned in paragraph 15 above. As such, the closing capital cost of ₹61702.96 lakh for Stage-I and ₹121239.50 lakh for Stage-II as on 31.3.2009 admitted by the Commission vide order dated 30.12.2009 has been taken as the opening capital cost as on 1.4.2009 for determination of tariff for the period 2009-14.

**(B) Additional Capital Expenditure for 2009-14**

20. Clause (2) of Regulation 9 of the 2009 regulations provides as stated overleaf:

*“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;*
- (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.”*

21. The additional capital expenditure claimed in respect of Stages-I and II of the generating station for the period 2009-14 as under:

*(₹ in lakh)*

<b>Stage-I</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Direct Assets	3813.48	1643.81	737.29	492.71	223.86
Common Assets	574.00	630.00	667.00	706.00	748.00
<b>Total</b>	<b>4387.48</b>	<b>2273.81</b>	<b>1404.29</b>	<b>1198.71</b>	<b>971.86</b>

*(₹ in lakh)*

<b>Stage-II</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Direct Assets	608.44	1121.23	1612.11	1529.09	2107.94
Common Assets	431.00	473.00	500.00	530.00	561.00
<b>Total</b>	<b>1039.44</b>	<b>1594.23</b>	<b>2112.11</b>	<b>2059.09</b>	<b>2668.94</b>

22. It is observed that there is a difference of ₹30.00 lakh in respect of the total projected additional capital expenditure (Direct Assets) claimed during the year



2011-12 as furnished in Format-9 (page No. 41) amounting to ₹2379.40 lakh, and the amount indicated in Annexure-I (page No. 58) of the amended petition dated 6.4.2010, amounting to ₹2349.40 lakh. On scrutiny, it is noticed that the claim for ₹30.00 lakh towards “On-line condition monitoring of EHV Transformers (3Nos.)” has been entered twice in Format-9, whereas, the same has been indicated only once in Annexure-I. After correction, the additional capital expenditure claimed during 2011-12 is considered as ₹2349.40 lakh (₹737.29 lakh + ₹1612.11 lakh) for the purpose of tariff.

23. The category-wise claim of the petitioner for additional capital expenditure in respect of Stages-I and II of the generating station is as under:

(₹ in lakh)

<b>Stage-I</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>Direct Assets</b>					
Regulation 9(2)(ii)	2.14	0.00	75.00	0.00	0.00
Regulation 9(2)(iii)	619.29	653.66	0.00	0.00	0.00
Regulation 9(2)(iv)	3177.05	990.15	662.29	492.71	223.86
Additional claim	15.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>3813.48</b>	<b>1643.81</b>	<b>737.29</b>	<b>492.71</b>	<b>223.86</b>
Allocated Common Assets	574.00	630.00	667.00	706.00	748.00
<b>Total claim</b>	<b>4387.48</b>	<b>2273.81</b>	<b>1404.29</b>	<b>1198.71</b>	<b>971.86</b>

(₹ in lakh)

<b>Stage-II</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>Direct Assets</b>					
Regulation 9(2)(ii)	52.86	50.00	0.00	0.00	0.00
Regulation 9(2)(iii)	25.71	219.43	0.00	0.00	0.00
Regulation 9(2)(iv)	509.87	851.80	1612.11	1529.09	2107.94
Additional claim	20.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>608.44</b>	<b>1121.23</b>	<b>1612.11</b>	<b>1529.09</b>	<b>2107.94</b>
Allocated Common Assets	431.00	473.00	500.00	530.00	561.00
<b>Total claim</b>	<b>1039.44</b>	<b>1594.23</b>	<b>2112.11</b>	<b>2059.09</b>	<b>2668.94</b>

24. The claims of the petitioner in respect of Stages-I and II of the generating station is examined as stated overleaf:

**(I) Direct Assets**

**Change in Law: Regulation 9(2)(ii)**

25. The petitioner has claimed an expenditure of ₹5.00 lakh for 2009-10 in respect of effluent treatment plant for the generating station. The claim also includes an expenditure of ₹75.00 lakh during 2011-12 for Stage-I and ₹50.00 lakh each for the years 2009-10 and 2010-11 in respect of Stage-II towards 'SOX and NOX complete sampling system'. However, the claim for ₹5.00 lakh for 2009-10 in respect of effluent treatment plant has been apportioned on the basis of capacity of Stage-I and Stage-II. Accordingly, the claim of the petitioner under this head has been revised as under:

	<i>(₹ in lakh)</i>				
	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Stage-I</b>	2.14	0.00	75.00	0.00	0.00
<b>Stage-II</b>	52.86	50.00	0.00	0.00	0.00

26. The expenditure claimed by the petitioner is statutory in nature and is in line with the notification/guidelines of the State and the Central Pollution Control Boards. In view of this, the claim is in order and is allowed to be capitalized.

**Deferred works relating to ash pond or ash handling system in the original scope of work: Regulation 9(2)(iii)**

27. The petitioner has claimed expenditure of ₹45.00 lakh for 2009-10 and ₹355.00 lakh for 2010-11 towards vertical raising of ash pond, ₹6.00 lakh for 2010-11 in respect of de-watering pump, ₹3.00 lakh for 2010-11 in respect of portable pump and ₹20.00 lakh for 2010-11 for 'Ash Extractor' in respect of the generating station. The claim also includes an expenditure of ₹600.00 lakh for 2009-10 and ₹489.09 lakh for 2010-11 towards Dry Ash collection in respect of Stage-I. The claim for entire station of ₹45.00 lakh for the year 2009-10 and ₹ 384.00 lakh (₹355.00 lakh + ₹6.00 lakh + ₹3.00 lakh + ₹20.00 lakh) for 2010-11

has been apportioned on the basis of capacity of Stage-I and Stage-II. Accordingly, the claim of the petitioner under this head has been revised as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Stage-I</b>	619.29	653.66	0.00	0.00	0.00
<b>Stage-II</b>	25.71	219.43	0.00	0.00	0.00

28. The expenditure on these assets is justified since raising of Ash Dyke from time to time is a normal practice in thermal power generating station. Also, collection of dry ash is in terms of the guidelines of the Ministry of Environment and Forest, Government of India to utilize 100% fly ash and is a statutory requirement. Hence, the expenditure claimed is allowed to be capitalized.

**Expenditure necessary for successful and efficient plant operation: Regulation-9 (2) (iv)**

29. The petitioner has claimed expenditure of ₹3686.92 lakh for 2009-10, ₹1841.95 lakh for 2010-11, ₹2274.40 lakh for 2011-12, ₹2021.80 lakh for 2012-13, ₹2331.20 lakh for 2013-14 under this head, in respect of Stages-I and II of the generating station, in respect of the assets as shown below:

Sl. No	Description	Sl. No	Description
1	Welding Rectifiers	26	Sky climber
2	Submersible pump	27	Bob Calorimeter, Fuming Cup board
3	Hydraulic Jack with pump	28	CT/PT Testing Kit
4	Hydraulic Power Pack and jack	29	Harmonic Analyser
5	ELE operated Torque M/C	30	Current Injection Kit
6	Calibrators-Portable (Temp., press etc.)	31	Hygrometers, Psychrometer, U-V Spectrophotometer & Vis-Spectrophotometer
7	Mobile Ladder	32	Re-heater coil final loop
8	Photocopier M/C	33	Rejuvenation of Stacker & Reclaimer and PLC of bunker
9	Automatic Tan Delta Kit	34	Conveyor installation
10	Refrigerating type gas driers for generator	35	Replacement of 420/245 kV Current Transformer
11	Digital Multimeters	36	Breaker Marshalling Kiosks
12	Outdoor lighting distribution panel	37	Retrofitting of MOCBs with VCBs & SF6 Breakers

13	Ratio kit	38	Static Excitation System
14	Computers	39	SES system
15	Printers	40	EOT Cranes power & Control Panels
16	Walkie-Talkie sets	41	Up-gradation of 400KV CVTS
17	Digital Conductivity Meters, Water Bath Rectangular, Hot Air Oven & Digital PH Meters	42	CTS
18	Flash Point apparatus	43	Installation of on-line condition monitoring of EHV Transformer
19	Stack Monitoring Kit	44	Protection Relays
20	Centrifuge	45	Incomer Relays
21	Pipe bending m/c	46	Control Panels
22	Fork lift	47	UPS system
23	Relay testing kit	48	Installation of 420/63 MVAR Bus Reactor
24	Earth Fault Locator	49	Microprocessor based Numerical Relays for Bus Bar protection
25	DG set Battery Charger	50	ABT Metering and Distributed Control System (DCS)

30. Sub-clause (iv) of Clause (2) of Regulation 9 pertains to expenditure incurred by hydro-generating stations (on account of damage caused by natural calamities etc) and has no application in respect of coal based/lignite fired generating stations. In view of this, the expenditure claimed by the petitioner under this head, in respect of the above assets is not allowed.

#### **Additional Claims (Claims not covered under Regulations)**

31. The claim of the petitioner for ₹15.00 lakh in respect of Stage-I and ₹20.00 lakh in respect of Stage-II for the year 2009-10 in respect of assets like computers, SQL software is in the nature of an additional claim, which is not covered under the provisions of the 2009 regulations. In the absence of any justification, the amounts claimed have not been allowed to be capitalised.

#### **(II) Common Assets/Expenses**

32. The claim of the petitioner under Common Assets includes expenses towards Travelling Allowances, Medical, MM, CISF etc., in respect of the generating station for the period 2009-14. The total year-wise claim is as stated overleaf:

(₹ in lakh)

Stage-I					
	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Common Assets</b>	574.00	630.00	667.00	706.00	748.00
Stage-II					
	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Common Assets</b>	431.00	473.00	500.00	530.00	561.00

33. The petitioner has submitted that it is an integrated utility, consisting of production units of mines and power stations and in order to augment the production units, the service units like the centralized material management, services, township administration, corporate office, hospital and regional offices are functioning and the asset additions are apportioned to the service units. As already discussed in para 15 above, the cost of common assets have been reimbursed through O&M cost norms in tariff. In view of this, the total expenditure claimed for the period 2009-14 under common assets is not allowed to be capitalized.

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

(₹ in lakh)

Stage-I					
Direct Assets	2009-10	2010-11	2011-12	2012-13	2013-14
Regulation 9(2)(ii)	2.14	0.00	75.00	0.00	0.00
Regulation 9(2)(iii)	619.29	653.66	0.00	0.00	0.00
Regulation 9(2)(iv)	0.00	0.00	0.00	0.00	0.00
Additional claims	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>621.43</b>	<b>653.66</b>	<b>75.00</b>	<b>0.00</b>	<b>0.00</b>
Allocated Common Assets	0.00	0.00	0.00	0.00	0.00
<b>Total Additional capital expenditure allowed</b>	<b>621.43</b>	<b>653.66</b>	<b>75.00</b>	<b>0.00</b>	<b>0.00</b>

(₹ in lakh)

Stage-II					
Direct Assets	2009-10	2010-11	2011-12	2012-13	2013-14
Regulation 9(2)(ii)	52.86	50.00	0.00	0.00	0.00
Regulation 9(2)(iii)	25.71	219.43	0.00	0.00	0.00
Regulation 9(2)(iv)	0.00	0.00	0.00	0.00	0.00
Additional claims	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>78.57</b>	<b>269.43</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Allocated Common Assets	0.00	0.00	0.00	0.00	0.00
<b>Total Additional capital expenditure allowed</b>	<b>78.57</b>	<b>269.43</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**(C) Capital cost for 2009-14**

35. As stated earlier, the capital cost as on 1.4.2009 is of ₹61702.96 lakh for Stage-I and ₹121239.50 lakh for Stage-II. Based on the discussions in the foregoing paragraphs, the capital cost considered for the purpose of tariff during 2009-14 is as under:

(₹ in lakh)

Stage-I					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost as on 1 <sup>st</sup> April of the financial year	61702.96	62324.39	62978.05	63053.05	63053.05
Additional Capitalization allowed	621.43	653.66	75.00	0.00	0.00
<b>Capital Cost as on 31<sup>st</sup> March of the financial year</b>	<b>62324.39</b>	<b>62978.05</b>	<b>63053.05</b>	<b>63053.05</b>	<b>63053.05</b>

(₹ in lakh)

Stage-II					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost as on 1 <sup>st</sup> April of the financial year	121239.50	121318.07	121587.50	121587.50	121587.50
Additional Capitalization allowed	78.57	269.43	0.00	0.00	0.00
<b>Capital Cost as on 31<sup>st</sup> March of the financial year</b>	<b>121318.07</b>	<b>121587.50</b>	<b>121587.50</b>	<b>121587.50</b>	<b>121587.50</b>

**Debt-Equity Ratio**

36. As the Commission has considered NFA method in the case of the petitioner's generating stations, actual source of funding has been considered for calculating debt-equity ratio. The petitioner has submitted that the entire additional expenditure incurred has been funded out of equity. As such, in case of additional capital expenditure, 100% equity has been considered.

**Return on Equity**

37. Regulation 15 of the 2009 regulations provides as under:

*"15.(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 tried 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.

38. The petitioner has considered the return on equity @ 23.481% in terms of the provisions of the above regulation. Accordingly, the return on equity for the period 2009-14 works out as under:

(₹ in lakh)					
Stage-I					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Equity	12449.31	11647.67	10690.93	8996.59	7195.50
Addition due to Additional capitalization	621.43	653.66	75.00	-	-
Adjustment on account of Depreciation	1423.07	1610.40	1769.34	1801.09	113.49
Closing Equity	11647.67	10690.93	8996.59	7195.50	7082.01
Average Equity	12048.49	11169.30	9843.76	8096.04	7138.75
Return on Equity (Base Rate )	15.500%	15.500%	15.500%	15.500%	15.500%
Tax rate for the year 2008-09 (MAT)	33.990%	33.990%	33.990%	33.990%	33.990%
Rate of Return on Equity	23.481%	23.481%	23.481%	23.481%	23.481%
<b>Return on Equity</b>	<b>2829.14</b>	<b>2622.70</b>	<b>2311.44</b>	<b>1901.06</b>	<b>1676.27</b>

(₹ in lakh)					
Stage-II					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Equity	26443.99	25090.55	23910.62	22446.15	20981.68
Addition due to Additional capitalization	78.57	269.43	-	-	-
Adjustment on account of Depreciation	1432.01	1449.36	1464.47	1464.47	1464.47
Closing Equity	25090.55	23910.62	22446.15	20981.68	19517.21
Average Equity	25767.27	24500.58	23178.38	21713.91	20249.44
Return on Equity (Base Rate )	15.500%	15.500%	15.500%	15.500%	15.500%
Tax rate for the year 2008-09 (MAT)	33.990%	33.990%	33.990%	33.990%	33.990%
Rate of Return on Equity	23.481%	23.481%	23.481%	23.481%	23.481%
<b>Return on Equity</b>	<b>6050.49</b>	<b>5753.05</b>	<b>5442.58</b>	<b>5098.71</b>	<b>4754.83</b>

### **Interest on Loan**

39. As the loan has been fully repaid, interest on loan is considered as 'Nil' for the purpose of tariff.

### **Depreciation**

40. Regulation 17 of the 2009 regulations provides as under:

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

*(2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.*

*Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site:*

*Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.*

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

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

*Provided that, the remaining depreciable value as on 31<sup>st</sup> 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.”*

41. The date of commercial operation of Stage-I is 23.4.1988 and that of Stage-II is 9.4.1994. Since the generating station has completed 12 years of operation as on 23.4.2000 (Stage-I) and 9.4.2006 (Stage-II) respectively, the remaining depreciable value has been spread over the balance useful life of the assets. The necessary calculation for depreciation is as stated overleaf:



(₹ in lakh)

<b>Stage-I</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Value of freehold land	863.00	863.00	863.00	863.00	863.00
Rate of depreciation		0.000%	0.000%	0.000%	0.000%
Depreciation value @ 90%	55035.61	55609.40	55937.30	55971.05	55971.05
Balance useful life (Years)	4.1	3.1	2.1	1.1	0.1
Remaining Depreciable value	5781.96	4932.68	3650.18	1914.59	113.49
<b>Depreciation</b>	<b>1423.07</b>	<b>1610.40</b>	<b>1769.34</b>	<b>1801.09</b>	<b>113.49</b>
<b>Stage-II</b>					
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Depreciation value @ 90%	109150.91	109307.51	109428.75	109428.75	109428.75
Balance useful life (years)	10.0	9.0	8.0	7.0	6.0
Remaining Depreciable value	14355.39	13079.99	11751.87	10287.40	8822.93
<b>Depreciation</b>	<b>1432.01</b>	<b>1449.36</b>	<b>1464.47</b>	<b>1464.47</b>	<b>1464.47</b>

### **Interest on Working Capital**

42. Sub-clause (a) of Clause (1) of Regulation 18 of the 2009 regulations provide as under:

*“18 (1) The working capital shall cover:*

**(a) Coal-based/lignite-fired thermal generating stations**

- (i) Cost of coal or lignite and limestone, if applicable, for 1½ months for pithead generating stations and two months for non-pit-head generating stations, for corresponding to the normative annual plant availability factor;*
- (ii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil.*
- (iii) Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 19.*
- (iv) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor, and*
- (v) Operation and maintenance expenses for one month”.*

### **Fuel component in working capital**

43. The petitioner has claimed the following cost for fuel component in working capital based on the weighted average of GCV and price of fuel:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Stage-I</b>					
Cost of lignite for 1.5 months	8059	8436	8912	8956	9379
Cost of secondary fuel oil for 2 months	271.03	271.03	271.77	271.03	271.03
<b>Stage-II</b>					
Cost of lignite for 1.5 months	10746	11248	11883	11941	12505
Cost of secondary fuel oil for 2 months	361.37	361.37	361.37	361.37	361.37

44. The petitioner has considered the weighted average price and GCV of secondary oil for the preceding three months as ₹19644/KL and 10000 Kcal/Litre for computing the cost of secondary fuel oil in working capital and as a component of Annual fixed charge. The weighted average price and GCV of secondary oil works out to be ₹18300/KL and 10377Kcal/Litre as per the details of secondary fuel oil submitted by the petitioner vide affidavit dated 2.6.2010. Further, it is observed that the petitioner has considered normative Transit & handling losses of 0.2 % in lignite price. Since the lignite transfer price is determined taking into account all the expenses incurred to bring the lignite from the captive mines of the petitioner to the generating station, it is inclusive of the transit losses. In its petitions for determination of tariff for the period 2004-09, where lignite prices were determined based on the guidelines of the Ministry of Coal, Government of India, and as per order of Commission dated 23.3.2007 (in Petition No. 5/2002), the petitioner had not considered any transit losses over the lignite transfer price, as determined and certified by the auditor. Accordingly, the transit and handling losses of 0.2% have not been considered for the captive mines of the petitioner, in the calculation of base energy charges. The following table indicates the weighted average price and GCV of fuels as submitted by the petitioner and considered by the Commission for calculation of the fuel component in working capital and for base energy charges.

	As submitted by petitioner	As considered by Commission
GCV of Lignite (Kcal/kg.)	2614	2614
Price of Secondary fuel oil (Rs./KL)	19644	18300
GCV of Secondary Fuel oil (Kcal./Kg)	10000	10377

45. In case of the generating stations of the petitioner, the price of lignite for preceding three months i.e January 2009 to March, 2009 means the price of lignite for the year 2008-09. The pooled lignite transfer price for the generating stations of the petitioner for 2008-09 as allowed by the Commission in order dated 28.5.2008 in Petition No. 126/2007 was ₹1064/MT. Based on the weighted average price of lignite for preceding three months (January 2009 to March 2009) as ₹1064/MT, the cost of lignite for 1.5 months and energy charges for 2 months in the working capital have been computed. The lignite transfer price of ₹1064/MT has been considered only for the purposes of working out the lignite cost for 1.5 months and the energy charges for 2 months in the working capital.

46. Based on the weighted average price and GCV of fuels considered as above, the fuel component in working capital worked out for different years of the tariff period, is allowed as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Stage-I</b>					
Cost of lignite for 1.5 months	6063.60	6063.60	6080.22	6063.60	6063.60
Cost of secondary fuel oil for 2 months	252.49	252.49	253.18	252.49	252.49
<b>Stage-II</b>					
Cost of lignite for 1.5 months	8084.80	8084.80	8106.95	8084.80	8084.80
Cost of secondary fuel oil for 2 months	336.65	336.65	337.57	336.65	336.65

### **Maintenance spares**

47. In terms of Regulation 18(1)(a)(iii), the maintenance spares for the generating station has been worked out @ 20% of the operation and maintenance expenses specified in Regulation 19, and allowed as under:

<i>(₹ in lakh)</i>					
	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Stage-I</b>					
Maintenance spares	2293.20	2424.24	2562.84	2710.26	2865.24
<b>Stage-II</b>					
Maintenance spares	3057.60	3232.32	3417.12	3613.68	3820.32

### Receivables

48. In terms of Regulation 18(1)(a)(iv) of the 2009 regulations, receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor, has been computed as under:

<i>(₹ in lakh)</i>					
	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Stage-I</b>					
<b>Receivables</b>	11454.38	11566.48	11686.24	11915.77	11938.83
<b>Stage-II</b>					
<b>Receivables</b>	15530.93	15644.22	15788.20	15881.86	16026.68

### Operation & Maintenance expenses

49. In terms of Regulation 18(1)(a)(v), operation & maintenance expenses for one month, as part of the working capital, is worked out as under:

<i>(₹ in lakh)</i>					
	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Stage-I</b>					
O & M Cost for one (1) month	955.50	1010.10	1067.85	1129.28	1193.85
<b>Stage-II</b>					
O & M Cost for one (1) month	1274.00	1346.80	1423.80	1505.70	1591.80

### Rate of interest on working capital

51. In terms of clause (3) of Regulation 18 of the 2009 regulations, SBI PLR of 12.25% as on 1.4.2009 has been considered in the computation of interest on working capital.

52. Based on the above, the interest on working capital allowed for the period 2009-14, is as stated overleaf:

(₹ in lakh)

Stage-I					
	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses	955.50	1010.10	1067.85	1129.28	1193.85
Receivables	11454.38	11566.48	11686.24	11915.77	11938.83
Maintenance Spares	2293.20	2424.24	2562.84	2710.26	2865.24
Secondary Fuel oil cost	252.49	252.49	253.18	252.49	252.49
Fuel Stock	6063.60	6063.60	6080.22	6063.60	6063.60
<b>Total Working Capital</b>	<b>21019.17</b>	<b>21316.90</b>	<b>21650.32</b>	<b>22071.39</b>	<b>22314.01</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest on Working Capital</b>	<b>2574.85</b>	<b>2611.32</b>	<b>2652.16</b>	<b>2703.75</b>	<b>2733.47</b>

(₹ in lakh)

Stage-I					
	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses	1274.00	1346.80	1423.80	1505.70	1591.80
Receivables	15530.93	15644.22	15788.20	15881.86	16026.68
Maintenance Spares	3057.60	3232.32	3417.12	3613.68	3820.32
Secondary Fuel oil cost	336.65	336.65	337.57	336.65	336.65
Fuel Stock	8084.80	8084.80	8106.95	8084.80	8084.80
<b>Total Working Capital</b>	<b>28283.98</b>	<b>28644.79</b>	<b>29073.65</b>	<b>29422.69</b>	<b>29860.25</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
<b>Interest on Working Capital</b>	<b>3464.79</b>	<b>3508.99</b>	<b>3561.52</b>	<b>3604.28</b>	<b>3657.88</b>

### Operation and Maintenance Expenses

53. Regulation 19 of Regulation of the 2009 regulations provide as under:

*“19. Operation and Maintenance Expenses: Normative operation and maintenance expenses shall be as follows, namely:*

*(a) Coal based and lignite fired (including those based on CFBC technology) generating stations, other than the generating stations referred to in clauses (b) and (d):*

Year	(₹ in lakh /MW)			
	200/210/250 MW Sets	300/330/350 MW Sets	500 MW Sets	600 MW and Above Sets
2009-10	18.20	16.00	13.00	11.70
2010-11	19.24	16.92	13.74	12.37
2011-12	20.34	17.88	14.53	13.08
2012-13	21.51	18.91	15.36	13.82
2013-14	22.74	19.99	16.24	14.62

54. The petitioner has claimed O&M charges in the respective years for the period 2009-14 as stated overleaf:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Stage-I</b>	11466	12121	12814	13551	14326
<b>Stage-II</b>	15288	16162	17086	18068	19102
Rs. lakh/ MW	<b>18.20</b>	<b>19.24</b>	<b>20.34</b>	<b>21.51</b>	<b>22.74</b>

55. O&M Expenses claimed by the petitioner are in accordance with the normative values prescribed in the 2009 regulations and the same are therefore allowed.

56. The petitioner has also raised the issue of upward revision of the O&M expenses on account of interim relief paid by it towards Wage revision from 1.1.2007, merger of 50% of DA into basic pay, increase in minimum wages paid to contract workmen and other escalations. The petitioner has submitted that the O&M norms for 2009-14 has been fixed taking into account the actual and normalized O&M expenses of the Central Utilities for the years 2004-05 to 2007-08 and other escalations. The petitioner has pointed out that the actuals of 2008-09 is higher than the normative O&M expenses of that year due to Wage revision which was not taken into account while determining the O&M norms for the period 2009-14. The petitioner has further stated that it had filed Petition No.164/2008 seeking upward revision of the O&M expenses and revision of annual fixed charges of the generating station during the period 2005-06 to 2008-09 on account of wage revision from 1.1.2007. However, the petition was disposed of by order dated 5.2.2009 for the reason that a holistic view was needed to be taken in the matter in accordance with law and by involving all the stakeholders. The petitioner has submitted that this issue may now be considered to give suitable relief in O&M expenses for increase in manpower cost as per the Commission's order dated 5.2.2009.

57. As regards impact of pay revision, Commission in its order dated 5.2.2009 in Petition No. 164/2008 (filed by NLC) has observed as follows:

*“7. We do not propose to go into the justification for the petitioner’s claim under different heads noted above. The Commission has recently specified the terms and conditions for determination of tariff for the period 1.4.2009 to 31.3.2014. While laying down the norms for O&M expenses, the Commission has taken into consideration the fact of revision of salary and wages payable to the employees of the central public sector undertakings, based on the recommendations of Wage Revision Committee appointed by the Central Government. Shri Suresh fairly conceded that O&M expenses norms for the period from 1.4.2009 are just and reasonable. However, the question raised in these petitions is in regard to revision of O&M expense for the period prior to 1.4.2009, primarily on account of revision of salaries and wages w.e.f 1.1.2007. This is an issue which universally affects other central power sector utilities as well. Therefore, a holistic view needs to be taken in the matter in accordance with law and by involving all the stakeholders. For this reason, the present petitions are considered to be premature.”*

58. In the light of the above observations, the revision of O&M expenses for the period prior to 2009-14 is beyond the scope of the instant petition. However, O&M expenses for the period 2009-14 are allowed in terms of the provisions of the 2009 regulations.

#### **Cost of Secondary Fuel Oil**

59. The Operational norms considered by the petitioner is as under:

<b>Operational norms</b>		
Secondary Oil Consumption	ml/kWh	2.0
Auxiliary Energy Consumption	%	10.00
Gross Station Heat Rate	Kcal/kWh	2900

60. The operational norms considered as above are in order. Based on the weighted average GCV and price of secondary fuel oil and the operational parameters as discussed above, the cost of secondary fuel oil considered in tariff for the period 2009-14 is as under:

	<i>(₹ in lakh)</i>				
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>Stage-I</b>					
Claimed	1626.00	1626.00	1621.00	1626.00	1626.00
Allowed	1514.91	1514.91	1519.06	1514.91	1514.91
<b>Stage-II</b>					
Claimed	2168.00	2168.00	2174.00	2168.00	2168.00
Allowed	2019.88	2019.88	2025.41	2019.88	2019.88

## Compensation Allowance

61. Regulation 19 (e) of the 2009 regulations provides for payment of compensation allowance as under:

*“19 (e) In case of coal-based or lignite-fired thermal generating station a separate compensation allowance unit-wise shall be admissible to meet expenses on new assets of capital nature including in the nature of minor assets, in the following manner from the year following the year of completion of 10, 15, or 20 years of useful life:*

<i>Years of operation</i>	<i>Compensation Allowance (₹ in lakh / MW/year)</i>
<b>0-10</b>	<b>Nil</b>
<b>11-15</b>	<b>0.15</b>
<b>16-20</b>	<b>0.35</b>
<b>21-25</b>	<b>0.65</b>

62. The petitioner has claimed compensation allowance as under:

	<i>(₹ in lakh)</i>				
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>Stage-I</b>	409.50	409.50	409.50	409.50	409.50
<b>Stage-II</b>	294.00	294.00	294.00	294.00	294.00

63. Compensation allowance is allowable unit-wise of a coal/lignite based generating station in terms of the above regulation from the useful life of 11 years to 25 years only. Accordingly, the compensation allowance has been computed as under:

		<i>(₹ in lakh)</i>				
<b>Stage-I</b>		<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Unit-I (COD 23.4.1988)	Year of completion	20.94	21.94	22.94	23.94	24.94
	Rs lakhs/MW/Year	0.65	0.65	0.65	0.65	0.65
	Capacity(MW)	210	210	210	210	210
	Compensation Allowance	136.50	136.50	136.50	136.50	136.50
Unit-II (COD 8.5.1987)	Year of completion	21.90	22.90	23.90	24.90	25.90
	Rs lakhs/MW/Year	0.65	0.65	0.65	0.65	0
	Capacity(MW)	210	210	210	210	210
	Compensation Allowance	136.50	136.50	136.50	136.50	0
Unit-III (COD 29.9.1986)	Year of completion	22.50	23.50	24.50	25.50	26.50
	Rs lakhs/MW/Year	0.65	0.65	0.65	0	0
	Capacity(MW)	210	210	210	210	210
	Compensation Allowance	136.50	136.50	136.50	0	0
<b>Total Compensation Allowance</b>		<b>409.50</b>	<b>409.50</b>	<b>409.50</b>	<b>273.00</b>	<b>136.50</b>



(₹ in lakh)

<b>Stage-II</b>		<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Unit-IV (COD 25.1.1992)	Year of completion	17.18	18.18	19.18	20.18	21.18
	Rs lakhs/MW/Year	0.35	0.35	0.35	0.65	0.65
	Capacity(MW)	210	210	210	210	210
	Compensation Allowance	<b>73.50</b>	<b>73.50</b>	<b>73.50</b>	<b>136.50</b>	<b>136.50</b>
Unit-V (COD 2.6.1992)	Year of completion	16.83	17.83	18.83	19.83	20.83
	Rs lakhs/MW/Year	0.35	0.35	0.35	0.35	0.65
	Capacity(MW)	210	210	210	210	210
	Compensation Allowance	<b>73.50</b>	<b>73.50</b>	<b>73.50</b>	<b>73.50</b>	<b>136.50</b>
Unit-VI (COD 17.3.1993)	Year of completion	16.04	17.04	18.04	19.04	20.04
	Rs. lakhs/MW/Year	0.35	0.35	0.35	0.35	0.65
	Capacity(MW)	210	210	210	210	210
	Compensation Allowance	<b>73.50</b>	<b>73.50</b>	<b>73.50</b>	<b>73.50</b>	<b>136.50</b>
Unit-VII (COD 9.4.1994)	Year of completion	14.98	15.98	16.98	17.98	18.98
	Rs lakhs/MW/Year	0.15	0.35	0.35	0.35	0.35
	Capacity(MW)	210	210	210	210	210
	Compensation Allowance	<b>31.50</b>	<b>73.50</b>	<b>73.50</b>	<b>73.50</b>	<b>73.50</b>
<b>Total Compensation Allowance</b>		<b>252.00</b>	<b>294.00</b>	<b>294.00</b>	<b>357.00</b>	<b>483.00</b>

### Special Allowance

64. Regulation 10 of the 2009 regulations stipulates as under:

*“10. **Renovation and Modernization.** (1) The generating company or the transmission licensee, as the case may be, for meeting the expenditure on renovation and modernization (R&M) for the purpose of extension of life beyond the useful life of the generating station or a unit thereof or the transmission system, shall make an application before the Commission for approval of the proposal with a Detailed Project Report giving complete scope, justification, cost-benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure, schedule of completion, reference price level, estimated completion cost including foreign exchange component, if any, record of consultation with beneficiaries and any other information considered to be relevant by the generating company or the transmission licensee:*

*Provided that in case of coal-based/lignite fired thermal generating station, the generating company, may, in its discretion, avail of a ‘special allowance’ in accordance with the norms specified in clause (4), as compensation for meeting the requirement of expenses including renovation and modernization beyond the useful life of the generating station or a unit thereof, and in such an event revision of the capital cost shall not be considered and the applicable operational norms shall not be relaxed but the special allowance shall be included in the annual fixed cost:*

*Provided also that such option shall not be available for a generating station or unit for which renovation and modernization has been undertaken and the expenditure has been admitted by the Commission before commencement of these regulations, or for a generating station or unit which is in a depleted condition or operating under relaxed operational and performance norms.*

(2) xxxxxx

(3) xxxxxx..



*(4) A generating company on opting for the alternative in the first proviso to clause (1) of this regulation, for a coal-based/lignite fired thermal generating station, shall be allowed special allowance @ ₹5 lakh/MW/year in 2009-10 and thereafter escalated @ 5.72% every year during the tariff period 2009-14, unit-wise from the next financial year from the respective date of the completion of useful life with reference to the date of commercial operation of the respective unit of generating station:*

*Provided that in respect of a unit in commercial operation for more than 25 years as on 1.4.2009, this allowance shall be admissible from the year 2009-10.”*

65. The petitioner has claimed Special Allowance in terms of Regulation 10 (4) of the 2009 regulations in respect of Unit-III and Unit-II of Stage-I of the generating station. The petitioner has submitted that Unit-III and Unit-II shall complete their useful life of 25 years on 29.9.2011 and 8.5.2012 respectively. Accordingly, the petitioner has claimed special allowance for ₹6.246 lakh/MW in 2013-14 for Unit-II and for Unit-III from 2012-13 at ₹5.908 lakh/MW in 2012-13 and ₹6.246 lakh/MW in 2013-14. The petitioner has further submitted that it would file a separate application for Renovation and Modernization for the purpose of extension of life of the generating station beyond its useful life and has sought permission to approach the Commission with an application for withdrawing the special allowance claimed and to admit the R&M expenses as per Regulation 10 of 2009 regulations.

66. The first respondent, TNEB has submitted that the petitioner has claimed R&M allowance for the present with a request to switch over to capitalization of R&M expenditure in future. It has also been submitted that the petitioner cannot take advantage of both the methods and seek benefits under it as it would be against the principles of equity. The respondent has thus prayed that the claim of the petitioner be negated.

67. We notice that Unit-I and II of Stage-I of the generating station were declared under commercial operation with effect from 8.5.1987 and 29.9.1986 respectively and hence would complete their useful life of 25 years on 8.5.2012 and 29.9.2011

respectively. These Units are neither in a depleted condition nor is in operation under relaxed norms. The Special Allowance would be admissible in respect of Unit-II with effect from 2013-14 and Unit-III with effect from 2012-13.

68. Accordingly, the Special Allowance of ₹5 lakh/MW/Year in 2009 and escalated @ 5.72% every year during the tariff period 2009-14 based on the rates specified as per 2009 regulations has been allowed for Stage-I as under:

*(₹ in lakh)*

	<b>2012-13</b>	<b>2013-14</b>
Base Rate	5.00	5.00
Escalation(1+5.72%) <sup>n</sup>		
Escalated Rate per MW	5.908	6.246
Unit-II (210MW)	0.00	1311.65
Unit-III (210 MW)	1240.68	1311.65
<b>Total</b>	<b>1240.68</b>	<b>2623.30</b>

69. The petitioner has sought permission to make an application for R&M for extension of the useful life of the generating stations in accordance with Regulation 10 of the 2009 regulations and withdrawal of the special allowance which has been allowed in this order. The petitioner is at liberty to approach the Commission as prayed for, which would be considered in accordance with law.

### **Annual fixed charges**

70. The annual fixed charges approved for the generating station period 2009-14 is as under:

*(₹ in lakh)*

<b>Stage-I</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Return on Equity	2829.14	2622.70	2311.44	1901.06	1676.27
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Depreciation	1423.07	1610.40	1769.34	1801.09	113.49
Interest on Working Capital	2574.85	2611.32	2652.16	2703.75	2733.47
O&M Expenses	11466.00	12121.20	12814.20	13551.30	14326.20
Cost of secondary fuel oil	1514.91	1514.91	1519.06	1514.91	1514.91
Compensation allowance	409.50	409.50	409.50	273.00	136.50
Special allowance in lieu of R&M	0.00	0.00	0.00	1240.68	2623.30
<b>TOTAL</b>	<b>20217.47</b>	<b>20890.03</b>	<b>21475.71</b>	<b>22985.79</b>	<b>23124.14</b>

(₹ in lakh)

Stage-II	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	6050.49	5753.05	5442.58	5098.71	4754.83
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Depreciation	1432.01	1449.36	1464.47	1464.47	1464.47
Interest on Working Capital	3464.79	3508.99	3561.52	3604.28	3657.88
O&M Expenses	15288.00	16161.60	17085.60	18068.40	19101.60
Cost of secondary fuel oil	2019.88	2019.88	2025.41	2019.88	2019.88
Compensation allowance	252.00	294.00	294.00	357.00	483.00
<b>TOTAL</b>	<b>28507.16</b>	<b>29186.88</b>	<b>29873.59</b>	<b>30612.74</b>	<b>31481.66</b>

### Target Availability

71. As per regulation 26(1)(c) of the 2009 regulations, the Target Availability of 75% has been considered for the period 1.4.2009 to 31.3.2014.

### Energy Charges

72. Sub-clause (a) of clause (6) of Regulation 21 of the 2009 regulations provides as under:

*“Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formulae:*

$$ECR = \{(GHR-SFC \times CVSF) \times LPPF / CVPF + LC \times LPL\} \times 100 / (100-AUX)$$

*Where,*

*AUX = Normative auxiliary energy consumption in percentage.*

*CVPF = Gross calorific value of primary fuel as fired, in kCal per kg, per litre or per standard cubic metre, as applicable.*

*CVSF = Calorific value of secondary fuel, in kCal per ml.*

*ECR = Energy charge rate, in Rupees per kWh sent out.*

*GHR = Gross station heat rate, in kCal per kWh.*

*LC = Normative limestone consumption in kg per kWh.*

*LPL = Weighted average landed price of limestone in Rupees per kg.*

*LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month.*

*SFC = Specific fuel oil consumption, in ml per kWh.*

73. The petitioner has claimed following year-wise Energy Charges for the tariff period 2009-14:

	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Stage-I and Stage-II</b>					
Energy charges (ex-bus) Rs./kWh	<b>1.731</b>	<b>1.812</b>	<b>1.909</b>	<b>1.923</b>	<b>2.014</b>

74. The petitioner has claimed energy charges year wise for the tariff period 2009-14 based on pooled lignite price worked out by it. Energy Charge rate (ECR) in ₹/kWh on Ex-power plant basis shall be calculated up to three decimal places in accordance with the formula given under Clause (6) of Regulation 21 of the 2009 regulations. For calculating ECR, the following norms have been considered.

	<b>Unit</b>	
Gross Station Heat Rate (normative)	Kcal/kWh	2900
Auxiliary Energy consumption	%	10.00

#### **Lignite Transfer Price for Energy charge**

75. The petitioner has submitted that it has considered the lignite transfer prices (year-wise) based on the guidelines dated 11.6.2009 laid down by the Ministry of Coal, Govt. of India, the order of the Commission dated 23.3.2007 in Petition No. 5/2002 and the lignite transfer price certified by statutory auditors. The lignite transfer price certified by auditor is as under :

<b>Year</b>	<b>Lignite price ( ₹/Tonne)</b>
2009-10	1411
2010-11	1477
2011-12	1556
2012-13	1568
2013-14	1642

76. In addition, the petitioner has considered the transit and handling loss of 0.2% in the above lignite price, and has claimed as under:

<b>Year</b>	<b>Lignite price ( ₹/Tonne)</b>
2009-10	1414
2010-11	1480
2011-12	1559
2012-13	1571
2013-14	1645

77. For the reasons stated in paragraph 44 above, we have not considered the transit and handling loss of 0.2% in lignite price for computation of Base Energy charges. In our calculations, the lignite price determined as per guidelines dated 11.6.2009 laid down by the Ministry of Coal, Govt. of India, and duly certified by auditors, as given in para 75 above has been considered for working out fuel component and energy charges.

### **Base rate of Energy Charge**

78. The base rate of energy charges has been computed based on the pooled lignite transfer price, the weighted average GCV of lignite and oil as above. The base rate of energy charge is worked out based on the computations as under:

	<b>Units</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Station Heat Rate	kCal/kWh	2900	2900	2900	2900	2900
Auxiliary energy consumption	%	10.00	10.00	10.00	10.00	10.00
Weighted Average GCV of Oil	kCal/l	10377	10377	10377	10377	10377
Weighted Average GCV of Lignite	kCal/Kg	2614	2614	2614	2614	2614
Weighted Average Price of Lignite	₹/MT	1411.00	1477.00	1556.00	1568.00	1642.00
<b>Rate of Energy Charge ex-bus per kWh Sent</b>	₹/kWh	1.727	1.808	1.904	1.919	2.010

79. However, energy charge on month to month basis will be billed by the petitioner as per Clauses (5) and (6) of Regulation 21 of the 2009 regulations which is extracted under:

*“21 (5) The energy charge shall cover the primary fuel cost and limestone consumption cost (where applicable), and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on ex-power plant basis, at the energy charge rate of the month (with fuel and limestone price adjustment). Total Energy charge payable to the generating company for a month shall be:*

*(Energy charge rate in Rs /kWh) x {Scheduled energy (ex-bus) for the month in kWh.}*”

21 (6) (a) "Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formulae:

$$ECR = \{(GHR-SFC \times CVSF) \times LPPF / CVPF + LC \times LPL\} \times 100 / (100-AUX)$$

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = Gross calorific value of primary fuel as fired, in kCal per kg, per litre or per standard cubic metre, as applicable.

CVSF = Calorific value of secondary fuel, in kCal per ml.

ECR = Energy charge rate, in Rupees per kWh sent out.

GHR = Gross station heat rate, in kCal per kWh.

LC = Normative limestone consumption in kg per kWh.

LPL = Weighted average landed price of limestone in Rupees per kg.

LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month.

SFC = Specific fuel oil consumption, in ml per kWh.

### **Mine Closure Cost**

80. As regards the Mine closure cost included in the lignite transfer price, the Commission directed the petitioner to submit the following information:

*"To furnish the Mine Closure cost factored in the determination of lignite transfer price as per MoC guidelines and the Mine closure cost actually considered by the Petitioner, in the lignite transfer price."*

81. In terms of the above directions, the petitioner vide its affidavit dated 30.4.2010 has submitted as under:

*"It is stated in the reply that Min. of Coal has issued guide lines for preparation of Mine closure plan vide its letter dated 27.8.2009. The Mine closure plan has to be submitted to the Ministry of Coal for approval based on the above said guidelines. The Mine Closure Plan is being prepared and after approval by the NLC Board, the same will be submitted to the Ministry of Coal for approval. After approval of Ministry of Coal the Mine closure cost will be regularized in lignite pricing. Since, the approval of Mine Closure Cost is time taking process, the estimated Mine closure cost adopted in Lignite pricing may be considered for Tariff approval. Further, the guide lines for lignite pricing have allowed truing up over/ under recovery of Mine closure cost."*

82. In its affidavit dated 30.4.2010, the petitioner has furnished the estimated Mine closure cost adopted in the determination of the lignite transfer price. Considering the fact that the mine closure is obligatory on the part of the user of

mine, we allow the estimated cost of mine closure as considered by the petitioner in the lignite transfer price, subject to adjustment, as and when the mine closure cost is approved by the Ministry of Coal, Government of India.

**Application fees and other charges**

83. The petitioner has sought approval for the reimbursement of the fee paid by it for filing the petition amounting to ₹29,40,000/- each for the years 2009-10 and 2010-11 respectively and the expenses incurred for publication of notices in newspapers in connection with the petition. Regulation 42 of the 2009 regulations provides as stated overleaf:

*“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.”*

84. In accordance with our decision in order dated 11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fees and the expenditure incurred on publication of notices in newspapers in connection with the petition, from the beneficiaries on *pro rata* basis.

85. Petition No. 231/2009 is disposed of in terms of the above.

**Sd/-**  
**[M.DEENA DAYALAN]**  
**MEMBER**

**Sd/-**  
**[S.JAYARAMAN]**  
**MEMBER**

**Sd/-**  
**[DR. PRAMOD DEO]**  
**CHAIRPERSON**

