MADHYA PRADESH ELECTRICITY REGULATORY COMMISSION

5th Floor, "Metro Plaza", Bittan Market, Bhopal - 462 016

Petition No.05 of 2014

PRESENT:

Rakesh Sahni, Chairman

A. B. Bajpai, Member

Alok Gupta, Member

IN THE MATTER OF:

Approval of provisional Generation Tariff for 2X600 MW Unit No. 1 and 2 of Shri Singaji Thermal Power Project Distict Khandwa, from CoD of Unit No. 1 to 31.03.2016.

M.P. Power Generating Company Ltd, Rampur, Jabalpur : PETITIONER

Vs.

1. M. P. Power Management Company Ltd., Jabalpur

2. M. P. Power Transmission Co. Ltd., Jabalpur

RESPONDENTS

ORDER

(Passed on this day of 10th November, 2014)

1. M.P. Power Generation Company Ltd. **(hereinafter called "MPPGCL" or "the petitioner")** filed the subject petition on 31st January, 2014 for approval of Generation Tariff for 2x600 MW, Shri Singaji Thermal Power Project (**hereinafter called "SSTPP")** Stage-I Unit No. 1 & 2 from CoD of Unit No. 1 to 31.03.2016. The subject petition is filed under section 62 and 86 (1) (a) of Electricity Act, 2003 and provisions under MPERC (Terms and Conditions for determination of Generation Tariff) Regulation, 2012 **(hereinafter referred to as "Regulations, 2012")**. These Regulations are based on multiyear tariff principles prescribing norms of operation for the control period from FY 2013-14 to FY 2015-16.

2. The petitioner submitted that M.P. Power Management Co. Ltd. (MPPMCL) and the three DISCOMS of MP have entered into a management and corporate functions agreement on 05.06.2012, whereby the three DISCOMS engaged MPPMCL to represent them in all the proceedings relating to power procurement and tariff petitions filed or to be defended before CERC, MPERC and other regulatory authorities, Appellate Tribunal, High Courts, Supreme Court and CEA etc.. Therefore, the three DISCOMS were not made respondents separately in this petition.

3. The petitioner mentioned that the Unit No. 1 of SSTPP Stage-I was synchronized on 31st August, 2013. Vide letter dated 6th February' 2014, the petitioner informed that the Unit No. 1 of Shri Singaji Thermal Power Project Stage-I successfully completed the full load tests on 31st January, 2014 and this Unit has been declared for commercial operation with effect from 00.00 Hrs. of 1st February, 2014. Therefore, the CoD of the unit No. 1 is 01.02.2014.

4. By affidavit dated 18th June, 2014, MPPGCL filed an Interlocutory Application for Ad-interim Order seeking permission to raise bills on provisional basis for power supplied to MPPMCL from its 1x600 MW Unit No. 1 of Singaji Thermal Power Project. The Interlocutory Application was registered as IA-1/2014.

5. Vide order dated 20th June, 2014, the Commission provisionally determined the Annual Capacity Charges for SSTPP Unit No. 1 based on the information filed in the subject petition and allowed the petitioner to recover 90% of the AFC of ₹777.43

Cr. on provisional basis. The petitioner was also allowed to recover Energy Charges @ ₹ 1.68 per unit as filed in the instant petition. Accordingly, the petitioner was allowed to raise bills on provisional basis from COD till disposal of the subject petition. The details of the Annual Capacity Charges and Energy Charges provisionally allowed for billing purpose are as given below:

Sr. No.	Particular	Unit	FY 2013-14
i	Return on equity	₹ Crores	98.39
ii	Interest charges on loan	₹ Crores	357.99
iii	Depreciation	₹ Crores.	163.13
iv	Operation & Maintenance expenses	₹ Crores	77.70
v	Secondary fuel oil expenses	₹ Crores	27.67
vi	Interest on working capital	₹ Crores	52.55
vii	Annual capacity (fixed) charges	₹ Crores	**777.43**
A	**90% of the above AFC is allowed to be recovered**	**₹ Crores**	**699.68**
B	**Energy Charges**	**₹ / kWh**	**1.68**

6. In the subject petition, the petitioner broadly submitted the following:

i. *"Shri Singaji Thermal Power Project (SSTPP) is one such coal based power project of the Petitioner located near village Dongalia in Khandwa District of Madhya Pradesh. The site is situated at a distance of 45 Kms from the district headquarters Khandwa and the nearest railway stationis Bir, at a distance of around 5 Km.*

ii. *In view of remoteness of the Malwa region comprising the districts of Indore, Ratlam, Ujjain and Dewas (located near the western fringe of the State) from the major power generating stations (which are located in the eastern side) great difficulty was being faced in supplying bulk power to this flourishing region showing substantial growth in demand of electrical energy for domestic, industrial, agriculture and commercial consumption. As such, to bridge the gap between the demand and supply, Govt. of M.P. decided to install 2X500MW MalwaThermal Power Project near village Dongalia/Purni in Khandwa district and accorded administrative approval vide letter No. 2966/F-3/37/13/99 dated 18/05/2001 (Annexure-2).*

iii. *The erstwhile M.P. State Electricity Board (MPSEB) accorded administrative approval for installation of 2X500MW coal fired Malwa Thermal Power Project (Ultimate capacity - 2000MW) at village Purni/ Dongalia, District Khandwa, vide resolution passed in its 27th meeting held on 14/12/2004 at Bhopal (Annexure-3).*

iv. *Initially the Project Cost for the subject project was tentatively estimated at ₹ 4434.69 Crore based on prevailing orders awarded on M/s BHEL (Aug 2005) for Bhoopalpalli/ Vijaywada TPS Stage-IV (1X500 MW), Kahalgaon Stage-II (2X500 MW) (Year 2004) and the DPR of Bhoopalpalli (Year 2005). This tentative estimate of ₹4434.69 Crore was approved by the BoD MPPGCL vide resolution passed by circulation during 31/01/2006 to 10/02/2006 (Annexures -4).*

v. *Govt. of M.P., vide letter No. 6421/13/2005 dated 24/09/2005, had directed to make efforts to obtain "Mega Power Project Status" to the project (Annexure-5). One of the main criteria for grant of Mega Power Project Status was to call offers for implementation of the project through ICB route. Central Electricity Authority (CEA), vide letter No.70/SR/HS/TPIA/2004/ dated 18/03/2005 (Annexure-6) had advised that while inviting bids under ICB route, the Generating companies instead of specifying a particular Unit size may specify a range to get competitive bids from large number of manufacturers (500 + 20% in case of 500MW Units).It was further advised that inputs like coal and water need to be tied up and environmental clearance obtained for the maximum size specified in the range. In this context, Ministry of Power GoI, New Delhi, had advised, vide office memorandum No. 3/2/2006-DVC dated 05/02/2007 (Annexure-7), to strictly follow the guidelines prescribed by the CEA.*

vi. *The project capacity in the first phase was planned as 2*600MW and the GoMP accorded revised administrative approval for establishing 2X(500-600) MW Project in the first phase with maximum capacity of the project as 4X(500-600)MW, vide letter dated 02/01/2008 (Annexure-8).*

vii. *Ministry of Power, Govt. of India, granted Mega Power Project Status to the project vide Certificate No. 6/3/2006-S.Th. dated 03/01/2007 (Annexure-9). A corrigendum to the aforesaid certificate was issued vide Ministry of Power, Govt. of India, letter No. 6/3/2006-S.Th. dated Dec, 2010 on the changed name of the Project as "Shri Singaji Thermal Power Project" and installed capacity of 2X600 MW (Annexure-10 & 11).*

viii. *The above mentioned initial tentative project cost estimate of ₹4434.69 Crore was subsequently updated considering the benefits of exemption of Custom Duty and Excise Duty available due to Mega Power project Status for the project. The updated project cost was worked out as ₹ 4053 Crore. This tentative project cost estimate of ₹ 4053 Crore was approved by the BoD MPPGCL vide resolution passed in its 21st meeting held on 26/08/2006 (Annexure-12). This project cost estimate was approved by the GoMP vide its letter No. 3186/13/2007 dated 04/05/2007 (Annexure-13) in which the GoMP approved availing of PFC loan of ₹ 3242.00 Crore (80% of Project Cost) and GoMP Equity of ₹ 810.60 Crore (20% of the Project Cost) for the subject project.*

ix. *This updated cost estimate of ₹ 4053 Crore was, however, subject to further revision after placement of orders for civil works for the Main Power Block, Balance of Plant (BoP) and Non-EPC works. During the finalization of BoP contracts in July-Aug 2009, need was felt to revise the project cost estimate due to receipt of high prices of BoP vis-à-vis the first revised estimated cost. The project cost estimate was, therefore, again revised to ₹ 6750.00 Crore. This revised project cost estimate was approved by the BoD MPPGCL vide resolution passed in its 44th meeting held on 26/08/2009 at Bhopal (Annexure-14). The revised project cost estimate of ₹ 6750.00 Crore was approved by the GoMP vide Energy Department letter No. 8271/13/2009 dated 17/11/2009 (Annexure-15). In its above approval dated 17/11/2009, the GoMP also approved availing of PFC loan of ₹ 5400 Crore (80% of revised project cost of ₹ 6750.00 Crore) and GoMP Equity of ₹ 1350*

Crore (20% of revised project cost estimate of ₹. 6750 Crore).

x. *The Project Cost estimate has now been revised to ₹ 7820.00 Crore. This revision in project cost was necessitated due to increase in expenditures on account of Land, Civil Works, Railway Transportation System, Spares, etc., increase in IDC due to delay in commissioning of Units and change in interest rates on loan. The revised project cost estimate of ₹ 7820.00 Crore has been approved by the BOD MPPGCL in its 72nd meeting held on 04/01/2014.*

xi. *Since the subject Units No. 1 & 2 of SSTPP are being installed to meet the growing demand of power in the State of M.P., the Petitioner, offered 100% power to be generated from these Units to Respondent No. 1 (M.P. Power Trading Co. Ltd., now M.P. Power Management Co. Ltd.) for onward sale to the Discoms of M.P. on the rates to be determined by the Commission. Respondent No. 1 conveyed its consent for purchase of 100% power from these Units. A Power Purchase Agreement to this effect has been signed between the Petitioner and Respondent No. 1 on 04/01/2011 (Annexure-17). First Amendment Agreement to the aforesaid PPA was signed on 26/09/2012 for incorporating the change in name of Respondent No. 1 from MP Power Trading Company Ltd. to M.P. Power Management Co. Ltd. (Annexure-17 A) .*

xii. *A Petition (No. 37/2012) was filed before the Commission by the Respondent No. 1 for approval of the aforesaid PPA. The Commission, vide Order dated 30/10/2013 (Annexure-17 B), has accorded approval to the aforesaid PPA subject to incorporation of the addendum to Clause 7.6.2 of the PPA as mutually agreed by the Respondent No. 1 and the Petitioner. Respondent No. 1 has been directed by the Commission to file the copy of the amended PPA with the Commission.*

xiii. *The instant petition is filed under Section 62 of Electricity Act, 2003 which provides determination of tariff by the Appropriate Commission for supply of electricity by a generating company. The Hon'ble Commission is vested with the jurisdiction to regulate the* *tariff of Generating Companies owned or controlled by a State Government and other Generating Companies as envisaged under Section 86(1)(a) & (b) of Electricity Act, 2003.*

xiv. *MPERC (Terms and Conditions for Determination of Generation Tariff) (Revision-II) Regulations, 2012, for the control period FY14 to FY16, notified on 12/12/2012, have come into force from 01/04/2013. The Petitioner is filing the present petition for determination of tariff for 2X600 MW, Shri Singaji Thermal Power Project Stage-I, Units No. 1 & 2, for the period w.e.f. anticipated COD of Unit No. 1, to 31st March 2016 in accordance to MPERC (Terms and Conditions for Determination of Generation Tariff) (Revision-II) Regulations, 2012.*

xv. *Anticipated capitalization of the Project as on the COD of Unit No. 1 (31st January, 2014) is ₹ 3546.30 Crore and the total anticipated capitalization as on Station COD, i.e., COD of Unit No. 2 (30th Sep, 2014), is ₹ 7615.67 Crore, as detailed in attached Form TPS-5B. This has been considered for tariff determination purpose.*

xvi. *The IDC amount anticipated to be capitalized for Unit No. 1 as on its COD is ₹ 681.16 Crore and that for Unit No. 2 as on its COD is ₹791.89 Crore. Thus, the total IDC amount anticipated to be capitalized as on Station COD (COD of Unit No. 2) is projected to be ₹1473.05 Crore.*

xvii. *Unit No. 1 of SSTPP Stage-I was synchronized on 31/08/2013 at 15:04 Hrs. Commissioning activities and trial operation of Unit No. 1 are ongoing and it is expected to be put on Commercial Operation w.e.f. 31/01/2014. Unit No. 2 is expected to be put on Commercial Operation w.e.f. 30/09/2014. Regulation 19 of MPERC Generation Tariff Regulations 2012 provides accounting of Infirm Power as Unscheduled Interchange (UI) and paid for from the Regional/State UI pool account. Hon'ble Commission may kindly permit billing of infirm power w.e.f. 31/08/2013 till COD at UI charges subject to ceiling as per CERC (Unscheduled Interchange Charges and related matters) Regulations, 2012.*

xviii. *Since the instant Petition has been filed on the basis of anticipated dates of COD of Units No. 1 and 2, an estimation for fuel expenditure during trial run and the net revenue earned/under recovery expected from sale of Infirm Power has been made at this juncture and the same has been accounted for under the expenditure head of Start-up Fuel, under the major expenditure head of Construction and Pre-Commissioning Expenses in Form TPS-5B. In case any net revenue is earned from sale of Infirm Power from the subject Units, after accounting for the fuel expenses, the same shall be duly accounted for while filing the Petition for final tariff of these Units*

xix. *Additional capital expenditure after the Station COD and up to completion of balance works of the two Units, during FY14 to FY16, is projected to be ₹ 204.33 Crore The Projected estimated completed cost of the project is ₹ 7820.00 Crore.*

xx. *The Petitioner has filed this petition for approval of provisional tariff of 2x600 MW, Shri Singaji Thermal Power Project (SSTPP) Stage-I, Units No. 1 & 2, w.e.f. the anticipated date of commercial operation (COD) of Unit No. 1 up to 31/03/2016 based on expected capitalization figures on the COD of Unit No. 1 and 2 respectively, as available with the project execution authority. The projected additional capital expenditure up to the Cut off date is within the original scope of works of the Project and is in accordance with regulations 20.1 of MPERC Tariff Regulations 2012. It is submitted that such expenditure 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. The expenditure figures submitted in the Petition are on provisional or projected basis. Audited figures shall be filed at the time of filing petition for approval of final generation tariff for these Units.*

xxi. *Necessary formats to be filed with the petition have been filled in and enclosed with this petition. It is submitted that the Petitioner has furnished the information/details as required under the aforesaid formats to the extent the same is available with the Petitioner.*

xxii. *The Other Expenses, comprising of Electricity duty and Cess on Auxiliary Consumption, Rent Rates and Taxes payable to Government, MPERC Fee, Cost of Chemicals & Consumables, Arrears paid to employees, Water Charges, Publication Expenses and SLDC/RLDC/NLDC and Transmission Charges, etc., levied by various authorities on the Petitioner in accordance with law, shall be billed to beneficiaries additionally on actual. In the instant Petition Minimum Alternate Tax (MAT) including surcharge and Cess has been considered for tariff calculations. 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."*

7. Accordingly, the Year wise cost of generation from CoD of the Unit No. 1 to 31st March, 2016 filed in the original petition is as given below.

Generation Cost of 2 x 600 MW SSTPP Stage - I, Units No. 1 & 2						
Particulars	**Units**	**FY 14**	**FY 15**			**FY 16**
		COD of Unit 1 to 31.03.14	**01.04.14 to COD of Unit 2 (30.09.14)**	**COD of Unit 2 to 31.03.15**	**Total for FY 15**	**Unit No. 1 & 2**
		Unit 1	**Unit 1**	**Unit 1&2**		
Norm. Net Generation	MU	690.34	2094.02	4211.05	6305.07	8422.10
Return on Equity (Pre Tax)	₹ Cr.	22.45	69.03	135.19	204.22	272.59
Intt. and Fin. Chrg. on Loan	₹ Cr.	54.55	170.17	364.70	534.87	736.30
Depreciation	₹ Cr.	27.04	84.76	175.25	260.01	354.19
O&M Expenses	₹ Cr.	12.77	41.83	84.11	125.93	181.08
Intt. Charges on W. Captial	₹ Cr.	8.46	26.37	53.58	79.95	110.28
Cost of Sec. Fuel Oil	₹ Cr.	4.55	13.79	27.74	41.54	55.48
Total Fixed Cost	**₹ Cr.**	**129.74**	**405.95**	**840.57**	**1246.52**	**1709.93**
	p/u	**187.94**	**193.86**	**199.61**	**197.70**	**203.03**
Variable Charges	**₹ Cr.**	**115.85**	**351.40**	**706.66**	**1058.05**	**1413.31**
	p/u	**167.81**	**167.81**	**167.81**	**167.81**	**167.81**
Other Charges						
MPERC Fee	₹ Cr.	0.36	0.00	0.00	0.36	0.36
Water Charges	₹ Cr.	1.37	4.09	8.27	12.36	16.45
Total of Other Charges	**₹ Cr.**	**1.73**	**4.09**	**8.27**	**12.72**	**16.81**
Total Charges	**₹ Cr.**	**247.31**	**761.44**	**1555.50**	**2317.30**	**3140.05**
Indicative Average Rate	**p/u**	**358.25**	**363.63**	**369.39**	**367.53**	**372.83**

8. Subsequently, the petitioner filed the revised fixed and variable charges on 14th July, 2014 as given below:

Generation Cost of 2 x 600 MW SSTPP Stage - I, Units No. 1 & 2						
Particulars	**Units**	**FY 14**	**FY 15**			**FY 16**
		COD of Unit 1 to 31.03.14	**01.04.14 to COD of Unit 2 (30.09.14)**	**COD of Unit 2 to 31.03.15**	**Total for FY 15**	**Unit No. 1 & 2**
		Unit 1	**Unit 1**	**Unit 1&2**		
Norm. Net Generation	MU	678.83	2094.02	4211.05	6305.07	8422.10
Return on Equity (Pre Tax)	₹ Cr.	21.37	68.89	145.58	214.48	299.06
Intt. and Fin. Chrg. on Loan	₹ Cr.	55.48	172.37	368.59	540.96	727.86
Depreciation	₹ Cr.	26.42	84.95	176.55	261.50	355.12
O&M Expenses	₹ Cr.	12.56	41.83	84.11	125.93	181.08
Intt. on Working Capital	₹ Cr.	9.28	29.31	59.74	89.04	122.28
Cost of Sec. Fuel Oil	₹ Cr.	4.09	12.61	25.36	37.97	50.72
Total Fixed Cost	**₹ Cr.**	**129.19**	**409.95**	**859.93**	**1269.89**	**1736.12**
	p/u	**190.32**	**195.77**	**204.21**	**201.41**	**206.14**
Variable Charges	**₹ Cr.**	**134.79**	**415.79**	**836.16**	**1251.95**	**1672.31**
	p/u	**198.56**	**198.56**	**198.56**	**198.56**	**198.56**
Total (Fixed Charges + Variable Charges)	**₹ Cr.**	**263.98**	**825.75**	**1696.09**	**2521.84**	**3408.44**
	p/u	**388.88**	**394.34**	**402.77**	**399.97**	**404.70**

9. With the above submission, the petitioner prayed the following in the petition:

"

a. *Approve the tariff of 2x600 MW, Shri Singaji Thermal Power Project Stage-I, Units No. 1 & 2, from their respective dates of Commercial Operation till 31/03/2016, as given in Para 29, on provisional basis.*

b. *Permit additional recovery on account of Electricity duty and Cess on Auxiliary Consumption, Rent Rates and Taxes payable to Government, MPERC Fee, Cost of Chemicals & Consumables, Arrears paid to employees, Water Charges, Publication Expenses and SLDC/RLDC/NLDC and Transmission Charges, etc., levied by various authorities on the Petitioner in accordance with law, on actual basis, over and above the fixed and variable charges.*

c. *Allow recovery of cost of Infirm Power generated from the subject Units w.e.f. 31/08/2013 till the declaration of COD of the respective Units, at the rates specified in CERC/MPERC Regulations and to account for its impact on the Project Cost, after accounting for fuel expenses during Infirm Power Generation, while filing the Petition for final tariff of these Units.*"

10. The petitioner filed the following documents/clearances/approvals for the project:

Administrative approval:

- Vide letter Dated 18/05/2001, Govt. of Madhya Pradesh accorded administrative approval for installation of 2x500 MW Malwa Thermal Power Project at village Dongalia/Purni in Khandwa District.

- Vide resolution passed on 14/12/2004, Erstwhile MPSEB accorded administrative approval for installation of 2x500 MW Coal Fired Malwa Thermal Power Station at village Purni, Distt Khandwa.

- Vide letter dated 02/01/2008, Govt of MP accorded revised administrative approval for installation of 2X(500-600) MW project in the first phase with maximum capacity of the project as 4X600 MW.

- Vide Certificate dated 03/01/2007, Ministry of Power, Govt. of India, granted Mega Power Project Status to the project.

- Vide letter dated December' 2010 a corrigendum to the aforesaid certificate was issued by Ministry of Power, Govt. of India, on the changed name of the Project as "Shri Singaji Thermal Power Project" and installed capacity of 2X600 MW.

- Vide Energy Department letter dated 05/02/2007, Administrative approval was granted by GoMP for adopting Sub-Critical technology for the project.

Approval of capital cost:

- Vide Resolution passed on 31/01/2006, the BoD MPPGCL accorded approval to Initial Project Cost Estimate of ₹ 4434.69 Crore

- Vide letter dated 24/09/2005, the GoMP accorded approval for funding pattern 80:20 through loan (80%) and equity (20%) of the aforesaid Project Cost.

- Vide resolution passed on 26/08/2006, Approval of updated project cost estimate of ₹ 4053 Crore, considering the benefits available due to Mega Power Project Status for the project, was accorded by the BoD MPPGCL.

- Vide letter dated 04/05/2007, the project cost estimate of ₹ 4053 Cr. was approved by the GoMP in which the GoMP approved availing of PFC loan of ₹ 3242.00 Crore (80% of Project Cost) and GoMP Equity of ₹ 810.60 Crore (20% of the Project Cost) for the subject project.

- Vide resolution passed on 26/08/2009, at Bhopal, approval of revised project cost estimate of ₹ 6750 Crore was accorded by the BoD MPPGCL.

- Vide Energy Department letter dated 17/11/2009, the revised project cost estimate of ₹ 6750 Crore was approved by the GoMP. In its above approval dated 17/11/2009, the GoMP also approved availing of PFC loan of ₹ 5400 Crore (80% of revised project cost of ₹6750.00 Crores) and GoMP Equity of ₹ 1350 Crores (20% of revised project cost estimate of ₹ 6750 Crores).

- Vide resolution passed on 04/01/2014, approval of revised project cost estimate of ₹7820.00 Crores was accorded by the BoD MPPGCL.

PFC Loan:

- Vide letter dated 29/05/2006, initial sanction for loan amount of ₹ 2730 Crore was granted by M/s PFC, against request for sanction of loan of ₹ 3548.00 Crore (20% of ₹ 4434.69 Crores).

- Vide letter dated 30/03/2007, PFC granted sanctioned for revised loan amount of ₹ 3242 Crores, considering the updated project cost to ₹4053 Crores.

- Vide letter dated 19/03/2010, M/s PFC, enhanced the loan amount from ₹ 3242 Crores to ₹ 5160.42 Crores on the request of MPPGCL for enhancing the loan amount to ₹ 5400 Crores (80% of revised project cost of ₹ 6750 Crores).

- Vide BoD resolution dated 04/01/2014, decided to explore the possibility of seeking funds towards "additional equity" from other sources in view of the revised project cost of ₹ 7820.00 Crores.

Water Allocation:

- Consumptive water requirement for these Units with "Zero Discharge" was estimated to 3705 Cu M/Hr i.e. 32.5 Million Cu M per year. Allocation of 72 Milion Cu M per year water (for 4x600MW) from WRD GoMP has been received through WRD, GoMP, letter dated 25/05/2012. NOC from CWC was already obtained in November' 2002 for use of water from Indira Sagar Reservoir on river Narmada, vide letter dated 01/11/2002.

Environmental clearance:

- Vide letter dated 01/10/2008, Environmental clearance for installation of SSTPP Stage I, 2x600MW, was accorded by the Ministry of Environment and Forest.

- Vide letter dated 18/05/2012, Forest clearance was accorded by the Ministry of Environment and Forest, GoI, .

- Vide their letter dated19/10/2012, MPPCB approval was accorded granting permission to establish 2x600 MW thermal power project.

Coal Linkage:

- Vide letter dated 25/06/2010, 'Letter of Assurance' for supply of 4.9939 MTPA coal was given by SECL. Subsequently a Fuel Supply Agreement (FSA) has been signed with M/s SECL, Bilaspur on 24/01/2013 for supply of 4.9939 MTPA coal to the project. Subsequent three addendums to the FSA, Addendum-1, Addendum- 2 and Addendum-3, were signed on 01/07/2013, 31/07/2013 and 24/12/2013 respectively.

- A Supplementary MOU has been signed between the Petitioner (MPPGCL) and SECL for supply of additional 1LMT coal for SSTPP, Khandwa for commissioning activities including achievement of COD, on 24/12/2013.

Civil Aviation Clearance:

- Vide letter dated 22/02/2002, Airports Authority of India (AAI), New Delhi issued NOC for construction of a Chimney to a height of 275.00 M. The NOC issued by the AAI was revalidated vide their letter No. AAI/20012/19/2002-ARI (NOC) dated 17/01/2006.

11. Motion hearing in the matter was held on 25th February, 2014. Vide Commission's Order dated 25th February, 2014, the petition was admitted and the petitioner was directed to serve copies of the petition on all the respondents in the matter. Respondents were also asked to file their response on the petition by 25th March, 2014.

12. Vide letter dated 3rd March, 2014, the petitioner was asked to submit some additional information / details along with supporting data/ documents by 29th March' 2014. Vide letter dated 28th March, 2014, the petitioner confirmed that the copies of the petition have been served on all the respondents. Vide same communication, the petitioner sought time extension up to 15th May, 2014 for filing the response on the issues raised by the Commission. Subsequently, the petitioner again sought time extensions up to 16th June, 2014 and up to 15th July, 2014.

13. By affidavit dated 14th July, 2014, the petitioner filed its response on each issue raised by the Commission along with the supporting documents. Issue wise response filed by the petitioner is as given below:

13.1 **Issue:**

The petitioner has not filed the detailed project report of Singaji Thermal Power Project. The DPR of the project along with revised DPR if any be submitted.

MPPGCL's reply:

"A copy of the Detailed Project Repot (DPR) of Shri Singaji Thermal Power Project (SSTPP) Stage-I, 2X600MW, earlier called as Malwa Thermal Power Project, is annexed (Annexure-1). No revised DPR has been prepared for the project."

13.2 **Issue:**

Vide order dated 30^{th} October, 2013 in petition No. 37 of 2012, the Commission approved the PPA entered into by the petitioner and respondent for the power project subject to certain modifications. The copy of amended PPA in terms of the aforesaid order be submitted.

MPPGCL's reply:

"*MPERC, vide order dated 30/10/2013 in the matter of Petition No. 37/2012 filed by MPPMCL, accorded approval to Power Purchase Agreements (PPAs) entered into between MPPGCL and MPPMCL subject to incorporation of the agreed addendum to Clause 7.6.2 of the PPAs. In compliance to the aforesaid Order dated 30/10/2013, Addendums to the respective PPAs were executed on 04/03/2014.*

A copy of the aforesaid Addendum to the PPA between MPPGCL and MPPMCL in respect of Shri Singaji Thermal Power Project (SSTPP) Stage-I, Units No. 1 & 2, 2X600 MW, signed on 04/03/2014 is annexed (Annexure-2)."

13.3 **Issue:**

Unit No. 1 has achieved CoD on 1^{st} February, 2014. The date of synchronization of both the Units duly certified by SLDC and the expected date of commercial operation of Unit No.2 be submitted.

MPPGCL's reply:

"As desired, the SLDC certificate in respect of date of synchronization of Unit No.1 of SSTPP Stage-I is annexed (Annexure-3). Unit No. 2 of SSTPP Stage-I is yet to be synchronized. The desired certificate from SLDC in respect of date of synchronization of Unit No. 2 shall be submitted thereafter. Expected date of commercial operation of Unit No.2 is 30/09/2014."

13.4 **Issue:**

With regard to the Scheduled CoD, the following is observed from the documents filed with the petition:

(a) In the resolution passed by the BoD, MPPGCL, it is mentioned that the "Time taken for Commercial Operation of the first unit should not exceed 45 months from the date of placing the order.

(b) In para 2.9 of the petition, it is mentioned that the effective date of contract is 12th December, 2008. It is further mentioned that as per terms of the contract, CoD of unit No.1&2 were to be achieved within 42 months and 46 months respectively from the effective date of contract.

In view of the above the actual Scheduled CoDs of the units as per investment approval from the Board of Directors of the Company along with relevant supporting documents be informed.

MPPGCL's reply:

"In the resolution passed by the Board of Directors of MPPGCL through Circulation during 31st January 2006 to 10th February 2006, the Directors had made following comment:-

"Time taken for Commercial Operation of the first unit should not exceed 45 months from the date of placing order".

However, as per Clause 5.1 (Time for Commencement) in the Supply Contract Agreement dated 07/02/2009 executed between MPPGCL and the Contractor, M/s BHEL, the date of Letter of Award (LOA), i.e., 12/12/2008, is the Effective Date/Time of Commencement of the contract. Further, as per Clause 5.2 (Time for Completion) in the Contract Agreement dated 07/02/2009 executed between MPPGCL and the Contractor, M/s BHEL, the Commercial Operation of the Plant should be attained within 42 months for Unit 1 and 46 months for Unit 2 from the Effective Date, subject to any such extension of time which may be granted to the Contractor by the Employer/Owner, MPPGCL, during execution of the Contract.

As such, the Scheduled CoDs of the Units were ***30/06/2012 for Unit 1 & 31/10/2012*** *for Unit 2. A copy of the Supply Contract Agreement dated 07/02/2009 executed between MPPGCL and M/s BHEL is annexed (Annexure-4)."*

13.5 **Issue:**

It is observed from the details/documents filed with the petition that the commissioning of this power project has been delayed by about one and half year from its scheduled date of commercial operation. Detailed reasons for delay in achieving the CoD along with its implication on the project cost be submitted.

MPPGCL's reply:

"The commissioning of this power project has been delayed by about one and half year from its scheduled date of commercial operation. Detailed reasons for delay in achieving the CoD are annexed (Annexure-5). As a result of the delay in project completion there is an increase in the IDC amount to the tune of Rs. 377.58 Crore in the revised project cost estimate of Rs.7820 Crore as compared to that in the previous project cost estimate of Rs.6750.00 Crore."

13.6 **Issue:**

Supplier's / manufacturer's certificate indicating guaranteed station heat rate, boiler efficiency and turbine efficiency etc. be filed.

MPPGCL's reply:

"In this regard it is humbly submitted that the Performance Guarantee Test of the Plant has not yet been carried out by the Contractor. As such, in the instant Petition the Petitioner has claimed tariff based on normative values of Gross Station Heat Rate as per MPERC Tariff Regulations 2012. The Petitioner would submit the values of guaranteed station heat rate, boiler efficiency and turbine efficiency, etc., after completion of Performance Guarantee Tests of the respective Units and submission of necessary reports by the Contractor, at the time of filing final tariff petition for the project."

13.7 **Issue:**

A copy of the contracts awarded to different vendors/contractors under various packages like Main Power Block, BOP, Civil Works, etc., be submitted.

MPPGCL's reply:

"As desired, copies of Contracts/Orders awarded to different vendors/contractors under various packages like Main Power Block, BOP, Civil Works, etc., are annexed (Annexure-6)."

13.8 **Issue:**

Detailed justification for the cost overrun on account of the time overrun/delay of the project along with the name of agency responsible for delay (if the delays are not attributable to MPPGCL) be submitted.

MPPGCL's reply:

"Detailed justification for the cost overrun on account of the time overrun/delay of the project is given in attached Annexure-5."

13.9 **Issue:**

Details of liquidated damages (LD) to be recovered from any vendor/contractor against various packages due to delay in execution of the contract be submitted.

MPPGCL's reply:

"As already submitted in the Petition, to avoid contractual problems which may further affect the commissioning of the Units, provisional time extension was granted to M/s BHEL, the Main Power Block contractor, and M/s L&T, the Balance of Plant Contractor, without prejudice to the recovery of LD as per contract. In this context please refer Annexure-32A & Annexure-32B filed with the Petition.

Subsequently, based on a detailed analysis of reasons leading to delay in execution of Unit No. 1 & 2, time extension up to 10/08/2013 and 10/12/2013 has been granted in the contractual completion period for Unit No. 1 and Unit No.2, respectively, for the Main Power Block Contract placed on M/s BHEL (Annexure-5A). Similarly, time extension up to 31/01/2014 and 31/07/2014 has been granted in the contractual completion period for Unit No. 1 and Unit No.2, respectively, for the Balance of Plant Contract placed on M/s L&T (Annexure-5B).

Presently, no recovery on account of LD due to delay in commissioning has been made in the Main Power Block (MPB) contract and Balance of Plant (BOP) contract so far. However, the total LD amount to be recovered from different vendors shall be assessed after completion of all the activities. As such, the actual position in respect of the LD amount deduction from various contractors' bills shall be submitted at the time of filling the petition for final generation tariff for these Units."

13.10 **Issue:**

It is mentioned in the petition that the revised project cost of Rs. 7820.00 Cr. was approved by the BoD in its resolution passed on 4th January, 2014. GoMP's approval for the revised project cost be also submitted.

MPPGCL's reply:

"GoMP's approval for the revised project cost of Rs. 7820.00 Crore is awaited. The same shall be submitted after receipt."

13.11 **Issue:**

The actual capital expenditure along with its funding from equity and loan up to the date of commercial operation of each unit duly certified by Chartered Accountant be submitted.

MPPGCL's reply:

"The actual capital expenditure up to the date of commercial operation of Unit No. 1, i.e. 01/02/2014, duly certified by a Chartered Accountant firm is annexed as revised Form TPS-5B (Annexure-7). The actual funding from equity and loan as on COD of Unit No. 1 is annexed as revised Form TPS 6 and TPS-14 (Annexure-8 and Annexure-9).

These details as on the COD of Unit No. 2, which is anticipated in Sep 2014, shall be filed after achieving the COD."

13.12 **Issue:**

Detailed break-up of capital cost components with their apportionment amongst Unit-1 & Unit-2 in terms of provisions under MPERC (Terms and Conditions for determinations of Generation Tariff) Regulations. 2012 be furnished.

MPPGCL's reply:

"Detailed break-up of capital cost components with their apportionment amongst Unit-1 & Unit-2 as per terms of provisions under MPERC (Terms and Conditions for determinations of Generation Tariff) Regulations 2012 has already been furnished in Form TPS-5B in the Petition. However, a detailed break-up of capital cost components as on the COD of Unit No. 1 (01/02/2014) with their apportionment amongst Unit-1 & Unit-2, duly certified by the CA firm, is annexed as revised Form TPS-5B (Annexure-7)."

13.13 **Issue:**

Details of works completed as on CoD of Unit-I &II along with details of balance works to be completed with respect to original scope of work be submitted.

MPPGCL's reply:

"COD of Unit No. 1 was achieved on 01/02/2014. COD of Unit No. 2 is anticipated by 30/09/2014. The details of works completed for the two Units along with the details of balance works to be completed, as on CoD of Unit No. 1, are annexed (Annexure -10 A to Annexure-10 C)."

13.14 **Issue:**

Regarding additional capitalization, the un-discharged liabilities as on the date of commercial operation and the list of works deferred along with their estimated cost up to the completion/cut-off date be submitted in light of the Regulation 20 of MPERC (Terms and Conditions for determinations of Generation Tariff) Regulations. 2012.

MPPGCL's reply:

"The desired information regarding additional capitalization, the un-discharge liabilities as on the date of commercial operation of Unit # 1 and the list of works deferred along with their estimated cost up to the completion is given in the revised Form TPS-9 annexed (Annexure-11)."

13.15 **Issue:**

The common facilities between Unit 1&2 be mentioned and the cost of all such common facilities between Unit 1& 2 be apportioned appropriately in terms of provisions under Regulations.

MPPGCL's reply:

"The details of common facilities between Unit 1&2 and the cost of all such common facilities are annexed (Annexure-12). The cost of these common facilities has been apportioned equally between Unit 1&2 as per the provisions under MPERC Tariff Regulations 2012."

13.16 **Issue:**

How the capital cost of the project is comparable with the benchmark norms specified by the CERC the other "Mega Power Project" of the same capacities.

MPPGCL's reply:

"As per the foot note given in Annexure-II of CERC Order dated 04/06/2012, in the matter of Benchmark Capital Cost (Hard cost) for Thermal Power Stations with Coal as Fuel, the Total Hard cost with December 2011 as base for indices includes Steam Generator/Boiler Island, Turbine Generator island, Associated auxiliaries, Transformers, Switchgears, Cables, Cable facilities, Grounding & Lighting Packages, Control & Instrumentation, Initial Spares for BTG, Balance of Plant including Cooling Tower, Water System, Coal Handling Plant, Ash Handling Plant, Fuel Oil Unloading & Storage, Mechanical Miscellaneous package, Switchyard, Chimney, Emergency DG Set.

Accordingly, the Total Hard cost and per MW wise Hard Cost in case of SSTPP Stage-I, Units 1 &2, 2X600 MW, for the aforesaid plant components, are as given below:-

Hard Cost of the Project Considering Cost Components as per CERC Order			
SN	***Project Cost Components***	***Amount (Cr. Rs.)***	***Per MW Hard Cost (Cr. Rs/MW)***
1	*Main Power Block*	*3150.00*	
2	*Balance of Plant*	*1923.90*	
3	*Cost of Land*	*117.50*	
4	*Preliminary Investigation & Survey*	*0.71*	
5	*GCW-I (Leveling & Grading of uneven land)*	*193.50*	
6	*Consultancy*	*15.00*	
7	*Construction Power*	*15.00*	
8	*Additional Spares*	*60.31*	
	Total	***5475.92***	***4.56***

Whereas, the benchmark Total Hard Cost for Green Field Projects having 2 Units of 600 MW each as specified by CERC in its Order dated 04/06/12 is Rs. 4.54 Crore per MW.

Thus the per MW total hard cost of Rs. 4.56 Crore in case of SSTPP Stage-I is almost same as that specified by CERC in its Order dated 04/06/2012. The marginal difference in per MW Hard Cost as against the benchmark figure is mainly because of following reasons:-

a. *CERC specified benchmark hard cost is based on December 2011 indices whereas the project cost estimate of SSTPP Stage-I is of Jan 2014.*

b. *Large area of land acquired for the plant were covered with hard rock and hard soil which was required to be excavated by blasting and by use of heavy machinery. As a result, the cost for GCW-I package for leveling and grading of land was high."*

13.17 **Issue: Observations in Format TPS-5B**

- **It is mentioned in para 15 of the petition that the project cost estimate has been revised to Rs. 6750 Crore from its earlier estimated cost of Rs 4053 Crores whereas, Rs. 6750 Crore is shown as the capital cost 'as per original estimate' in Form TPS-5B. Therefore, the ambiguity if any, in both the statements needs to be corrected else the reason for difference be clarified. Further, a comparison of the major cost components in the revised cost (shown in Form TPS-5B) vis-à-vis the earlier estimated project cost of Rs.4053 Crores approved by the BoD of MPPGCL and GoMP be submitted.**

MPPGCL's reply:

"The facts in this regard have already been submitted in the Petition. The same are being submitted again here as under:-

Initially the Project Cost for the subject project was tentatively estimated at Rs.4434.69 Crore based on prevailing orders awarded on M/s BHEL (Aug 2005) for Bhoopalpalli/ Vijaywada TPS Stage-IV (1X500 MW), Kahalgaon Stage-II (2X500 MW) (Year 2004) and the DPR of Bhoopalpalli (Year 2005). However, Govt. of M.P. had directed to make efforts to obtain "Mega Power Project Status" for the project and one of the main criteria for grant of Mega Power Project Status was to call offers for implementation of the project through ICB route. Central Electricity Authority (CEA), vide letter No.70/SR/HS/TPIA/2004/ dated 18/03/2005 (Annexure-6 of the Petition) had advised that while inviting bids under ICB route, the Generating companies, instead of specifying a particular Unit size, may specify a range to get competitive bids from large number of manufacturers (500 + 20% in case of 500MW Units). It was further advised that inputs like coal and water need to be tied up and environmental clearance obtained for the maximum size specified in the range. In this context, Ministry of Power GoI, New Delhi, had advised, vide *office memorandum No. 3/2/2006-DVC dated 05/02/2007 (Annexure-7 of the Petition), to strictly follow the guidelines prescribed by the CEA as above. The Ministry of Power, Govt. of India, granted Mega Power Project Status to the project vide Certificate No. 6/3/2006-S.Th. dated 03/01/2007 (Annexure-9 of the Petition).*

*Therefore, the project capacity in the first phase was re-planned as 2*600MW and the GoMP accorded revised administrative approval for establishing 2X(500-600) MW Project in the first phase with maximum capacity of the project as 4X(500-600)MW, vide letter No. 27/13/2007 dated 02/01/2008 (Annexure-8 of the Petition).*

The above mentioned initial tentative project cost estimate of Rs. 4434.69 Crore was accordingly updated considering the benefits of exemption of Custom Duty and Excise Duty available due to Mega Power project Status for the project. The updated project cost was worked out as Rs.4053 Crore. This updated project cost estimate of Rs.4053 Crore was approved by the BoD MPPGCL vide resolution passed in its 21st meeting held on 26/08/2006 (Annexure-12 of the Petition). This project cost estimate was approved by the GoMP vide its letter No. 3186/13/2007 dated 04/05/2007 (Annexure-13). This updated project cost estimate of Rs.4053 Crore was, however, subject to further revision after placement of orders for civil works for the Main Power Block, Balance of Plant and Non-EPC works.

During the finalization of BoP contracts in July-Aug 2009, need was felt to revise the project cost estimate due to receipt of higher prices of BoP vis-à-vis the first revised estimated cost. The project cost estimate was, therefore, again revised to Rs.6750.00 Crore. This revised project cost estimate was approved by the BoD MPPGCL vide resolution passed in its 44th meeting held on 26/08/2009 at Bhopal (Annexure-14 of the Petition). The revised project cost estimate of Rs. 6750.00 Crore was approved by the GoMP vide Energy Department letter No. 8271/13/2009 dated 17/11/2009 (Annexure-15 of the Petition).

This revised project cost estimate of Rs. 6750.00 Crore was in true sense the original project cost estimate involving the complete scope of work of the instant project of SSTPP Stage-I. That is why Rs. 6750 Crore is shown as the capital cost 'as per original estimate' in Form TPS-5B.

However, the aforesaid Project Cost estimate of Rs. 6750.00 Crore has now been revised to Rs. 7820.00 Crore. This revision in project cost was necessitated due to increase in expenditures on account of Land, Civil Works, Railway Transportation System, Spares, etc., increase in IDC due to additional loan, delay in *commissioning of Units and change in interest rates on loan. The revised project cost estimate of Rs.7820.00 Crore has been approved by the BOD MPPGCL in its 72nd meeting dated 04/01/2014 held at Bhopal (Annexure-16 of the Petition).*

The desired comparison of the major cost components in the revised cost of Rs.7820.00 Crore (in Form TPS-5B in the Petition) vis-à-vis the earlier estimated project cost of Rs.4053.00 is given in table below:-

Present Estimate I previous Estimates **(Amount in Crore Rs.)**

SN	Particulars	May-07	Nov-09	Jan-14
1	E&M works incl. Spares Cost (incl. PV)	2692.13	3852.41	4093.50
2	Civil work Cost	512.24	1696.49	2002.74
3	Land, R&R and S & I	24.75	75.00	118.21
4	Overheads	211.29	245.26	132.50
5	IDC& Fin. Cost	612.44	880.34	1473.05
6	**Total**	**4052.85**	**6749.50**	**7820.00**
	Say	**4053.00**	**6750.00**	**7820.00**

"

- **It is observed that the land cost including R&R is shown as increased by Rs.52.50 Crore due to additional land acquired and the expenditure to be incurred for complying with revised R&R policy of GoMP and GoI. Detailed break-up of the payments actually made so far and the liabilities on this head be submitted along with supporting documents if any, in this regard.**

  MPPGCL's reply:

  "The land cost estimated earlier was based on land envisaged to be procured for the project at the local prevailing rates. In this regard a high level empowered committee headed by the then Chief Secretary was constituted to decide the policy for acquisition of land. Based on the said policy and the prevailing R&R policy of GoMP and GoI, the land acquisition authority appointed by GoMP, i.e., the State Revenue Officer, has claimed the amounts from time to time. The details of payments made to the authority are annexed (Annexure-13)."

- **The reasons for increase in the cost of railway siding from Rs. 111 Crore to Rs. 288.33 Crore be submitted.**

  MPPGCL's reply:

  "The reasons for increase in the cost of Railway siding from Rs.111 Crore to Rs.288.33 Crore are detailed as below:-

Railway Siding connectivity was envisaged from Bir Station to the Plant (SSTPP) for which the consultant, M/s BARSYL, had submitted the DPR. In the DPR, the cost of Civil, S&T and OHE works was estimated as Rs.71.30 Crore. Further, considering the Project Monitoring Consultancy (PMC) Charges, various other charges like Codal Charges, Departmental Charges, D&G Charges and deposit of expenditure for 10 Years towards staff deployment and maintenance of Bir Station and cost for miscellaneous unforeseen works, the Railway Siding Cost was envisaged as Rs.111.00 Crore in the Project Cost Estimate of Rs.6750.00 Crore. A break up of the estimated figure of Rs. 111.00 Crore is as given in table below:-.

Break Up Of Earlier Estimated Figure Of Rs. 111.00 Crore

SN	Particulars	Cost (Rs.Cr.)
1	Civil, S&T and OHE	71.30
2	PMC Charges	7.13
3	Departmental, D&G and other charges	25.10
4	Codal Charges & Misc.	7.47
	Total	**111.00**

As per the original scheme, railway siding was to be laid only between Bir to Power House and the existing rail line from Talwadia to Bir was to be used. However, Railway did not accept the above rail line connectivity via Talwadia to Bir because line crossing and engine reversal was involved at Talwadia station. Railway highlighted that in case of load coming from Itarsi end engine reversal would be required at Talwadia which is not possible on regular basis due to existing rail traffic passing through Talwadia. During execution of the project Railway proposed and insisted to lay a new chord line from Surgaon Banjari to Bir to avoid line crossing and engine reversal at Talwadia which also required modification at Surgaon Banjari station to enable smooth transaction of coal/oil to the Power House without affecting the existing railway traffic.

Due to the addition of this chord line, of around 18.6 Km rail transportation system, the cost of railway siding work increased substantially. Few works are also expected to increase beyond the approved engineering scale plan by Railways, for which 5% provision has been made. OHE works in between Surgaon Banjari to Power House via Bir are being carried out by Railways as deposit works. Similarly S&T works at Surgaon Banjari to Bir station are also being carried out by Railways as deposit work and S&T work inside Power House are being carried out by M/s RITES, Gurgaon while the Departmental charges and D&G charges levied by Railways are included in the cost of deposit work.

A break up of revised cost estimate amounting to Rs.288.33 Crore towards Railway Siding is given in table below:

Break Up Of Revised Cost Estimate Of Rs.288.33 Crore

SN	Location of work	Type of work	Cost (Rs.Cr.)
1	Surgaon Banjari to Bir & Bir to Inplant	Civil	178.55
2	Surgaon Banjari to Bir	OHE	17.68
3	Bir to Inplant	OHE	11.03
4	Surgaon Banjari to Bir	S&T	13.57
5	Bir to Inplant	S&T	7.84
6	Complete railway siding	PMC fee for S&T and Civil	4.55
7	Complete railway siding	Deptt. D&G and other charges	25.10
8	Bir Station	Deposit work for staff deployment and O&M	30.00
		Total	**288.33**

"

- **The cost overrun of Rs.241.50 Crore on E&M works including spare works is mentioned in Table 2.6.1 of the petition whereas Rs.60 Crore is indicated as cost overrun for initial spares only in Form TPS-5B. The aforesaid discrepancy be clarified.**

MPPGCL's reply:

"The cost overrun of Rs.241.09 Crore on E&M works indicated in table 2.6.1 of the Petition includes the cost of additional spares amounting to Rs.60.31 Crore and an enhancement of Rs.180.78 Crore in the Startup Fuel cost. Both of these figures are indicated in Form TPS-5B in the Petition."

- **In the revised project cost, the previous estimated provision of Rs.10 Crore has been revised to Rs.190.78 Crore under the head of "Construction and pre-commissioning expenses". The reasons for increase in estimation of the aforesaid cost along with a break up of various cost components be submitted.**

MPPGCL's reply:

"In the revised project cost, the previous estimated provision of Rs.10 Crore has been revised to Rs.190.78 Crore under the head of "Construction and pre-commissioning expenses". The reasons for increase in estimation of the aforesaid cost along with a break up of various cost components are annexed (Annexure14)."

- **It is further observed that the construction and pre-commissioning expenses are not mentioned in the revised project cost mentioned in para 2.6 of the petition whereas the aforesaid expenses are included in the same amount of total capital cost in Form TPS-5B . This needs to be clarified.**

  MPPGCL's reply:

  "The construction and pre-commissioning expenses are included under the head "E&M works incl. Spares Cost (incl. PV)" in Table 2.6.1 in para 2.6 of the Petition."

13.18 **Issue:**

An amount of Rs.40.72 Crores is considered under "contingency" in the revised project cost. The reason for the aforesaid provision along with the details of all cost components be submitted.

MPPGCL's reply:

"An amount of Rs.40.00 Cr. is considered under "Contingency" in the revised project cost estimate of Rs.7820.00 Crore, at a rate of 0.5% of the Project cost rounded off to the nearest whole number. In the earlier estimate of Rs. 6750.00 Crore an amount of Rs.80.72 Crore was provided towards Contingency. In the revised project cost estimate of Rs.7820.00 Crore it has been revised to Rs.40.00 Crore. Thus there is a reduction of Rs. 40.72 Crore in the figure for Contingency. The major cost components considered under the Contingency head are as given in table below:-

SN	*Description*
1	*Repair & Maintenance of equipment, service line connections, Computers etc.*
2	*Tools & Plants*
i.	*One additional Bulldozer for coal handling*
ii.	*Excavator loader for CHP*
iii.	*Transformer Oil Filtration Machine (portable) 600LPH*
iv.	*Truck mounted crane*
3	*Furniture*
i.	*For Fire Stn. Building*
ii.	*For Admn. Building*
iii.	*Hospital Equipment/ furniture*
4	*Deployment of security guard (Additional during unrest)*
5	*Expenditure towards VIP visits, Lunch, security, vehicle etc.*
6	*Expenditure towards Chartered Engineer for preparation of drawing & documents for factory license.*
7	*Continuous Ambient Air Quality Monitoring System (L&T offer)*
8	*Tools & Plant like Truck (2Nos.), Mobile crane (2Nos.),Workshop Equipment & other miscellaneous work estimated (lump sum)*

This provision also includes expenditure towards any other equipment and facilities/services which are not included in the aforesaid items of work but may be required for completion of the Project."

13.19 **Issue:**

How the cost of fuel up to synchronization of the unit is claimed in the petition and what is the basis for estimation of primary and secondary fuel expenditure up to synchronization of the units and from synchronization to CoD of the units in para 2.7 of the petition ?

MPPGCL's reply:

"The cost of fuel up to synchronization of the unit is being claimed as a part of the sub head "Start Up Fuel" under major head of "Construction and Pre-Commissioning Expenses".

The actual total expenditure under the head of Start Up Fuel for Unit No. 1 as on its COD is Rs.104.44 Crore and the same has been duly certified by the CA in the revised Form TPS 5B attached (Annexure-7). The expenditure on Start Up Fuel for Unit No. 1 as on its COD was earlier indicated in the Petition as Rs.95.39 Crore based on the anticipated COD. A detailed working for arriving at the figure of Rs.104.44 Crore, the expenditure for Start Up Fuel in respect of Unit No. 1 as on its COD, is attached (Annexure-15(A)). The working for arriving at the figures of primary and secondary fuel expenditure till CoD of Unit No. 1 is also attached (Annexure-15(B) to Annexure-15(D))."

13.20 **Issue:**

It needs to be confirmed whether the cost of initial spares filed in the petition is on provisional basis or the cost actually ordered to various vendors. A copy of orders be filed in case the cost of initial spares is as per the orders placed to vendors.

MPPGCL's reply:

"The cost of initial spares filed in the petition is on the basis of cost actually ordered to M/s BHEL for Main Power Block, amounting to Rs.102.92 Crore, and that to M/s L&T for Balance of Plant, amounting to Rs.31.00 Crore. The respective Order copies are annexed (Annexure-6(i) & Annexure-6(iv)). The cost of Rs 60.31 Crore indicated in the Petition towards additional spares is on provisional basis."

13.21 **Issue:**

Details of works covered under "General Civil Works I, II, III" at Sr. No. 8.4, 8.5 and 8.6 of format mentioning the reasons for cost overrun of Rs. 128.92 Crore under these heads be submitted.

MPPGCL's reply:

"Details of works covered under "General Civil Works (GCW)- I, II & III" along with the reasons for increase in cost estimate to the tune of Rs.128.92 Crore on these accounts are submitted as hereunder:-

i. ***GCW-I****:- In the earlier project cost estimate of Rs. 6750.00 Crore a provision of Rs. 193.50 Crore was made for leveling and grading of complete land. In the revised project cost estimate of Rs.7820.00 Crore also same amount has been considered. As such, there is no change in the revised cost estimate on this account.*

ii. ***GCW-II****:- The Order for General Civil Works (GCW) -II originally included Road inside Power House, Drainage, Boundary Wall, Watch Tower, Security Post, Toilet, Rain Water Harvesting, Horticulture, Storage Shed etc. Subsequently the scope was revised to include Road from Site to Purni Road, Road in between Power House to Colony, parallel to the rail track, Electrification of Road and supply of Furniture for Administrative/ Office building, etc. This increased the cost estimate from Rs.50.50 Crore to Rs.112.00 Crore, i.e., by an amount of Rs.61.50 Crore.*

iii. ***GCW-III****:- Order for General Civil Works (GCW)-III (Colony) was placed, wherein the order cost was Rs.116.43 Crore against the provision of Rs.110.00 Crore in the project cost estimate of Rs. 6750.00 Crore. However, due to inability of the contractor M/s Indu to complete the GCW-III works on ordered rates the balance works were awarded to various contractors. Out of which major order was placed on M/s Kalyan Toll Infrastructure Ltd. and the finishing works of few quarters left out by M/s Indu were allotted to a number of contractors. Apart from this, furnished prefabricated accommodation near power house has also been included in the scheme GCW-III so that the commissioning/O&M officials are always available at site during commissioning. As such, the cost of GCW-III increased to Rs.177.42 Crore* *against the provision of Rs.110.00 Crore, i.e., by an amount of Rs.67.42 Crore.*

Thus the total change in revised project cost estimate of Rs.7820 Crore on account of GCW-I, GCW-II & GCW-III is Rs. 0.00, Rs. 61.50 Crore and Rs.67.42 Crore, respectively, which totals to Rs.128.92 Crore."

13.22 **Issue:**

With regard to infirm power supplied during synchronization to COD of the units, the following details are required to be submitted:

Infirm power supplied to grid and break-up of actual fuel expenses for generation of infirm power with the Auditor's Certificate.

MPPGCL's reply:

"Month wise details of Infirm power supplied into the grid from SSTPP Unit # 1 is given in table below:-

SN	MONTH	Infirm Power Injected in Grid (kWh)	Adjusted UI Charges (Rs.)
1	Aug' 2013	-91734	158282
2	Sep' 2013	-2508795	3974388
3	Oct' 2013	-3259310	5235736
4	Nov' 2013	1826065	1796402
5	Dec' 2013	3323060	-198516
6	Jan' 2014	100717835	-88878161
	Total	**100007121**	**-77911869**

Note- (-)ve sign in UI charges indicates amount receivable. (–)ve sign under Infirm Power indicates Power drawn from the System.

The monthly statements issued by SLDC in respect of the Infirm Power injected into the system from SSTPP Stage-I Unit No.1, till its COD, are attached (Annexure-16). The actual total expenditure under the head of Start Up Fuel for Unit No. 1 as on its COD is Rs.104.44 Crore and the same has been duly certified by the CA in the revised Form TPS 5B attached (Annexure-7). This includes the fuel expenditure till synchronization of the Unit and the fuel expenditure from synchronization to COD of the Unit.

A detailed working for arriving at the figure of Rs. 104.44 Crore is attached (Annexure-15(A)). The working for arriving at the figures of primary and secondary fuel expenditure till CoD of Unit No. 1 is also attached (Annexure-15(B) to Annexure-15(D)).”

The details of revenue billed and revenue earned from sale of infirm power (as per Regulation) along with SLDC certificate/bills and Chartered Accountant’s Certificate.

MPPGCL’s reply:

“Details of revenue billed for sale of Infirm Power are given in the table under item 22 (i) above. Copies of the SLDC certificate in respect of month wise/ date wise details of Infirm Power supplied to the grid and UI Charges in respect of Unit No. 1 of SSTPP Stage-I, from Aug 2013 to Jan 2014, are annexed (Annexure-16(A to F)).

*Details of a net under recovery of Rs. 104.44 Crore on account of sale of Infirm Power from Unit No. 1 of SSTPP Stage-I after accounting for the total fuel expenditure till COD of the Unit are given in Annexure-15(A**)**. The same has been duly certified by the CA in the revised Form TPS 5B attached (Annexure-7). The working for arriving at the figures of primary and secondary fuel expenditure till CoD of Unit No. 1 is also attached (Annexure-15(B to D)).”*

13.23 **Issue:**

The terms and conditions of PFC loan No. 20701001 are not filed with the petition. Therefore, the terms and conditions of the existing PFC loan and additional loan proposed to be sanctioned by PFC be submitted.

MPPGCL’s reply:

“PFC has sanctioned financial assistance to SSTPP (2X600 MW) in following phases:

SN	***Sanction Date***	***Sanctioned Amount (Crore Rs.)***	***Cumulative Sanctioned Amount(Crore Rs.)***	***Remarks***
1	*29/05/2006*	*2730.00*	*2730.00*	*Original Sanction.*
2	*30/03/2007*	*512.00*	*3242.00*	*Enhanced amount.*
3	*19/03/2010*	*1918.42*	*5160.42*	*Enhanced amount.*
4	*07/02/2014*	*1077.58*	*6238.00*	*Enhanced amount.*
	Total	***6238.00***		

Copies of the above mentioned PFC loan sanction letters along with standard terms and conditions, pre commitment conditions and other conditions are annexed (Annexure-17)."

13.24 **Issue:**

The supporting documents in respect of weighted average rate of interest on loan claimed in the petition be submitted.

MPPGCL's reply:

"Year wise weighted average rates of interest on PFC Loan (No. 20701001) drawls till COD of Unit No. 1 (01/02/2014) are as given in table below:-

Year	***Loan Drawls in the Year (Rs.)***	***Cumulative Loan Amount (Rs.)***	***Wtd. Avg. Rate of Intt. (%)***
2008-2009	*1030000000.00*	*1030000000.00*	*12.75*
2009-2010	*3643906801.00*	*4673906801.00*	*12.46*
2010-2011	*8779238027.00*	*13453144828.00*	*11.55*
2011-2012	*15334306435.00*	*28787451263.00*	*12.24*
2012-2013	*11476199228.00*	*40263650491.00*	*12.64*
2013-2014 (Till 31/01/2014)	*10445135141.00*	*50708785632.00*	*12.96*

The figures given in table above are on actual loan drawl basis up to the COD of Unit No. 1 (00:00 Hrs of 01/02/2014).

Loan drawl figures and weighted average rates of interest filed in the Petition were on actual basis up to Dec 2013 and those thereafter were on projected drawl basis. Supporting document in respect of weighted average rates of interest on loan, as indicated in the table above, is annexed (Annexure-18)."

13.25 **Issue:**

Details of funding up to CoD of Unit-I along with drawdown schedule for loan and the equity infused along with the actual debt-equity ratio be filed.

MPPGCL's reply:

"Details of funding and the actual debt-equity ratio upto COD of Unit No. 1 are given in the table below:-

Details of Funding as on COD of Unit # 1						
Particulars	***Unit # 1*** *(Crore Rs.)*	***Debt Equity Ratio*** *(%)*	***Unit # 2*** *(Crore Rs.)*	***Debt Equity Ratio*** *(%)*	***Total*** *(Crore Rs.)*	***Debt Equity Ratio*** *(%)*
Debt : PFC Loan (No. 20701001)	*2640.57*	***79.98***	*2430.30*	***79.98***	***5070.88***	***79.98***
Equity (GoMP)	*660.83*	***20.02***	*608.20*	***20.02***	***1269.03***	***20.02***
Total	***3301.40***	***100.00***	***3038.51***	***100.00***	***6339.91***	***100.00***

The drawdown schedule for loan and equity infused till COD of Unit No. 1 is given in revised Form TPS-14 annexed (Annexure-9).”

13.26 **Issue:**

It is observed that the IDC amount has increased by Rs. 592.71 Crores (68%) on account of the following three reasons:

i. The additional amount of loan required for funding the increased project cost,

ii. The delay in commissioning of the Units

iii. The change in interest rates during the currency of loan from 11.5% to 12.75%.

Detailed break-up of increased IDC on account of each of the above three reasons be submitted.

MPPGCL’s reply:

“A break up of the increased IDC amount on account of the aforesaid three reasons is given as here under:

SN	***Particulars***		***Amount (Crore Rs.)***
i.	*Due to additional amount of loan*	-	*62.21*
ii.	*Due to delay in commissioning of Units*	-	*377.58*
iii.	*Due to increase in rate of interest*	-	*152.92*
	Total	-	***592.71”***

13.27 **Issue:**

Calculation of IDC for Unit-I and II in two part i.e. (a) up to actual COD and (b) up to scheduled COD (along with a soft copy of the excel sheet) be submitted. Detailed computation regarding increase in IDC & FC during schedule COD to

actual COD along with phasing of expenditure as per the investment approval and actual separately be also submitted.

MPPGCL's reply:

a. *"IDC & FC amount for Units No. 1 & 2 as on the actual COD of Unit No. 1 (01/02/2014) is* ***Rs.1282.84 Crore.*** *Year wise and Quarter wise breakup of the aforesaid amount is given in table below:-*

IDC & FC for Units #1 & #2 As On Actual COD of Unit # 1

(Amount in Crore Rs.)

Year	Quarter				Total
	I	II	III	IV (*)	
2008-09				1.91	1.91
2009-10	3.27	3.31	3.77	7.32	17.67
2010-11	14.48	16.75	22.90	34.14	88.27
2011-12	45.08	48.70	68.11	82.25	244.14
2012-13	99.82	110.80	120.97	128.07	459.65
2013-14 (*)	135.81	147.38	157.17	30.44	470.80
Total	298.45	326.94	372.92	284.13	1282.43

**- Figure for Quarter IV in 2013-2014 is up to 31/01/2014.*

The phasing of actual loan drawls till COD of Unit No. 1 is given in the revised Form TPS-14, annexed (Annexure-9).

b. *The estimated IDC & FC amount for Units No. 1 & 2 as on the scheduled station COD (scheduled COD of Unit No. 2, i.e., 31/10/2012) based on then proposed loan drawls was Rs.880.34 Crore. Year and Quarter wise breakup of the aforesaid amount is given in table below:-*

IDC & FC for Units #1 & #2 As On Scheduled Station COD

(As Per Then Proposed Drawls) (Amount in Crore Rs.)

Year	Quarter				Total
	I	II	III	IV	
2008-09				3.04	3.04
2009-10	3.28	3.86	6.31	12.53	25.98
2010-11	21.59	32.21	43.08	53.52	150.4
2011-12	64.20	73.10	82.88	96.26	316.44
2012-13	111.30	128.03	145.15		384.48
Total	200.37	237.20	277.42	165.35	880.34

The corresponding then proposed phasing of loan drawls, as per the scheduled Station COD of 31/10/2012, was as given in table below:-

Then Proposed Drawls as per Scheduled COD (Amount in Crore Rs.)

Year	Quarter				Total
	I	II	III	IV	
2008-09				108.09	108.09
2009-10	14.36	26.56	145.91	291.74	478.57
2010-11	345.95	401.40	363.13	371.49	1481.96
2011-12	380.03	246.29	441.93	499.59	1567.84
2012-13	558.57	618.91	585.65		1763.14
Total	1298.91	1293.16	1536.63	1270.91	5399.60

Soft copy of the excel sheet with above information is submitted in attached CD."

13.28 **Issue:**

Year-wise statement regarding interest and financing charges upto COD of each units (as considered in petition) is indicating the following be furnished:

- **Total interest for the period**
- **Total interest capitalized to gross block as on respective COD.**
- **Total interest under CWIP as on respective COD.**

MPPGCL's reply:

"Year-wise statement regarding interest and financing charges for the two Units up to COD of Unit No. 1 and that projected till CoD of Unit No. 2 are given in revised Form TPS-14 attached (Annexure-9). The total Interest and Finance Charges as on the COD of Unit No.1 is Rs. 1282.43 Crore and that as on Station COD, i.e., the COD of Unit No. 2, is Rs. 1473.05 Crore.

Regarding the other two items, viz., "Total Interest Capitalized to Gross Block as on respective COD" and "Total Interest under CWIP as on respective COD", it is submitted that the books of accounts are not yet finalized. As such these figures may be given only after finalization of accounts for FY14 and FY15. The same shall therefore be submitted at the time of filing the petition for approval of final tariff for the subject Units."

13.29 **Issue:**

The petitioner is required to file the basis of filing MAT on Return on Equity with the supporting documents.

MPPGCL's reply:

"Grossing up of base rate of Return on Equity with tax rate has been considered in the anticipation that MPPGCL would start generating profit from FY14 after the COD of Unit No. 1 of SSTPP Stage-I. Out of the two tax rates, i.e., "Normal Corporate Tax" and "Minimum Alternate Tax (MAT)", the lower of the two, i.e., MAT, has been considered for grossing up the base rate of return on equity.

MAT rate of 20.961 has been considered as per Tax rates specified by the Income Tax Department, GoI, for the Financial Year 2013-2014 (Assessment Year 2014-15) since COD of Unit No. 1 is in the last quarter of FY14. A copy of the relevant document of Income Tax Department, GoI, regarding Tax Rates for FY 2013-14 (AY 2014-15) is annexed (Annx-19)."

13.30 **Issue:**

The Reason for considering the cost of both secondary fuels while computing the working capital needs be clarified. The revised working capital as per Regulation 37 of MPERC (Terms and Condition for determination of Generation Tariff) Regulation, 2012 be also filed.

MPPGCL's reply:

"The revised working capital amount calculated as per Regulation 37 of MPERC (Terms and Condition for Determination of Generation Tariff) Regulations 2012, considering only the cost of main fuel oil as the cost of secondary fuel, is annexed (Annexure-20)."

13.31 **Issue:**

Basis for claiming the rate of interest on working capital be submitted.

MPPGCL's reply:

"The rate of interest on working capital has been considered equal to the SBI's Base Rate (10%) plus 3.5%, prevailing as on COD of Unit No.1. A copy of the supporting document in this regard is attached (Annexure-21)."

13.32 **Issue:**

The Cost of secondary fuel oil needs to be filed as per provisions under Regulation 38.2 of MPERC (Terms and Condition for determination of Generation Tariff) Regulation, 2012. The supporting documents like copy of

invoice for each type of oil in support of the cost claimed for secondary fuel oil and weighted average rate of secondary fuel oil be submitted.

MPPGCL's reply:

"In the Petition dated 30/01/2014, the landed cost of secondary fuel oils was filed based on the latest available data which was for the months of September, Oct. and Nov. 2013.

*COD of Unit No. 1 was achieved on 01/02/2014. The landed cost of Secondary Fuel Oil based on the weighted average landed price of HFO and LDO for three preceding months, i.e., November 2013, December 2013 and January 2014, as per provisions under Regulation 38.2 of MPERC regulations 2012, is attached herewith (Annexure-22**).***

Statements showing month wise LDO and HFO receipts along with the month wise weighted average landed price are annexed (Annexure-23 and Annexure-24). Copies of some of the invoices, on sample basis, are attached in support of the above information (Annexure-25 and Annexure-26)."

13.33 **Issue:**

The cost of coal and GCV of coal needs to be filed as per provision under Regulation 37.2 of MPERC (Terms and Conditions for determination of Generation Tariff) Regulation, 2012. The landed cost of coal with complete break-up of basic price and other applicable taxes, duties, royalties and cess etc. as per CIL notification along with supporting documents be submitted. The coal analysis report in support of GCV of coal considered in the petition be also filed.

MPPGCL's reply:

"In the Petition dated 30/01/2014, the landed cost of coal was filed based on the latest available data which was for the months of August, September and October 2013.

COD of Unit No. 1 was achieved on 01/02/2014. The landed cost of coal based on the weighted average price of the three preceding months, i.e., Nov 2013, Dec 2013 and Jan 2014, as per provisions under Regulation 37.2 of MPERC regulations 2012, is attached (Annexure-27). The quantity and amount for Dec 2013 are Nil since no coal was received during this month. The break-up of the month wise *landed cost of coal is indicated in Form TPS-15 attached (Annexure-28). Further break up of the landed price of coal indicating basic price of coal, rail transportation charges, demurrage charges, liaisoning charges, etc., for the months of Nov 2013 and Jan 2014 is attached (Annexure-29).*

Copies of the available supporting documents in respect of the landed cost of coal are annexed (Annexure-30). Copy of the analysis report in support of GCV of coal for the period Nov 2013 to Jan 2014 is annexed (Annexure-31)."

14. On examination of the above-mentioned reply filed by the petitioner, the Commission observed that the response of the petitioner on certain issues was lacking clarity. Vide Commission's letter dated 13th August, 2014, the observations of the Commission on all such issues were communicated to the petitioner seeking its reply with in a month's time.

15. By affidavit dated 12th September, 2014, the petitioner filed its reply to the observations of the Commission. Issue-wise response of the petitioner on the clarifications sought by the Commission is as given below:

15.1 **Issue:**

The approval for the revised project cost of Rs.7820.00 Crore by GoMP be submitted as and when it is granted.

MPPGCL's reply:

"GoMP's approval for the revised project cost of Rs.7820.00 Crore is awaited. The same shall be submitted after receipt."

15.2 **Issue:**

The Auditor has certified the actual capital expenditure of Rs.6736.86 Crores as on CoD of Unit 1 whereas its funding is shown as Rs.6339.91 Crore. The funding details of balance expenditure (unpaid liability) along with debt-equity ratio be submitted.

MPPGCL's reply:

"*The Auditor has certified the actual capital expenditure of Rs.6736.86 Crores as on CoD of Unit 1 whereas its funding is shown as Rs.6339.91 Crore. The difference in these amounts is due to the retention amounts as per the terms of various* *contracts. The projected funding details of balance expenditure, along with debt-equity ratio, are given in attached annexure (Annexure-1).”*

15.3 **Issue:**

The complete breakup of the cost components under “main power block” and “balance of plant” in certified capital expenditure be submitted. The comparison of the same with respect to original project cost components be also submitted.

MPPGCL’s reply:

“The complete breakup of the cost components under “Main Power Block” and “Balance of Plant” and a few other broad heads as per the certified capital expenditure is annexed (Annexure-2). The same is duly certified by the CA firm. A comparison of these cost components of the certified capital expenditure vis-à-vis the corresponding cost components in the project cost estimate approved by the BoD MPPGCL is also indicated therein.”

15.4 **Issue:**

The comparison of capital cost with other “Mega Power Project” of same capacities be submitted.

MPPGCL’s reply:

“ A comparison of capital cost of SSTPP Stage-I (2X600 MW) with that of Kalisindh Thermal Power project, Jhalawar, Rajasthan (2X600 MW), another Green Field Mega Power Project of similar capacity in State Sector, is given in table below:-

S N	***Project details***	***Total Capacity (MW)***	***Sector***	***Revised Proj. Cost (Cr. Rs.)***	***MPB Contract***	***Per MW Cost (Cr. Rs.)***
1	*(SSTPP) Stage-I.*	*(2x600)*	*State*	*7820*	*BHEL*	*6.52*
2	*Kalisindh TPP*	*(2x600)*	*State*	*7723*	*M/s BGR*	*6.44*

15.5 **Issue:**

The reason for claiming the “commissioning power charges” under the net start up fuel expenses in generation of infirm power be submitted.

MPPGCL's reply:

"*Commissioning Power Charges" incurred during the pre-commissioning activities have presently been claimed under the sub head of "Start Up Fuel Expenses" under the major head of "Construction & Pre Commissioning Expenses" in Form TPS 5B. However the same may also be indicated as a separate sub head of "Commissioning Power Charges" under the major head of "Construction & Pre Commissioning Expenses" in Form TPS 5B.*

It is humbly requested before the Commission to kindly allow the expenses incurred on Commissioning Power Charges either as a part of the Start-up fuel, as presently filed by the Petitioner, or else by considering it as a separate expenditure sub head of "Commissioning Power Charges" under the major head of "Construction & Pre Commissioning Expenses" in Form TPS 5B."

15.6 **Issue:**

Weighted average rate of coal and secondary fuel oil considered for calculating the fuel expenses for generation of infirm power with supporting documents be submitted.

MPPGCL's reply:

"The weighted average monthly rates of coal and secondary fuel oil considered for calculating the fuel expenses for generation of Infirm Power till COD of the Unit have already been furnished in Annexures-15 (B) to 15 (D) submitted along with the additional submission dated 14/07/2014. However, the detailed working for arriving at these weighted average monthly issue rates of coal and secondary fuel oil is submitted herewith as (Annexure-3 to 5)."

15.7 **Issue:**

Actual specific coal consumption and secondary fuel oil consumption upto CoD be submitted.

MPPGCL's reply:

"Details of LDO, HFO and Coal consumption till COD of the Unit along with month wise Infirm Power generation have already been submitted in Annexure-15A to Annexure-15D attached with the additional submission dated 14/07/2014.

Unit No.1 of SSTPP Stage-I was first synchronized on oil on 31/08/2013 and its COD was achieved on 01/02/2014. However, a positive energy input from the Unit *into the Grid was from Nov 2013 only due to various issues related to stabilization of the Unit during its trial run. The situation was mainly because of frequent starting and stopping of the Unit and its restricted/partial load running.*

SSTPP Stage-I being a Green Field project, the start up auxiliary steam for PRDS was not available from any alternate source. As such, the secondary fuel consumption was higher at every start up. Besides this, steam blowing was also carried out for some of the other auxiliaries like second TDBFP and steam blowing of line of HFO unloading pump house and HFO Day oil Tank Steam Line, etc. The Unit could be run on coal for reasonable periods only in Jan 2014. As a result, the specific coal consumption and specific secondary oil consumption figures during the period of Infirm Power Generation from the Unit are on a higher side. The average specific coal consumption and average specific secondary oil consumption of the Unit in the month of Jan 2014, during which most of the Infirm Energy from the Unit has been generated, were 0.91 Kg/kWh and 38 ml/kWh, respectively."

15.8 **Issue:**

The details of additional capitalization of Rs.838.75 Crore in terms of clause 20.1 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 for Unit I & II respectively be submitted.

MPPGCL's reply:

"Details of additional capital expenditure for Units I & II, in terms of clause 20.1 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations 2012, have already been submitted in the revised Form TPS-9 attached as Annexure-11 with the additional submission made vide Petitioner's letter dated 14/07/2014. A copy of the same is being submitted herewith for ready reference please and is annexed (Annexure-6).

As indicated in the attached Annexure-6, the projected additional capital expenditure for unit No.1 w.e.f. its COD to COD of Unit No. 2 is Rs.301.02 Crore and that for both the Units (# 1 & # 2) w.e.f. the Station COD (COD of Unit # 2) till project completion is Rs.130.60 Crore. Thus the total additional capital expenditure for the two Units is Rs. 431.62 Crore. The remaining amount of Rs.407.13 Cr. out of the total amount of Rs. 838.75 Crore indicated in Anexure-6 is the sum of the retention amounts as on the date of Station COD, i.e. COD of Unit # 2, to be paid in the subsequent periods, as indicated therein."

15.9 **Issue:**

Details of assets/works under additional capitalization:

- **Whether the addition of asset is on account of the reasons (a) to (e) under clause 20.1 of the MPERC(Terms and conditions for determination of generation tariff) regulations, 2012?**

  MPPGCL's reply:

  "Yes, the addition of assets is on account of the reasons (a) to (e) under clause 20.1 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012."

- **Whether the assets capitalized during the year are under the original scope of work? The supporting documents be also filed in this regard.**

  MPPGCL's reply:

  "Yes, the assets to be capitalized during the respective years are under the original scope of work. The supporting details/documents in this regard have already been submitted as revised Forms TPS-5B and TPS-9 attached as Annexure-7 and Annexure-11 with the additional submission filed by the Petitioner on 14/07/2014."

- **List of the work under additional capitalization along with the reasons of delay in capitalization be submitted.**

  MPPGCL's reply:

  "The list of works under additional capitalization have already been submitted in the revised Form TPS-9 filed as Annexure-11 in the additional submission dated 14/07/2014 (copy attached as Annexure-6 herein). The reasons of delay in capitalization is also indicated therein under the column "Justification/ Particulars of balance works in brief", which is mostly either on account of balance works yet to be completed or balance payments."

- **The amount of LD estimated against delay in each work under additional capitalization be submitted.**

  MPPGCL's reply:

  "As submitted in our additional submission dated 14/07/2014, time extensions up to 10/08/2013 and 10/12/2013 have been granted in the contractual completion period for Unit No. 1 and Unit No.2, respectively, for the Main Power Block Contract placed

on M/s BHEL. Similarly, time extensions up to 31/01/2014 and 31/07/2014 have been granted in the contractual completion period for Unit No. 1 and Unit No.2, respectively, for the Balance of Plant Contract placed on M/s L&T. The total LD amount to be recovered from different vendors shall be assessed after completion of all the activities. As such, the actual position in respect of the LD amount deduction from various contractors' bills shall be submitted at the time of filling the petition for final generation tariff for these Units."

- **List of balance works yet to be completed along with its estimated cost be submitted.**

MPPGCL's reply:
"The list of balance works yet to be completed along with their estimated cost has already been submitted in the revised Form TPS-9 attached as Annexure-11 with the additional submission filed on 14/07/2014 (copy attached as Annexure-6 herein)."

15.10 **Issue:**
The unit wise details of IDC with detailed calculation in excel sheet for working out the IDC amount be submitted.

MPPGCL's reply:
"Unit wise details of IDC are not provided by the lending agency, M/s PFC. The total IDC amount of Rs. 1282.43 Crore for both the Units as on the date of Commercial operation of Unit no.1 has been apportioned Unit wise in the ratio of Unit wise expenditure based on CA certified project cost details, as indicated in revised Form TPS-5B submitted as Annexure-7 in our additional submission dated 14/07/2014. A copy of the same is being submitted herewith for ready reference please and is annexed (Annexure-7).

Quarter wise details of IDC total amount of Rs. 1282.43 Crore as on COD of Unit No. 1, based on the quarter wise demands raised by M/s PFC, have already been submitted as Annexure-9 in our additional submission dated 14/07/2014. A copy of the same is being submitted herewith for ready reference please and is annexed (Annexure-8)."

15.11 **Issue:**

The apportionment of IDC among both units be submitted.

MPPGCL's reply:

"Please refer our reply submitted in item (iv) above."

15.12 **Issue:**

The reasons for claiming higher weighted average rate of heavy fuel oil (HFO)and light diesel oil (LDO) in November'2013 as compared to that in January'2014 be submitted.

MPPGCL's reply:

"Weighted average rates of HFO & LDO in November 2013 were higher as compared to those in January 2014 because higher percentage of the respective total quantities of secondary oils (LDO and HFO) received during Nov 2014 were transported through road than through rail. The weighted average component in landed price of oil on account of freight is higher in case of receiving the secondary oils through road transport as compared to that in case of receiving through rail transport. As such weighted average rates of HFO and LDO were higher in Nov 2013 as compared to those Jan 2014. A break up of the LDO and HFO receipt quantities for the months of Nov 2013, Dec 2013 and Jan 2014 are given in attached annexure (Annexure-9)."

15.13 **Issue:**

With regard to the landed price of coal for three preceding months, the following be submitted/clarified:

- **The reasons for considering an amount of Rs. 64.35 lakhs under operation and maintenance works of coal handling plant.**

MPPGCL's reply:

"The amount of Rs. 64.35 lakhs shown on account of operation and maintenance works of coal handling plant includes expenses on account of the contract placed on M/s L&T, Chennai, which includes expenditure on coal unloading through wagon tippler, manual coal unloading on track hopper, and other fuel handling related costs."

- **The documents in support of Rs 15.92 lakhs considered under cost of diesel in transporting coal through MGR system.**

  MPPGCL's reply:
  "Copy of the documents in support of Rs. 15.98 Lakhs considered under the cost of diesel in transporting coal through MGR system during Jan 2014 are annexed (Annexure-10 & 11)."

- **The details of bill/invoice with regard to the amount of Rs 63.15lakhs shown in the coal bill raised by M/s SECL.**

  MPPGCL's reply:
  "*A copy of the SECL's invoice dated 28/01/2014 for Rs.63.15 Lakhs, referred at Item Sr. No. 12 of the table "Details of Coal Bills Raised by M/s SECL for the Month of Jan 2014" in Annexure-29 (B) attached with the Petitioner's additional submission dated 14/07/2014 (on page No. 359), is annexed (Annexure-12)."*

- **The reason for considering 'Demurrage Charges" of Rs. 1.005 lakhs and Rs.3.62 lakhs in the month of Nov'2013 and Jan'2014 for calculation of landed price of coal.**

  MPPGCL's reply:
  "Demurrage charges are levied by the Indian Railways, who are transporting the coal from mines to our power plants, whenever a Coal Rake is detained beyond the permitted time. At times, detention of wagons beyond the permitted time becomes unavoidable on account of problems/field situations like bunching of coal rakes, heavy rains and wet coal, technical problems in the coal unloading and handling system or any break down in Primary/Secondary crushers, Coal conveyors or in Wagon Tipplers, etc., which are beyond our control and result into delayed unloading of coal from wagons. However, all out efforts are made to unload the wagons within the permitted time in general. These demurrage charges are a part of the charges claimed by Railways for coal transportation and thus form a part of the landed price of coal."

15.14 **Issue:**

Normally, the guaranteed parameters are initially provided by the supplier/manufacturer when the performance guarantee test is performed.

More so para 'M' in LoA dated 12thDec,2008 mentions that BHEL has furnished guaranteed parameters in its offer. The guaranteed station heat rate, boiler efficiency and turbine efficiency be submitted.

MPPGCL's reply:

"In this regard it is humbly submitted that the Performance Guarantee Test of the Plant has not yet been carried out by the Contractor. As such, in the instant Petition the Petitioner has claimed tariff based on normative values of Gross Station Heat Rate as per MPERC Tariff Regulations 2012. The Petitioner would submit the values of guaranteed station heat rate boiler efficiency and turbine efficiency, etc., after completion of Performance Guarantee Tests of the respective Units and submission of necessary reports by the Contractor, at the time of filing final tariff petition for the project. It is humbly requested to kindly consider the normative figures of SHR as given in MPERC Tariff Regulations 2012 for the purpose of granting provisional tariff for SSTPP Stage-I Unit No.1."

16. On examination of the above-mentioned reply filed by the petitioner, it was observed that the response of the petitioner on the design/guaranteed parameters and landed cost of coal was inadequate. Vide Commission's letter dated 23rd September, 2014, the petitioner was asked to submit the following:

   a. Detailed explanation as to why the O&M cost of Coal Handling Plant be considered in the landed cost of coal.
   b. The Design / Guaranteed performance parameters, of Turbine and Boiler as provided by the supplier as on date.

17. Vide letter dated 10th October, 2014 the petitioner submitted the following:

"*the amount of Rs. 64.35 lakhs shown on account of O&M works of coal handling plant includes expenditure on coal unloading through wagon tippler, manual coal unloading on track hopper and other fuel handling related Costs. It is humbly requested to kindly consider the landed price of the coal for three preceding months before the COD as filed at this stage for providing the provisional tariff of Unit No. 1 since the ECR for monthly billing will as it is be subject to FCA as per MPERC Tariff Regulations. A copy of the contract placed on M/s L&T, Chennai for O&M Works of Coal Handling Plant including unloading of coal is annexed (Annexure-1). Further details in this regard shall, however, be filed by MPPGCL at the time of filing Final*

Tariff Petition for both the Units of SSTPP Stage-I (2X600 MW) after the Station COD and based on the audited books of accounts of MPPGCL for the corresponding Financial Years.

The desired details in respect of Design/Guaranteed performance parameters of Turbine and Boiler as provided by the supplier as on date, along with supporting document, have already been submitted vide MPPGCL's letter No. 1201 dated 23/09/2014."

Capital Cost as on COD of Unit No. 1:

18. Regarding capital cost, Regulation 17 of MPERC (Terms and Conditions for determination of Generation tariff) Regulations, 2012 provides that,

"Capital cost for a Project shall include:

(a) the Expenditure Incurred or Projected to be incurred on original scope of work, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed, - up to the Date of Commercial operation of the Project, as admitted by the Commission, after prudent check shall form the basis for determination of Tariff.

(b) capitalized initial spares subject to the ceiling norms as specified below:

(i) Coal-based/lignite-fired thermal generating stations - 2.5% of original Project Cost.

(ii) Hydro generating stations - 1.5% of original Project Cost.

Provided that where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost under first proviso to 17.2, such norms shall apply to the exclusion of the norms specified herein.

(c) additional capital expenditure determined under Regulation 20.

Subject to prudent check, the capital cost admitted by the Commission shall form the basis for determination of Tariff:

Provided that, prudent check of capital cost may be carried out based on the benchmark norms specified by the Central Commission from time to time:

Provided further that in cases where benchmark norms have not been specified by the Central Commission, prudent check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, *and such other matters as may be considered appropriate by the Commission for determination of Tariff :*

Provided also that the Commission has issued guidelines for vetting of capital cost of hydro-electric Projects by independent agency or expert and the capital cost as vetted by such agency or expert shall be considered by the Commission while determining the Tariff for the new hydro generating station---------------------------------------"

19. The petitioner submitted the following:

i. The project cost for Shri Singaji Thermal Power Project Units No. 1 & 2 (2x600 MW) was initially estimated to ₹ 4434.69 Crores based on prevailing orders awarded to M/s BHEL (August, 2005) for Bhoopalipalli / Viajaywada TPS Stage-IV (1X500 MW) and Kahalgaon Stage-II (2x500 MW).

ii. Vide resolution dated 31st January, 2006, this tentative estimated project cost of ₹ 4434.69 Crores was approved by the Board.

iii. Subsequently, the above mentioned initial project cost was updated considering the benefits of exemption of Custom Duty and Excise Duty available due to Mega Power Project Status for the project. The updated tentative project cost was worked out as ₹ 4053 Crore. The "Detailed Project Report" for the project filed by the petitioner has also indicated the estimated project cost ₹ 4053 Crore.

iv. Vide resolution dated 26th August, 2006, this tentative project cost estimate of ₹ 4053 Crore was approved by the BoD MPPGCL

v. Vide letter dated 04/05/2007, the updated project cost estimate of ₹4053 Crore was approved by GoMP with funding of PFC loan for ₹3242.00 Crore (80% of ₹ 4053 Crore) and Equity ₹ 810.60 Crore (20% of Rs.4053 Crore) for the project.

vi. The approval of project cost estimate of ₹ 4053 Crores was subject to further revision after placement of orders for civil work of Main Power Block, Balance of Plant (BoP) and Non EPC works.

vii. The project cost estimate was further revised to ₹ 6750.00 Crore. Vide resolution passed in its 44th meeting held on 26/08/2009, this revised project cost estimate was approved by the BoD MPPGCL. Vide letter dated 17th November, 2009, the GoMP has approved this revised project cost of

₹6750.00 Crores with funding of ₹ 5400 Crores (80% of revised project cost) from PFC Loan and ₹ 1350.00 Crores (20% of revised project cost) through GoMP equity.

viii. The Project Cost estimate has now been revised to ₹ 7820.00 Crore. This revision in project cost was due to increase in expenditures on account of Land, Civil Works, Railway Transportation System, Spares, etc., increase in IDC due to delay in commissioning of Units and change in interest rates on loan. The revised project cost estimate of ₹ 7820.00 Crore has been approved by the BOD MPPGCL on 04/01/2014. The revision in the cost estimate to ₹7820.00 Crore was mainly on account of the reasons mentioned in para 2.5 of the petition.

20. By additional affidavit dated 14th July, 2014, the petitioner submitted that the approval of GoMP for the revised project cost of ₹ 7820.00 Crores is still awaited. The comparison of the major cost components in the earlier estimated project cost estimate with the revised Project cost is given below:

₹ Crores

Sr. No.	Particulars	Initial Estimate (May 2007)	First Revision (Nov. 2009)	Second Revision (Jan. 2014)
1	E&M works incl. Spares Cost (including price variation)	2692.13	3852.41	4093.50
2	Civil work Cost	512.24	1696.49	2002.74
3	Land, R&R and Survey & Inspection	24.75	75.00	118.21
4	Overheads	211.29	245.26	132.50
5	IDC+ Fin. Cost	612.44	880.34	1473.05
	Total	**4052.85**	**6749.50**	**7820.00**
	₹ Crores Per MW	3.38	5.63	6.52

21. With regard to the Liquidated Damages for delay in completion, the petitioner submitted that as per the contract, COD of Unit No. 1 & 2 was to be achieved within 42 months and 46 months respectively from the effective date of contract (12/12/2008). However, the commissioning targets were slipped for both the Units. The provisional time extension has been granted to M/s BHEL and M/s L&T without prejudice to the recovery of LD as per Contract. As such, deduction of LD has been kept in abeyance. Therefore, no recovery on account of LD due to delay in commissioning has been made till date. The actual position

in respect of the LD amount deducted from contractors' bills shall be submitted at the time of filing the petition for final generation tariff.

22. Vide letter dated 3rd March, 2014, several queries related to the Capital cost of the project were communicated to the petitioner for its response. By affidavit dated 14th July, 2014, the petitioner filed its response on all such queries and the same is mentioned in **para 13** of this order.

23. The petitioner filed the actual capital expenditure as on CoD of Unit No. 1 of 2x600 MW SSTPP Khandwa duly certified by the Chartered Accountant firm M/s Gagrani & Co. The details of capital expenditure in the CA certificate are as given below:

- Revised Capital Cost of the project = ₹ 7820.00 Cr.
- Expenditure for unit 1 up to COD (31.01.2014) = ₹ 3508.10 Cr.
- Expenditure for unit 2 up to 31.01.2014 = ₹ 3228.75 Cr.
- Total expenditure for unit 1&2 up to 31.01.2014 = ₹ 6736.86 Cr.
- Liabilities / Provisions as on 31.01.2014 = ₹ 1083.14 Cr.

24. The petitioner also claimed the cost of ₹ 104.40 Cr for start up fuel up to COD of unit No. 1. The petitioner filed the component wise break-up of actual capital cost as per CA certificate as on CoD of Unit No. 1 (i.e. 1/2/2014).

25. With regard to the common facilities, the petitioner filed the details of common facilities of ₹ 3109.09 Cr. between Unit No. 1&2 The petitioner mentioned that the amount pertaining to common facilities has been apportioned equally between Unit 1&2 as per provisions under Regulations.

26. The petitioner submitted that the total hard cost of the SSTPP Stage-I comes to ₹4.56 Cr. which is almost same as that specified by CERC in its Order dated 04/06/2012. By additional affidavit dated 12th September, 2014, the petitioner filed the comparison of capital cost with one "Mega Power Project" Kalisindh TPP of the same capacity.

27. With regard to the funding of actual capital expenditure, the petitioner filed the revised form TPS-6 indicating the following details of revised financial packages:

Amount in ₹Crores

Particular	**Financial Package as approved**	**Financial Package as on COD of Unit 1**
Loan	6256	5070.88
Equity	1564	1269.03
Total funding	7820	6339.91
Debt : Equity Ratio	80:20:00	79.98 : 20.02

28. The actual capital expenditure certified by the auditor as on COD of unit No. 1 is ₹6736.86 Cr. whereas, the actual funding is ₹ 6339.91 Cr. The balance expenditure of ₹ 396.95 Cr. is under the unpaid liability.

Cost Overrun:

29. The revised estimated capital cost of the project has increased from Rs. 6450 Crores to Rs. 7820 Crores. The petitioner submitted that the following reasons for cost overrun:

A. ***"Civil Works-**:- Cost of General Civil Works-II got increased from ₹50.50 Cr to ₹ 112.00 Cr. due to addition of new requirement of two outside roads with electrification & award of left over works. Cost of General Civil Works-III got increased from ₹ 110.00 Cr. to ₹177.42 Cr. due to Colony works was re-ordered, after backing out by first contractor, at higher cost. Cost for construction of furnished pre- fabricated accommodation near power house has also been added up in this head.*

B. ***Private Railway siding-** As per original scheme rail route for coal /oil transportation up to power house from main line (Itarsi- Surgaon-Banjari- Talwadia- Khandwa- Bhusawal) was through Bir via Talwadia. To avoid engine reversal and surface crossing in handling of coal rakes on regular basis at Talwadia station on existing busy rail traffic from Itarsi to Khandwa, Railway insisted to lay a new line from Surgaon-Banjari to Bir (12.5 kms).*

Further, additional payment involved in this head include O&M charges for Bir Station for Ten years amounting to ₹ 30.00 Crorers. Departmental charges (incl. supervision) and Direct & General *charges leviable on Civil, OHE and S&T works at certain rates. Direct and General charges are not applicable on the works carried out by railways/ railway approved contractor / client. Thus, cost has increased from ₹ 111.00 Crores to ₹ 288.33 Crores.*

C. ***Land**- Due to actual cost of land and additional land acquired subsequently, for rail line in between Surgaon-Banjari to Bir and a portion of approach road parallel to rail line near power house, and the expenditure required to be incurred as per revised R&R policy, cost estimate on this account has increased from ₹ 65.00 Cr.to ₹117.50 Cr.*

D. ***Additional Spares-** Provision has been made for additional spares of ₹ 60.31 Cr. based on the project cost, subject to ceiling norms as per Regulation.*

E. ***Contingency**- Based on the sanctioned & expected work estimates, there is reduction in Contingency provision from earlier estimated figure from ₹ 82.72 Cr to ₹ 40.00 Cr.*

F. ***Establishment**- As against the earlier approved amount of ₹134.54 Cr for Establishment expenses, in the revised estimate of ₹ 7820.00 Cr. a provision of ₹ 60.00 Cr only has been kept for Establishment expenses, based on the actual figures till Jun 2013.*

G. ***Construction & Pre-Commissioning Expenses** : Start up fuel- As against the earlier provision of ₹ 10.00 Cr on account of Star- up fuel, a provision of ₹ 190.78 Crore has been kept against this head, based on estimated fuel expenditure and revenue earned during Infirm Power Generation from the two Units, till respective CODs. This also includes expenditure on account of commissioning power during trial runs.*

H. ***Water Charges-** A provision of ₹ 2.50 Cr. towards water charges has been made in the revised project cost estimate, which was not included in earlier approved estimate.*

I. ***Increase in IDC****- The IDC amount has increased from the earlier estimated value of ₹880.34 Cr. to ₹1473.05 Cr due to additional loan, delay in commissioning and increase rate of interest by PFC."*

Time overrun:

30. With regard to the scheduled date of commercial operation, the petitioner mentioned that the Scheduled CoDs of the Unit 1 and Unit 2 were 30/06/2012 & 31/10/2012 respectively as per Letter of award to M/s BHEL. The Unit No. 1 achieved CoD on 1st February, 2014 with a delay of 21 months. whereas Unit No. 2 is yet to be synchronized.

31. The petitioner broadly filed the following reasons for delay in achieving the CoD:

i. Delay in Acquisition of Land due to agitation and unrest by original land owners/villagers. The details of payment provisionally made in respect of R&R for acquisition of land are submitted by the petitioner.

ii. Delay in handing over of land: The work of leveling & grading got affected due to protest by original land owners and leveled land was handed over to BHEL after a delay of seven months.

iii. Delay in providing construction power from the Discom's end caused delay in the work of "main power block" and BOP system by 8 months.

iv. Delay due to bad condition of outside and inside roads and time consumed in repairing of such roads especially during rainy season.

v. Delay due to theft of construction material on account of delay in construction of boundary wall.

vi. Delay of one month due to workers' unrest / disturbance from local villages for re-settlement of accidental claim.

vii. Delay due to incessant rain in FY 2012 and FY 2013.

32. The petitioner mentioned that it had extended twice the contractual time period for completion of facility of main power block and balance of plant. The petitioner also mentioned that the LD will be applicable after the extended dates.

33. It is observed that the IDC amount filed by the petitioner has increased by ₹ 592.71 Crores from the earlier estimated IDC of ₹ 880.34 Crores on account of the reasons mentioned in para 2.5 (I) of the petition as given below:

    (a) Additional amount of loan required for funding of increased project cost,
    (b) Delay in commissioning of Units and
    (c) Change of interest rates from 11.5% to 12.75% during the currency of loan

34. Vide letter dated 3rd March, 2014, the petitioner was asked to file detailed break-up of increased IDC on account of each of the above three reasons. By affidavit dated 14th July, 2014, the petitioner filed the break-up of the increased IDC amount on account of the three reasons as given below:

		Amount (₹ Crore)
Due to additional amount of loan	-	62.21
Due to delay in commissioning of Units	-	377.58
Due to increase in rate of interest	-	152.92
Total	-	**592.71**

35. It is observed that IDC amount of ₹ 377.58 Crores. was increased due to delay in commissioning of the project. The petitioner filed the year-wise details of IDC and loan drawl for the station as a whole in the prescribed format instead of the unit-wise details as on scheduled COD and actual CoD. With regard to the capitalization of interest, the petitioner mentioned that the books of accounts are not finalized and the amount of interest capitalized may be given only after finalization of accounts of respective year for unit 1 & 2.

36. The petitioner is not found in a position to provide the details of Liquidated Damages at this stage. The petitioner has filed the amount of IDC increased due to delay in CoD of Unit No. 1. The details of IDC increased due to delay in CoD and its unit wise apportionment with respect to their expenditure as on 1st February, 2014 as certified by the Auditor's is given as below:

- Actual capital expenditure as on 1/2/2014: ₹ 6736.86 Crores
- Unit No. 1 expenditure as on 1/2/2014: ₹ 3508.11 Crores
- Unit No. 2 expenditure as on 1/2/2014: ₹ 3228.75 Crores
- Actual IDC for Unit 1&2 as on 1/2/2014: ₹ 1282.43 Crores
- IDC of Unit No. 1 as on 1/2/2014: ₹ 667.80 Crores
- IDC of Unit No. 2 as on 1/2/2014: ₹ 614.63 Crores
- IDC increased due to delay under unit 1: **₹ 196.61 Crores**

37. The Commission observed that the IDC of **₹ 196.61 Crores** increased due to delay in CoD of Unit No. 1. As submitted by the petitioner, the liquidated damages (LD) are yet to be finalized. Therefore, the issue regarding increase in IDC on account of delay in CoD of Unit/(s) shall be examined in the final tariff petition to be filed by MPPGCL for the subject units. The petitioner is directed to file the following details along with the petition for determination of final tariff:

i. Details of the actual quarterly loan draw down schedules with IDC up to scheduled and actual CoD of each Unit.
ii. Details of equity infusion in each quarter up to schedule and actual CoD of each unit with Debt-equity ratio maintained in each quarter.
iii. The above two details be reconciled with the figures in audited accounts for the respective period.
iv. Details of Liquidated Damages, if any, recovered from the contractors/vendors with supporting documents.

Infirm Power:

38. Vide Commission's letter dated 3rd March, 2014, the petitioner was asked to file the details of infirm power supplied to grid and break-up of actual fuel expenses for generation of infirm power duly certified by the Auditor. The petitioner was also asked to file the details of revenue billed and revenue earned from sale of infirm power along with SLDC certificate/bills and Chartered Accountant's Certificate.

39. By affidavit dated 14th July, 2014, the petitioner filed the details of infirm power supplied and revenue from sale of infirm power during synchronization to COD of the unit No. 1 along with SLDC's monthly statement. Month wise details of Infirm power supplied into the grid from SSTPP Unit No. 1 and revenue earned from sale of infirm power along with fuel expenses for generation of infirm power as filed by the petitioner are as given below:-

SN	MONTH	Infirm Power Injected in Grid (kWh)	Adjusted UI Charges (₹)
1	Aug' 2013	-91734	158282
2	Sep' 2013	-2508795	3974388
3	Oct' 2013	-3259310	5235736
4	Nov' 2013	1826065	1796402
5	Dec' 2013	3323060	-198516
6	Jan' 2014	100717835	-88878161
	Total	**100007121**	**-77911869**

Details of the fuel Cost for generation of Infirm Power as per CA Certificate:
(Amount in ₹ Crores)

Sr. No.	Month	Coal	Furnace Oil	LDO	Total fuel Cost
	Prior synchronization	-	-	14.57	14.57
	Aug' 2013	0.00	0.00	6.84	6.84
	Sep' 2013	0.06	2.96	4.88	7.90
	Oct' 2013	0.43	5.55	3.18	9.16
	Nov' 2013	1.41	6.64	3.06	11.11
	Dec' 2013	1.55	7.04	3.86	12.45
	Jan' 2014	23.96	14.05	7.70	45.71
Total		**27.41**	**36.25**	**44.09**	**107.75**

40. The Commission observed that the unit No. 1 was synchronized on 31st August, 2013 and achieved COD on 31st January, 2014. The total infirm power injected during this period is approximately 100 MU's and revenue recovered from sale of this power is ₹ 7.79 Crores The fuel expenditure for generation of infirm power is ₹107.75 Crores. Therefore, no revenue is earned from sale of infirm power after accounting for the fuel expenses in terms of Regulation 19 of MPERC Regulations, 2012.

41. Details of fuel expenditure and cost for generation of infirm power are as given below:

Fuel	Qty	Cost
LDO	6367.73 KL	₹ 44.098 Cr.
HFO	6852.00 KL	₹ 36.297 Cr.
Coal	105678.60 MT	₹ 27.40 Cr.
Total Fuel expenses		**₹ 107.80Cr.**
Commissioning Power	7.55 MU's	₹ 4.43 Cr.
Total expenses filed		₹ 112.23Cr.
Infirm Power supplied	100 MU's	₹ 7.79 Cr.
Net Expenses		**₹ 104.44 Cr.**

42. In view of the above details, the Commission observed the following:

i. The petitioner claimed net expenses for Start-up fuel of ₹ 104.44 Cr. under the capital cost of the unit No. 1 certified by the auditor (with actual capital expenditure as on CoD).

ii. The revenue generated from sale of infirm power is ₹ 7.79 Crores

iii. The petitioner included the commissioning power charges of ₹ 4.43 Crores under the net start up fuel expenses of ₹ 104.44 Crores.

iv. The net fuel expenses after accounting the expenses of commissioning power is ₹ 100.01 Crores

v. The provision for start-up fuel for both the units in revised project cost was only ₹ 10 Crores which has now been revised to ₹ 190.78 Crores in revised project cost estimate.

43. With regard to sale of infirm power, Regulation 19 of MPERC (Terms and Conditions for determination of Generation tariff) Regulations, 2012 provides as under:

> *"Infirm Power shall be accounted as Unscheduled Interchange (UI) and paid for from the regional / State UI pool account at the applicable frequency-linked UI rate:*
>
> *Provided that any revenue earned by the Generating Company from sale of Infirm Power after accounting for the fuel expenses shall be applied for reduction in capital cost."*

44. The Commission has considered the net start up fuel expenses of ₹ 100.03 Crores and Commissioning power expenses of ₹ 4.43 Crores as certified by the Auditor under capital expenditure of Unit No. 1 as on COD of this unit. In view of the above, the actual capital expenditure as on CoD of the unit No. 1 provisionally considered in this order is as given below:

Project Cost of Unit 1 as on COD filed as per CA Certificate vis-à-vis provisionally considered in this order: **₹ Crores**

Sr. No.	Cost Component	Exp. as on COD of Unit 1	
		Claimed as per CA certificate	Provisionally Considered in this order
1	Cost of Land and site development	**57.17**	**57.17**
2	Main plant and Equipment	1109.31	1109.31
3	BOP Mechanical, Electrical and C&I	378.70	378.70
4	Total Plant and Equipment excluding taxes & duties		
5	Taxes and Duties	25.73	25.73
	Total plant and Equipment including taxes & duties	**1513.74**	**1513.74**
6	Initial Spares	**34.66**	**34.66**
7	Price variation clause (including service tax)	**95.83**	**95.83**
8	Civil Works along with railway siding	**773.31**	**773.31**
9	Construction and pre-commissioning expenses	**327.37**	**327.37**
10	Overheads	**38.22**	**38.22**
11	Capital Cost excluding IDC and Financing Charges	**2840.30**	**2840.30**
12	IDC and Financing Charges	**667.80**	**667.80**
	Capital Cost including IDC and financing charges	***3508.10**	***3508.10**

**As mentioned in Para 27 and 28 in this order, the capital expenditure upto the actual funding of ₹ 6339.91 Cr. for both the units and ₹ 3301.40 Cr. for Unit No. 1 as on its CoD is provisionally considered in this order. As stated in Para 15.2 of this order, the petitioner stated that the difference in certified capital expenditure and actual funding is due to the retention amount as per terms of various contracts.*

Funding of Project Cost as on COD of Unit No. 1:

45. With regard to the funding of the project, Regulation 21 of MPERC (Terms and Conditions for determination of Generation tariff) Regulations, 2012 provides that;

> *"In case of the generating station declared under commercial operation prior to 1.4.2013, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31.3.2013 shall be considered. For the purpose of determination of Tariff of new generating station Commissioned or capacity expanded on or after 01.04.2013, debt-equity ratio as on the Date of Commercial operation shall be 70:30. The debt-equity amount arrived in accordance with this clause shall be used for calculation of interest on loan, return on equity and foreign exchange rate variation.*
>
> *Where equity actually 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 23. The normative repayment shall also be considered on the equity in excess of 30% treated as loan. Where actual equity employed is less than 30%, the actual equity shall be considered."*

46. The petitioner submitted that the estimated funding of the project is to be done through Loan and GoMP Equity in 80:20 ratio, as approved by GoMP. Subsequently, M/s PFC was requested to provide additional loan of ₹ 1259.58 Crore (₹ 1095.58 Crore + ₹ 164.00 Crore) including the amount of ₹ 164.00 Crore falling short towards additional GoMP equity.

47. The petitioner further submitted that the GoMP agreed to provide additional equity of ₹ 50.00 Crore. Presently, the funding pattern of the project through Loan and Equity for the estimated completed project cost of ₹ 7820.00 Crore is as indicated below:

- Loan from PFC (No. 20701001): ₹ 5160.42 Crores
- Additional Loan requested from PFC: ₹ 1259.58 Crores
- Total Loan: **₹ 6420.00 Crores**
- Equity sanctioned from GOMP: ₹ 1350.00 Crores
- Proposed GoMP Equity: ₹ 50.00 Crores
- Total Loan: ₹ **1400.00**
- **Debt : equity ratio: 82.10 : 17.90**

48. The petitioner further submitted that the total loan amount of ₹ 6238 Cr. has been sanctioned by PFC. The copy of PFC loan agreement along with the letters for enhancing the loan amount at different time are also filed by the petitioner. As per the last sanction letter dated 7th February, 2014 the duration of loan is 15-years and the repayment shall start from April' 2015.

49. By affidavit dated 14th July, 2014, the petitioner filed the details of the funding of actual capital expenditure as on CoD of the Unit No. 1 certified by the auditor. The petitioner also filed the revised form TPS-6 indicating the details of revised financial packages approved initially and as on COD of Unit No. 1. Details of project funding as filed by the petitioner are as given below:

Amount in ₹ Crores

Particular	**Financial Package as approved initially**	**Financial Package as on COD of Unit 1**
Loan	6256	5070.88
Equity	1564	1269.03
Total funding	7820	6339.91
Debt : Equity Ratio	80:20:00	79.98 : 20.02

50. The Commission observed that the actual capital expenditure (for unit 1&2) as on COD of unit No. 1 (as certified by the auditor) is ₹ 6736.86 Cr. whereas, the actual funding of the project is ₹ 6339.91 Crores which is 94.11 % of the actual expenditure as on COD of Unit No.1. The balance expenditure of ₹ 396.95 Cr. is under the unpaid liability. The petitioner also filed the details of date wise equity amount released by GoMP. The petitioner has not filed the unit wise details of funding. Therefore, the actual unit wise funding as COD of unit No. 1 is considered in the same proportion of the actual capital expenditure of Unit 1&2 as certified by the Auditor.

51. Details of funding and the actual debt-equity ratio upto COD of Unit No. 1 as filed by the petitioner in its additional affidavit dated 14th July, 2014 are as given below:-

Details of Funding as on COD of Unit # 1						
Particulars	**Unit # 1 (₹ Crore)**	**Debt Equity Ratio** (%)	**Unit # 2 (₹ Crore)**	**Debt Equity Ratio** (%)	**Total (₹ Crore)**	**Debt Equity Ratio** (%)
Debt : PFC Loan (No. 20701001)	2640.57	**79.98**	2430.30	**79.98**	**5070.88**	**79.98**
Equity (GoMP)	660.83	**20.02**	608.20	**20.02**	**1269.03**	**20.02**
Total	**3301.40**	**100.00**	**3038.51**	**100.00**	**6339.91**	**100.00**

52. The following funding for Unit No. 1 as on its CoD is considered in this order:

Loan for Unit No. 1 as on 1/2/2014:	₹ 2640.57 Crores
Equity for Unit No. 1 as on 1/2/2014:	₹ 660.83 Crores
Debt : equity ratio (approximately):	**79.98 : 20.02**

The details of the capital cost and funding of Unit No. 1 as on CoD considered in this order are as given below:

Sr. No.	Particular	Unit	Amount
1	Opening Gross Block as on COD of Unit No. 1 (including start up fuel)	₹ Crores	**3508.10**
2	Addition during the year	₹ Crores	0.00
3	Closing Gross Block	₹ Crores	3508.10
4	Total Loan Component	₹ Crores	2640.57
5	Total Equity Component	₹ Crores	660.83
6	Excess Equity	₹ Crores	0.00
7	Debt : equity	ratio	80 - 20
8	Total funding for Unit No. 1 as on its COD	₹ Crores	**3301.40**

A. Annual Capacity (fixed) Charges:

53. 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 Regulations 40 and 41 of "Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012. {RG-26 (II) of 2012}." The Annual Capacity (fixed) Charges consist of:

(a) Return on Equity;
(b) Interest and Financing Charges on Loan Capital;
(c) Depreciation;
(d) Lease/Hire Purchase Charges;
(e) Operation and Maintenance Expenses;
(f) Interest Charges on Working Capital;
(g) Cost of Secondary Fuel Oil;
(h) Special allowance in lieu of R&M or separate compensation allowance, wherever applicable:

a. Return on Equity:

54. Regulation 22 of the MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2012 provides as under;

"Return on equity shall be computed in rupee terms, on the paid up equity capital determined in accordance with Regulation 21.

Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per Regulation 22.3 of this Regulation:

Provided that in case of Projects commissioned on or after 1st April, 2013, an additional return of 0.5% shall be allowed if such Projects are completed within the timeline specified in Appendix-I :

Provided further that the additional return of 0.5% shall not be admissible if the Project is not completed within the timeline specified above for reasons whatsoever.

The rate of return on equity shall be computed by grossing up the base rate with the normal tax rate for the Year 2012-13 applicable to the Generating Company:

Provided that return on equity with respect to the actual tax rate applicable to the Generating Company, in line with the provisions of the relevant Finance Acts of the respective Year during the Tariff period shall be trued up separately.

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

Rate of pre-tax return on equity = Base rate / (1-t)
Where t is the applicable tax rate in accordance with Regulation 22.3 of this Regulation. ------"

55. The opening equity of ₹ 660.83 Crores as on 1st February, 2014 for Unit No. 1 as per Auditor's certificate (with respect to actual capital expenditure) filed by affidavit dated 14th July, 2014, is considered in this order. The equity amount actually incurred is within the normative equity specified in the Regulations.

56. The petitioner filed the Rate of return on equity grossing up with the MAT. Vide letter dated 3rd March, 2014, the petitioner was asked to file the basis of filing MAT on Return on Equity with the supporting documents.

57. By affidavit dated 14th July, 2014, the petitioner submitted the following:

> "*Grossing up of base rate of Return on Equity with tax rate has been considered in the anticipation that MPPGCL would start generating profit from FY14 after the COD of Unit No. 1 of SSTPP Stage-I. Out of the two tax rates, i.e., "Normal Corporate Tax" and "Minimum Alternate Tax (MAT)", the lower of the two, i.e., MAT, has been considered for grossing up the base rate of return on equity.*
>
> *MAT rate of 20.961 has been considered as per Tax rates specified by the Income Tax Department, GoI, for the Financial Year 2013-2014 (Assessment Year 2014-15) since COD of Unit No. 1 is in the last quarter of FY14."*

58. In view of the above contention of the petitioner, the Commission observed that the petitioner has not paid MAT as per books of accounts for previous years. Therefore, the MAT rate is not considered for grossing up the base rate of return. Base rate of Return on equity @ 15.5% is considered as per Regulations, 2012, in this order.

Return on equity:

Sr. No.	Particular	Unit	FY 2013-14	FY 2014-15	FY 2015-16
1	Opening Equity	₹ Crores	660.83	660.83	660.83
2	Opening Equity normative	₹ Crores	660.83	660.83	660.83
3	Equity addition during the year	₹ Crores	0.00	0.00	0.00
4	Closing Normative equity	₹ Crores	660.83	660.83	660.83
5	Average equity	₹ Crores	660.83	660.83	660.83
7	Base rate of Return on Equity	%	15.50	15.50	15.50
10	**Return on equity**	**₹ Crores**	**102.43**	**102.43**	**102.43**

b. Interest and finance Charges:

59. Regulation 23 of the MPERC (Terms and Conditions for determination of Generation Tariff)Regulations, 2012 provides as under;

"*The loans arrived at in the manner indicated in Regulation 21 shall be considered as gross normative loan for calculation of interest on loan.*

The normative loan outstanding as on 1.4.2013 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2013 from the gross normative loan.

The repayment for the Year of the Tariff period 2013-16 shall be deemed to be equal to the depreciation allowed for that Year.

Notwithstanding any moratorium period availed by the Generating Company, the repayment of loan shall be considered from the first Year of commercial operation of the Project and shall be equal to the annual depreciation allowed.

The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each Year applicable to the Project:

Provided that if there is no actual loan for a particular Year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station does not have actual loan, then the weighted average rate of interest of the Generating Company as a whole shall be considered.

The interest on loan shall be calculated on the normative average loan of the Year by applying the weighted average rate of interest.

The Generating Company shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the Beneficiaries and the net savings shall be shared between the Beneficiaries and the Generating Company, in the ratio of 2:1. ---------"

60. The opening loan of **₹ 2640.57 Crores** of Unit No. 1 as on 1st February, 2014 (as on CoD) for Unit No. 1 as per Auditor's certificate (with respect to actual capital

expenditure) filed by the petitioner is considered in this order. Regarding the weighted average rate of interest on loan, the petitioner was asked to file the supporting documents in respect of weighted average rate of interest on loan claimed in the petition.

61. By affidavit dated 14th July, 2014 the petitioner filed the year wise weighted average rates of interest on PFC Loan No. 20701001, drawl till CoD of Unit No. 1 (01.02.2014). Weighted average rate of interest on loan of 12.75% for FY 2013-14 as indicated in the documents filed by the petitioner is considered. The same interest rate is considered for FY2014-15 and FY2015-14. Repayment equivalent to depreciation determined for the year is considered as per Regulations, 2012.

62. Considering the above, the interest and finance charges on loan capital is worked out as given below:

Interest charges on loan:

Sr. No.	Particular	Unit	FY 2013-14	FY 2014-15	FY 2015-16
1	Opening Loan	₹ Crores	2640.57	2478.85	2317.12
2	Opening normative loan	₹ Crores	0.00	0.00	0.00
3	Opening loan including normative loan	₹ Crores	2640.57	2478.85	2317.12
4	Loan addition during the year	₹ Crores	0.00	0.00	0.00
5	Repayment during the year	₹ Crores	161.72	161.72	161.72
6	Closing Loan	₹ Crores	2478.85	2317.12	2155.40
7	Average Loan	₹ Crores	2559.71	2397.98	2236.26
8	Weighted average rate of interest	%	12.75	12.75	12.75
9	Interest amount	₹ Crores	**326.36**	**305.74**	**285.12**

c. Depreciation:

63. Regulation 24 of MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2012 provides as under;

"For the purpose of Tariff, depreciation shall be computed in the following manner:

(a) The value base for the purpose of depreciation shall be the capital cost of the assets as admitted by the Commission

(b) The approved/accepted cost shall include foreign currency funding converted to equivalent rupee at the exchange rate prevalent on the date of foreign currency actually availed.

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

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

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

(e) Depreciation shall be calculated annually based on 'Straight Line Method' and at rates specified in Appendix-II to these Regulations for the assets of the generating station:

Provided that, the remaining depreciable value as on 31st March of the Year closing after a period of 12 Years from the Date of Commercial operation shall be spread over the balance Useful life of the assets.

(f) In case of the existing Projects, the balance depreciable value as on 1.4.2013 shall be worked out by deducting the cumulative depreciation including Advance Against Depreciation if any as admitted by the Commission upto 31.3.2013 from the gross depreciable value of the assets. The rate of Depreciation shall be continued to be charged at the rate specified in Appendix-II till cumulative depreciation reaches 70%. Thereafter the remaining depreciable value shall be spread over the remaining life of the asset such that the maximum depreciation does not exceed 90%.

(g) Depreciation shall be chargeable from the first Year of commercial operation. In case of commercial operation of the asset for part of the Year, depreciation shall be charged on pro rata basis."

64. Regarding Depreciation, the opening Gross Fixed Assets of **₹3508.10 Crores** for Unit No.1 as on 1st February, 2014 (CoD) is considered as per the auditor's certificate (dated 13th June, 2014) filed by the petitioner. No additional capitalization is considered up to 31st March, 2016 in this order. For the purpose of depreciation, the petitioner apportioned the soft cost of the project in the ratio of hard cost components of the project.

65. The weighted average rate of depreciation is worked out by the petitioner @ 4.61 % based on the rate of depreciation for different capital cost components as per Regulations, 2012 and the detailed break-up of cost components filed in its additional affidavit dated 14th July, 2014. Based on the above, the depreciation on the assets is determined as given below:

Depreciation

Sr. No.	Particular	Unit	FY 2013-14	FY 2014-15	FY 2015-16
1	Opening Gross Block	₹ Crores	3508.10	3508.10	3508.10
2	Gross Block addition during the year	₹ Crores	0.00	0.00	0.00
3	Closing Gross Block	₹ Crores	3508.10	3508.10	3508.10
4	Average Gross Block	₹ Crores	3508.10	3508.10	3508.10
5	Weighted average rate of dep.	%	4.61	4.61	4.61
6	Depreciation amount	₹ Crores	**161.72**	**161.72**	**161.72**
7	Accumulated depreciation as on 31st March, 2013	₹ Crores	26.14	187.87	349.59

d. Operation and Maintenance Expenses:

66. Operation & Maintenance expenses are considered as per norms specified in Regulation 36.1 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012. The norms for O&M as per Regulations, 2012 for FY2013-14 to FY2015-16 are as given below:

O & M Expenses for new unit 600 MW and above (₹ Lakhs/MW)		
FY2013-14	FY2014-15	FY2015-16
12.95	13.98	15.09

Based on the above, the Operation and Maintenance Expenses for Unit 1 are determined as given below:

Operation & Maintenance expenses:

Sr. No.	Particular	Unit	FY 2013-14	FY 2014-15	FY 2015-16
1	Installed Capacity	MW	600	600	600
2	Per MW O&M expenses	₹ L/MW	12.95	13.98	15.09
3	Total O&M expenses	₹ Crores.	**77.70**	**83.88**	**90.54**

e. Cost of Secondary fuel Oil:

67. Regulation 38 of MPERC (Terms and Conditions for determination of Generation Tariff)Regulations, 2012 provides as under;

"Expenses on Secondary fuel oil in Rupees shall be computed corresponding to normative Specific Fuel Oil Consumption (SFC) specified in Regulation 35, in accordance with the following formula:

= *SFC x LPSFi x NAPAF x 24 x NDY x IC x 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 "

68. The COD of Unit No. 1 was achieved on 01/02/2014. The landed cost of Secondary Fuel Oil based on the weighted average landed price of HFO and LDO for three preceding months, i.e., November 2013, December 2013 and January 2014, (as per provisions under Regulation 38.2 of MPERC regulations 2012) is filed by the

petitioner. The weighted average rate of secondary fuel oil is considered (as filed by the petitioner in additional submission dated 14th July, 2014) as given below:

Weighted average rate of Oil:

Particular	Unit	November	December	January	Wt. average rate ₹/KL
Furnace Oil	Quantity (KL)	**100.00**	0.00	**5240.65**	
	Rate (₹/KL)	55992.66	0.00	49872.55	49987.15
LDO	Quantity (KL)	330.00	496.00	1331.59	
	Rate (₹/KL)	75290.13	76396.38	71147.46	72987.74
	Rate (₹/KL)	Sec. fuel oil Wt. avg. rate			**56605.48**

69. Considering the above, the cost of secondary fuel oil is considered as given below:

Secondary fuel oil expenses:

Sr. No.	Particular	Unit	FY 2013-14	FY 2014-15	FY 2015-16
1	Installed Capacity	MW	600	600	600
2	NAPAF	%	85.00	85.00	85.00
3	Gross Generation	MU's	4467.60	4467.60	4467.60
4	Normative Sp. Oil consumption	ml/kWh	1.00	1.00	1.00
5	Quantity of Sec. fuel oil	KL	4468	4468	4468
6	Rate of secondary fuel oil	₹/KL	56605	56605	56605
7	Cost of secondary fuel oil	₹ Crores	**25.29**	**25.29**	**25.29**

70. Further, Regulation 38.2 of the Regulations takes care of the cost of secondary fuel oil subject to fuel price adjustment at the end of the each year of tariff period as per the formula mentioned under Regulation as reproduced below:

"SFC x NAPAF x 24 x NDY x IC x 10 x (LPSFy – LPSFi)

Where,

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

f. Interest on working Capital:

71. Regarding working capital of thermal power project, Regulation 37.1 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 provides as under;

"The Working Capital for Coal based generating stations shall cover:

(i) 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;

(ii) Cost of secondary fuel oil for two months corresponding to the normative availability:

(iii) Maintenance spares @ 20% of the normative O&M expenses;

(iv) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the Normative Annual Plant Availability Factor; and

(v) Operation and Maintenance expenses for one month."

72. Regarding the cost of secondary fuel oil for calculating the working capital, Proviso of clause 37.1 (ii) provides as under;

"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".

73. Therefore, the cost of main fuel oil (HSD) is taken by considering the cost per KL filed by the petitioner in its additional submission dated 14th July, 2014. The cost of two months' main oil stock at normative availability is worked out as given below:

Sr. No.	Particular	Unit	FY 2013-14	FY 2014-15	FY 2015-16
1	Installed Capacity	MW	600	600	600
2	NAPAF	%	85.00	85.00	85.00
3	Two months stock of main fuel oil	KL	744.60	744.60	746.60
4	Rate of main secondary fuel oil	₹/KL	49987	49987	49987
5	Cost of two months main fuel oil	₹ Crores	**3.72**	**3.72**	**3.72**

74. Based on the norms specified by the Commission, two months' cost for coal stock is worked out for the working capital on the basis of price of coal and GCV of coal for three preceding months prior to COD of the unit as under:

Sr. No.	Particular	Unit	FY 2013-14	FY 2014-15	FY 2015-16
1	Station Heat Rate	Kcal/kWh	2384	2384	2384
2	Gross Calorific Value	Kcal/kg	3531.52	3531.52	3531.52
3	Annual Coal Quantity	MT	3027789	3027789	3027789
4	Two months coal stock	MT	504631	504631	504631
5	Rate of Coal for working capital	₹/MT	2579.55	2579.55	2579.55
6	Amount of two months coal stock	₹ Crores	130.17	130.17	130.17

75. Receivables for working capital have been worked out on the basis of the fixed and energy charges for two months (based on primary fuel only) on normative plant availability factor as given below:

Sr. No.	Particular	Unit	FY 2013-14	FY 2014-15	FY 2015-16
1	Variable Charges – two months	₹ Crores	130.17	130.17	130.17
2	Fixed Charges – two months	₹ Crores	124.83	122.41	120.07
3	Receivables – two months	₹ Crores	255.00	252.58	250.24

76. Regarding rate of interest on working capital, Regulation 27.1 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 provides that:

> *"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 of India's Base Rate as on 1st of April of that year plus 3.50%.-----"*

77. The rate of interest on working capital from FY2013-14 to FY2015-16 has been taken equal to the State Bank of India's Base Rate as on 1st April of that financial Year plus 3.5%. Base rate of SBI (effective from 07/11/2013) is 10.00%. The same is considered as on COD of Unit No. 1. The interest rate for FY2014-15 is considered as 13.50% (10.00+3.50). The same rate of interest has been considered for calculation of interest on working capital

for the subsequent years also. Based on the above, the interest on working capital is determined as given below:

Interest on working capital:

Sr. No.	Particular	Unit	FY 2013-14	FY 2014-15	FY 2015-16
1	Cost of coal for Two months	₹ Crores	130.17	130.17	130.17
2	Cost of fuel oil for two months	₹ Crores	3.72	3.72	3.72
3	O&M Charges for one month	₹ Crores	6.48	6.99	7.55
4	Maint. Spares 20% of the O&M ex.	₹ Crores	15.54	16.78	18.11
5	Receviables for two months	₹ Crores	255.00	252.58	250.24
6	Total working capital	₹ Crores	410.91	410.24	409.79
7	Applicable rate of interest	%	13.50	13.50	13.50
8	Interest on working capital	₹ Crores	**55.47**	**55.38**	**55.32**

Summary of Annual Capacity Charges:

78. Normative Annual Plant Availability Factor for recovery of annual capacity charges (85%) as per Regulation 35.2 (A) of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 is considered for Shri Singaji Thermal Power Project. The Annual Capacity (fixed) charges for FY 2013-14 have been pro-rated for 59 days of operation. Considering the aforesaid, the Annual Capacity (fixed) Charges of Shri Singaji TPP Unit No. 1 provisionally determined from CoD (01.02.2014) to FY 2015-16 in this order are as given below:

Annual capacity (fixed) charges:

Sr. No.	Particular	Unit	FY 2013-14	FY 2014-15	FY 2015-16
1	Return on equity	₹ Crores.	102.43	102.43	102.43
2	Interest charges on loan	₹ Crores.	326.36	305.74	285.12
3	Depreciation	₹ Crores.	161.72	161.72	161.72
4	Operation & Maintenance expenses	₹ Crores.	77.70	83.88	90.54
5	Secondary fuel oil expenses	₹ Crores.	25.29	25.29	25.29
6	Interest on working capital	₹ Crores.	55.47	55.38	55.32
7	Annual capacity (fixed) charges	₹ Crores.	**748.97**	**734.44**	**720.42**
8	AFC for 59 days for FY2013-14	₹ Crores.	**121.07**	**734.44**	**720.42**
9	**95% of the above fixed cost allowed to be recovered**	₹ Crores.	**115.01**	**697.72**	**684.40**

79. The above-mentioned Annual Capacity (fixed) Charges as provisionally allowed (up to extent of 95%) in this order are on normative plant availability factor (NAPAF) of the thermal generating unit. The recovery of Annual Capacity (fixed) Charges shall be made by the petitioner in accordance with Regulations 40.2 and 40.3 of MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2012.

B. Energy (Variable) Charges:

80. With regard to Energy Charges (Variable charges) of thermal power station, Regulation 41 of MPERC (Terms and Conditions for determination of Generation tariff) Regulations, 2012 provides that;

- *"The energy (variable) charges shall cover main fuel costs and shall be payable for the total energy scheduled to be supplied to such Beneficiary during the calendar month on ex-power plant basis, at the specified variable charge rate (with fuel price adjustment).*
- *Energy (variable) Charges in Rupees per kWh on ex-power plant basis shall be determined to three decimal places as per the following formula:*

For coal fired stations

ECR = (GHR – SFC x CVSF) x LPPF x 100 **/** *{CVPF x (100 – AUX)}*

Where,

AUX= Normative Auxiliary Energy Consumption in percentage.

ECR = Energy Charge Rate, in Rupees per kWh sent out.

GHR = Gross Station Heat Rate, in kCal per kWh.

SFC = Specific Fuel Oil Consumption, in ml/kWh

CVSF = Calorific value of Secondary Fuel, in kCal/ml.

LPPF =Weighted average Landed price of Primary Fuel, in Rupees per kg, per liter or per standard cubic meter, as applicable, during the month.

CVPF = Gross Calorific Value of Primary Fuel as fired, in kCal per kg, per liter or per standard cubic meter. ------------

- *Variable charge for the month shall be worked out on the basis of ex-bus energy scheduled to be sent out from the generating station in accordance with the following formula:*

Monthly Energy Charge (Rs) =
Variable Charge Rate in Rs/kWh X Scheduled Energy (ex-bus) for the month in kWh corresponding to Scheduled Generation."

a. Gross Station Heat Rate:

81. The petitioner claimed energy charges by considering Gross Station Heat Rate of 2443.11 Kcal/kWh as provided in the Regulations, 2012, based on the maximum design Unit heat rates depending upon the pressure and temperature ratings of the Units.

82. The Commission observed that the petitioner considered maximum design heat rate in place of heat rate guaranteed by the supplier at conditions of 100% MCR, Zero percent make up and design cooling water temperature. Therefore, the petitioner was asked to file supplier's / manufacturer's certificate indicating guaranteed station heat rate, boiler efficiency and turbine efficiency.

83. By affidavit dated 14th July, 2014, the petitioner submitted the following;

"In this regard it is humbly submitted that the Performance Guarantee Test of the Plant has not yet been carried out by the Contractor. As such, in the instant Petition the Petitioner has claimed tariff based on normative values of Gross Station Heat Rate as per MPERC Tariff Regulations 2012. The Petitioner would submit the values of guaranteed station heat rate, boiler efficiency and turbine efficiency, etc., after completion of Performance Guarantee Tests of the respective Units and submission of necessary reports by the Contractor, at the time of filing final tariff petition for the project."

84. On perusal of the response filed by the petitioner, the Commission observed that para M of the letter of award dated 12th December, 2008 has mentioned that the BHEL furnished guaranteed parameters in its offer. Vide letter dated 13th August, 2014, the petitioner was further asked to file the manufacturer's certificate for guaranteed station heat rate, boiler efficiency and turbine efficiency. In response, by affidavit dated 12th September, 2014 the petitioner re-iterated its above contention.

85. Vide letter dated 23rd September, 2014 the petitioner was once again asked to file Design / Guaranteed performance parameters, of Turbine and Boiler as provided by the supplier as on date.

86. Vide letter dated 23rd September, 2014, the petitioner filed the guaranteed parameters of Turbine Cycle Gross Heat Rate and efficiency of steam generator at 100% TMCR (turbine maximum continuous rating). Based on the details filed by the petitioner, the Gross Station Heat Rate of the Unit 1 of Shri Singaji Thermal Power Project is worked-out as given below:

Turbine Cycle Heat Rate:	1945 Kcal/kWh
Guaranteed Boiler Efficiency:	86.88%
Gross Station Heat Rate:	1945/86.88%=2338.72 Kcal/kWh
SHR for Tariff purpose:	2338.72 x 1.065 = **2384.25 Kcal/kWh**

b. Landed price of Coal:

87. While determining the energy charges, the petitioner considered the weighted average landed price of coal for the months of August, September and October, 2013. Vide letter dated 3rd March, 2014, the petitioner was asked to file the cost of coal as per provision under Regulation 37.2 of MPERC (Terms and Conditions for determination of Generation Tariff) Regulation, 2012. The petitioner was also asked to file the landed cost of coal with complete break-up of basic price and other applicable taxes, duties, royalties and cess etc. as per CIL notification along with supporting documents.

88. By affidavit dated 14th July, 2014, the petitioner filed the landed cost of coal based on the weighted average price of the three preceding months, i.e., Nov 2013, Dec 2013 and Jan 2014 (as per provisions under Regulation 37.2 of MPERC Regulations 2012). The petitioner submitted that the quantity and amount for Dec 2013 are Nil since no coal was received during this month. The petitioner also filed the break-up of the landed price of coal indicating basic price of coal, rail transportation charges, demurrage charges, liaisoning charges, etc., for the months Nov’ 2013 and Jan’ 2014.

89. On perusal of the details filed by the petitioner the Commission observed that, an amount of ₹ 64.35 Lakhs under operation and maintenance works of coal handling plant has been adjusted by the petitioner while working out the landed price of coal

for the month of January, 2014. Vide letter dated 13th August, 2014, the petitioner was asked to file reasons for considering this amount of O&M works of coal handling plant in the landed price of coal.

90. By affidavit dated 12th September, 2014, the petitioner submitted that the amount of ₹ 64.35 lakhs shown on account of operation and maintenance works of coal handling plant includes expenses on account of the contract placed on M/s L&T, Chennai, which includes expenditure on coal unloading through wagon tippler, manual coal unloading on track hopper, and other fuel handling related costs. Vide letter dated 10th October, 2014, the petitioner filed a copy of the contract placed on M/s L&T, Channai for O&M works of coal handling plant. The petitioner in aforesaid submission mentioned the following:

"*the amount of Rs. 64.35 lakhs shown on account of O&M works of coal handling plant includes expenditure on coal unloading through wagon tippler, manual coal unloading on track hopper and other fuel handling related Costs. It is humbly requested to kindly consider the landed price of the coal for three preceding months before the COD as filed at this stage for providing the provisional tariff of Unit No. 1 since the ECR for monthly billing will as it is be subject to FCA as per MPERC Tariff Regulations. A copy of the contract placed on M/s L&T, Chennai for O&M Works of Coal Handling Plant including unloading of coal is annexed (Annexure-1). Further details in this regard shall, however, be filed by MPPGCL at the time of filing Final Tariff Petition for both the Units of SSTPP Stage-I (2X600 MW) after the Station COD and based on the audited books of accounts of MPPGCL for the corresponding Financial Years.*

91. With regard to the landed cost of coal, regulation 41.4 of MPERC (Terms and Conditions for determination of Generation Tariff) Regulation, 2012 provides as under;

"*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------"*

92. The Commission has not considered the expenses on O&M works of coal handling plant as part of landed cost of coal in this order. Therefore, the weighted average price of the coal is worked out without considering the amount of ₹ 64.35 Lakhs towards operation and maintenance works of coal handling plant in month of January, 2014. Based on the above, the weighted average landed price of coal for energy charges is considered as given below:

Weighted average rate of Coal:

Month	Quantity	Rate of Coal	Wt. Avg. Rate
	MT	₹/ MT	₹/ MT
November, 2013	15220.73	2561.30	**2579.55**
December, 2013	0.00	-	
January, 2014	44433.66	2585.80	

c. Gross Calorific Value of Coal:

93. While claiming the Energy Charges, the petitioner considered the weighted average Gross Calorific Value of Coal 3814 Kcal/kWh for the months of August, September and October, 2013. Vide letter dated 3rd March, 2014, the petitioner was asked to file the GCV of coal as per provision under Regulation 37.2 of MPERC (Terms and Conditions for determination of Generation Tariff) Regulation, 2012 along with coal analysis report in support of GCV of coal considered in the petition.

94. By affidavit dated 14th July, 2014, the petitioner filed the GCV of coal based on the weighted average GCV of the three preceding months, i.e., Nov 2013, Dec 2013 and Jan 2014, as per provisions under Regulation 37.2 of MPERC Regulations 2012. The petitioner also filed the copy of the analysis report in support of GCV of coal for the period Nov 2013 to Jan 2014.

95. The details of the weighted average GCV of Coal (filed by the petitioner in its additional submission) considered by the Commission are as follows:

Weighted average GCV of Coal:

Month	Quantity	GCV of Coal	Wt. Avg. GCV
	MT	Kcal/kg	Kcal/kg
November, 2013	15220.73	3498	
December, 2013	0.00	3498	
January, 2014	44433.66	3543	**3531**

d. Operating Parameters:

96. The unit has natural draft Cooling Tower. Accordingly, the norms for Auxiliary Energy Consumption and Specific Oil Consumption are considered as per Regulation 35.2 of MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2012. SSTPS unit 1 (600 MW) being non pit-head generating unit, the normative transit loss are considered as per Regulation 41.4 of MPERC (Terms and Conditions for determination of Generation Tariff) Regulations' 2012.

97. While calculating the energy (variable) charges, the following norms of operation for 600 MW units and above have been considered as per MPERC (Terms and Conditions for determination of Generation), Regulations' 2012:

Target Availability	85%
Station Heat Rate	2384.25 Kcal/kWh
Aux. Energy Consumption	6%
Sp. Oil Consumption	1 ml/kWh
Transit Loss	0.80%

98. Based on the above, the Energy Charges at ex-bus for SSTPS Unit No. 1 are determined as given below:

Energy Charges (Coal cost) of Singaji TPP (Stage-I) Unit 1 :

Sr. No.	Particular	Unit	FY13-14 To FY15-16
1	Installed Capacity	MW	600
2	Normative Annual Plant Availability Factor	%	85.00
3	Gross Generation at generator terminals	MU's	4467.60
4	Net Generation at ex-bus	MU's	4199.54
5	Gross Station Heat Rate	kCal/kWh	2384.25
6	Sp. Fuel Oil Consumption	ml/kWh	1.00
7	Aux. Energy Consumption	%	6.00
8	Transit and handling Loss	%	0.80

9	Weighted average GCV of Oil	kCal/ltr.	10,000
10	Weighted average GCV of Coal	kCal/kg	3531.52
11	Weighted Average price of Coal	Rs./MT	2579.55
12	Heat Contributed from HFO	kCal/kWh	10
13	Heat Contributed from Coal	kCal/kWh	2374.24
14	Specific Coal Consumption	kg/kWh	0.6723
15	Sp. Coal consumption including transit loss	kg/kWh	0.6777
16	Rate of Energy Charge from Coal	Paise/kWh	1.75
17	**Rate of Energy Charge from Coal at ex bus**	**Rs./kWh**	**1.860**

99. However, the base rate of the energy charges shall be subject to month to month adjustment of fuel price and GCV of main fuel. The above energy charges have been calculated for the purpose of calculation of two months' billing which is used for calculation of interest on working capital. The actual billing of energy charges shall be as per the formula and other provisions detailed in Regulation 31 of MPERC (Terms and Conditions for determination of Generation Tariff) Regulations, 2012.

C. Other Charges

100. In addition to the Annual Capacity (fixed) Charges and Energy (variable) Charges determined in this order, the petitioner is allowed to recover other expenses in accordance with the provisions under MPERC (Terms and Conditions for determination of generation tariff) Regulations, 2012.

101. The above tariff is provisionally determined by the Commission w.e.f. the CoD of the Unit No. 1 i.e. 1st February, 2014 to 31st March, 2016 based on the Auditor's Certificate and other documents placed before the Commission during proceedings held in the matter. The provisional tariff so determined in this order shall be subject to adjustment as per Regulation 15.3 of the MPERC (Terms and Conditions for determination of generation tariff) Regulations, 2012 on determination of the final tariff by the Commission after submission of the audited accounts and all other relevant details/documents & clarifications to the satisfaction of the Commission.

102. The petitioner is directed to file the final tariff petition for Unit-1 at the earliest along with the Audited Accounts as on CoD and all other required details / documents. The Unit-wise break-up of the figures in the audited accounts be also submitted by the petitioner with the final tariff petition in favor of its claims. All discrepancies and information gaps observed by the Commission in this order be also eliminated while filing the final tariff petition.

103. The instant petition is for Unit No. 1 of petitioner's power plant. The provisional tariff of Unit No. 2 shall be determined only after CoD of Unit-2 and submission of all relevant details and documents by the petitioner.

Ordered accordingly.

(Alok Gupta)	**(A. B. Bajpai)**	**(Rakesh Sahni)**
Member	**Member**	**Chairman**

Date : 10th November, 2014
Place : Bhopal