

MADHYA PRADESH ELECTRICITY REGULATORY COMMISSION
5th Floor, "Metro Plaza", Bittan Market, Bhopal - 462 016



Petition No.58/2012

PRESENT:

Rakesh Sahni, Chairman

A. B. Bajpai, Member

IN THE MATTER OF:

Approval of final Generation Tariff for 500 MW Ext. Unit No. 5 for the period 28.08.2008 to 31.03.2012 in respect of Sanjay Gandhi Thermal Power Station, Birsinghpur.

M. P. Power Generating Company Ltd., Jabalpur

PETITIONER

Vs.

- 1. M. P. Power Management Company Ltd., Jabalpur**
- 2. M. P. Poorv Kshetra Vidyut Vitaran Company Ltd., Jabalpur**
- 3. M. P. Madhya Kshetra Vidyut Vitaran Company Ltd., Bhopal**
- 4. M. P. Paschim Kshetra Vidyut Vitaran Company Ltd., Indore**
- 5. M. P. Power Transmission Co. Ltd., Jabalpur**

RESPONDENTS

ORDER

(Passed on this day of 28th February, 2013)

1. M. P. Power Generating Company Ltd. (MPPGCL) filed the subject petition under Section 62 of the Electricity Act, 2003 on 27th July, 2012 for determination of final generation tariff of SGTPS Ext. Unit-5 (1X500MW) from CoD i.e, 28th August, 2008 to 31st March, 2012 based on MPERC (Terms and Conditions for determination of Generation tariff) Regulations, 2005 (hereinafter referred to as “the Regulations, 2005”) and MPERC (Terms and Conditions for determination of Generation tariff) Regulations, 2009 (revision-I) (hereinafter referred to as “the Regulations 2009”). The subject petition has been registered as petition No.58/2012.

Back ground of the petition:

2. Sanjay Gandhi Thermal Power Station (SGTPS) is a coal based power station located at Birsinghpur in Umaria District of Madhya Pradesh. This power station is having two existing power houses each having capacity of 2X210 MW which were commissioned in FY 1993-94 and FY 1998-99 respectively. The petitioner has mentioned that it was earlier envisaged to install 6 units of 210MW each at SGTPS Birsinghpur out of which 4 Units of 210 MW were commissioned. However, with the advent of technology and availability of 500 MW Units in the country, it was decided by the erstwhile MPSEB to set up 1x500 MW capacity in lieu of 2x210 MW Units in the Stage-III of the project, in the space available in the Birsinghpur Plant site. Accordingly, the project was taken up after obtaining requisite clearances.
3. Vide letter No.10197/F-3/31/13/97 dated 24/12/1997, the administrative approval for setting up of the 500 MW Unit at Sanjay Gandhi Thermal Power Station, Birsinghpur was accorded by the Government of Madhya Pradesh. Techno-economic clearance to the project was granted by CEA vide Official Memorandum No.2/MP/46/96-PAC/11280 – 302 dated 20/12/2002 at a total estimated cost of ₹2093.75 Crore. This estimated project cost of ₹.2093.75 Cr. was revised to ₹2300 Cr and the same was approved by GoMP vide letter No.3193/13/2007 dated 04/05/2007.

4. The petitioner obtained following requisite clearances before taking up the project:
 - (i) Approval for supply of Water by Department of Water Resources vide No.29/12/96/M/31/399 dated 26/4/2002 from River Johilla.
 - (ii) Approval of M.P.P.C.B. No.1558/TS/MPPCB/2002 dated 13/9/2002 granting permission to establish the Unit.
 - (iii) Environmental clearances from Ministry of Environmental and Forest, vide their letter dated 19/07/2002. Approval of S.L.C. for grant of linkage of coal from Korba Coalfields, vide O.M. dated 16/01/2001.
 - (iv) Civil Aviation Clearance from Airport Authority of India for a Chimney with height of 275 M vide letter No.AAI/NAD/20012/35/9-ARI dated 26.11.97 and subsequent extension.

5. GoMP vide notification dated 3rd June, 2006 has provided that the petitioner will sell entire power generated by Sanjay Gandhi Thermal Power Station to MP Power Trading Company Ltd., now M.P. Power Management Company Ltd., Respondent 1, at a rate determined by MPERC. A Power Purchase Agreement to this effect was signed between MPPGCL and MP Tradeco on 29th November, 2006.

6. SGTPS Extn. Unit-5, (500 MW) Birsinghpur, was synchronized on 18/06/2007 and its CoD was achieved on 28/08/2008. The petitioner has submitted that the unit supplied Infirm Power of 1573.838 MU in the Grid during the period of 01/10/2007 to 27/08/2008.

7. The Commission notified MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2005 on 5th December, 2005 under the multiyear tariff principles for the block of 3 years from FY 2006-07 to FY 2008-09. Clause 1.5 of the Regulation provided as under,

“Any new generating company or station which comes up in future and proposes to supply electricity to a distribution licensee of the State shall be subjected to the norms prescribed by CERC vide its order dated 26/03/2004 unless it proposes to supply electricity through bidding in accordance with the guidelines issued by the Central Government as per provisions of section 63 of the Electricity Act 2003.”

8. The petitioner filed a petition (No.12/2009) on 24/03/2009 for determination of provisional generation tariff for 500 MW SGTPS Extn. Unit-5, Birsinghpur from 28/08/2009 i.e., the

Date of Commercial Operation (CoD) to 31/03/2009, as per MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2005 (G-26 of 2005).

9. Vide Order dated 24/11/2009, the following cost of generation for 500 MW SGTPS Extn. Unit-5, Birsinghpur from 28/08/2009 to 31/03/2009 was provisionally allowed by the Commission:

Sr. No.	Fixed cost component	Approved by the Commission
1	Return on equity	60.02*
2	Interest and finance charges	146.26*
3	Depreciation.	62.26*
4	O & M Expenses	54.75*
5	Interest on working Capital	25.29*
6	Advance Against Depreciation (AAD)	0.00
7	Fixed charges	348.58*
8	Fixed charges for 216 days	206.28
9	95% of the fixed charges (for billing purposes)	195.96
10	MPERC fees	0.145
11	Fuel Cost at Normative % PLF	98.41

Note: The charges marked with * are for annual basis.

10. Clause 3.6 of MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2005 (G-26 of 2005) provided that for generating Units/Stations commissioned after 01/04/2006, principles and norms as prescribed by CERC in its order dated 26/03/2004 shall be applicable. Since SGTPS Extn. Unit-5, Birsinghpur was commissioned after 01/04/2006 therefore, the petitioner considered “norms of operation” as prescribed in CERC Regulations 2004 for FY 2008-09. However, the norms of operation as prescribed in MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2009 (RG-26 (I) of 2009) have been considered for the remaining period.
11. It was mentioned in para 3.1.6 of the Commission’s Order dated 24/11/2009 that the petitioner had not taken approval from CEA for revised project cost. The Commission, therefore, decided to take original project cost as approved by CEA for determination of provisional tariff. The petitioner was asked to take approval from CEA for the revised cost before filing the petition for final generation tariff.

12. In para 25 of the subject petition, the petitioner submitted that it approached CEA seeking approval of the revised project cost of ₹.2300.00 Crores for 500 MW SGTPS Extn. Unit-5, Birsinghpur. Vide letter dated 08/11/2010, it was informed by CEA that the approval of the project cost estimate of 500 MW SGTPS Extn. Unit-5 by CEA is not required after implementation of the Electricity Act 2003.
13. MPPGCL filed a petition (No.54/2009) on 30/09/2009 for approval of generation tariff for the new control period of FY 2009-10 to FY 2011-12 under Multi Year tariff Principles based on the Regulations, 2009. The Commission while passing the MYT Order dated 03/03/2010 considered the capital cost and other components for the 500MW Unit same as those provisionally admitted by the Commission in the Provisional Tariff Order dated 24/11/2009 for 500MW SGTPS Extn. Unit No. 5. The petitioner was allowed to recover the fixed charges to the extent of 95% of the fixed charges for 500MW SGTPS Extn. Unit No.5 determined in the MYT Order dated 03/03/2010, on provisional basis subject to retrospective adjustment on determination of final tariff of the Unit. The break-up of Annual Capacity Charges and Energy Charges approved in MYT order for 500MW SGTPS Extn. Unit No.5 is given below:

SGTPS, Birsinghpur (PH-III)		₹. Cr.		
Sr. No.	Particulars	Allowed by the Commission		
		FY10	FY11	FY12
1	Depreciation	89.34	89.34	89.34
2	Return on Equity	66.45	66.45	66.45
3	Interest on Loan	137.53	127.24	116.95
4	O&M expenses	53.50	56.80	60.25
5	Oil Cost	12.35	12.35	12.35
6	Interest on working capital	24.12	24.10	24.07
7	Annual Capacity (Fixed) Charges	383.29	376.27	369.41
8	Energy Charges (₹./Unit)	1.00	1.00	1.00

14. The petitioner broadly submitted the following in the petition :

- (i) *The petitioner has filed the petition for approval of final tariff of 500 MW, SGTPS Extension Unit-5 w.e.f. its date of commercial operation (COD), i.e., 28/08/2008, up to 31/03/2012 based on the numbers in the audited books of accounts of MPPGCL for FY09, FY10 and FY11. Figures for FY12 submitted in the petition are on provisional basis and true-up for the same shall be done on completion of the balance works of the project and on finalization of accounts for FY12.*

- (ii) *The petition has been prepared for the period FY08-09 based on the MPERC (Terms And Conditions For Determination Of Generation Tariff) Regulations, 2005, {G-26 of 2005} and for the period FY09-10 to FY11-12 based on the MPERC (Terms And Conditions For Determination Of Generation Tariff) Regulations, 2009 {RG-26(I) of 2009}.*
- (iii) *Net revenue earned from the sale of Infirm Power, after accounting for the fuel expenses for infirm power generation, is ₹ 275.60 Crores and the same has been applied for reduction in capital cost as on COD. As such the net capital expenditure towards the project as on COD, as per the audited books of accounts filed is ₹ 1994.23 Crores. This has been considered by the petitioner for tariff determination purpose.*
- (iv) *Additional capital expenditure from COD to 31/03/2011 is ₹ 62.82 Crs. as per audited books of accounts. The year wise details of the additional capital expenditure has provided in para 32 of the petition.*
- (v) *As on 31/03/2011, a cumulative amount of ₹ 15.87 Crores which was spent on capital spares has inadvertently been charged to O&M works of 500 MW SGTPS Extn. Unit No. 5, instead of having been capitalized. Such cumulative amounts at the end of respective financial Years from COD till 31/03/2011 are provided in para 33 of the petition:*
- (vi) *The additional capital expenditure w.e.f. 01/04/2011 to 31/03/2012, including the amount of ₹15.87 Crores which was charged to O&M, is ₹ 42.00 Crores (provisional) and that from 01/04/2012 till completion of the project is ₹ 85.35 Crores (projected). Thus the total additional capital expenditure w.e.f. COD and up to completion of remaining works, is projected to be ₹ 190.17 Crores. The completed project cost, including expenditure on works related to Second Phase Ash bund, is projected to be ₹ 2184.40 Crores against the approved estimated cost of ₹ 2300.00 Crores.*
- (vii) *The additional capital expenditure till completion of the Project is within the original scope of work of SGTPS extension Unit-5 and is in accordance with the Regulation 19 of MPERC Tariff Regulations, 2005. It is submitted that the provisional additional capital expenditure from 01/04/2011 to 31/03/2012 and projected additional capital expenditure from 01/04/2012 till completion of Project, estimated by the petitioner, may not be considered as the ceiling expenditure and that the petitioner may be allowed to claim/amend the impact of additional capitalization for revision of tariff.*

(viii) The petitioner has further submitted that levies, taxes, duties, service tax, SLDC charges, water charges, etc, levied by the various authorities on the petitioner in accordance with law shall be billed to beneficiaries additionally on actuals. MPPGCL has not considered any tax liability for FY09, FY10 and FY11, while for FY12 Minimum Alternate Tax (MAT), including surcharge and cess, has been considered. In case, due to any change in Government policy or otherwise, if any liability of tax and duties arises for any Year of the control period, the same shall be charged extra.

(ix) CoD of 500 MW, Sanjay Gandhi Thermal Power Station Extn. Unit-5 is 28th August, 2008. As such the actual generation in FY09 was available only for 216 days.

15. Based on the above, the year wise Annual fixed charges and Energy charges as claimed by the petitioner for the period from 28.08.08 to 31.03.12 are as given below:

Particulars		FY08-09	FY09- 10	FY10-11	FY11-12 *
Normative Net Generation	MU	1928	3500	3500	3509
Scheduled Generation	MU	1626	3183	3449	3506
Return on Equity (Pre Tax)	Cr.₹	47.87	89.55	89.55	111.95
Interest and Fin. Charges on Loan	Cr.₹	91.38	151.95	148.41	143.39
Depreciation	Cr.₹	42.51	104.91	106.28	108.45
O&M Expenses	Cr.₹	32.40	53.50	56.80	60.25
Interest Charges on Working Capital	Cr.₹	15.36	26.30	29.28	46.45
Cost of Secondary Fuel Oil	Cr.₹	12.56	11.23	12.20	16.07
Total Fixed Cost	Cr.₹	229.51	437.44	442.51	486.56
	p/u	141.18	137.45	128.30	138.80
Variable Charges	Cr.₹	172.94	356.35	468.14	835.14
	p/u	106.39	111.97	135.73	238.23
Other Charges					
MPERC Fee	Cr.₹	0.00	0.25	0.25	0.25
Cess	Cr.₹	0.00	2.06	1.92	0.78
Water Charges	Cr.₹	0.00	0.28	0.39	0.39
Rent rates & taxes	Cr.₹	0.00	0.01	0.46	0.46
Entry Tax	Cr.₹	0.00	0.00	0.00	0.00
Common expense	Cr.₹	0.00	1.41	2.00	2.00
Total of Other Charges	Cr.₹	0.00	4.01	5.02	3.88
Total	Cr.₹	402.45	797.80	915.67	1325.58
Indicative Average Rate	p/u	247.57	250.68	265.49	378.14

*Charges for FY 2012 are provisional as the figures for FY 2012 are unaudited.

16. The petitioner prayed the following in the subject petition :

- a. *Approve the final tariff of 500 MW, Sanjay Gandhi Thermal Power Station Extension Unit- 5, as given in Para 38, for the period 28/08/2008 to 31/03/2011 on actual basis and for FY12 on provisional basis which shall be trued up separately after finalization of audited accounts of FY12.*
- b. *Allow the petitioner to raise Arrear Bills for the recovery on account of approved final tariff in accordance with applicable Tariff Regulations.*
- c. *Permit additional recovery on account of Water Charges, Cess, Rent Rates and Taxes, Duties and Levies, Filing Fee, as and when paid to the Commission, Common expenses, publication expenses, Entry Tax on R&M, admissible Income tax as per applicable Tariff Regulations, fringe benefit tax and any other tax, if payable, etc., on actual basis, over and above the fixed and variable charges.*

Procedural History:

17. The case was fixed for motion hearing on 21st August, 2012. Vide Commission's order dated 22nd August, 2012, the petition was admitted and the petitioner was directed to submit some additional information along with supporting data/documents by 25th September, 2012. The petitioner was also directed to serve the copy of the petition on all the respondents in the matter.
18. By affidavit dated 19th September, 2012, the petitioner filed its response on the issues raised by the Commission. On perusal of the response filed by the petitioner, the Commission observed that MPPGCL's audited accounts are for the Company as a whole and the various components pertaining to SGTPS 500 MW Ext. Unit-5 were not separately identified in the audited accounts of the company.
19. For more clarity in respect of assets capitalized as on CoD and additional capitalization in the subsequent years, vide Commission's daily order dated 25th September, 2012, the petitioner was asked to file the detailed break-up of all components related to the subject 500 MW unit in its consolidated audited accounts of the company for the relevant period in the subject petition. The petitioner was also directed to publish the public notice in newspapers for inviting comments/suggestions from the stakeholders.
20. By affidavit dated 18th October, 2012, the petitioner filed the station-wise break-up of Gross Block of MPPGCL's thermal and hydel power stations in the audited books of accounts indicating the assets addition in SGTPS 500 MW Ext. Unit-5 since FY 2008-09

to FY 2010-11. The petitioner also filed the power station and year-wise details of capital works in progress and capital material in stock.

Public Hearing:

21. The public notice on the subject petition was published on 10th November, 2012 seeking comments/suggestions from various stakeholders in the following newspapers:
 - a) Nav Bharat, Bhopal (Hindi)
 - b) Nai Dunia, Jabalpur (Hindi)
 - c) Swadesh, Gwalior (Hindi)
 - d) Chautha Sansaar, Indore (Hindi)
 - e) Hindustan Times, Bhopal (English)

22. No comment from any stakeholder was received in the matter. The public hearing in the subject petition was held on 19th December, 2012 wherein only the representative of the petitioner appeared.

Analysis of the petition

23. On scrutiny of the petition, the petitioner was asked to file certain information gaps and additional information along with supporting documents. Issue-wise response of the petitioner is reproduced below:

Issue: The petitioner was asked to file the Detailed Project Report (DPR) for SGTPS Ext. Unit-5 indicating original scope of work of the project.

MPPGCL's response

A copy each of the DPR (Revised) and the Supplementary to DPR for 500MW SGTPS Extn. Unit No. 5, Birsinghpur, are enclosed herewith as Annexure-A and Annexure-B. The original scope of work as envisaged for this project is given in letter No. 3103 dated 21/11/2002 appended in the Supplementary to DPR at Page No. J/142.

Issue : The petitioner mentioned that the capital cost as on CoD is ₹1994.23 crores whereas the fixed assets of ₹1956.94 Crores capitalized as on CoD is indicated in form TPS 5B. The Asset-cum depreciation register also indicates the actual capitalization of ₹1956.94 Crores as on CoD. Further, the assets capitalized during FY 2010-11 as per petition are ₹26.45 Crores whereas as per asset register this figure is ₹14.55 Crores. The petitioner was required to clarify the difference in the aforesaid figures. The petitioner was also asked to file the break-up of capital cost as on CoD in heads as given in table No.2.2.1 of the petition for this unit.

MPPGCL's response

The capital expenditure actually incurred on the project as on COD (28/08/2008) as per audited books of accounts, after duly accounting for the net revenue from Infirm Power generation, is ₹1994.23 Crores. Out of this ₹1956.94 Crores has been capitalized under the Account Code 10 (fixed assets), ₹12.893 Crores is under Account Code 14 (CWIP) and ₹24.395 Crores is under Account Code 22 (capital spares).

The additional Capital expenditure actually incurred in FY 2010-11, as per audited books of accounts, is ₹26.45 Crores. Out of this ₹13.923 Crores has been capitalized under the Account Code 10 (Fixed Assets), ₹10.925 Crores is under Account Code 14 (CWIP) and ₹1.603 Crores is under Account Code 22 (capital spares).

Capturing and recording of costs in the books of accounts of MPPGCL is as per the accounting policy and chart of accounts. This system has been inherited from the erstwhile MPSEB. This accounting system is not directly mapped to the component

wise breakup of cost desired as per table 2.1.1 of the Petition. However, an indicative break up of the audited capital cost of the project as on CoD, i.e., ₹ 2269.83 Crores (without accounting for the net revenue earned from Infirm Power Generation) is given in the table below:

SN	Particulars	As on COD
1	Turnkey EPC cost	1811.34
2	Non EPC cost	37.27
3	Land & RR	13.48
4	Overheads	(Included in 1,2 &3 above)
5	IDC + Fin. Cost	407.74
6	Total	2269.83
7	Net revenue from Infirm Power	275.60
8	Net Project Cost	1994.23

Issue: Since MPPGCL's audited accounts are for the company as a whole, the petitioner was asked to submit the power station wise break-up of Gross Fixed Assets, CWIP, Depreciation & Assets additions since FY08-09 to FY10-11 clearly indicating the assets and other components for this 500MW unit with respect to Audited Accounts of the respective year.

MPPGCL's response

Asset-cum-Depreciation Register of MPPGCL indicating Power Station wise break up of gross fixed assets, depreciation and asset addition since FY 2005-2006 to FY 2011-2012 has been filed vide this office letter No. 07-12/CS-MPPGCL/MPERC/TU09/116 dated 02/02/2012 during True Up of FY09.

In the subject Petition MPPGCL has filed audited project cost figures specifically for 500MW SGTPS Extension Unit No.5 only. Please refer Annexure-14 of the Petition, which indicates audited Project cost figures for the Unit as on COD and the additional capital expenditure (asset additions) for the period FY09, FY10 and FY11. The depreciation figures for FY09, FY10 and FY11, arrived at as per applicable MPERC Regulations based on the audited project cost figures, have also been submitted in the Petition as FORM TPS-12 on page 79.

Issue: With regard to additional capitalization, the petitioner was asked to submit the following details;

- a) Whether the asset added is new or replacement of some old asset?

- b) Approval if any, accorded by any competent authority for additional capitalization.
- c) Whether the addition of asset is on account of the reasons at (a) to (f) in clause 19 of the Regulation?

MPPGCL's response

- a) *Asset added is new asset of 500MW SGTPS Extn. Unit No. 5, Birsinghpur.*
- b) *Project has been approved by the BoD of MPPGCL and GoMP.*
- c) *Addition of asset subsequent to COD is in accordance with clause 19 of the MPERC Regulations, 2005.*

Issue: The expenditure on fuel for generation of infirm power is filed as ₹222.80 crores whereas the Commission in the provisional order dated 24th November, 2009 worked out ₹174.21 Crores. The petitioner was asked to explain the reasons for increase in this expenditure in light of the details and documents filed with the petition for provisional tariff along with auditor's certificate and invoices regarding cost of coal and oil consumed up to CoD.

MPPGCL's response

Please refer the submissions made by MPPGCL in this regard at Para 27 and 28 of the Petition. The amount of fuel expenditure during Infirm Power generation, as per audited books of accounts of MPPGCL, is ₹222.80 Crores as detailed in Annexure-13 of the Petition. In the petition for Provisional Tariff (Petition No.12/2009), MPPGCL had filed a figure of ₹215.12 Crores as fuel expenditure during Infirm Power generation. However, the Hon'ble Commission in its Order dated 24/11/2009 had provisionally computed the quantity of coal and oil based on the norms and calculated the cost of fuel as ₹174.21 Crores by applying the weighted average rate of coal and oil as filed by MPPGCL. The Commission in its aforesaid Order had mentioned that the actual quantity and rate of coal and oil shall be determined and allowed at the time of determination of final tariff. Accordingly the figures for fuel expenditure during Infirm Power generation as appearing in the audited books of accounts have been filed in the instant Petition. In this regard please find attached herewith copies of Issue Indents as supporting documents for coal consumption, Annexure-C, and copies of ST200 Stores output Report as supporting documents for secondary fuel oil consumption, Annexure-D, for the period of Infirm Power generation.

Issue: The drawdown schedule (Form-16) showing quarterly infusion of equity shows total equity infusion of ₹625 Crores as on CoD whereas the petitioner has considered equity of ₹577.74 Crores as on CoD for calculating RoE. This difference in figures of equity was to be clarified by the petitioner.

MPPGCL's response

Please refer item 3.5 on page 36 of the Petition. As seen from the table given therein, total equity drawn till COD is 32.45% of the total funding till COD. MPPGCL has, therefore, considered admissible equity amount of ₹ 577.74 Crores only, i.e., 30% of the total funding as on COD, for computing the return on equity as per MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2005 {G-26 of 2005}. The balance equity amount of ₹47.26 Crores has been treated as Normative Loan and interest has been claimed at weighted average rate of interest for the Year.

Issue: It was observed that the loan amount tied up with PFC under loan No. 20101011 is ₹1560 crores and an additional loan of ₹115 crores is being tied up. The terms and conditions of Loan No. 20101011 and the status of second loan under process were sought from the petitioner.

MPPGCL's response

Terms and conditions of Loan No. 20101011 are mentioned in the Sanction Letter of PFC, dated 02/05/2003, which has been annexed as Annexure-46 to the Petition. The same may please be referred to. In addition, a copy of the Agreement dated 27/05/2003, signed between PFC and MPSEB for this loan is being annexed herewith as Annexure-E for reference please. The status regarding second loan has been submitted in item no 3.4 on page 36 of the Petition. This is further to confirm that the second loan is not required and therefore the same has not been got sanctioned from PFC.

Issue: The petitioner was asked to submit year-wise detailed break-up of 'other charges' on share basis vis-à-vis 100% operating capacity basis for all the power stations clearly indicating the cost and quantity of fuel oil for SGTPS Ext. Unit-5 as per annual audited accounts for the respective years.

MPPGCL's response

The Petition is for final generation tariff of SGTPS 500MW Extn. Unit No. 5. The detailed break up of other charges of all the Power Stations of MPPGCL has been filed in True-up petitions. However details of other charges for SGTPS complex and those claimed in the petition for SGTPS 500MW Extn. Unit No.5, on pro rata/ actual basis, as per audited books of accounts for FY10 & FY11 and on provisional basis for FY12 are indicated below:

(Amount in ₹ Crores)

Particulars	FY10	FY11	FY12
MPERC FEE			
SGTPS Complex Total	0.68	0.40	
SGTPS 500 MW	0.25	0.25	0.25
Cess on Aux. Consumption			
SGTPS Complex Total	6.71	6.32	
SGTPS 500 MW	2.06	1.92	0.78
Water Charges			
SGTPS Complex Total	0.75	1.04	
SGTPS 500 MW	0.28	0.39	0.39
Rent Rates & taxes			
SGTPS Complex Total	0.03	1.22	
SGTPS 500 MW	0.01	0.46	0.46
Entry Tax on R&M			
SGTPS Complex Total	0.36	0.67	
SGTPS 500 MW	0.00	0.00	0.00
Common Expenses			
SGTPS Complex Total	3.78	5.37	
SGTPS 500 MW	1.41	2.00	2.00

Issue: The petitioner was asked to submit year-wise break-up of oil cost and corresponding quantity on share basis vis-à-vis 100% operating capacity basis for all the thermal power stations clearly indicating the cost and quantity of fuel oil for SGTPS Ext. Unit-5 as per annual audited accounts for the respective years.

MPPGCL's response

The Year wise break-up of oil cost and corresponding quantity on 100% operating capacity basis for SGTPS Ext. Unit-5 as per annual audited accounts for the Years FY09 to FY11 and on provisional basis for FY12 has been submitted in Annexure-47 to the Petition (page Nos. 146 to 147 of the Annexure booklet submitted with the Petition). Break up of oil cost and corresponding quantity for all the thermal power stations of MPPGCL has been filed in True-up petitions.

Issue: Details of the monthly and yearly actual plant availability factor of the SGTPS Ext. unit 5 duly certified by SLDC were sought from the petitioner.

MPPGCL's response

Details of Monthly and Yearly actual plant availability factor of SGTPS Extn. Unit No. 5 for the period, duly certified by SLDC, are given in attached Annexure-F.

Issue: The petitioner submitted the month wise details of GCV of SGTPS Unit-5 in form 17. The petitioner was asked to file monthly coal analysis report of the coal supplied to this unit in this regard.

MPPGCL's response

Copies of monthly coal analysis reports of the coal supplied to this unit for the subject period are enclosed herewith as Annexure-G.

Issue: The petitioner filed the details of monthly coal consumption and rate of coal along with yearly weighted average rate of coal. The petitioner was asked to file power station wise break-up of coal consumption as recorded in Audited Accounts along with its corresponding cost on share basis vis-à-vis 100% operating capacity basis clearly indicating the cost and quantity of coal supplied to SGTPS Unit-5.

MPPGCL's response

Coal consumption as recorded in Audited Accounts along with corresponding cost on 100% operating capacity basis for coal supplied to SGTPS Unit-5 has been submitted in Annexure-48 to the Petition. The same may please be referred to.

Issue: The petitioner was asked to file details of loans scheduled to be drawn and actually drawn along with the applicable rate of interest up to scheduled CoD. The petitioner was also asked to file all supporting documents in respect of rate of interest claimed in the petition.

MPPGCL's response

Quarter wise loan drawl schedule as per scheduled COD, i.e., Oct 2006 (as appearing in the Loan Sanction letter) is enclosed as Annexure-H. Details of loan actually drawn till scheduled COD along with applicable rates of interest in respect of each of the drawls and yearly weighted average rate of interest are enclosed as Annexure-I.

As regards the scheduled date of COD/ Completion of Facilities indicated in the Loan Sanction letter of PFC, it is to submit that the same was revised by PFC to September 2008 vide their letter dated 27/02/2008, Annexure-J. A copy of the loan drawl schedule as per the revised date for Completion of Facilities (September 2008) is attached herewith as Annexure-K. Details of loan actually drawn till revised scheduled date for Completion of Facilities (September 2008) along with applicable rates of interest in

respect of each of the draws and yearly weighted average rate of interest are enclosed as Annexure-L.

The supporting documents in respect of applicable rates of interest in respect of each of the draws and Yearly weighted average rate of interest till FY12 as claimed in the petition are enclosed as Annexure-M

24. The petitioner filed the following documents with the Commission :

- i. Administrative approval-accorded by GoMP, letter No.10197/F-3/31/13/97 dated 24/12/1997.
- ii. Techno-economic clearance by CEA vide O.M. No.2/MP/46/96-PAC/11280 – 302 dated 20/12/2002.
- iii. GoMP approval for revised project cost of ₹2300 Cr and Equity infusion – letter No.3193/13/2007 dated 04/05/2007.
- iv. MPPGCL letter dated 18/08/2008 for infirm power.
- v. MPERC Order dated 24/11/2009 for provisional tariff.
- vi. MPPGCL letter to CEA dated 17/07/2010 for approval of revised capital cost.
- vii. CEA letter dated 08/11/2010.
- viii. Details of fuel expenditure during Infirm Power generation.
- ix. Project Cost Statement as per audited books of accounts.
- x. Approval for supply of Water by Deptt. of Water Resources No.29/12/96/M/31/399 dated 26/4/2002.
- xi. Approval of M.P.P.C.B. No.1558/TS/MPPCB/2002 dated 13/9/2002 granting permission to establish the Unit.
- xii. Environmental clearances from Ministry of Environmental and Forest, vide their letter dated 19/07/2002.
- xiii. Approval S.L.C. for grant of linkage of coal from Korba Coal fields, vide O.M. dated 16/01/2001.
- xiv. Civil Aviation clearance from Airport Authority of India vide letter No.AAI/NAD/20012/35/9-ARI dated 26.11.97 & subsequent extension.
- xv. Details of balance works as on April 2012.
- xvi. Month wise energy account details of Infirm Energy from 500MW SGTPS Extn. Unit No. 5, provided by SLDC.
- xvii. Brief write-up on reasons for project delays.
- xviii. Copies of GoMP equity release letters for the project.
- xix. PFC Loan No. 20101011 – sanction letter dated 02/05/2003.
- xx. Weighted average price of Secondary Fuel Oil.
- xxi. Weighted average landed price of coal.
- xxii. Monthly coal analysis report for the subject period.

- xxiii. Detailed Project Report for the generating unit.
- xxiv. SLDC statement for monthly and yearly actual plant availability factor.

Capital Cost:

Petitioner's submission:

25. The petitioner has submitted that the annual audited accounts of MPPGCL for FY 2009, FY 2010 and FY 2011 have been finalized and audited by the Statutory Auditors and CAG Auditors. Based on the audited books of accounts, the petitioner has filed the actual Capital expenditure incurred as on CoD including IDC is **₹1994.23 Crores** and after deducting the net revenue earned from sale of Infirm Power generated by the Unit. The Interest during Construction (IDC) amount capitalized as per the audited books of accounts is ₹ 407.74 Crores. The net revenue from Infirm Power generated by the Unit which has been considered for reduction in the capital cost as per clause 37 of MPERC (Terms & Conditions of determination of Generation Tariff) Regulation 2005 and in accordance with clause 19 of CERC Tariff Regulations 2004 is ₹275.60 Crores. Account Head wise details of the capital expenditure till COD, as per audited books of accounts, are furnished in Form TPS-5B of the petition.
26. The petitioner has mentioned that the amount recovered through infirm power charges is ₹498.41 Cr. and expenditure incurred on fuel during infirm power generation was ₹222.80 Cr. Therefore, the net revenue earned from sale of infirm power from the unit was ₹275.60 Cr. The break-up of capital expenditure as on CoD as filed by the petitioner is as given below:

Amount in Cr. ₹

Sr. No.	Particulars	Unit	Amount
1	Capital expenditure up to CoD excluding IDC	₹ Cr.	1862.09
2	IDC amount capitalized as per audited books of A/c	₹ Cr.	407.74
3	Capital expenditure up to CoD including IDC (1+2)	₹ Cr.	2269.83
4	Amount billed for sale of Infirm Power	₹ Cr.	498.41
5	Expenditure on fuel for generation of Infirm Power	₹ Cr.	222.80
6	Net revenue earned on A/c of sale of Infirm Power	₹ Cr.	275.60
7	Net Capital cost as on CoD after duly accounting for the revenue earned from sale of Infirm Power (3-6)	₹ Cr.	1994.23

Provision in the Regulation:

27. With regard to the capital cost, clause 18 of the Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2005 (G-26 of 2005) provides that,

“Subject to prudence check by the commission, the actual expenditure incurred on completion of the project shall form the basis for determination of tariff. The tariff shall be determined based on the admitted capital expenditure actually incurred upto the date of commercial operation of the Generating units/station and shall include capitalized initial spares subject to ceiling norms as stipulated hereunder.

- i) upto 2.5% of original capital cost in case of coal based generating stations,*
- ii) upto 4.0% of original capital cost in case of gas turbine/ combined cycle generating stations, and*
- iii) upto 1.5% of original capital cost in case of hydro-generating stations*

Scrutiny of the cost estimates by the Commission shall be with regard to the reasonableness of the capital cost, financing plan, interest during construction, use of efficient technology, and such other matters for determination of tariff and the Commission may obtain expert advice as deemed necessary.

Where power purchase agreement provides for a ceiling of capital cost, the capital cost to be considered shall not exceed such ceiling.

Restructuring of capital cost in terms of relative share of equity and loan shall be permitted during the tariff period provided it does not affect tariff adversely. Any benefit from such restructuring shall be passed on to persons sharing the capacity charge in a ratio as may be specified by the Commission”.

Commission’s analysis:

28. Before finalizing the capital cost of the 500MW SGTPS Extn. Unit- 5, some background related to capital cost of this unit is discussed as under :

- (i) The revised detailed project report of the SGTPS Extn. Unit- 5 (1X500MW) was made in June, 2002 incorporating the detailed cost analysis of all cost components showing the estimated cost of ₹2152.34 Cr without IDC and ₹2696.57 Cr. including IDC of the

project based on 2002 price level. Detailed break-up of the capital cost component in the DPR of the project was as under:

Sr. No.	Description	Amount in ₹ Cr.
1	Civil work including Land & Site Development cost	350.98
2	Main plant & equipment	1239.68
3	Erection & Commissioning	199.70
4	Taxes & Duties, Freight, Insurance	184.93
5	Initial Spares	42.80
6	Total Works related cost	2018.09
7	Others including overhead	134.25
8	Project Cost excluding IDC	2152.34
9	IDC and Financing Charges	544.22
10	Total Project Cost	2696.56

- (ii) Vide official Memorandum No.2/MP/46/96-PAC/11280 – 302 dated 20th December, 2002, techno-economic clearance of the project was granted by CEA at a total estimated cost of ₹2093.75 Crore. The break-up of approved estimated cost by CEA is given below:

Sr. No.	Description	Cost (₹ Crs.)
1	Land & RR	6.50
2	Turnkey Cost	1629.93
(a)	Turnkey cost excluding Taxes & Duties	1490.83
(b)	Taxes and Duties	139.10
3	Non-EPC Cost	69.84
4	Overheads	82.43
5	Project cost excluding IDC & FC	1788.70
6	IDC & Financing Cost	305.05
7	Total Project Cost	2093.75

- (iii) Based on the above, the Govt. of M.P. in its Letter dated 25.02.2003 approved the investment proposal of the above unit at the cost of ₹2093.75 Cr. This approved project cost estimate was further revised to ₹2300.00 crores by GoMP in its Letter dated 04/05/2007 on account of the reasons elaborated in para 2.3 of the petition. A

comparative break-up of project cost initially approved by GoMP (based on TEC issued by CEA) and the revised project Cost filed by the petitioner is given below:

Amount in ₹ Cr.

Sr. No.	Particulars	Original	Revised	Difference
1	Land & RR	6.50	13.70	7.2
2	Turnkey Cost	1629.93	1861.12	231.19
3	Non-EPC Cost	69.84	99.44	29.6
4	Overheads	82.43	56.40	-26.03
5	IDC & Financing Cost	305.05	269.00	-36.05
6	Total Project Cost	2093.75	2300.00	206.25

(iv) The Commission issued an Order dated 24/11/2009 for provisional tariff of SGTPS Ext. unit-5 from CoD i.e. 28th August, 2008 to 31st March, 2009 considering the provisional Net Capital Cost of ₹1729.50 crores. The aforesaid capital cost was provisionally determined on the basis of the details and documents filed by the petitioner considering the following approach:

- Capital Cost estimate was considered as approved by CEA.
- IDC was considered only up to scheduled CoD.
- Cost of fuel during Infirm Power generation was provisionally computed by considering the normative operating parameters.
- Amount towards Liquidated Damage (LD) due to delay in Commissioning was not deducted from the capital cost.

(v) Based on the above, the following capital cost was considered by the Commission as on the date of commercial operation of the generating station in its above mentioned provisional order :

Project Cost as on CoD considered in provisional order		
Sr. No.	Description	Amount in (₹ Crs.)
1	Land & RR	6.50
2	Turnkey Cost	1629.93
3	Non-EPC Cost	69.84
4	Overheads	82.43
5	Project cost excluding IDC & FC	1788.7
6	IDC & Financing Cost	265
7	Project Cost including IDC	2053.7
10	Total amount billed for infirm power	498.41
11	Expenditure on Fuel (Coal + Oil)	174.21
12	Revenue earned on A/c of infirm power	324.2
13	Provisional project cost as on CoD	1729.5

29. By affidavit dated 19/09/2012, the petitioner submitted that the capital expenditure actually incurred on the project as on COD (28/08/2008) as per audited books of accounts, after duly accounting for the net revenue from Infirm Power generation, is ₹1994.23 Crores.
30. Further, the petitioner in its supplementary submission dated 19.09.2012 submitted the following:

“The capital expenditure actually incurred on the project as on COD (28/08/2008) as per audited books of accounts, after duly accounting for the net revenue from Infirm Power generation, is ₹1994.23 Crores. Out of this ₹1956.94 Crores has been capitalized under the Account Code 10 (fixed assets), ₹12.893 Crores is under Account Code 14 (CWIP) and ₹24.395 Crores is under Account Code 22 (capital spares).

The additional Capital expenditure actually incurred in FY 2010-11, as per audited books of accounts, is ₹26.45 Crores. Out of this ₹13.923 Crores has been capitalized under the Account Code 10 (Fixed Assets), ₹10.925 Crores is under Account Code 14 (CWIP) and ₹1.603 Crores is under Account Code 22 (capital spares).

Capturing and recording of costs in the books of accounts of MPPGCL is as per the accounting policy and chart of accounts. This system has been inherited from the erstwhile MPSEB. This accounting system is not directly mapped to the component wise breakup of cost desired as per table 2.1.1 of the Petition. However, an indicative break up of the audited capital cost of the project as on CoD, i.e., ₹2269.83 Crores (without accounting for the net revenue earned from Infirm Power Generation) is given in the table below:-

Amount in ₹ Cr.

Sr. No.	Particulars	As on COD
1	Turnkey EPC cost	1811.34
2	Non EPC cost	37.27
3	Land & RR	13.48
4	Overheads	(Included in 1, 2 & 3)
5	IDC + Fin. Cost	407.74
6	Total	2269.83
7	Net revenue from Infirm Power	275.60
8	Net Project Cost	1994.23

31. With regard to infirm power clause 3.8 of the MPERC Regulations, 2005 provides as under:

“Any revenue other than the recovery of fuel cost earned by the generating company from sale of infirm power shall be taken as reduction in capital cost and shall not be treated as revenue.”

32. The 1x500MW unit of SGTPS, Birsinghpur was synchronized on 18.06.2007. The petitioner submitted that total 1573.84 MU's were supplied to grid as infirm power during 01/10/2007 to 27/08.2008 and an amount of ₹498.41 crores was billed against supply of this infirm power. The petitioner further submitted that the amount for fuel expenditure during Infirm Power generation, as per audited books of accounts of MPPGCL, is ₹222.80 Crores. Accordingly, the net revenue earned from sale of Infirm Power is ₹275.60 Crores and the same has been applied for reduction in capital cost as per Regulations, 2005.

33. The Commission in its provisional order dated 24th November, 2009 had computed the fuel expenses for generation of infirm power as ₹174.21 Cr. The petitioner could not file the basis for arriving at the figures for quantity of coal and oil upto CoD at that time as mentioned in the petition. Therefore, the Commission provisionally computed the quantity of coal and oil based on the norms and calculated the cost of fuel by applying the weighted average rate of coal and oil as filed by the petitioner. However, it was mentioned in the provisional order that the actual quantity and rate of coal and oil shall be determined and allowed at the time of determination of final tariff as and when the exact and authentic figures are filed by the petitioner.

34. Accordingly, the figures in the instant petition are filed as per the audited books of accounts and the same are verified from the SLDC statement filed by the petitioner. Therefore, the Commission has considered the following revenue earned from sale of infirm power :

• Infirm power supplied to grid	1573.84 MUs
• Amount billed for supply of infirm power	₹498.41 Cr.
• Fuel expenditure as per audited a/c	₹222.80 Cr.
• Revenue earn from sale of infirm power	₹ 275.60 Cr.

In view of the above, the amount of ₹275.60 Cr. earned from sale of infirm power is considered for reduction in capital cost of the project.

35. Details of the scheduled CoD and actual CoD of the SGTPS 500MW unit is given below:

Scheduled CoD	Actual CoD
November, 2007	August, 2008

36. With regard to delay in commissioning of the project, the petitioner filed a brief write-up on the “reasons for project delays” with the petition. The petitioner in para 2.8 of the petition mentioned the following;

“There was a clause in the contract agreement for deduction of Liquidated Damages from BHEL’s invoices on account of delays in the project attributable to BHEL. An amount of ₹93.04 Crores has been deducted towards LD from BHEL’s dues which will be settled in due course of time. A brief write-up on reasons for project delays is given in Annexure-34. Besides LD, a cumulative amount of ₹ 18.89 Crores as on 31/03/2011 had been retained as ERV/CDV. Year wise cumulative amounts retained as ERV/CDV as on COD, end of FY09, end of FY10 and at end of FY11 are ₹3.70 Crores, ₹5.77 Crores, ₹17.54 Crores and ₹ 18.89 Crores, respectively. The cumulative retention amount towards ERV/CDV as on 31/03/2011 should actually have been limited to ₹18.5 Crores only. Excess retained amount of ₹0.39 Crores has, therefore, been adjusted in May 2012. As such the net amount retained as ERV/CDV is ₹18.50 Crores. The amounts of LD and ERV/CDV shall be finalized after reconciliation of accounts with BHEL prior to closure of contract(s). These amounts are appearing as liability in the books of accounts. Final decision in the matter of treatment of LD and ERV/CDV deducted/retained from BHEL’s invoices shall be taken at the time of project closure. “

37. It is mentioned in Para 2.8 of the petition that the petitioner has deducted ₹93.04 crores and retained ₹18.50 cores towards Liquidated Damage (LD) and ERV/CDV from BHEL’s invoices as per clause in their contract agreement on delay of project attributable to BHEL. Therefore, these amounts are excluded to arrive at the net capital cost of the project.

38. It is observed that the capital cost claimed by the petitioner is more than the capital cost approved by CEA and also the cost initially approved by the GoMP. It is further observed that the petitioner obtained the revised approval of GoMP for revision of capital cost from ₹2093.75 Cr. to ₹2300 Cr. The petitioner in para 2.3 of the petition submitted the following reasons for revision of various capital cost estimates.

“Land and RR Cost:

This cost was revised due to change in scope and rise in prices.

EPC Cost:

The base EPC cost has remained constant. However estimated provision for price variation was increased so as to take care of inflation in the price indices of material and labor components as per terms of EPC contract placed in BHEL. Amount towards works contract tax on civil works has been revised downwards due to exercising of option for composition mode as per provisions of Commercial Tax Act 1994. Amount estimated towards taxes & duties on materials purchased was increased due to change in Price Variation amount and imposition of education Cess. Additional provision was required to be made due to imposition of service tax on civil works and erection contracts.

Non-EPC Cost:

Under this cost the major head covered are spares and railway siding. It was increased due to increase in price inflation for spares and change in scope and design of railway-siding during approval by railways.

IDC & FC:

This cost was estimated to be less as compared to original provision due to change in rate of interest by M/s PFC from time to time. The rate was originally stated to be 11% and had changed from time to time. The revised estimate of IDC was made assuming completion of trial operations by Feb/Mar 2007, as per the commitment given by BHEL in April 2006, and the rate of interest as 10% per annum. Thus, the IDC was estimated to be ₹269 Crores as against ₹ 305.05 Crores envisaged originally.”

39. It is observed that the capital cost of the generating unit is within the revised capital cost approved by the GoMP. It is further observed from the reasons explained by the petitioner for delay in Commission's of the project that the delay was on account of the reasons attributable to BHEL and the petitioner has deducted or retained some amount against Liquidated Damage and ERV/CDV as per contract. Therefore the Commission has considered the IDC as on actual CoD capitalized as per books of accounts and the amounts against LD and ERV/CDV deducted/retained by the petitioner, shall be deducted from capital cost of the project. The Commission in its final Tariff Order dated 1st May, 2012 for ATPS Chachai, 210 MW adopted the same approach in this regard.

40. The petitioner in form TPS 5B of the petition has filed the 'account code-wise' and 'account head-wise' detailed break-up of assets capitalized as on CoD of the unit as per books of accounts (Revenue earn from sale of infirm power taken into account in aforesaid cost). While going through the details of the assets filed in the aforesaid format, following may observed:

A. Net Fixed assets capitalized as on CoD	₹ 1956.94 Cr.
B. Capital material in stock but not capitalized	₹ 24.39 Cr.
C. Capital works in progress	₹12.89 Cr.
D. Total (a+b+c)	₹ 1994.23 Cr.

41. Further, as per audited accounts of MPPGCL and its power station-wise break-up of assets capitalized during the year, it is observed that the net assets of ₹1956.94 Cr. (after accounting for the revenue earned from sale of infirm power) have been capitalized during FY 2008-09 in respect of SGTPS, Ext. unit-5 (500MW) project. The same assets are also verified from the assets-cum-depreciation register of SGTPS, Ext. unit-5 (500MW) filed by the petitioner. In view of the above, the net capital cost (as on CoD) capitalized in books of accounts is considered in this order.
42. The petitioner has deducted ₹ 93.04 Cr. and retained ₹18.50 cores towards Liquidated Damage (LD) and ERV/CDV from BHEL's invoices as per clause in their contract agreement on delay of project attributable to BHEL. Therefore, the Commission has not considered these amounts in the net capital cost of the project. Accordingly, the net capital cost (as on CoD) approved by the Commission in this tariff order is given below :

Capital Cost as on CoD approved in this order:

Sr. No.	Particular	Unit	Amount
1	Capital expenditure up to CoD excluding IDC	₹ Cr.	1824.8
2	IDC amount capitalized as on CoD	₹ Cr.	407.74
3	Capital expenditure up to CoD including IDC	₹ Cr.	2232.54
4	Revenue earn from sale of infirm power	₹ Cr.	275.60
5	Net Capital Cost as on CoD excluding revenue earn from sale of infirm power (capitalized as per audited a/c)	₹ Cr.	1956.94
6	Amount towards Liquidity damage and ERV/CDV recovered from M/s BHEL	₹ Cr.	111.54
7	Net final capital cost as on CoD	₹ Cr.	1845.40

Additional Capitalization:

Petitioner's submission:

43. The petitioner has filed the Additional capital expenditure after COD up to 31/03/2011 as per audited books of accounts as given below:

	Period		Amount
(i)	W.E.F. COD to 31/03/2009	:	₹ 3.35 Crs.
(ii)	W.E.F. 01/04/2009 to 31/03/2010	:	₹ 33.02 Crs.
(iii)	W.E.F. 01/04/2010 to 31/03/2011	:	₹ 26.45 Crs.
	Total	:	₹ 62.82 Crs.

44. The petitioner further submitted that the additional capital expenditure w.e.f. 01/04/2011 to 31/03/2012 including the capitalization of amount of ₹15.87 crores (against capital spares) which was charged to O&M, is ₹42.00 crores (provisional) and that from 01/04/2012 till completion of the project is ₹ 85.35 crores (projected). Thus, the total additional capital expenditure w.e.f. COD and up to completion of remaining works, is projected to be ₹190.17 crores. The completed project cost, including expenditure on works related to Second Phase Ash bund, is projected to be ₹2184.40 crores against the approved estimated cost of ₹2300.00 crores.

Provision under Regulation:

45. With regard to Additional Capitalization, Clause 20 of the Regulations, 2005 provided that,

The following capital expenditure, actually incurred after the date of commercial operation and duly audited, may be considered by the Commission, subject to prudence check

- (a) *due to deferred liabilities within the original scope of work,*
- (b) *on works within the original scope of work, deferred for execution*
- (c) *to meet award of arbitration or satisfaction of order or decree of a court arising out of original scope of works,*
- (d) *on account of change in law,*
- (e) *on procurement of initial spares included in the original project costs subject to the ceiling norm laid down in regulation 18.*
- (f) *any additional works/ services, which have become necessary for efficient and successful operation of a generating station or a transmission or a distribution system but not included in the original capital cost.*

Provided that original scope of work along with estimates of expenditure shall be submitted along with the application for provisional tariff.

Provided further that a list of the deferred liabilities and works deferred for execution shall be submitted along with the application for final tariff after the date of commercial operation of the generating station.

Commission's Analysis:

46. The petitioner has claimed the following additional capitalization (since CoD to 31/03/2011 on actual and since 01/04/2011 to 31/03/2012 projected) :

FY08-09 (after CoD)	FY09-10	FY10-11	FY11-12 (projected)
₹ 3.35 Cr.	₹ 33.02 Cr.	₹ 26.45 Cr.	₹ 42.00 Cr.

The petitioner submitted that the above additional capitalization upto FY 2010-11 is based on the audited books of accounts of the respective years.

47. In para 35 of the petition, the petitioner mentioned that the additional Capital Expenditure till completion of the Project is within the original scope of work of SGTPS Ext. unit-5 and is in accordance with the Regulation 19 of MPERC Tariff Regulations, 2005. The petitioner has also filed the 'account code wise' and 'account head wise' detailed break-up of assets claimed under additional capitalization of the project in form TPS- 9 of the petition. The summary of the assets as filed by the petitioner is given below:

Particular	FY08-09 (after CoD)	FY09-10	FY10-11	FY11-12 (projected)
Fixed Assets	₹0.00 Cr.	₹ 34.57 Cr.	₹ 13.92 Cr.	-
Material stock	₹3.35 Cr.	₹3.97 Cr.	₹1.60 Cr.	-
CWIP	₹0.00 Cr.	₹-5.52 Cr.	₹10.92 Cr.	-
Total	₹3.35 Cr.	₹ 33.02 Cr.	₹ 26.45 Cr.	₹42.00 Cr.

48. The claim of the petitioner as actual additional capital expenditure is ₹ 62.82 Cr. up to the FY 2010-11. The additional capitalization is mainly related to the plant and Machinery, roads, building and auxiliary in the power plant deferred for execution. With regard to the claims for additional capitalization, vide Commission's daily order dated 22nd August, 2012, the petitioner was asked to submit the following details :

a) *Whether the asset added is new or replacement of some old asset?*

- b) *Approval, if any, accorded by any competent authority for additional capitalization.*
- c) *Whether the addition of asset is on account of (a) to (f) of the reasons in clause 19 of the Regulation?*
49. In response, by affidavit dated 19th September, 2012, the petitioner submitted following :
- a) *Assets added is new asset of 500MW SGTPS Ext. unit-5, Birsinghpur.*
- b) *Project has been approved by the BoD of MPPGCL and GoMP.*
- c) *Addition of assets subsequent to CoD is in accordance with clause 19 of the MPERC (Terms and Conditions for determination of generation tariff) Regulations, 2005.*
50. Since the petition has been filed for determination of final tariff for FY09, FY10 and FY11 and tariff for FY 2012 on projection basis therefore, the asset additions were compared with the corresponding schedule-5 of the audited accounts of the respective year. The following was observed :
- (i) Schedule 5 of Audited Accounts of MPPGCL capture figures for asset addition for all the power stations under operation of MPPGCL on share basis.
- (ii) The asset additions of 500 MW, Extension Unit-5 in subject petition are not categorically recorded in the balance sheets.
- (iii) The asset additions for MPPGCL as a whole recorded in Schedule 5 of the Audited Accounts for FY2008-09, FY 2009-10 and FY 2010-11 do not match with the figures filed for asset additions of 500 MW SGTPS Unit-5 in the petition, if the station-wise break-up is taken from Asset Register.
51. In view of the above observations, vide Commission's daily order dated 25th September, 2012, the petitioner was asked to file the detailed break-up of all components related to the subject 500 MW unit from the consolidated audited accounts of the company as a whole for the period relevant to the subject petition. By affidavit dated 18th October, 2012, the petitioner filed the station-wise break-up of Gross Block of MPPGCL's thermal and hydel power stations as per audited books of accounts indicating the assets addition in SGTPS 500 MW Ext. Unit-5 since FY08-09 to FY10-11.
52. The year-wise assets capitalized by the petitioner on account of additional capitalization were verified with the audited books of accounts and assets cum depreciation registers for the respective years. It is found that the assets worth ₹34.57 crores and ₹13.92 crores were capitalized in FY 2009-10 and FY 2010-11 respectively. No asset

capitalization indicated in the audited accounts during FY 2008-09 after CoD. The petitioner has filed the projected additional capitalization of ₹42 Cr. during FY 2011-12. Since the financial year FY 2011-12 is over and loan amount drawn during FY 2011-12 is more than the projected additional capitalization therefore, the projected additional capitalization of ₹42 Cr. for FY 2011-12 is considered in this order subject to further true-up based on audited figures.

53. It is further observed that the deferred works are left over works of the different packages within the original scope of approved project cost and most of the balance works have been completed by the petitioner. The year wise assets capitalized by the petitioner on account of additional capitalization from FY 2008-09 to FY 2010-11 have been verified with the audited books of accounts and assets cum depreciation registers of the respective years. It is also observed that these works have been capitalized in audited accounts and were essential for the generating station. Therefore, the same are allowed in this Order.
54. Based on the discussions in the preceding paragraphs, the year-wise details of capital cost as on CoD and additional capital expenditure (actual as on 31.03.2011 and projected up to 31.03.2012.) allowed in this Order are given below :

Sr. No.	Particular	Amount in ₹ Cr.
1	Net capital cost as on CoD	1845.40
2	Additional capital expenditure as on 31.03.2009	0.00
3	Additional capital expenditure as on 31.03.2010	34.57
4	Additional capital expenditure as on 31.03.2011	13.92
5	Additional capital expenditure as on 31.03.2012 (Projected)	42.00
Total		1935.89

Initial Spares:

55. The petitioner in para 33 and 34 of the petition has submitted that, "As on 31/03/2011, a cumulative amount of ₹ 15.87 Crores which was spent on capital spares has inadvertently been charged to O&M works of 500 MW SGTPS Extn. Unit No. 5, instead of having been capitalized. Such cumulative amounts at the end of respective financial Years from COD till 31/03/2011 are as below:

a. As on 31/03/2009	:	₹ 1.37 Crores
b. As on 31/03/2010	:	₹ 7.00 Crores
c. As on 31/03/2011	:	₹ 15.87 Crores

Necessary treatment for capitalizing the cumulative expenditure of ₹15.87 Crores, as on 31/03/2011, detailed above shall be done in the books of accounts in subsequent accounting Year. (Emphasis supplied)

The additional capital expenditure w.e.f. 01/04/2011 to 31/03/2012, including the capitalization of amount of ₹15.87 Crores which was charged to O&M, is ₹42.00 Crores (provisional) and that from 01/04/2012 till completion of the project is ₹ 85.35 Crores (projected).....”

56. The petitioner has not capitalized the above amount spent on capital spares as per audited accounts. Therefore, the claim made by the petitioner in respect of capital spares shall be considered only after capitalization in its audited books of accounts.

Debt-Equity Ratio and Project Funding:

Petitioner's submission:

57. The petitioner has filed the actual funding as on CoD as given below :

Debt. (₹ Cr.)	Equity (₹ Cr.)	Total (₹ Cr.)	Ratio
1300.79	625.00	1925.79	67.60 : 32.40

Since the equity infusion as on CoD filed by the petitioner is more than normative equity therefore, the equity amount above 30% has been considered as loan. Assets for additional capitalization funded only through loan component, no equity infusion shown by the petitioner in additional capitalization. The details of the funding as on CoD and also as on 32.03.2012 as filed by the petitioner is given below:

₹ Crs.

Sr. No.	Particulars	Equity	PFC Loan	Total
1	Total Till COD (28/08/2008)	625.00	1300.79	1925.79
2	During FY09, from COD to 31/03/2009	0.00	17.82	17.82
3	During FY10	0.00	82.54	82.54
4	During FY11	0.00	71.87	71.87
5	During FY12 (provisional)	0.00	51.81	51.81
6	Sub Total (After COD till 31/03/2012)	0.00	224.05	224.05
7	Grand Total (Till 31/03/2012)	625.00	1524.83	2149.83

Provision under Regulation:

58. With regard to debt-equity ratio, clause 20 of the Regulations, 2005 provides that,

“For the purpose of determination of tariff, debt-equity ratio as on the date of commercial operation in case of new generating station or capacity expansion shall be 70:30. The debt-equity amount arrived in accordance with this shall be used for calculation of interest on loan, return on equity, advance against depreciation and foreign exchange rate variation.

Where equity employed is in excess of 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance amount shall be considered as loan. The interest rate applicable on the equity in excess of 30% treated as loan has been specified in regulation 22. Where actual equity employed is less than 30%, the actual equity shall be considered.”

Commission’s Analysis:

59. The net capital cost as on CoD considered by the Commission in this order is ₹ 1845.40 Cr. which is financed through debt of ₹ 1300.78 Cr. and the remaining cost by equity of ₹428.72 Cr. The debt–equity ratio shall be 29.5 : 70.5 considered for determination of tariff which is within the limit prescribed in the regulation. With regard to the funding of Additional Capitalization, the following is observed by the Commission;

- (i) No assets have been capitalized during FY08-09 (after CoD) as per books of A/c.
- (ii) Additional capitalization during FY09-10 and FY10-11 funded through loan, no equity infusion is shown by the petitioner during period.
- (iii) The projected additional capitalization during FY11-12 is also funded through loan component. The actual capitalization and its funding for FY11-12 shall be finalized as per audited accounts at the time of true-up.
- (iv) The net final capital cost determined above as on CoD is ₹1845.40 Crs. The equity and loan components as on CoD are apportioned in the same proportion as considered in the petition for funding the capital cost as on CoD as given below:

Equity & Loan as on CoD:

Sr. No.	Particular	Unit	Actual funding filed in the petition	Funding Considered In respect admitted capital cost
1	Total Equity amount	₹ Crs.	625.00	599.76
2	Loan amount	₹ Crs.	1300.79	1245.65
3	Debt–equity ratio	Ratio	32.5 : 67.5	32.5 : 67.5
4	Normative equity	₹ Crs.	577.74	553.62
5	Excess equity if any	₹ Crs.	47.26	46.14

(v) In view of the above it is observed that the equity amount as on CoD as considered in this order is more than the normative equity. Therefore, as per provision under Regulation the equity amount over and above normative equity is considered as a normative loan.

60. Accordingly, the following funding as on CoD and up to 31.03.2012 is considered as given below:

Particular	Unit	FY08-09 (as on CoD)	FY08-09 (after CoD)	FY09-10	FY10-11	FY11-12 (Proj.)
Assets created	₹ Cr.	1845.40	0.00	34.57	13.92	42.00
Equity	₹ Cr.	599.76	0.00	0.00	0.00	0.00
Loan	₹ Cr.	1245.65	0.00	34.57	13.92	42.00
Total Funding	₹ Cr.	1845.40	0.00	34.57	13.92	42.00
Total assets capitalized	₹ Cr.	1845.40	0.00	34.57	13.92	42.00
Debt-equity ratio	Ratio	32.5 : 67.5				

Annual Capacity (fixed) Charges:

61. The tariff for supply of electricity from a thermal power generating station comprises of capacity charge and energy charge to be derived in the manner specified in the Regulations. The annual Capacity (fixed) Charges of new thermal power stations consists of:

- (a) Return on Equity;
- (b) Interest and Financing Charges on Loan Capital;

- (c) Depreciation;
- (d) Operation and Maintenance Expenses;
- (e) Interest Charges on Working Capital;
- (f) Cost of sec. fuel oil;

(a) Return on Equity

62. Return on equity for 500MW SGTPS Ext. unit-5 is worked out considering the following:

- (i) The petitioner has submitted that out of the total equity of ₹ 625.00 Crores, an amount of ₹ 14.08 Crores has been funded by MPSEB through its internal resources while ₹ 610.92 Crores has been funded as GoMP equity released as detailed in Table 3.3.1 of the petition as follows. The petitioner has also filed the copy of letters issued by GoMP in respect of equity infusion in the project.

Sr.No.	Approval Letter	Dated	Amount (₹ Cr.)	Received Date
1	6334 & 6335/13/2004	30/10/2004	27.00	Nov 2004
2	1702/13/2005	01/03/2005	13.00	Mar 2005
3	7056/13/2005	29/10/2005	60.00	Nov 2005
4	494/13/2006	30/01/2006	50.00	Jan 2006
5	1726/13/2006	16/03/2006	70.15	Mar 2006
6	1991/13/2006	25/03/2006	100.00	Mar 2006
7	3639/F-5-3/13/2006	14/06/2006	56.00	Jun 2006
8	5119/F-5-3/13/2006	05/08/2006	34.00	Aug 2006
9	6467/F-5-3/13/2006	10/10/2006	75.00	Oct 2006
10	MPPGCL/917	04/04/2007	105.00	Mar 2007
11	F-5-3/13/2006	16/01/2008	20.77	Jan 2008
	Total		610.92	

- (ii) The opening balance of equity as on CoD and for the subsequent years in this order is considered as worked out in **para 60** of this order. It is observed that the equity amount as on CoD admitted in this order is more than the normative equity of the project. The equity amount over and above normative equity is considered as normative loan in this order. No equity infusion is shown by the petitioner in additional capitalization of the project. Therefore, it is considered that the assets for additional capitalization funded only through loan.

(iii) Rate of return @ 14% is considered since CoD to 31.03.2009 as per applicable Regulations, 2005. For the period FY09-10 to FY11-12, the rate of return is considered @ 15.5% based on Regulations, 2009.

(iv) With regard to grossing up of rate of return, the petitioner in para 36 of the petition submitted the following;

“MPPGCL has not considered any tax liability for FY09, FY10 and FY11, while for FY12 Minimum Alternate Tax (MAT), including surcharge and cess, has been considered. In case, due to any change in Government policy or otherwise, if any liability of tax and duties arises for any Year of the control period, the same shall be charged extra.”

Since the petitioner has not shown any actual tax liability therefore, the grossing up on base rate of return is not applied for FY09-10 to FY11-12. The figures of return on equity for FY2011-12 determined in this order are provisional and shall be trued-up based on the audited accounts.

(v) Return on Equity for 500MW SGTPS Ext. unit-5 from CoD to 31st March, 2009 (based on the generation tariff Regulations, 2005) and from FY09-10 to FY11-12 (based on the generation tariff Regulations, 2009) is worked out as given below:

Return on equity:

Sr. No.	Particular	Unit	FY 08-09	FY 09-10	FY 10-11	FY11-12 (Proj.)
1	Opening normative equity	₹ Cr.	553.62	553.62	553.62	553.62
2	Equity addition during the year	₹ Cr.	0.00	0.00	0.00	0.00
3	Closing equity	₹ Cr.	553.62	553.62	553.62	553.62
4	Average equity	₹ Cr.	553.62	553.62	553.62	553.62
5	Base rate of Return on Equity	%	14.00	15.50	15.50	15.50
6	Rate of return on equity	%	14.00	15.50	15.50	15.50
7	Return on equity	₹ Cr.	77.51	85.81	85.81	85.81

(b) Interest and Financing Charges on Loan Capital

63. The petitioner has submitted that PFC has sanctioned a loan amounting to ₹1560.00 Cr. under the loan No. 20101011 for setting up of 500MW SGTPS Extn. Unit No. 5. The details of this loan is as given below;

Sr. No.	Particular	PFC
1	Loan No.	20101011
2	Sanctioned amount	₹ 1560 Cr.
3	Sanctioned Date	3 rd May, 2003
4	Number of instalments	40 (quarterly)
5	Repayment period	10 years
6	Moratorium Period	4 years
7	Loan Repayment Commencement date	15.04.2006

64. The petitioner has further submitted that total loan drawal till CoD amounts to ₹1300.79 Crores. Subsequent loan drawals in FY08-09 (from COD to 31/03/2009), FY09-10, FY10-11 and FY11-12 are ₹ 17.82 Crs, ₹82.54 Crores, 71.87 Crores and ₹ 51.81 Crores respectively. The petitioner has filed the quarterly draw down schedule of loan in Form - 16 of the petition. As a part of the total loan funding of ₹ 1675.00 Crores in the approved total estimated cost of ₹ 2300.00 Crores, an additional loan of ₹ 115.00 Crores was also applied for from PFC, in Oct 2006. However, subsequently, due to expected delay in the project execution MPPGCL had decided to levy LD on M/s BHEL resulting into reduction in fund requirements. Therefore, PFC was requested to defer the processing of MPPGCL's proposal for sanctioning additional loan of ₹ 115 Crores, in Feb 2007. The petitioner in its additional submission dated 19/09/2012, in response to the Commission's query, has also confirmed that the second loan of ₹ 115 Cr. is not required and therefore the same has not been got sanctioned from PFC.
65. The opening gross loan balances as on CoD and additions for the subsequent years is worked out in **para 60** of this order considering the schedule repayment as filed by the petitioner. The amount of loan as on CoD is ₹ 1300.79 Cr. as filed by the petitioner. The Commission has considered the loan amount of ₹1245.65 Cr. as on CoD for funding the admitted net capital cost in this order in the same proportion as considered in the petition for funding the capital cost filed in the petition. Since the amount of equity as on CoD considered in this order is more than the normative equity therefore, the equity amount of ₹ 46.14 Cr. which is over and above normative equity is considered as normative loan and normative repayment is considered on this amount. The break-up of loan component is considered as given below:

PFC Loan amount as on CoD	₹1245.65 Cr.
Excess equity as on CoD considered as normative loan	₹ 46.14 Cr.
Total loan as on CoD considered in this order	₹ 1291.78 Cr.

66. Further, the addition of loan up to FY11-12 is considered in proportion to the assets capitalized for the year in audited books of accounts. The loan repayment for FY09-10 to FY11-12 considered based on the clause 23.3 of the Regulations, 2009 which provides that “The repayment for the year of the tariff period 2009-12 shall be deemed to be equal to the depreciation allowed for the year.” Accordingly, the loan balances are worked out in this order.
67. The weighted average rate of interest has been worked out by the petitioner on the basis of the actual loan portfolio of respective year applicable to the project. Vide Commission’s daily order dated 22/08/2012 the petitioner was asked to file all supporting documents in respect of rate of interest claimed in the petition. On response, the petitioner vide affidavit dated 19/09/2012 has filed the supporting documents in respect of applicable rate of interest for each of the drawl and yearly weighted average rate of interest till FY2011-12. Accordingly, the rate of interest is considered in this order.
68. In view of the above the interest and finance charges on loan from CoD to 31.03.2009 (based on the Regulations, 2005) and from FY09-10 to FY11-12 (based on the Regulations, 2009) worked out as given below:

Interest charges on loan:

Sr. No.	Particular	Unit	FY 08-09	FY 09-10	FY 10-11	FY11-12 (Proj.)
1	Opening Loan as on CoD including excess equity	₹ Cr.	1291.78	1249.27	1188.28	1104.65
2	Loan addition during the year	₹ Cr.	0.00	34.57	13.92	42.00
3	Repayment during the year	₹ Cr.	42.51	95.56	97.55	98.81
4	Closing Loan	₹ Cr.	1249.27	1188.28	1104.65	1047.84
5	Average Loan	₹ Cr.	1270.53	1218.78	1146.47	1076.25
6	Weighted average rate of interest	%	11.56	11.58	11.56	11.58
7	Interest amount	₹ Cr.	146.87	141.13	132.53	124.63

(c) Depreciation

69. The depreciation for 500MW SGTPS Ext. unit-5 is worked out in this order considering the following:
- (i) Depreciation is worked out since CoD to 31.03.2009 in accordance with clause 23 of MPERC Regulations, 2005. The Depreciation for the period FY 2009-10 to FY 2011-12 is worked out as per clause 24 of the MPERC Regulations, 2009
 - (ii) Gross Fixed Assets as on CoD and assets added in subsequent years under additional capitalization (actually capitalized as per books of accounts and admitted in **para 60** of this order) shall be the basis for determination of depreciation amount.
 - (iii) Addition of assets is considered as per the actual capitalization of assets in books of accounts for the respective year.
 - (iv) Rate of depreciation is considered as per depreciation schedule of the applicable Regulations. The weighted average rate of depreciation as filed by the petitioner has also been verified from the assets-cum-depreciation register for the respective year for 500MW SGTPS Ext. unit-5 project and same has been applied for determination of year-wise depreciation amount for the project.
 - (v) Depreciation on the assets capitalized shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro-rata basis.
70. Accordingly, the depreciation for 500MW SGTPS Ext. unit-5 from CoD to 31.03.2009 (based on the Regulations, 2005) and from FY09-10 to FY2011-12 (based on the Regulations, 2009) is worked out as given below:

Depreciation:

Sr. No.	Particular	Unit	FY08-09	FY09-10	FY10-11	FY11-12 (Proj.)
1	Opening Gross Block	₹ Cr.	1845.40	1845.40	1879.97	1893.89
2	Gross Block addition during the year	₹ Cr.	0.00	34.57	13.92	42.00
3	Closing Gross Block	₹ Cr.	1845.40	1879.97	1893.89	1935.89
4	Average Gross Block	₹ Cr.	1845.40	1862.685	1886.93	1914.89
5	Annual wt. average rate of depreciation	%	3.58	5.13	5.17	5.17
6	Depreciation amount	₹ Cr.	66.07	95.56	97.55	99.00
7	Cumulative Depreciation		39.10	134.65	232.21	331.21

(d) Operation and Maintenance Expenses

71. Operation and Maintenance Expenses for 500MW SGTPS Ext. unit-5 is worked out considering the following:

- (i) Operation and Maintenance Expenses since CoD to 31.03.2009 is worked out based on clause 38 of MPERC Regulations, 2005 stated as follows:

For generating units/stations commissioned after 01/04/2006, principles and norms for O&M as prescribed by CERC vide its order dated 26/03/2004 shall be applicable.

- (ii) As per the CERC regulation the annual applicable rate of O&M expenses for Coal based generating station for FY 09 is ₹10.95 lakh/ MW. The same rate of O&M expenses shall be applicable on SGTPS, Birsinghpur Unit-V.

- (iii) The Operation and Maintenance Expenses for the period FY09-10 to FY11-12 worked out as per clause 34.1 of the MPERC Regulations, 2009 stated as follows :

“The Operation and Maintenance expenses admissible to existing thermal power stations comprise of employee cost, Repair & Maintenance (R&M) cost and Administrative and General (A&G) cost . These norms exclude Pension, Terminal Benefits and Incentive to be paid to employees, taxes payable to the Government, MPSEB expenses and fees payable to MPERC. The Generating Company shall claim the taxes payable to the Government and fees to be paid to MPERC separately as actuals. The claim of pension and Terminal Benefits shall be dealt as per Regulation 26.”

O&M Norms for Thermal Generating Units: ₹ In lakh/MW

Units (MW)	FY 09-10	FY 10-11	FY 11-12
500	10.7	11.36	12.05

72. Accordingly, the Operation and Maintenance Expenses for 500MW SGTPS Ext. unit-5 CoD to 31.03.2009 (based on the Regulations, 2005) and from FY09-10 to FY2011-12 (based on the Regulations, 2009) is worked out as given below:

Sr. No.	Particular	Unit	FY 08-09	FY 09-10	FY 10-11	FY 11-12
1	Installed Capacity	MW	500	500	500	500
2	Per MW O&M expenses	₹ L/MW	10.95	10.70	11.36	12.05
3	Total O&M expenses	₹ Cr.	54.75	53.50	56.80	60.25

(e) Cost of sec. fuel oil

73. For FY2008-09, the cost of oil is the part of energy charges whereas from FY2009-10 to FY2011-12 the cost of oil is the part of capacity (fixed) charges as per the applicable Regulations. Clause 36.1 and 36.2 of MPERC (Terms & Conditions for determination of Generation Tariff) Regulations, 2009 provides that,

“Expenses on Secondary fuel oil in Rupees shall be computed corresponding to normative Specific Fuel Oil Consumption (SFC) specified in Regulation 33, in accordance with the following formula:

$$= SFC \times LPSFi \times NAPAF \times 24 \times NDY \times IC \times 10$$

Where,

SFC - Normative Specific Fuel Oil Consumption in ml/kWh

LPSFi - Weighted Average Landed Price of Secondary Fuel in ₹/ml considered initially

NAPAF- Normative Annual Plant Availability Factor in percentage

NDY - Number of Days in a Year

IC - Installed Capacity in MW

Initially, the landed cost incurred by the Generating Company on secondary fuel oil shall be taken based on actuals of the weighted average price of the three preceding months and in the absence of landed costs for the three preceding months, latest procurement price for the generating station, before the start of the Year.

The secondary fuel oil expenses shall be subject to fuel price adjustment at the end of the each Year of Tariff period as per following formula:

$$SFC \times NPAF \times 24 \times NDY \times IC \times 10 \times (LPSFy - LPSFi)$$

Where,

LPSFy = The weighted average landed price of secondary fuel oil for the Year in ₹/ml."

74. The cost of secondary fuel oil from FY2009-10 to FY2011-12 is worked out based on the Regulations, 2009 considering the following;

(i) While determining the quantity of secondary fuel oil, normative plant availability factor and normative specific consumption of oil is considered as Regulations, 2009.

(ii) Year wise Wt. average rate of secondary fuel oil worked out based on the details filed by the petitioner in form 18 of the petition. The petitioner has also filed the statement for rate of secondary fuel oil certified by Sr. Accounts Officer Birsinghpur. The details of the yearly weighted average rate of secondary fuel oil worked out based of the information filed by the petitioner as given below:

Rate of secondary fuel oil:

Year	HFO			LDO			Wt avg. rate in ₹/KL
	Qty. in KL	Amount in ₹ Cr.	Rate in ₹/ KL	Qty. in KL	Amount in ₹ Cr.	Rate in ₹/KL	
FY08-09	1834	6.23	33979	554	2.35	42370	35926
FY09-10	2041	5.45	26694	743	2.95	39655	30153
FY10-11	1198	3.48	29060	690	2.71	39221	32773
FY11-12	1887	7.42	39304	721	3.81	52878	43056

(iii) Since CoD to 31.03.2009, the cost of secondary fuel oil is considered as part of energy charges as per regulations, 2005. For the period FY2009-10 to FY2011-12, the cost of secondary fuel oil is considered as part of capacity (fixed) charges as per regulations, 2009.

(iv) Accordingly, based on the normative operating parameters, the cost of secondary fuel oil is worked out as given below:

Sr. No.	Particular	Unit	FY08-09	FY09-10	FY10-11	FY11-12 (Proj.)
1	Capacity of the generating unit	MW		500	500	500
2	Normative PAF	%		85.00	85.00	85.00
3	Annual Gross Generation	MU's		3723.00	3723.00	3733.20
4	Normative Sp. Oil consumption	ml/kWh		1.00	1.00	1.00
5	Quantity of oil required	KL	Part of	3723.00	3723.00	3733.20
6	Wt. average rate of oil	₹/KL	Energy	30152.79	32772.87	43055.63
7	Annual cost of oil	₹ Cr.	Charges	11.23	12.20	16.07

75. The afore-mentioned clause of the Regulation takes care of the cost of secondary fuel oil subject to fuel price adjustment at the end of each year of tariff period as per the formula given in the Regulation.

(f) Interest Charges on Working Capital

76. Interest Charges on Working Capital for 500MW SGTPS Ext. unit-5 is worked out considering the following:

(i) Interest on working capital worked out since CoD to 31.03.2009 based on clause 3.34 and its amendment of MPERC Regulations, 2005 stated as follows:

For Coal based generating stations

(a) *Cost of coal for 45 days for pit-head generating stations and two month for non-pit-head generating stations, corresponding to the target availability;*

(b) *Cost of secondary fuel oil for two months corresponding to the target availability;*

(c) *Operation and Maintenance expenses for one month;*

- (d) *Maintenance spares @ 1% of the historical cost escalated @ 4% per annum from the date of commercial operation; and*
 - (e) *Receivables equivalent to two months of fixed and variable charges for sale of electricity calculated on the target availability.*
- (ii) The interest on working capital for the period FY09-10 to FY11-12 worked out as per clause 48.1 of the MPERC Regulations, 2009 stated as follows

The Working Capital for Coal based generating stations shall cover:

- (a) *Cost of coal for 45 Days for pit-head generating stations and two months for non-pit-head generating stations, corresponding to the normative availability;*
 - (b) *Cost of secondary fuel oil for two months corresponding to the normative availability;*
Provided that in case of use of more than one secondary fuel oil, cost of fuel oil stock shall be provided for the main secondary fuel oil.
 - (c) *Maintenance spares @ 20% of the normative O&M expenses;*
 - (d) *Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the Normative Annual Plant Availability Factor; and*
 - (e) *Operation and Maintenance expenses for one month.*
- (iii) The cost of fuel shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the Generating Company and Gross Calorific Value of the fuel as per actual for the preceding three months and no fuel price escalation shall be provided during the Tariff period.
- (iv) Rate of interest on working capital up to 31.03.2009 considered as per clause 2.30 of the Regulations, 2005, shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on April 1 of the relevant year plus 1%. Rate of interest on working capital for the period FY2009-10 to FY2011-12 considered based on clause 27.1 of Regulations, 2009 and its amendment notified on 3rd December, 2010 which stated as follows:

“Rate of interest on working capital to be computed as provided subsequently in these Regulations shall be on normative basis and shall be equal to the State Bank Base Rate as on 1st of April of that year plus 4.00%. The 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 or has exceeded the working capital loan compared to the working capital required on the normative basis.”

77. The cost of coal and cost of oil Working Capital for 500MW SGTPS Ext. unit-5 from CoD to FY11-12 is worked out as given below:

Cost of Coal for working capital:

Particular	Unit	FY 08-09	FY 09-10	FY 10-11	FY 11-12
Wt. avg. GCV	Kcal/kg	3959	3867	3823	3881
Station Heat Rate	Kcal/kWh	2450	2425	2425	2425
Heat contributed by Coal	Kcal/kWh	2430	2415	2415	2415
Sp. Coal consumption	kg/kWh	0.6138	0.6245	0.6317	0.6223
Normative Gross Generation	MU's	3504	3723	3723	3733
Coal Requirement (60 days for non pit-head)	MT	358454	387512	391972	387172
Wt. Avg. rate of Coal	₹/MT	1494	1685	2020	3570
Cost of Coal stock for two months	₹ Cr.	53.55	65.30	79.17	138.23

Cost of secondary fuel oil for working capital:

Particular	Unit	FY 08-09	FY 09-10	FY 10-11	FY 11-12
Normative plant availability factor	%	80	85	85	85
Sp. Oil consumption	kg/kWh	2.00	1.00	1.00	1.00
Annual normative Gross Gen.	MU's	3504	3723	3723	3733
Annual requirement of oil	KL	7008	3723	3723	3733.2
Oil stock for two months	KL	1168	620.5	620.5	622.2
Wt. Avg. price of Oil (From FY10 to FY12, the cost of main fuel oil shall be allowed for WC)	₹/KL	35926	26694	29059	39303
Cost of Oil stock for two months	₹Cr	4.20	1.66	1.80	2.45

78. Accordingly, the interest on Working Capital for 500MW SGTPS Ext. unit-5 from CoD to FY11-12 is worked out as given below:

Interest on working capital:

Sr. No.	Particular	Unit	FY 08-09	FY 09-10	FY 10-11	FY 11-12 (Proj.)
1	Coal Stock for two months	₹ Crs.	53.55	65.30	79.17	138.23
2	Secondary Oil Stock for two months	₹ Crs.	4.20	1.66	1.80	2.45
3	O & M Expenses for one month	₹ Crs.	4.56	4.46	4.73	5.02
4	Maint. Spares 1% of historical cost for FY09 and 20% of Normative O&M Expenses for FY10 to FY12	₹ Crs.	18.45	10.70	11.36	12.05
5	Receivables for two months	₹ Crs.	124.15	138.51	153.28	219.03
6	Total Working Capital	₹ Crs.	204.92	220.62	250.35	376.78
7	Rate of interest	%	13.25	12.25	11.75	12.25
8	Interest on working capital	₹ Crs.	27.15	27.03	29.42	46.16

Availability:

79. The target availability of the generating station considered for the period from 1.8.2008 to 31.3.2009 as per Regulations. The details of the target availability as per norms in the regulations vis-à-vis actual availability is given below;

Target	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
Norms	80%	85%	85%	85%
Actual	66.89%	77.56	86.46%	93.53%

80. The recovery of annual capacity (fixed) charges for FY08-09 shall be made by the petitioner in accordance with the clause 3.11 of Regulations 2005 and for the period FY2009-10 to FY2011-12 shall be in accordance with the clause 38.2 of Regulations 2009 on pro-rata basis with respect to actual annual plant availability factor.

Summary of annual capacity (fixed) charges:

81. The annual capacity (fixed) charges for the period 28.8.2008 to 31.3.2012 allowed in this order are summed up as below:

Annual capacity (fixed) charges determined in this final tariff order:						
Sr. No.	Particular	Unit	FY 08-09	FY 09-10	FY 10-11	FY 11-12 (Proj.)
1	Return on equity	₹ Cr.	77.51	85.81	85.81	85.81
2	Interest charges on loan	₹ Cr.	146.87	141.13	132.53	124.62
3	Depreciation	₹ Cr.	66.07	95.56	97.55	99.00
4	Operation & Maintenance expenses	₹ Cr.	54.75	53.50	56.80	60.25
5	Cost of secondary fuel oil	₹ Cr.	Part of Energy charge	11.23	12.20	16.07
6	Interest on working capital	₹ Cr.	27.15	27.03	29.42	46.16
7	Annual capacity (fixed) charges	₹ Cr.	372.35	414.25	414.31	431.91
8	AFC for 216 days for FY08-09	₹ Cr.	225.92	414.25	414.31	431.91
9	AFC recoverable at actual plant availability factor	₹ Cr.	188.90	377.99	421.43	475.25
10	AFC allowed in provisional tariff order and MYT order	₹ Cr.	206.28	383.29	376.28	369.41
11	Balance amount allowed to be recovered	₹ Cr.	-17.38	-5.30	45.15	105.84

The petitioner is allowed to recover total amount of ₹ 128.31 Cr. in this order.

Energy Charges (Variable Charges)

82. The energy (Variable) charges for FY08-09 mainly cover the fuel costs (primary fuel and secondary fuel), and shall be payable for the total energy scheduled to be supplied to the beneficiary during the calendar month on ex-power plant basis. The rate of energy charges for FY08-09 shall be worked out as per clause 3.13 under regulation 42 of "MPERC (Terms and Conditions of Generation Tariff) Regulations, 2005 {G-26 OF 2005}".
83. For the period FY09-10 to FY11-12, the Energy (variable) Charges shall cover only primary fuel cost and shall be payable for the total energy scheduled to be supplied to the beneficiary during the calendar month on ex-power plant basis. The rate of energy charges for FY09-10 to FY11-12 shall be worked out in accordance with

clause 39.2 of the "MPERC (Terms and Conditions of Generation Tariff) Regulations 2009.

84. With regard to the operating parameters for FY08-09, clause 1.5 of the Regulations, 2005 stipulated that "Any new generating company or station which comes up in future and proposes to supply electricity to a distribution licensee of the State shall be subjected to the norms prescribed by CERC vide its order dated 26/03/2004." Clause 3.6 of the same regulation further provides that "for generating Units/Stations commissioned after 01/04/2006, principles and norms as prescribed by CERC vide its order dated 26/03/2004 shall be applicable."
85. Accordingly, the applicable operating norms for 500MW SGTPS Ext. unit-5 as per applicable Regulations are as follows;

Particular	Unit	FY 08-09	FY 09-10	FY 10-11	FY 11-12
Gross Station Heat Rate	Kcal/kWh	2450	2425	2425	2425
Auxiliary energy consumption	%	7.00	6.00	6.00	6.00
Specific oil consumption	ml/kWh	2.00	1.00	1.00	1.00
Transit loss	%	0.80	0.80	0.80	0.80

86. The plant has been under commercial operation for only 216 days in FY 2008-09 since CoD hence, the effective days of operation considered by the Commission for FY 2008-09 is 216 days.
87. With regard to the transit and handling losses, the petitioner in para 12.6 of the petition submitted the following:

"Impact of Transit & Handling losses has not been taken while working out quantity of coal to be purchased during FY09 to FY11 for the reason that the same has been considered while working out coal prices in the audited accounts. This avoids duplicacy of claim in respect of Transit & Handling losses."

88. The petitioner has filed the yearly statement for rate of coal showing the month wise quantity, amount and weighted average rate of coal certify by the Sr. accounts officer. The details of the weighted average rate of coal worked out by the petitioner is as follows:

Year	Qty. of Coal in MT	Amount in ₹ Cr.	Rate of coal in ₹ /MT
FY08-09	1273281	190.34	1494.87
FY09-10	2380560	401.22	1685.40
FY10-11	2513427	507.68	2019.86
FY11-12	2457151	877.24	3570.16

89. With regard to GCV of Coal, the petitioner has filed the monthly coal analysis report of the coal supplied to this unit for the subject period indicating the weighted average GCV of the coal for the month as fired basis. The petitioner in form 17 of the petition has also filed the yearly statement indicating the qty. of coal and wt. average GCV of coal for the year based on the monthly coal analysis report. The year wise wt. average GCV of coal summarized is as given below:

Year	Qty. of Coal in MT	GCV of coal in kCal/kg
FY08-09	1273281	3959
FY09-10	2380560	3867
FY10-11	2513427	3823
FY11-12	2457151	3881

90. Accordingly, the energy charges for FY2008-09 have been computed considering the rate of coal and GCV of coal as above and operating norms as per Regulations are as under:

Energy charges (variable charges):			
Sr. No.	Particular	Unit	FY08-09
1	Capacity	MW	500
2	NAPAF	%	80
3	Gross Station Heat Rate	kCal/kWh	2450
4	Sp. Fuel Oil Consumption	ml/kWh	2.00
5	Aux. Energy Consumption	%	7.00
6	Weighted average GCV of Oil	kCal/ltr.	10,000
7	Weighted average GCV of Coal	kCal/kg	3959
8	Weighted Average price of Oil	₹/KL	35926
9	Weighted Average price of Coal	₹/MT	1494.00
10	Heat Contributed from HFO	kCal/kWh	20
11	Heat Contributed from Coal	kCal/kWh	2430
12	Sp. Coal Consumption	kg/kWh	0.6138
13	Rate of Energy Charge from Oil	Paise/kWh	7.19
14	Rate of Energy Charge from Coal	Paise/kWh	91.70
15	Total Rate of Energy Charge	Paise/kWh	98.89
16	Rate of Energy Charge from Coal at ex-bus	₹/kWh	1.06

91. Further, from FY09-10 to FY11-12 the base rate of energy charges is worked out based on Regulations, 2009 is as follows;

Energy charges (variable charges):

Sr. No.	Particular	Unit	Energy Charge Rate		
			FY 2009-10	FY 2010-11	FY 2011-12
1	Capacity	MW	500	500	500
2	NAPAF	%	85	85	85
3	Gross Station Heat Rate	kCal/kWh	2425	2425	2425
4	Sp. Fuel Oil Consumption	ml/kWh	1.00	1.00	1.00
5	Aux. Energy Consumption	%	6.00	6.00	6.00
6	Weighted average GCV of Oil	kCal/ltr.	10,000	10,000	10,000
7	Weighted average GCV of Coal	kCal/kg	3867	3823	3881
8	Weighted Average price of Coal	₹/MT	1685.00	2019.86	3570.16
9	Heat Contributed from HFO	kCal/kWh	10	10	10
10	Heat Contributed from Coal	kCal/kWh	2415	2415	2415
11	Sp. Coal Consumption	kg/kWh	0.6245	0.6317	0.6223
12	Rate of Energy Charge from Coal	Paise/kWh	105.23	127.60	222.16
13	Rate of Energy Charge from Coal at ex-bus	₹/kWh	1.119	1.357	2.363

92. The energy charges from FY2009-10 to FY2011-12 shall however, be subject to month-to-month adjustment of actual fuel price and actual GCV of main fuel. The above energy charges have been calculated for the purpose of calculation of two month's billing which is used for calculation of interest on working capital.
93. The actual billing of energy charges shall be as per the formula provided in Tariff Regulations, 2009. The weighted average landed price of coal for the purpose of computation of energy charges shall be worked out on the basis of landed cost of coal as prescribed in Regulation 39.4 of MPERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2009, which provides that,

“The landed cost of coal shall include price of coal corresponding to the grade and quality of coal inclusive of royalty, taxes and duties as applicable, transportation cost by rail/road or any other means, and, for the purpose of computation of Energy Charges, shall be arrived at after considering normative transit and handling losses as percentage of the quantity of coal despatched by the Coal Supply Company during the month as given below:

Pit head generating stations: 0.2%
Non-Pit head generating stations: 0.8%”

94. *As per above provision, it should be ensured that for computing energy charges quantity of coal as despatched by the Coal Supply Company is taken after accounting for only permissible transit and handling losses alone.*

Other Charges

95. The petitioner in this final tariff petition has claimed the Other Charges which comprises of Common Expenses, Cess on auxiliary consumption, Rent, Rates & Taxes, MPERC Fees, Entry Tax on R&M, Water Charges etc. The petitioner has submitted that the water charges and Cess which are payable to Government have been paid based on rates specified by GoMP. Common expenses are expenditure incurred in management of cash flow etc and have been paid to MPSEB in accordance to GoMP notification dated 03.06.2006. Rent, Rates and Taxes for power stations has been taken on actual.
96. The petitioner is allowed to recover the fee paid by the petitioner to MPERC for determination of generation tariff, cess and ED as applicable from the beneficiaries on pro-rata basis. The Commission had not allowed the MPSEB common expenses in previous tariff orders. Therefore, these expenses are not allowed in this order also.
97. In addition to the other charges as approved above, the petitioner is entitled to recover the taxes in accordance with Regulation, 2009 on pro-rata basis paid to the Government and levied by Statutory Authorities as actual.
98. This order is for the final generation tariff Order for SGTPS Ext. unit 5 thermal power project from CoD to 31.03. 2011. The figures for FY2011-12 are provisional and shall be trued-up subsequently as per the audited accounts. The petitioner must take steps to implement the Order after giving seven (7) days' public notice in accordance with Clause 1.30 of MPERC (Details to be furnished and fee payable by licensee or generating company for determination of tariff and manner of making application) Regulations, 2004 and its amendments and recalculate its bills for the energy supplied to Distribution Companies of the State/ M.P. Power Management Company Ltd. since CoD to 31.03.2012. The petitioner must also provide information to the Commission in support of having complied with this Order. The deficit/surplus amount as a result of this order shall be recovered or passed on to the three Distribution Companies of the state in terms of applicable Regulation in the ratio of energy supplied to them in equal monthly installments during FY 2013-14.

Ordered accordingly.

**Sd/-
(A. B. Bajpai)
Member**

**Sd/-
(Rakesh Sahni)
Chairman**

Date: 28th February, 2013
Place: Bhopal