

**MADHYA PRADESH ELECTRICITY REGULATORY COMMISSION**

5<sup>th</sup> Floor, "Metro Plaza", Bittan Market, Bhopal - 462016



**Petition No. 09 of 2017**

**PRESENT:**

**Dr. Dev Raj Birdi, Chairman  
Alok Gupta, Member**

**IN THE MATTER OF:**

**Determination of the Final Generation Tariff for Unit No. 1 & 2 of 2x600 MW, Shri Singaji Thermal Power project (SSTPP) Stage I, from CoD of Unit No. 1 to 31<sup>st</sup> March' 2016 under Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012.**

**AND IN THE MATTER OF:**

**M.P. Power Generating Company Ltd., Jabalpur**

**Petitioner**

**Versus**

**1. M. P. Power Management Co. Ltd., Jabalpur**

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

**Respondents**

## **ORDER**

***(Passed on this day of 30<sup>th</sup> December' 2017)***

1. Madhya Pradesh Power Generating Company Ltd. (hereinafter referred to as “the petitioner” or “MPPGCL”) filed the subject petition for approval of final generation tariff for Unit No. 1 & 2 of 2x600 MW, Shri Singaji Thermal Power Project (hereinafter referred to as “SSTPP”) Stage-I, from CoD of Unit No. 1 to 31<sup>st</sup> March' 2016.
2. The petitioner is having various power stations/projects in the state of Madhya Pradesh. Shri Singaji Thermal Power Project (SSTPP) is one of such coal based thermal power project of the petitioner located near village Dongalia in Khandwa District of Madhya Pradesh.
3. 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<sup>th</sup> June' 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 in this Petition.
4. The subject petition has been filed under Section 62 of the Electricity Act, 2003 and it is based on MPERC (Terms and Conditions for Determination of Generation Tariff) Regulation, 2012 (hereinafter referred to as “the Regulations, 2012”). The aforesaid Regulations are based on multiyear tariff principles prescribing norms of operation for the control period from FY 2013-14 to FY 2015-16.
5. Dates of Commercial Operation (CoD) of Unit No. 1 & 2 of 2x600MW SSTPP Stage I, are as given below:-

**Table 1: Dates of Commercial Operation**

<b>Sr. No.</b>	<b>Unit No.</b>	<b>Dates of Commercial Operation</b>
1	Unit No. 1	01 <sup>st</sup> February' 2014
2	Unit No. 2	28 <sup>th</sup> December' 2014

**Background of the petition:**

6. Power Purchase Agreement was executed between the petitioner and M.P. Power Trading Company Ltd. (now M.P. Power Management Company Ltd.) on 4<sup>th</sup> January' 2011 for purchase of entire power (100%) generated from SSTPP Stage I, Unit No. 1 & 2 (2x600 MW) for onward sale to the Discoms of M.P. on the rates to be determined by the Commission.
7. On 31<sup>st</sup> January' 2014, MPPGCL filed petition No. 05 of 2014 for approval of provisional tariff of Unit No. 1 & 2 of SSTPP. Vide order dated 10<sup>th</sup> November' 2014, the Commission determined the provisional tariff of Unit No. 1 from its CoD to 31<sup>st</sup> March' 2016 based on the actual capital expenditure as on CoD certified by the Auditor. In the aforesaid order, the Commission allowed recovery of Annual Capacity (Fixed) Charges of Unit No. 1 to the extent of 95% of the AFC determined in the aforesaid order.
8. On achieving the CoD of Unit No. 2, the petitioner filed Interlocutory application (IA No. 02 of P-5/2014) seeking permission to raise bill on provisional basis and recovery of Annual Fixed Charges for Unit No. 2 of SSTPP. The Commission vide order dated 18<sup>th</sup> March' 2015 determined Annual Fixed Charges for FY 2014-15 to FY 2015-16 for Unit No. 2 of SSTPP based on the actual capital expenditure as on CoD of Unit No. 2 certified by the Auditor. The Commission allowed recovery of Annual Capacity (Fixed) Charges of Unit No. 2 to the extent of 95% of the AFC determined in the aforesaid order for FY 2014-15 to FY 2015-16.
9. On 01<sup>st</sup> March' 2016, MPPGCL filed the Multi-year tariff (MYT) petition for FY 2016-17 to FY 2018-19 (Petition No. 08 of 2016) for all Power Stations including SSTPP Stage I, Unit No. 1 & 2 of MPPGCL. The Commission vide order dated 14<sup>th</sup> July' 2016 determined the Annual Fixed Charges and Energy Charges of SSTPP, Unit No. 1 & 2 on provisional basis for FY 2016-17 to FY 2018-19.
10. The petitioner submitted that the books of accounts of MPPGCL for the FY 2013-14 to FY 2015-16 have been finalized and duly audited by Statutory Auditors followed by supplementary audits by the CAG therefore, the petitioner filed the subject petition for approval of final generation tariff for 2x600 MW, SSTPP Unit No. 1 & 2, for the control period FY 2013-14 to FY 2015-16, w.e.f. CoD of Unit

No. 1 to 31<sup>st</sup> March' 2016 based on the aforesaid Annual Audited Accounts.

11. The petitioner broadly submitted the following:
- (i) *The erstwhile M.P. State Electricity Board (MPSEB) accorded administrative approval for installation of 2x500 MW coal fired Malwa Thermal Power Project (Ultimate capacity – 2000 MW) at village Purni/ Dongalia, District Khandwa, vide resolution passed in its 27<sup>th</sup> meeting held on 14.12.2004 at Bhopal.*
  - (ii) *Initially the Project Cost 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 (1x500MW), Kahalgaon Stage-II (2x500 MW) (Year 2004) and the DPR of Bhoopalpalli (Year 2005). This tentative estimate of Rs. 4434.69 Crore was approved by the BoD MPPGCL vide resolution passed by circulation during 31.01.2006 to 10.02.2006.*
  - (iii) *Govt. of M.P., vide letter dated 24.09.2005, had directed to make efforts to obtain “Mega Power Projects Status” to the project. 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 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 500 MW 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, Gol, New Delhi, had advised, vide office memorandum No. 3/2/2006-DVC dated 05.02.2007 to strictly follow the guidelines prescribed by the CEA as above.*
  - (iv) *As such, the project capacity in the first phase was panned as 2x600 MW 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 .*
  - (v) *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. A corrigendum to the aforesaid certificate was issued vide letter No. 6/3/2006-S.Th. dated Dec, 2010 of Ministry of Power, Govt. of India, changed name of the Project as “Shri Singaji Thermal Power Project” and installed capacity of 2x600 MW.*
  - (vi) *The above mentioned initial tentative project cost estimate of Rs. 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 Rs. 4053 Crore. This tentative project cost estimate of Rs. 4053 Crore was approved by the BoD, MPPGCL vide resolution passed in its 21<sup>st</sup> meeting held on 26.08.2006. This project cost estimate was approved by the GoMP vide its letter No. 3186/13/2007 dated 04.05.2007 in which the GoMP approved availing of PFC loan of Rs. 3242.00 Crore (80% of Project Cost) and GoMP Equity of Rs. 810.60 Crore (20% of the Project Cost) for the subject project.

- (vii) This updated 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 (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 Rs. 6750.00 Crore. This revised project cost estimate was approved by the BoD MPPGCL vide resolution passed in its 44<sup>th</sup> meeting held on 26.08.2009 at Bhopal. The revised project cost estimate of Rs. 6750.00 Crore was approved by the GoMP vide letter of Energy Department vide No. 8271/13/2009 dated 17.11.2009. In its above approval dated 17.11.2009, the GoMP also approved availing of PFC loan of Rs. 5400 Crore (80% of revised project cost of Rs. 6750.00 Crore) and GoMP Equity of Rs. 1350 Crore (20% of revised project cost estimate of Rs. 6750 Crore).
- (viii) The Project Cost estimate 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 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 72<sup>nd</sup> meeting dated 04.01.2014 held at Bhopal and by GoMP vide letter dated 23.01.2015.
- (ix) Since the subject Units No. 1 & 2 of SSTPP Stage-I 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 Hon'ble Commission. Respondent No.1 conveyed its consent for purchase of 100% power form these

Units. A Power Purchase Agreement to this effect has been signed between the Petitioner and Respondent No.1 on 04.01.2011. First Amendment Agreement to the aforesaid PPA was signed on 26.09.2012 for incorporating the change in name of Respondent No.1 from M.P. Power Trading Company Ltd. to M.P. Power Management Co. Ltd..

- (x) MPPGCL has filed the petition for approval of Provisional Tariff of Unit1&2 of SSTPP Stage-1 on 31.01.2014 before the Commission Petition (No. 5/2014). The Hon'ble Commission vide its order dated 10.11.2014 has determined the provisional Tariff of Unit-1 of SSTPP Stage-1 & permitted 95% recovery of Fixed Cost for FY 14 to FY 16 for Unit-1. Further, MPPGCL has filed Interlocutory application for seeking permission to raise bill on provisional basis and recover annual charges for power to be generated & supplied to MPPMCL by MPPGCL from its 600 Mw UnitNo.2 of SSTPP Stage-1(IA No.02 of P-5/2014). The Commission vide order dated 18.03.2015 Unit-2 of SSTPP Stage-1 has permitted 95% recovery of Fixed Cost for FY 14 to FY 16.
- (xi) Subsequently, MPPGCL has filed the MYT petition for FY 17 to FY 19 (petition No. 08 of 2016) for all Power Stations of MPPGCL. The Hon'ble Commission, in its order dated 14.07.2016 (Para 176) has allowed MPPGCL to recover the Annual Fixed Charges of SSTPP Stage-1(Unit1&2) on provisional basis for FY 17 to FY 19.
- (xii) 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 the generating company.
- (xiii) 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. Further, MPERC Terms and Conditions for Determination of Generation Tariff) Regulations, 2015, for the control period FY17 to FY 19, notified on 01.01.2016 have come into force from 01.04.2016.
- (xiv) Accordingly, the petitioner has filed the petition for determination of final generation tariff for 2x600 MW, Shri Singaji Thermal Power project Stage-1, Units No. 1 & 2, for the period w.e.f. CoD of Unit No.1 i.e. 01.02.2014 upto 31.03.2019 in accordance with above mentioned Regulations.
- (xv) The motion hearing on the above petition No. 09 of 2017 was held at MPERC, Bhopal on 20.06.2017. The Commission in its Daily Order dated 20.06.2017 has made following observation:-

- i. *The petitioner has filed a consolidated petition for determination of final tariff for FY 2013-14 to FY 2015-16 on the basis of Annual Audited Accounts alongwith determination of Multi-year Tariff (MYT) for FY 2016-17 to FY 2018-19 on projection basis.*
- ii. *Vide Commission's MYT order dated 14th July' 2016 in petition No. 08/2016, the Multiyear Tariff of SSTPP PH-I has already been determined by the Commission on provisional basis for the same control period of FY 2016-17 to FY 2018-19.*
- iii. *Therefore, determination of another tariff based on different capital cost for the same control period would not be appropriate in the subject petition.*

*In view of the above, the petitioner is directed to file a revised petition for determination of final tariff only till 31st March' 2016 based on its Annual Audited Accounts.*

- (xvi) *In compliance to the above directives of Hon'ble Commission, MPPGCL is filing this revised petition for approval of Final Generation Tariff for 2x600 MW, Shri Singaji Thermal Power project (SSTPP) Stage I, Units no. 1 & 2, Distt. Khandwa, from CoD of Unit No #1 & 2 upto 31.03.2016, under Section 62 of the Electricity Act, 2003.*
- (xvii) *The details of Capital Expenditure are elaborated in Form TPS 5B, however, in the instant petition, MPPGCL has considered the Capital Expenditure as captured and capitalized in the Audited Books of Accounts of the respective years( FY 14, FY 15 & FY 16) as detailed in Chapter-2 of instant petition. This is in accordance with the methodology adopted by Hon'ble Commission in the earlier Final Tariff orders issued by Commission for STPS PH-4 Sarni, SGTPS PH-3 Birsinghpur & ATPS PH-3 Chachai*

12. The following Annual Capacity (fixed) Charges for SSTPP Stage I, Unit No. 1 & 2 from 01<sup>st</sup> February' 2014 (CoD of Unit No. 1) to 31<sup>st</sup> March' 2016 are filed in the subject petition:

**Table 2: Annual Capacity Charges for SSTPP Unit No. 1 & 2 claimed**

Sr. No.	Particulars	Unit	FY 2013-14	FY 2014-15		FY 2015-16
			01.02.2014 to 31.3.2014	01.04.2014 to 31.03.2015	28.12.2014 to 31.03.2015	01.04.2015 to 31.03.2016
			Unit No. 1	Unit No. 1	Unit No. 2	Unit 1&2
1	Return on equity	Rs. Crore	104.37	107.46	101.79	210.80

2	Interest & Finance charges on loan	Rs. Crore	340.60	355.72	364.65	708.68
3	Depreciation	Rs. Crore	168.48	173.31	180.55	372.88
4	O & M expenses	Rs. Crore	77.70	83.88	83.88	181.08
5	Sec. fuel oil Cost	Rs. Crore	23.36	19.36	19.36	22.88
6	Interest on working capital	Rs. Crore	59.32	73.27	95.70	151.27
<b>7</b>	<b>Annual Capacity (fixed) charges</b>	<b>Rs. Crore</b>	<b>773.83</b>	<b>812.99</b>	<b>845.94</b>	<b>1647.58</b>
8	No. of Operational Days	Days	59	365	94	366
9	AFC for no. of days of operation	Rs. Crore	125.08	812.99	217.86	1647.58
10	Less: Non Tariff Income	Rs. Crore	17.33	9	2.32	26.39
<b>11</b>	<b>Net AFC for applicable days</b>	<b>Rs. Crore</b>	<b>107.75</b>	<b>803.99</b>	<b>215.54</b>	<b>1621.19</b>

13. The following “other charges” for SSTPP Stage I, Unit No. 1 & 2 from 01<sup>st</sup> February’ 2014 to 31<sup>st</sup> March’ 2016 are filed in the subject petition:

**Table 3: Other Charges for SSTPP Stage I, Unit No. 1 & 2 claimed: (Rs. in Crore)**

Sr. No.	Particulars	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.03.2014	01.04.2014 to 31.03.2015	28.12.2014 to 31.03.2015	01.04.2015 to 31.03.2016
		Unit No. 1	Unit No. 1	Unit No. 2	Unit 1&2
1	MPERC Fees	0.01	0.18	0.00	0.36
2	Water Charges	1.49	4.83	1.24	29.12
3	Cost of Chemical & Lubricant	0.34	1.13	0.29	3.67
4	SLDC Charges	0.02	0.12	0.03	0.12
5	Rent, Rate & Taxes	0.05	0.12	0.03	0.13
6	Entry Tax	0.00	0.00	0.00	0.13
7	Common Expenses	0.00	1.03	0.27	0.00
<b>8</b>	<b>Total</b>	<b>1.91</b>	<b>7.41</b>	<b>1.86</b>	<b>33.53</b>

14. The petitioner mentioned that it has billed the Energy Charges (Variable Charges) for the control period FY 2013-14 to FY 2015-16 in accordance with proviso 41 of MPERC (Terms & Condition for Determination of Generation Tariff) (Revision-II) Regulation, 2012. Therefore, no truing up of Energy Charges has been filed in the subject petition.
15. With the above submission, the petitioner prayed the following in the subject petition:

- (a) Approve the Final Generation tariff of 2x600 MW, Shri Singaji Thermal Power Project (SSTPP) Stage-I, Units No. 1 & 2, from their respective dates of Commercial Operation till 31.03.2016, as submitted in Para 35 of this revised petition.*
  - (b) Permit additional recovery on account of Rent, Rates and Taxes payable to Government, MPERC Fee, Cost of Chemicals & Consumables, Water Charges, Publication Expenses, Entry Tax, Common Expenses and SLDC/RLDC/NLDC and Transmission Charges etc, levied by various authorities on the Petition in accordance with law, on actual basis, over and above the fixed and variable charges.*
  - (c) Permit differential billing and recovery of interest on the differential amount of Provisional & Final Tariff in accordance with proviso 15.3 & 15.4 of MPERC Regulations, 2012.*
  - (d) Permit recovery of expenses understated/ not considered in this revised petition at a later stage, if required.*
16. The Commission has examined the subject petition in accordance with the provisions under Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) (Revision-II) Regulations, 2012 {RG-26 (II) of 2012} (hereinafter referred to as “the Regulations’ 2012”) for FY 2013-14 to FY 2015-16.

**Procedural History:**

17. Initially, the petitioner filed the subject petition on 30<sup>th</sup> March' 2017 for determination of final tariff of SSTPP Stage I, Unit No. 1 & 2 for FY 2013-14 to FY 2015-16 on the basis of Annual Audited Accounts along with determination of Multi-year Tariff (MYT) for the control period FY 2016-17 to FY 2018-19 on projection basis.
18. Motion hearing in the subject petition was held on 20<sup>th</sup> June' 2017, Vide order dated 20<sup>th</sup> June' 2017, the Commission observed that in MYT order dated 14<sup>th</sup> July' 2016 in petition No. 08/2016, the Multiyear Tariff of SSTPP Stage-I has already been determined by the Commission on provisional basis for the control period of FY 2016-17 to FY 2018-19. Therefore, the petitioner was directed to file a revised petition for determination of final tariff only from CoD of Unit No. 1 till 31<sup>st</sup> March' 2016 based on the Annual Audited Accounts.
19. By affidavit dated 20<sup>th</sup> July' 2017, the petitioner filed the revised petition for approval of Final Generation Tariff for 2x600 MW, Shri Singaji Thermal Power project (SSTPP) Stage I, Unit No. 1 & 2, from CoD of Unit No 1 & 2 upto 31.03.2016.
20. Motion hearing in the subject petition was again held on 25<sup>th</sup> July' 2017, when the petition was admitted and the petitioner was directed to serve copies of petition on all Respondents in the matter. The respondents were also asked to file their comments/response on the petition, by 17<sup>th</sup> August' 2017.
21. Vide letter dated 16<sup>th</sup> August' 2017, the Respondent No.1 i.e. M.P. Power Management Company Limited (MPPMCL) filed its comments/response on the subject petition.
22. Vide Commission's letter dated 05<sup>th</sup> August' 2017, the information gaps on the subject petition were communicated to the petitioner and it was asked to file a comprehensive reply along with all supporting documents by 30<sup>th</sup> August' 2017.
23. Vide letter dated 29<sup>th</sup> August' 2017, the petitioner sought 15 days' time extension for filing its response on the queries raised by the Commission.

24. Vide Commission's letter dated 04<sup>th</sup> September' 2017, the petitioner was allowed to file its response at the earliest but not later than 15<sup>th</sup> September' 2017.
25. By affidavit dated 15<sup>th</sup> September' 2017, the petitioner filed its reply to the issues raised by the Commission. On perusal of the reply filed by MPPGCL, it was observed that the explanation of MPPGCL on some core issues regarding Interest during Construction (IDC) and IEDC were lacking clarity.
26. Vide Commission's letter dated 21<sup>st</sup> November, 2017, the petitioner was asked to file a comprehensive reply to all such issues which were lacking clarity. By affidavit dated 27<sup>th</sup> November' 2017, the petitioner filed its reply to the issues raised by the Commission.
27. On perusal of the response filed by the petitioner, it was observed that the issue regarding the capital cost, fuel cost for generation of infirm power and IEDC etc still lacking clarity. Vide Commission's letter dated 12<sup>th</sup> December' 2017, the petitioner was asked to file a comprehensive reply to all such issues which were lacking clarity.
28. The public notices inviting comments/suggestions from all stakeholders was published on 16<sup>th</sup> October' 2017, in the following Hindi & English newspapers.
  - a. Nai Duniya, Jabalpur (Hindi)
  - b. Raj Express, Indore (Hindi)
  - c. Raj Express, Gwalior (Hindi)
  - d. Dainik Jagran, Bhopal (Hindi)
  - e. The Pioneer, Bhopal (English)
29. No comment from any stakeholder was received in the matter. The public hearing in the subject petition was held on 21<sup>st</sup> November' 2017, wherein the representatives of the petitioner and respondents were appeared.
30. By affidavit dated 18<sup>th</sup> December' 2017, the petitioner filed its reply to the issues raised by the Commission vide letter dated 12<sup>th</sup> December' 2017. The response of the petitioner on the issues raised by the Commission during scrutiny of the subject petition is mentioned in **Annexure-I** with this order.

31. By affidavit dated 13<sup>th</sup> November' 2017, the petitioner filed its response on the comments offered by the Respondent No.1 (MPPMCL). The comments offered by the Respondent No. 1 and the response of the petitioner on each comment is mentioned in **Annexure-II** enclosed with this order.
32. The petitioner has obtained the following administrative and statutory approvals/ clearances for execution of Shri Singaji Thermal Power Project, Stage I:
- (i) 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 Dongaliain Khandwa district. Vide resolution passed in its 27<sup>th</sup> meeting held on 14.12.2004, Erstwhile MPSEB accorded administrative approval for installation of 2x500 MW Coal Fired Malwa Thermal Power Station (Ultimate capacity -2000 MW) at village Dongalia/ Purni, Distt. Khandwa.
  - (ii) Investment approval: Approval to Initial Project Cost Estimate of Rs. 4434.69 Crore was accorded by the BoD MPPGCL vide Resolution passed through circulation during 31.01.2006 to 10.02.2006.
  - (iii) Funding Pattern: Approval of 80:20 funding pattern through loan (80%) and equity (20%), accorded by the GoMP vide letter No. 6421/13/2005 dated 24.09.2005.
  - (iv) Revised administrative approval: Vide letter No. 27/13/2007 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 at 4X(500-600) MW.
  - (v) Mega Power Project Status: 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. 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.
  - (vi) Sub-Critical Technology: Vide Energy Department letter No. 3/1/13/2006 dated 05.02.2007, Administrative approval was granted by GoMP for adopting Sub-Critical technology for the project,.
  - (vii) Project cost Approval after Mega-power status: Updated project cost estimate of Rs.

4053 Crore, considering the benefits available due to Mega Power Project Status for the project, was accorded by the BoD MPPGCL vide resolution passed on 26.08.2006. This project cost estimate was approved by the GoMP vide its letter No. 3186/13/2007 dated 04.05.2007 in which the GoMP approved availing of PFC loan of Rs. 3242.00 Crore (80% of Project Cost) and GoMP Equity of Rs. 810.60 Crore (20% of the Project Cost) for the subject project.

- (viii) Approval of revised project cost: Approval of revised project cost estimate of Rs. 6750 Crore was accorded by the BoD MPPGCL vide resolution passed in its 44<sup>th</sup> meeting held on 26.08.2009 at Bhopal. This 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. In its above approval dated 17.11.2009, the GoMP also approved availing of PFC loan of Rs. 5400 Crore (80% of revised project cost of Rs. 6750.00 Crore) and GoMP Equity of Rs. 1350 Crore (20% of revised project cost estimate of Rs. 6750 Crore).
- (ix) Approval of revised project cost: Approval of revised project cost estimate of Rs. 7820.00 Crore was accorded by the BoD MPPGCL vide resolution passed in its 72<sup>nd</sup> meeting held on 04.01.2014 at Bhopal.
- (x) Loan approval from PFC: Initial sanction for loan amount of Rs. 2730 Crore was granted by M/s. PFC, vide its letter No. 03:02:MPPGCL:05:01 Malwa dated 29.05.2006, against request for sanction of loan of Rs. 3548.00 Crore (80% of Rs. 4434.69 Crore). Subsequent sanction of loan amount of Rs. 3242 Crore, considering the updated project cost to Rs. 4053 Crore, was granted vide PFC letter No. 03:02:MPPGCL:06:02:20701001 Dated 30.03.2007.
- (xi) Against MPPGCL's request for enhancing the loan amount to Rs. 5400 Crore (80% of revised project cost of Rs. 6750 Crore) M/s. PFC, vide letter No. 03/22/MP/MPPGCL/Shree Singaji/Vol. 1/20701001 dated 19.03.2010, enhanced the loan amount from Rs. 3242 Crore to Rs. 5160.42 Crore.
- (xii) Approval for revised funding: In view of the revised project cost of Rs. 7820.00 Crore, approved vide BoD resolution dated 04.01.2014, the BoD also decided to explore the possibility of seeking funds towards "additional equity" from GoMP and accordingly, GoMP has enhanced the Equity sanctioned to Rs. 1521.20 Crore.
- (xiii) Water Allocation: Consumptive water requirement for these Units with COC of 5 and "Zero Discharge" was estimated to 3705 Cu M/Hr i.e. 32.5 Million Cu M per year.

Allocation of 72 Million Cu M per year water (for 4x600 MW) from WRD GoMP has been received vide WRD, GoMP, letter No. LPCB/31/Tech/223/2010 dated 25.05.2012. NOC from CWC was already obtained in Nov 2002 for use of water from Indira Sagar Reservoir on river Narmada, vide letter dated 01.11.2002.

- (xiv) Environmental clearance: Environmental clearance for installation of SSTPP Stage I, 2x600 MW, was accorded by the Ministry of Environment and Forest, GoI, vide letter No. J-13011/50/2007-IA.II (T) dated 01/10.2008.
- (xv) Forest Clearance: Forest clearance was accorded by the Ministry of Environment and Forest, GoI, vide their letter No. 8-78/2007-FC dated 18.05.2012.
- (xvi) Approval of M.P.P.C.B.- MPPCB approval was accorded vide their letter No. 7690/TS/MPPCB/2012 dated 19.10.2012, granting permission to establish 2x600 MW .
- (xvii) Coal Linkage: Letter of Assurance for supply of 4.9939 MTPA coal was given by SECL vide dated 25.06.2010. Subsequently a Fuel Supply Agreement (FSA) has been signed with M/s. SECL, on 24.01.2013 for supply of 4.9939 MTPA coal to the project. Subsequent, three addendums to the FSA, were signed on 01.07.2013, 31.07.2013 and 24.12.2013 respectively. A supplementary MOU has been signed between the Petitioner and SECL for supply of additional 11 MT coal for SSTPP, Khandwa for commissioning activities including achievement of CoD, on 24.12.2013.
- (xviii) Swapping the coal linkage: The GoI has recently issued directives, enabling Thermal Power Generating Companies for swapping the coal linkage between their thermal power stations. Accordingly, with the help of GoI, MPPGCL has swapped coal linked to PH-4, STPS Sarni (2x250MW) from WCL to PH-1, SSTPP, Khandwa (2x600MW) with SECL coal..
- (xix) Civil Aviation Clearance- Airports Authority of India (AAI), New Delhi issued NOC vide letter no. AAI/20012/19/2002-ARI dated 22.02.2002 for construction of 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.

**Analysis of the petition:**

**A. Capital Cost as on CoD:**

**Provision under Regulations:**

33. With regard to the capital cost, Regulation 17 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 provides as under:

*“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 :*

-----“

**Petitioner’s Submission:**

34. The petitioner filed the total capital expenditure for Unit No. 1&2 as on their respective CoDs is as given below:

Particulars	Rs. Crore	
	Unit-1	Unit-2
Capital Cost (Excluding IDC & Overheads & Infirm power)	2729.14	2726.18
Add. Interest during construction	659.19	933.91
Add. Overheads	44.67	53.68
Add. Cost of generation of Infirm Power	104.97	87.85
less: Revenue from sale of infirm Power	-7.89	-4.00
<b>Total Capital Cost as on CoD</b>	<b>3530.08</b>	<b>3797.62</b>

35. The petitioner submitted the total capital expenditure incurred for SSTPP Unit No. 1 & 2, as on CoD of Unit No. 1 (01<sup>st</sup> February’ 2014), as on 31<sup>st</sup> March’ 2014, as on CoD of Unit No. 2 or the Station CoD (28<sup>th</sup> December’ 2014), as on 31<sup>st</sup> March’ 2015 and as on 31<sup>st</sup> March’ 2016 are Rs. 6745.59 Crore, Rs. 6911.23 Crore, Rs. 7426.17 Crore, Rs. 7482.47 Crore and Rs. 7580.85 Crore respectively. The petitioner mentioned that the aforesaid expenditures have been worked out after accounting for the fuel expenses during pre-commissioning activities and the revenue earned from infirm power generation. The break-up of actual capital expenditure incurred on the aforesaid dates are as given below:

**Table 4: Actual Capital Expenditure incurred for SSTPP Stage I, Unit No. 1 & 2 (Rs. in Crore)**

Particulars	Unit No.	Unit Wise	Total Unit No. 1 & 2
As on CoD of Unit No. 1 (01 <sup>st</sup> February’ 2014)	Unit No.1	3530.08	6745.59
	Unit No.2	3215.50	
As on 31 <sup>st</sup> March’ 2014	Unit No.1	3567.61	6911.23
	Unit No.2	3343.62	
As on CoD of Unit No. 2 (28 <sup>th</sup> December’ 2014)	Unit No.1	3628.55	7426.17
	Unit No.2	3797.62	

As on 31 <sup>st</sup> March' 2015	Unit No.1	3655.61	7482.47
	Unit No.2	3826.85	
As on 31 <sup>st</sup> March' 2016	Unit No.1	3703.76	7580.85
	Unit No.2	3877.09	

36. The petitioner further submitted that out of the above total capital expenditure incurred, the expenditure capitalized as per the Annual Audited Accounts for SSTPP Unit No. 1 & 2 at different dates i.e. as on CoD of Unit No. 1 (01<sup>st</sup> February' 2014), as on 31<sup>st</sup> March' 2014, as on CoD of Unit No. 2 or the Station CoD (28<sup>th</sup> December' 2014), as on 31<sup>st</sup> March' 2015 and as on 31<sup>st</sup> March' 2016 are Rs. 3514.66 Crore, Rs. 3825.97 Crore, Rs. 7143.24 Crore, Rs. 7206.71 Crore and Rs. 7493.66 Crore respectively. Unit wise break-up of capital expenditure incurred and capital expenditure capitalized in books of accounts filed by the petitioner are as given below:-

**Table 5: Capital Expenditure Incurred and Expenditure Capitalized (Rs. in Crore)**

Particulars	Unit	Capital Expenditure Incurred (Unit Wise)	Capital Expenditure Capitalized (Unit Wise)	Capital Expenditure Capitalized (Total of Both Unit)
As on CoD of Unit No. 1 (01 <sup>st</sup> February' 2014)	Unit No.1	3530.08	3152.10	3514.66
	Unit No.2	3215.50	362.55	
As on 31 <sup>st</sup> March' 2014	Unit No.1	3567.61	3448.51	3825.97
	Unit No.2	3343.62	377.46	
As on CoD of Unit No. 2 (28 <sup>th</sup> December' 2014)	Unit No.1	3628.55	3521.76	7143.24
	Unit No.2	3797.62	3621.49	
As on 31 <sup>st</sup> March' 2015	Unit No.1	3655.61	3543.72	7206.71
	Unit No.2	3826.85	3662.99	
As on 31 <sup>st</sup> March' 2016	Unit No.1	3703.76	3675.11	7493.66
	Unit No.2	3877.09	3818.55	

37. On perusal of the details of project cost filed by the petitioner, it was observed that the petitioner has not filed the component-wise detailed break-up of the expenditure capitalized on the different dates mentioned in the aforesaid table. Therefore, vide Commission's letter dated 05<sup>th</sup> August' 2017, the petitioner was asked to file the capitalization booklet with detailed break-up of capitalization of all the capital cost components of SSTPP Stage I, Unit No. 1 & 2.

38. By affidavit dated 15<sup>th</sup> September' 2017, the petitioner submitted the following:  
*“Capital Expenditure of SSTPP PH-1 as capitalized in the Audited Books of Accounts during FY 2013-14, FY 2014-15 & FY 2015-16 respectively were considered in the subject petition. The same is detailed in Table No.28.1 at Page No.12 of subject petition. The related supporting documents i.e. Asset Cum Depreciation Register in line with Audited Books of Accounts are annexed as Annexure-23”.*
39. On perusal of aforesaid details filed by the petitioner, it was observed that the petitioner has not filed the capitalization booklet and the component-wise detailed break-up of the expenditure capitalized. Therefore, vide Commission’s letter dated 12<sup>th</sup> December’ 2017, the petitioner was again asked to file the aforesaid details of SSTPP Stage I, Unit No. 1 & 2.
40. By affidavit dated 18<sup>th</sup> December’ 2017, the petitioner submitted the following break-up of capitalization of assets in Books of Accounts on different dates.

**Table 6: Capital Expenditure Capitalized for SSTPP Unit No. 1 & 2 as on Different Dates**  
**(Rs in Crore)**

Particular	Capital Expenditure Capitalized						
	Unit No.1	Unit No.1	Unit No.1	Unit No. 2	Unit No.1&2	Unit No.1&2	Unit No.1&2
	As on Its CoD	As on 31 <sup>st</sup> March' 2014	As on project CoD	As on project CoD	As on project CoD	As on 31 <sup>st</sup> March' 2015	As on 31 <sup>st</sup> March' 2016
Cost of Land & Site Development	56.82	56.82	56.93	56.93	113.86	113.86	113.88
Plant & Equipment	1020.8	1122.04	1119.2	1014.3	2133.5	2144.73	2183.07
BOP (Mechanical, Electrical, POV and C&I)	380.22	432.05	444.24	444.08	888.32	888.50	901.55
Civil works including Railway siding	753.17	817.68	838.39	811.55	1649.9	1687.33	1830.07
Initial spares	29.23	29.23	38.78	34.25	73.03	73.03	96.49
Erection, Testing & Commissioning	187.37	209.88	256.03	250.66	506.69	506.69	513.79
Start up fuel	97.08	97.08	97.08	83.85	180.93	180.93	180.94
Overheads	43.40	47.42	34.72	53.52	88.24	90.49	93.44
IDC & FC Charges	583.99	636.32	636.36	872.38	1508.7	1521.13	1580.44
<b>Total</b>	<b>3152.1</b>	<b>3448.51</b>	<b>3521.7</b>	<b>3621.5</b>	<b>7143.2</b>	<b>7206.70</b>	<b>7493.66</b>

41. In view of the above, it is observed that the aforesaid amount of assets capitalized by the petitioner at different dates are in line of the figures recorded in Annual Audited Accounts and Asset-cum-depreciation registers for respective years. However, the scrutiny of the aforesaid capital cost component is required based on investment approval, provisions under the Regulations and other details and documents filed by the petitioner.

**B. Investment Approval:**

42. While scrutinizing the capital cost of SSTPP Stage I, Unit No. 1 & 2, it was observed that the original project cost initially approved by the BoD and GoMP had been revised time and again. Therefore, some background and chronological events related to capital cost and investment approval of the project are discussed below:
- (a) Vide letter dated 18<sup>th</sup> May' 2001, State Government (GoMP) accorded the administrative approval for setting up of 2x500 MW Unit No. 1 & 2 Malwa Thermal Power Project near village Dongalia/ Purni in Khandwa district.
  - (b) The proposal for setting up 2x500 MW Unit No. 1 & 2 was approved by the M.P. State Electricity Board (MPSEB), vide resolution passed in its 27<sup>th</sup> meeting dated 14<sup>th</sup> December' 2004.
  - (c) Vide letter dated 24<sup>th</sup> September' 2005, GoMP accorded approval for funding of project cost through debt and equity in 80:20 ratio.
  - (d) Initially the project cost was tentatively estimated at Rs. 4434.69 Crore and was approved by the BoD of MPPGCL, vide Resolution passed by circulation during 31<sup>st</sup> January' 2006 to 10<sup>th</sup> February' 2006.
  - (e) Vide Certificate No. 6/3/2006-S.Th. dated 3<sup>rd</sup> January' 2007, Ministry of Power, Govt. of India, granted Mega Power Project status to the project.
  - (f) Considering the benefits of exemption of Custom Duty and Excise Duty available due to Mega Power Project status for the project, vide BoD resolution passed in 21<sup>st</sup> meeting held on 26<sup>th</sup> August' 2006, the initial project cost of Rs. 4434.69 Crore revised to Rs. 4053 Crore. GoMP vide letter dated 4<sup>th</sup> May' 2007 approved

revised project cost of Rs. 4053 Crore to be funded by PFC loan of Rs. 3242.00 Crore (80% of Project Cost) and GoMP Equity of Rs. 810.60 Crore (20% of the Project Cost).

- (g) The petitioner mentioned that while estimating the initial project cost of Rs. 4053 Crore, the orders for Civil Works of Main Power Block, Balance of Plant and Non-EPC works, etc. were not placed. Whereas, on receipt of high prices of BoP, it was felt to revise the project cost estimate, therefore subsequently the initial project cost estimate of Rs. 4053 Crore revised to Rs. 6750 Crore.
- (h) The aforesaid revised project cost estimate of Rs. 6750 Crore was approved by the BoD, MPPGCL vide resolution passed in 44<sup>th</sup> meeting held on 26<sup>th</sup> August' 2009 and the same was approved by GoMP vide letter dated 17<sup>th</sup> November' 2009, to be funded by PFC loan of Rs. 5400 Crore and GoMP Equity of Rs. 1350 Crore.
- (i) Further, due to increase in expenditures on account of Land, Civil Works, Railway Transportation System, Spares, increase in IDC due to delay in commissioning of Units and change in interest rates on loan, etc., the project cost estimate of Rs. 6750 Crore was revised to Rs. 7820 Crore. The revised project cost estimate of Rs. 7820 Crore was approved by BoD, MPPGCL, vide resolution passed in 72<sup>th</sup> meeting held on 4<sup>th</sup> January' 2014 and the same was approved by GoMP vide letter dated 23<sup>rd</sup> January' 2015.
43. In order to find out the component wise cost overrun and one-to-one comparison of actual expenditure with the original project cost approved by the BoD and GoMP, a detailed break-up of each component in the project cost in all revisions of the investment approval of the project was required. Therefore, Vide Commission's letter dated 12<sup>th</sup> December' 2017, the petitioner was asked to file detailed break-up of original project cost (initially approved) for the project and all revisions of project cost at different points of time approved by the BoD in its various revisions.
44. By affidavit dated 18<sup>th</sup> December' 2017, the petitioner filed detailed break-up of the project cost approved by the BoD in its different revisions as given below:

**Table 7: Detailed Break-Up of the Project Cost Approved by BoD: (Rs in Crore)**

<b>Particular</b>	<b>BoD Approval dated 26<sup>th</sup> August' 2006</b>	<b>BoD Approval dated 26<sup>th</sup> August' 2009</b>	<b>BoD Approval dated 04<sup>th</sup> January' 2014</b>
Land Cost including Rehabilitation & Resettlement	24.75	65.00	117.50
Main Power Block inc. Taxes and duties	2422.45	2230.11	2230.11
Balance of plant inc. Price Variation(PVC)		920.02	920.02
Civil (MBP+BOP+ Railway) inc PVC	512.24	1696.99	2002.74
Initial Spares		133.92	194.23
Interest during construction	612.44	880.34	1473.05
Overheads (Employee +A&G+FC+ET)	211.29	276.36	154.31
Infirm Power net of revenue		10.00	190.78
Erection, Testing & Commissioning	269.68	537.26	537.26
<b>Total</b>	<b>4053.00</b>	<b>6750.00</b>	<b>7820.00</b>

45. On scrutiny of the capital cost of the project, it was observed that the Annual Audited Accounts for FY 2013-14, FY 2014-15 and FY 2015-16 filed by MPPGCL are for the company as a whole and it was difficult to identify the assets capitalized for SSTPP Stage I, Unit No. 1 & 2. Therefore, vide Commission's letter dated 05<sup>th</sup> August' 2017, the petitioner was asked to file the power station-wise break-up of the audited figures with respect to the opening GFA, assets added during the year and closing GFA along with the assets under CWIP during FY 2013-14, FY 2014-15 and FY 2015-16..
  
46. By affidavit dated 15<sup>th</sup> September' 2017, the petitioner filed the year-wise details regarding power station-wise break-up of the audited figures with respect to the opening Gross Fixed Assets, assets added during the year and closing Gross Fixed Assets along with the assets under CWIP during FY 2013-14, FY 2014-15 and FY 2015-16.
  
47. Regarding the basis for apportionment of the common expenses as on the CoD, vide Commission's letter dated 05<sup>th</sup> August' 2017, the petitioner was asked to submit the allocation/bifurcation of common capital expenditure incurred and capitalized on the common facilities between SSTPP Stage I, Unit No. 1 & 2 as on CoD of both the Units. The petitioner was also asked to file the statement for apportionment of common facilities as per clause 8.3 of MPERC (Terms and

Conditions for Determination of Generation Tariff) Regulations, 2012.

48. In response to aforesaid query of apportionment of common capital cost, by affidavit dated 15<sup>th</sup> September' 2017, the petitioner submitted the following:  
*“The common facilities of the project have been apportioned equally between Unit No. 1 & 2 on the basis of the capacity of these Units, as per clause 8.3 of the Regulations, 2012. The petitioner further submitted the common facilities comprising of Balance of Plant, General Civil works & work of Railway Sidings are equally apportioned in Unit No. 1 & 2 of SSTPP. The same is elaborated in TPS Form-5B of instant petition.”*
49. In view of the above and perusal of the figures of capital cost components indicated in TPS Form-5B, the Commission observed that the petitioner apportioned the common facilities as per Regulation 8.3 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012.

**C. Cost Overrun:**

50. It was observed that the initial estimated project cost (after considering the benefits of Mega-power status) approved by the Board of petitioner's company and GoMP was Rs. 4053 Crore which has been further revised time and again and the latest revised estimated project cost as approved by its Board on 4<sup>th</sup> January' 2014 and by GoMP on 23<sup>th</sup> January' 2015 is Rs.7820 Crore.
51. In para 2.3 of the petition, the petitioner submitted the following reasons/ justifications in support of cost overrun from Rs. 4053 Crore to Rs. 6750 Crore:
- (a) *Earlier approved project cost of Rs. 4053 Crore was for 2x500 MW capacities. Since the order for Main Power Block was placed through ICB for 2x600 MW capacities, in compliance to guidelines of Ministry of Power, the project cost need to take into account the actual capacity of the project as 2x600 MW. The project cost was earlier estimated based on order value of Bhoopalpalli/ Vijaywada (1x500 MW) & Kahalgaon (2x500 MW) projects placed during Year 2005 & 2004 for E&M works and cost for Civil work was considered from DPR prepared in 2001.*
- (b) *IDC calculation was done considering interest rate as 10.5%, whereas the*

*interest rate on PFC loan was 11.5% at the time of first revision of estimate. As such, the estimate for IDC amount increased from Rs. 612.44 Crore to Rs. 880.34 Crore due to phasing of expenditure as per actual L-1 Schedule and change in interest rate.*

- (c) In the earlier project cost estimate of Rs. 4053 Crore, the value of Civil & E&M works including Erection, Testing & Commissioning, freight, insurance, taxes & duties (excl. PV of Rs. 132.32 Crore) was estimated as Rs. 3072.05 Crore. Whereas, in the second revised estimate the value of Civil & E&M works including Erection, Testing & Commissioning, freight & insurance was estimated to be Rs. 5306.4 Crore including the cost of Main Power Block on the basis of actual order value and the cost of Balance of Plant & Construction Power based on prices quoted by the lowest bidders.*
  - (d) A new provision of Rs. 26.4 Crore was required to be made in the revised project cost estimate towards payment of Entry Tax.*
  - (e) In the earlier approved project cost estimate, a provision of Rs. 16 Crore was made against the head "Cost of Land". However, in the revised project cost estimate, a provision of Rs. 65.00 Crore was made on the basis of actual expenditure incurred in land acquisition activities till that time.*
  - (f) Cost of civil works, which includes GCW-1 (based on actual order value), GCW-II (other civil works), GCW-III (colony package) and Rail Transport System is estimated on the basis of latest estimated cost of these works.*
  - (g) A provision of Rs. 247.50 Crore has been made towards Price Variation in the revised project cost estimate, as against the provision of Rs. 132.32 Crore made in the earlier approved project cost estimate on this account.*
  - (h) Cost estimate towards Consultancy Services was enhanced from Rs. 8 Crore to Rs. 15 Crore due to inclusion of Third Party Inspection, Project Monitoring works etc.*
52. Further in Para 2.5 of the petition, the petitioner submitted the following reasons for increase in estimated project cost from Rs. 6750 Crore to Rs. 7820 Crore:

(a) *Civil Works- (General Civil Works)*

(i) *GCW-II got increased due to addition of (a) new requirement of two outside roads with electrification & (b) award of left over works. As such, cost of GCW-II increased to Rs. 112.00 Cr. from Rs. 50.50 Cr.*

(ii) *After backing out of contractor, GCW-III (colony) works was re-ordered, at higher cost. Cost for construction of furnished pre-fabricated accommodation near power house has also been added up in this head. As such, cost of GCW-III increased to Rs. 177.42 Cr. from Rs. 110.00 Cr.*

(b) *Private Railway Siding*

*As per original scheme rail route for coal/ oil transportation upto power house from main line (Itarsi – Surgaon – Banjari – Talwadia – Khandwa – Bhusawal) was through Birvia 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 Rs. 30.00 Cr., Departmental charges (incl. supervision) and Director & General charges leviable on Civil, OHE and S&T works at certain rates. D&G charges are not applicable on the works carried out by railways / railway approved contractor / client. Thus, cost has increased to Rs. 288.33 Cr. from Rs. 111.00 Cr.*

(c) *Land*

*Due to actual cost of land and due to 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 to Rs. 117.50 Cr. from Rs. 65.00 Crore.*

(d) *Additional Spares*

*Provision has been made for additional spares of Rs. 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 of Rs. 82.72 Crore to Rs. 40.00 Crore.*

*(f) Establishment*

*The earlier approved amount of Rs. 132.54 Crore was for Establishment expenses. In the revised estimate of Rs. 7820.00 Crore, a provision of Rs. 60.00 Cr. only has been kept for Establishment expenses, based on the actual figures till Jun 2013.*

*(g) Start up fuel - Construction & Pre-Commissioning Expenses*

*The earlier provision of Rs. 10.00 Crore was on account of Startup fuel. A provision of Rs. 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 of the Units.*

*(h) Water Charges*

*A provision of Rs. 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 to Rs. 1473.05 Crore from the earlier estimated value of Rs. 880.34 Crore. This is mainly due to (a) additional amount of loan required for funding of increased project cost, (b) delay in commissioning of Units and (c) change of interest rates during the currency of loan from 11.5% to 12.75%.*

53. With regard to cost of civil works, it was observed that the estimated civil cost of the project was four times the initial estimate. In view of the above, vide Commission's letter dated 05<sup>th</sup> August' 2017, the petitioner was asked to file the

reasons for such huge variation in the cost of civil works filed in the petition.

54. In response to aforesaid query of civil work, by affidavit dated 15<sup>th</sup> September' 2017, the petitioner submitted the following:

*“Initially cost of civil works including preliminary investigation & survey and cost of land as Rs.534.99 Crore was very tentative as it was derived based on cost of civil works indicated in the feasibility report (base date Nov.2001) by escalating as per RBI indices upto Oct.2005.*

*As such, this estimation was of first stage and after award of major works i.e. Main Power Block (BTG package) in Dec.08, Balance of Plant (BOP Package) in Oct.09 and award of GCW-I package, proper estimation of civil works was done in Aug.09 as Rs.1663.70 Crore, which was approved by the BoD of MPPGCL vide resolution passed in the 44<sup>th</sup> meeting held on 26.08.09. Thereafter, based on actual expenditure incurred in civil works for BTG, BOP, GCW-I,II,III, Railway Transportation System, Land Acquisition and Survey & Investigation, this estimate has been revised to Rs. 2013.37 Crore.*

*In the initial estimate, land cost was considered as Rs. 16.00 Crore whereas actual expenditure incurred in acquisition of land (1200 Hect.) in compliance to prevailing Rehabilitation and Resettlement policy is Rs. 117.50 Crore. Owing to installation of higher capacity of plant, quantum of land required for installation of plant was increased. Besides above, payment of land cost had to be paid in compliance to the revised R&R policy which includes certain additional financial advantages to the owner of private land. As such, considerable increase in expenditure towards land acquisition from Rs.16.00 Crore to Rs.117.50 Crore has been resulted.*

*Civil Works-(General Civil Works)*

*Expenditure against GCW-II got increased due to requirement for construction of Two Nos. of outside roads with electrification in compliance to the norms of revised R&R policy & award of left over works. As such, cost of GCW-II got increased to Rs.112.00 Crore from Rs.50.50 Crore.*

*GCW-III Package*

*Due to compliance of prevailing norms, for staff accommodation and inclusion of other facilities i.e. Higher Secondary School, Welfare Center, Approach Road to power house, Sewerage Treatment plant etc, expenditure against this package got increased. The work of colony package was re-ordered, at higher cost after backing out by the first contractor. Also cost for construction of furnished pre-fabricated accommodation near power house has also been added in the scope of this package. As such, cost of GCW-III package got increased to Rs.177.42 Crore from Rs.110.00 Crore.”*

**D. Time Overrun**

55. In para 2.9 of the petition, the petitioner mentioned that as per the contract awarded to BHEL, CoD of SSTPP Stage I, Unit No. 1 & 2 were to be achieved within 42<sup>nd</sup> and 46<sup>th</sup> months from the effective date of contract (12<sup>th</sup> December’ 2008), i.e. by 11<sup>th</sup> June’ 2012 & 11<sup>th</sup> October’ 2012 respectively. However, the commissioning targets have slipped by about **20 months** for Unit No. 1 and by about **26 months** for Unit No. 2.
56. In view of the above, the Commission observed that there has been substantial delay in achieving the CoD of the generating Units, which contribute cost overrun in terms of IDC and overhead expenses of the project. The details of the scheduled CoD, actual CoD and Unit wise delay observed for Unit No. 1 & 2 are as given below:

**Table 8: Scheduled-vs-Actual CoD of the Units:**

<b>Generating Units</b>	<b>Scheduled CoD</b>	<b>Actual CoD</b>	<b>Delay in CoD</b>
Unit No. 1	11 <sup>th</sup> June’ 2012	01 <sup>st</sup> February’ 2014	20-Months
Unit No. 2	11 <sup>th</sup> October’ 2012	28 <sup>th</sup> December’ 2014	26-Months

57. Vide Commission’s letter dated 05<sup>th</sup> August’ 2017, the petitioner was asked to inform detailed reasons for delay in achieving CoD of the generating Units.
58. By affidavit dated 15<sup>th</sup> September’ 2017, the petitioner submitted the following reasons for delay in achieving the CoD of the generating Units:

(a) *Delay in Acquisition of Land and Handing over of land: (Force Majeure)*

*Due to agitation by land owners / villagers for getting compensation and other grants etc, there was delay in acquisition of land. Even after acquisition of land, lots of hurdles were created by land owners and work could not be taken up due to agitation & unrest. After intervention of local administration, work could be started in piece-meal only. In addition to above, crops were also sown on the land by the land owners /villagers.*

*Order for leveling & grading was placed on M/s.Prasad & Co. on 18.10.2009 & 20.06.2009. However, prior to start of work, due to agitation, the work could be actually started only on 10 hectares out of 588 hectares on 18.10.2009, which was late by about four months. The said work got further affected due to subsequent protests by land owners/villagers.*

*After payment of demanded compensation, works of leveling & grading could be taken up & thereafter leveled land was handed over to BHEL with delay of about 7 months.*

*The work of Leveling and grading was delayed mainly due to continuous agitation by land owners and subsequent frequent forceful stoppage of leveling & grading work, which was a force majeure condition.*

*For delay in completion of leveling & grading work, Liquidated Damages (LD) was recovered from the contractor which has been protested by the contractor. Presently dispute is under arbitration court.*

(b) *Delay in providing Construction Power & delay due to Interruption in Construction Power: (Force Majeure)*

*It was required to ensure the availability of Construction Power to M/s.BHEL, (EPC Contractor for Main Power Block) and M/s. L&T, (EPC Contractor for BoP). This activity got delayed due to delay in handing over the land due to the reasons elaborated as Sr.no.(a) above, to the contractor. M/s. Agarwal Agency (on whom order was placed by MPPGCL for "Installation of Construction Power Network".*

*There were frequent power interruption from the end of Discom, due to which erection work of Main Power Block (MPB) and Balance of Plant (BoP) got*

delayed.

*The Contractor faced various other problems during execution. As a result, the construction power could be made available to BHEL in phased manner.*

*The Penalty as per contract has been recovered from the contractor due to delay in making available the construction power network. It is to mention that interruption in construction power from Discom's end was a force majeure condition for MPPGCL.*

*(c) Construction of Road Outside and inside plant roads (Force majeure):*

*The condition of Roads outside & inside plant was very pitiable, which was worsening during each rainy season. Therefore, there were difficulties in movement of heavy vehicles and materials thereon. The outside plant road was repaired during transportation of Boiler Drum and Generator Stator. The inside water bound macadam (WBM) roads were also repaired by MPPGCL.*

*Since many heavy consignments were to be transported for the project, poor condition of road posed difficulty in delivery of material causing loss of time, especially during rainy seasons. This was a force majeure condition, as roads outside plant boundary were to be repaired & maintained by various other Govt. agencies responsible for the said work.*

*(d) Theft of Materials (Force majeure):*

*The Barbed wired Fencing was available all along the boundary of the Plant prior to the start of work. The fencing along the Plant boundary was trespassed frequently so many times, resulting into theft of materials. Despite all security agencies deployed by MPPGCL, BHEL and L&T along with their sub contractor, theft of materials could not be avoided, which is a law & order problem and was force majeure in nature.*

*Both Main Power Block & BoP work got affected due to the same. It is to mention that once any material is lost due to theft, recouping of the same takes nearly 03 months for placing order to concern vendors/sub-vendors, its manufacturing, packing, forwarding, transportation & re-installation.*

- (e) *Workers/Local villagers unrest/ disturbance (Force majeure):*  
*About a month delay was observed due to unrest/ disturbance by villagers as well as workers of all contractors due to resentment on deaths of fellow workers in accidents, which led to complete stoppage of work. This was mainly a Law & order problem. The issues were then resolved with intervention of local administration, but the work got adversely affected.*
- (f) *Incessant Rain (Force Majeure):-*  
*Due to abnormally heavy rains in the year 2011, 2012 & 2013, the construction work unfavorably affected. As such, 30 days delay on account of this force majeure conditions has been considered.*
- (g) *Delay in clearance from State Load Dispatch Center for capacity addition:*  
*During process for commissioning, there were delays in providing clearance from State Load Dispatch Centre M.P. due to low system demand.*
59. The petitioner mentioned that the time extension to the contractors M/s BHEL (contractor for Main Power Block) was granted by MPPGCL upto 11<sup>th</sup> November' 2013 for Unit No. 1 and 11<sup>th</sup> March' 2014 for Unit No. 2 and to the M/s L&T (contractor for BoP) upto 31<sup>st</sup> January' 2014 for Unit No. 1 & 31<sup>st</sup> July' 2014 for Unit No. 2 for completion of all facilities of Unit No. 1 & 2, without prejudice to the recovery of Liquidated Damages.
60. Vide Commission's letter dated 05<sup>th</sup> August' 2017, the petitioner was asked to inform whether the delay in CoD of Unit No. 1 & 2 was attributable to the delay in completion of works by the contractors/vendor. The petitioner was also asked to inform, whether any Liquidated Damages/penalty have been recovered or to be recovered from the contractors/ vendor.
61. By affidavit dated 15<sup>th</sup> September' 2017, the petitioner submitted the following:
- (i) *Besides force majeure reasons mentioned above, delays were also attributable to the following contractors, in achieving CoD of the project:*
- M/s. Prasad & Co. Ltd. Hyderabad on which order for Leveling Grading works was placed. M/s. Agrawal Agencies Jabalpur on which order for Construction*

*Power was placed. M/s. BHEL New Delhi on which order for Main Power Block was placed. M/s. L&T Vadodara on which order for Balance of Plant was placed*

- (ii) *The process of deduction of Liquidated Damages (LD) from above mentioned contactors is under its way process. The same shall be informed to Commission as and when it is completed.*

62. On perusal of above reply of petitioner, the petitioner is directed to furnish the detailed information of actual LD/ penalty as and when deducted from contractor/ vendor. The aforesaid information be filed with the next petition for true up of SSTPP Stage-I, Unit No. 1 and 2..

**E. Interest during Construction (IDC):**

63. The petitioner filed the actual interest during construction (IDC) and financing charges (FC) incurred of Rs. 659.19 Crore and Rs. 933.91 Crore for Unit No. 1 & 2 till CoD, of respective Unit. The total IDC & FC for both the Units as filed by the petitioner is Rs. 1593.10 Crore.
64. On perusal of the details and documents filed by the petitioner, the Commission observed that the IDC & FC as per initial cost estimate was Rs. 612.44 Crore which has now increased to Rs. 1473.05 Crore in latest revised cost estimate approved by the BoD on 4<sup>th</sup> January' 2014 and approve by GoMP on 23<sup>th</sup> January' 2015.
65. Vide Commission's letter dated 05<sup>th</sup> August' 2017, the petitioner was asked to file the actual IDC & FC for Unit No. 1 & 2 with detailed computation of IDC as on scheduled CoD and as on actual CoD of both the Units. The petitioner was also asked to file the detailed reasons for increase in IDC from schedule CoD to actual CoD of the Units along with basis of allocation of IDC between Unit No. 1 & 2.
66. By affidavit dated 15<sup>th</sup> September' 2017, the petitioner filed its response on the aforesaid issues raised by the Commission as follows:  
(a) *The statement indicating the date wise calculation of Interest. During Construction (IDC) for unit No.1 & 2 of SSTPP Ph-1 is annexed as Annexure-9A & 9B.*

*(b) It may be appreciated that due to increase in cost due to additional works and increase in cost of few existing works like colony roads etc., additional loan (including equity) is required; part of which to be incurred up to CoD of each Unit, which attracted IDC. The detailed reasons for delay in CoD (Force Majeure) are already furnished at MPPGCL's reply to Point- A Delay in CoD - a (i) above.*

*Further, IDC has also increased due to change in rate of interest which has changed to 12.75% p.a. as against original 11.50% p.a.*

*(c) It is to submit that figures of Interest during Construction has been allocated based of work completion ratio of Unit No.1&2 at CoD of respective units. Accordingly, the allocated IDC has been reflected in form TPS-5B of subject petition”.*

67. On perusal of above response, the Commission observed that the petitioner did not filed the information of IDC & FC as on Schedule CoD and Actual CoD, therefore, Vide Commission's letter dated 21<sup>st</sup> November' 2017, the petitioner was again asked to file to the aforesaid information.
68. By affidavit dated 27<sup>th</sup> November' 2017, the petitioner filed the information of IDC & FC as on Schedule CoD and Actual CoD.
69. On scrutiny of the reasons of delay filed by the petitioner, it is observed that the increase in IDC & FC amount from the estimated amount of Rs. 612.44 Crore to the actual figure of Rs. 1593.10 Crore (as on Station CoD) was mainly on account of delay in achieving the CoD of the generating units. Further, the Commission has noted that most of the aforesaid reasons for delay in CoD of generating units were controllable and attributable to either the petitioner or contractor/ vendors.
70. Hon'ble APTEL in its Judgment in Appeal No. 72 of 2011 while allowing the impact of increase in costs due to delay in achieving CoD has categorically stated the following:  
*“7.4.The delay in execution of a generating project could occur due to following reason:*

- (i) due to factors entirely attributable to the generating company, e.g imprudence in selecting the contractors/suppliers and in executing contractual agreements including terms and conditions of the contracts, delay in award of contracts, delay in providing inputs like making land available to the contractors, delay in payments to contractors/ suppliers as per the terms of contract, mismanagement of finances, slackness in project management like improper co-ordination between the various contractors, etc.*
- (ii) due to factors beyond the control of the generating company e.g. delay caused due to force majeure like natural calamity or any other reasons which clearly establish, beyond any doubt, that there has been no imprudence on the part of the generating company in executing the project.*
- (iii) situation not covered by (i) & (ii) above. In our opinion in the first case the entire cost due to time over run has to be borne by the generating company. However, the Liquidated Damages (LDs) and insurance proceeds on account of delay, if any, received by the generating company could be retained by the generating company. In the second case the generating company could be given benefit of the additional cost incurred due to time over-run. However, the consumers should get full benefit of the LDs recovered from the contractors/suppliers of the generating company and the insurance proceeds, if any, to reduce the capital cost. In the third case the additional cost due to time overrun including the LDs and insurance proceeds could be shared between the generating company and the consumer. It would also be prudent to consider the delay with respect to some benchmarks rather than depending on the provisions of the contract between the generating company and its contractors/suppliers. If the time schedule is taken as per the terms of the contract, this may result in imprudent time schedule not in accordance with good industry practices.”*

71. Hon'ble APTEL in its Judgment with regards to sharing of impact on account of increase in cost due to mix of controllable and uncontrollable factors had decided the following:

*“7.12. In view of above, we feel that this case falls under category (iii) described*

*in Para 7.4. Accordingly, following the principles of prudence check laid down by us, the cost of time over run has to be shared equally between the generating company and the consumers. Admittedly, there is no enhancement in cost of the contract price of the equipment as no price variation escalation was permissible to BHEL beyond the schedule date of completion of the Project according to the terms of the agreement. The impact of time over run beyond the contractual schedule is only on IDC and overhead costs. Accordingly, the same have to be shared between the generating company and the consumers. Excess IDC and overhead costs for time overrun from scheduled date of commissioning to actual date of commissioning has to be worked out on prorata basis with respect to total actual time taken in commissioning of the Unit. 50% of the excess IDC and overhead costs will have to be disallowed.....”*

72. In view of the aforesaid observations, the Commission has allowed only 50% of the excess IDC & FC (claimed beyond schedule CoD of units) at this stage in this order on account of delay in commissioning of the Project.
73. Accordingly, the details of IDC considered till CoD of each unit in this order are as given below:

**Table 9: Interest during Construction and Financing Charges (Rs. in Crore)**

<b>Particular</b>	<b>Unit No. 1</b>	<b>Unit No. 2</b>	<b>Total</b>
Actual IDC and FC as on actual CoD filed	659.19	933.91	1593.10
Actual IDC and FC as on Scheduled CoD	425.35	602.62	1027.98
Increase in IDC and FC due to delay in Commissioning	233.84	331.29	565.12
50% of the excess IDC and FC	116.92	165.64	282.56
<b>Total IDC and FC Considered in this order</b>	<b>542.27</b>	<b>768.27</b>	<b>1310.54</b>

74. On perusal of the capitalization details filed by the petitioner, it is observed that the petitioner has not capitalized full amount of IDC & FC as on CoD of each unit and end of the financial year. Therefore, the capitalization of IDC & FC at different dates is considered proportionately as given below:

**Table 10: Interest during Construction and Financing Charges Allowed (Rs. in Crore)**

Unit	Particular	As on CoD of Unit No.1	As on 31 <sup>st</sup> March' 2014	As on CoD of Unit No.2	As on 31 <sup>st</sup> March' 2015	As on 31 <sup>st</sup> March' 2016
<b>Unit No.1</b>	Actual IDC & FC Capitalized as filed	583.99	636.32	636.36	640.66	656.81
	Amount Under CWIP filed	75.20	22.87	22.83	18.53	2.38
	Total IDC & FC Filed	659.19	659.19	659.19	659.19	659.19
	% of Filed IDC & FC Capitalized	88.59	96.53	96.54	97.19	99.64
	Total IDC & FC allowed	542.27	542.27	542.27	542.27	542.27
	<b>Capitalized IDC &amp; FC allowed</b>	<b>480.41</b>	<b>523.46</b>	<b>523.49</b>	<b>527.03</b>	<b>540.32</b>
	IDC&FC Considered under CWIP	61.86	18.81	18.78	15.25	1.95
<b>Unit No.2</b>	Actual IDC & FC Capitalized as filed	-	-	872.38	880.48	923.62
	Amount Under CWIP filed	-	-	61.54	53.44	10.29
	Total IDC & FC Filed	-	-	933.91	933.91	933.91
	% of Filed IDC & FC Capitalized	-	-	93.41	94.28	98.90
	Total IDC & FC allowed	-	-	768.27	768.27	768.27
	<b>Capitalized IDC &amp; FC allowed</b>	-	-	<b>717.65</b>	<b>724.31</b>	<b>759.80</b>
	IDC&FC Considered under CWIP	-	-	50.62	43.96	8.47

**F. Overheads Expenses**

75. The petitioner filed the actual overheads of Rs. 44.67 Crore and Rs. 53.68 Crore for Unit No. 1 & 2 till actual CoD of respective Unit. The total overhead expenses for both the Units as filed by the petitioner is Rs. 98.35 Crore. Vide Commission's letter dated 05<sup>th</sup> August' 2017, the petitioner was asked to file the actual overhead expenses for Unit No. 1 & 2 with detailed computation of overheads as on scheduled CoD and as on actual CoD of both the Units. In response to that by affidavit dated 15<sup>th</sup> September' 2017, the petitioner filed the overhead of Rs. 27.00 Crore and Rs. 32.45 Crore for Unit No. 1 & 2 till Schedule CoD of respective Unit.
76. On perusal of the reasons for delay filed by the petitioner, it is observed that the increase in overhead expenses from the initially estimated amount to the actual overhead expenses (as on Station CoD) is mainly on account of delay in achieving the CoD of the generating units. Further, the Commission has noted that most of the aforesaid reasons for delay in CoD of generating units are controllable and attributable to either the petitioner or contractor/ vendors.

77. In line of the observations of the Commission on the issue of increase in IDC from the Scheduled CoD to actual CoD of the Units, the Commission has allowed 50% of overhead expenses incurred beyond scheduled CoD on account of delay in completion of the project. Accordingly, the overhead expenses of Rs. 19.45 Crore are deducted from the capital cost of both the Units.
78. Vide letter dated 18<sup>th</sup> December' 2017, the petitioner filed break-up of capital expenditure on different dates. On scrutiny of the detailed break-up of capital expenditure capitalized by the petitioner, it is observed that petitioner claimed the additions and deduction of overhead expenses post CoD of respective unit.
79. The additions in respect of overhead expenses during the respective year have been dealt in additional capitalization of this order. Whereas, with regard to deduction, petitioner filed the deduction of overhead of Rs. 13.67 Crore in FY 2014-15 for Unit No. 1 and Rs. 0.43 Crore & 0.36 Crore during FY 2014-15 and FY 2015-16 respectively for Unit No. 2. The Commission considered deduction of Rs. 13.67 Crore from the capital cost of Unit No.1 as on its CoD. Similarly deduction of 0.79 Crore has been considered from the capital cost of Unit No.2 as on it CoD as given below:

**Table 11: Overheads Considered** **(Rs. in Crore)**

Particular	Unit No. 1	Unit No. 2	Total
Actual Overheads as on actual CoD filed	44.67	53.68	98.35
Actual Overheads as on Scheduled CoD	27.00	32.45	59.45
Increase in Overheads due to delay in commissioning	17.67	21.23	38.90
50% of the excess Overheads	8.83	10.62	19.45
<b>Total Overheads</b>	35.84	43.06	78.90
Less: Deduction claimed by petitioner	-13.67	-0.79	-14.46
<b>Total Overheads considered in this order</b>	22.16	42.27	64.44

**G. Infirm power:**

80. Regarding 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.”*

81. In the subject petition, the petitioner submitted the following details regarding infirm power generated prior to CoD of the generating units:

**Table 12: Net Fuel Expenditure during Pre-Commissioning Activities filed**

<b>Sr. No.</b>	<b>Particulars</b>	<b>Unit</b>	<b>Unit No. 1</b>	<b>Unit No. 2</b>	<b>Total</b>
1	Date of Synchronization	Date	31.08.2013	11.10.2014	
2	Date of Commercial Operation	Date	01.02.2014	28.12.2014	
3	Infirm Energy Generated	MU's	100.01	56.14	156.14
4	Oil Expenses for Infirm Power	Rs. Cr.	76.22	46.72	122.94
5	Coal Expenses for Infirm Power	Rs. Cr.	28.75	41.14	69.89
<b>6</b>	<b>Total Fuel Expenditure</b>	<b>Rs. Cr.</b>	<b>104.97</b>	<b>87.85</b>	<b>192.83</b>
7	Less Income from sale of Infirm Power	Rs. Cr.	7.89	4.00	11.89
<b>8</b>	<b>Net Fuel Cost Charged to Project Cost</b>	<b>Rs. Cr.</b>	<b>97.08</b>	<b>83.85</b>	<b>180.94</b>

82. On perusal of above details regarding fuel expenditure during Pre-Commissioning activities, it was observed that the fuel expenditure for Unit No. 1 & 2 is Rs. 104.97 Crore and Rs. 87.85 Crore as on CoD of respective Units. However, the revenue generated from sale of infirm power from Unit No. 1 & 2 is Rs. 7.89 Crore and Rs. 4.00 Crore respectively. In view of the above, vide Commission's letter dated 05<sup>th</sup> August' 2017, the petitioner was asked to explain the reasons for such high expenditure on start up fuel.
83. Vide affidavit dated 15<sup>th</sup> September' 2017, the petitioner submitted the details of cost of start-up fuel along with the reasons for high fuel expenditure on start up fuel. The petitioner submitted that the time duration between oil synchronization and the date of CoD was more in case of Unit No. 1 as compared to that for Unit No. 2. Further, due to frequent tripping of various auxiliaries, the stabilizing time for Unit No. 1 was more in initial stages consequently the higher expenditure on start up fuel in Unit No. 1 as compared to that in Unit No. 2.
84. On scrutiny of the petition and additional submission filed by the petitioner, it was observed that the information regarding the fuel expenses for generation of infirm

power and revenue from sale of infirm power as filed by the petitioner is not certified by the Chartered Accountant. Vide letter dated 12<sup>th</sup> December' 2017, the petitioner was asked to furnish the aforesaid information duly certified by the Chartered Accountant.

85. Vide letter dated 18<sup>th</sup> December' 2017, the petitioner filed the Chartered Accountant certificate certifying the fuel expenses incurred for generation of infirm power and revenue from sale of infirm power as per Annual Audited Accounts and monthly State Energy Account issued by SLDC for the respective period.

86. Based on the details of the coal & oil filed by the petitioner, the cost of startup fuel considered in this order for Unit No. 1 & 2 on their respective CoD is as given below:

**Table 13: Net Cost of Start up fuel as on CoD of Respective Unit**

Unit No.	Period	Fuel	Unit	Quantity	Amount in Rs. Crore	
Unit No. 1	May' 2013 to January' 2014	HFO	KL	6852	34.01	
		LDO	KL	6368	42.21	
		Domestic Coal	MT	106005	28.75	
		Imported Coal	MT	0.00	0.00	
			<b>Sub Total</b>			<b>104.97</b>
		Less: Revenue from Infirm Power				<b>7.89</b>
		<b>Net Fuel Cost</b>				<b>97.08</b>
Unit No. 2	March' 2014 to December' 2014	HFO	KL	3491	20.09	
		LDO	KL	3418	26.63	
		Domestic Coal	MT	78683	23.14	
		Imported Coal	MT	25959	18.00	
			<b>Sub Total</b>			<b>87.85</b>
		Less: Revenue from Infirm Power				4.00
		<b>Net Fuel Cost</b>				<b>83.85</b>
Unit 1&2		HFO	KL	10343	54.11	
		LDO	KL	9786	68.84	
		Domestic Coal	MT	184688	51.89	
		Imported Coal	MT	25959	18.00	
			<b>Total</b>			<b>192.83</b>
		Less: Revenue from Infirm Power				<b>11.89</b>
		<b>Net Fuel Cost</b>				<b>180.94</b>

**H. Capital Spares:**

87. With regard to the capital spares, Regulation 17.1 (b) of MPERC (Terms and Conditions for Determination of Generation Tariff ) Regulations, 2012 provides that the ceiling norms for capitalized initial spares for coal based thermal generating stations is 2.5% of the original project cost.
88. Vide Commission’s letter dated 05<sup>th</sup> August’ 2017, the petitioner was asked to file the detailed list of the initial spares capitalized in the books of accounts along with their quantity and amount in light of Regulation 17.1(b) of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulation, 2012. The petitioner was also asked to confirm whether any mandatory initial spares were supplied by any contractor/vendor as a part of contract.
89. By affidavit dated 15<sup>th</sup> September’ 2017, the petitioner submitted that list of the initial spares as submitted in TPS Form 5B & considered in the Books of accounts is annexed as Annexure-17. Further, the petitioner submitted that all initial spares are procured from the contractors of the project and OEM.
90. On perusal of above details filed by the petitioner, it is observed that as on CoD of the Units and at the end of financial years, the petitioner capitalized the full amount incurred towards initial spares for Unit No. 1 & 2. The details of the capital spares capitalized during each year of the control period are as given below:

**Table 14: Initial Spares (Rs in Crore)**

<b>Unit</b>	<b>As on CoD of Unit No.1</b>	<b>As on 31<sup>st</sup> March’ 2014</b>	<b>As on CoD of Unit No.2</b>	<b>As on 31<sup>st</sup> March’ 2015</b>	<b>As on 31<sup>st</sup> March’ 2016</b>
Unit No.1	29.23	29.23	38.78	38.78	50.51
Unit No. 2			34.25	34.25	45.98
<b>Total</b>	<b>29.23</b>	<b>29.23</b>	<b>73.03</b>	<b>73.03</b>	<b>96.49</b>

91. In view of the above, it is observed that the capital spares capitalized on CoD of each Unit are within the norms of capital spares prescribed under the Regulations, 2012. Therefore, the same is allowed in this order.
92. Based on above discussion, the summary of capital cost considered as on CoD

of respective Units are as under:

**Table 15: Capital Cost Considered in this Order on CoD of each Unit (Rs in Crore)**

<b>Particular</b>	<b>Unit No. 1</b>	<b>Unit No. 2</b>
Cost of Land & Site Development	56.82	56.93
Plant & Equipment	1020.83	1014.28
BOP (Mechanical, Electrical, POV and C&I)	380.22	444.08
Civil works including Railway siding	753.17	811.55
Initial spares	29.23	34.25
Erection, Testing & Commissioning	187.37	250.66
Start up fuel	97.08	83.85
Overheads	22.16	42.27
Interest during Construction and Finance Charges	480.41	717.65
<b>Total</b>	<b>3027.29</b>	<b>3455.51</b>

**I. Additional Capitalization:**

93. Regarding additional capitalization of the project, Regulation 20 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012, provides as under:

*“The capital Expenditure Incurred or projected to be Incurred, on the following counts within the original scope of work, after the Date of Commercial operation and up to cut-off date may be admitted by the Commission, subject to prudent check:*

- (a) Undischarged liabilities*
- (b) Works deferred for execution*
- (c) liabilities to meet award of arbitration or for compliance of order or decree of a court,*
- (d) Change in Law,*
- (e) Procurement of initial capital spares within the original scope of work, subject to the provisions of Regulation 17.1(b)*

*Provided that the details of works included in the original scope of work along with estimates of expenditure, un-discharged liabilities and works deferred for execution shall be submitted along with the application for Tariff.*

*The capital expenditure of the following nature actually incurred on the following counts after the Cut off date may, in its discretion, be admitted by the*

Commission, subject to prudent check:

- (a) liabilities to meet award of arbitration or for compliance of the order or decree of a court;
- (b) Change in Law.
- (c) Deferred works relating to ash pond or ash handling system in the original scope of work;
- (d) -----

**Petitioner Submission:**

94. In the subject petition, the petitioner filed the additional capitalization and deduction subsequent to CoD of respective Units in FY 2013-14, FY 2014-15 and FY 2015-16 as given below:

**Table 16: Additional Capitalization and Deduction Claimed (Rs. in Crore)**

Unit	FY 2013-14			FY 2014-15					FY 2015-16		
	Gross Block As on CoD of Unit-1	Addition from CoD of Unit 1 to 31-03-2014	As on 31-03-2014	Deduction	Addition	As on CoD of Unit-2	Addition from CoD to 31-3-2015	As on 31-03-2015	Adjust.	Addition	As on 31-03-2016
<b>Unit No. 1</b>	<b>3152</b>	296	<b>3449</b>	-16	90	<b>3522</b>	22	<b>3544</b>	24	107	<b>3675</b>
<b>Unit No. 2</b>	<b>363</b>	15	<b>377</b>	0	3244	<b>3621</b>	42	<b>3663</b>	35	121	<b>3819</b>
<b>Total</b>	<b>3515</b>	<b>311</b>	<b>3826</b>	<b>-16</b>	<b>3334</b>	<b>7143</b>	<b>63</b>	<b>7207</b>	<b>59</b>	<b>228</b>	<b>7494</b>

**Commission’s Analysis**

95. Vide Commission’s letter dated 05<sup>th</sup> August’ 2017, the petitioner was asked to submit the details of additional capitalization in terms of Regulation 20.1 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012. The petitioner was also asked to file a comprehensive reply to the following issues with all relevant supporting documents in favor of its claim for additional capitalization:

- Whether the addition of asset is on account of the reasons (a) to (e) in clause 20.1 of the Regulations, 2012.
- Whether the assets capitalized during the year are under original scope of work. Supporting documents be also filed in this regard.
- The petitioner is also required to file the approved vis-à-vis actual funding for aforesaid works.
- Whether the assets under additional capitalization have been capitalized in

Annual Audited Accounts.

96. By affidavit dated 15<sup>th</sup> September' 2017, the petitioner submitted the following:
- *The assets additions claimed by MPPGCL during FY 2013-14, FY 2014-15 & FY 2015-16 are in accordance with proviso 21.1 [(a) to (e)] of the Regulations, 2012.*
  - *The assets addition were under original scope of work of revised project cost amounting to Rs.7820 Crore. Supporting document in this regard is annexed as Annexure-18.*
  - *As desired, the detail of funding of Asset Additions is annexed as Annexure-19.*
  - *The asset additions submitted in instant petition are in conformity with the Audited Books of Accounts of respective years.*
97. Vide Commission's letter dated 12<sup>th</sup> December' 2017, the petitioner was asked to file the detailed break-up of capital expenditure capitalization. In response, the petitioner, by affidavit dated 18<sup>th</sup> December' 2017, filed the information of capital expenditure capitalized as on CoD of each Unit and additions/ deduction during the year. The aforesaid detailed break-up of net additional capitalization is as given below:

**Table 17: Net Additional Capitalization Filed (Rs. in Crore)**

Particular	Net Additional Capitalization			
	Unit No.1	Unit No.1	Unit 1&2	Unit 1&2
	01.02.2014 to 31.03.2014	1.04.2014 to 27.12.2014	28.12.2014 to 31.03.2015	01.04.2015 to 31.03.2016
Cost of Land & Site Development	0.00	0.11	0.00	0.02
Plant & Equipment	101.20	-2.81	11.23	38.33
BOP (Mechanical, Electrical, POV and C&I)	51.83	12.19	0.18	13.05
Civil works including Railway siding	64.51	20.71	37.39	142.74
Initial spares	0.00	9.55	0.00	23.46
Erection, Testing & Commissioning	22.51	46.15	0.00	7.10
Start up fuel	0.00	0.00	0.00	0.01
Overheads	4.02	-12.70*	2.25**	2.95***
Interest during Construction and Finance Charges	52.33	0.04	12.40	59.30
<b>Total</b>	<b>296.40</b>	<b>73.25</b>	<b>63.46</b>	<b>286.96</b>

\*Overhead deduction of Rs. 13.67 Crore and Addition of Rs. 0.98 Crore.

\*\* Overhead deduction of Rs 0.43 Crore and Addition of Rs. 2.68 Crore.

\*\*\* Overhead deduction of Rs.0.36 Crore and Addition of Rs.3.32 Crore.

98. The Commission has examined the additional capitalization in terms of the provision under Regulations, 2012. On perusal of the details and documents filed by the petitioner, the Commission observed the following:
- a. The petitioner filed net additional capitalization of Rs. 296.40 Crore from CoD of Unit No. 1 to 31<sup>st</sup> March' 2014 (towards Unit No.1), Rs. 73.25 Crore from 1<sup>st</sup> April' 2014 to 27<sup>th</sup> December' 2014 (towards Unit No. 1), Rs. 63.46 Crore from 28<sup>th</sup> December' 2014 to 31<sup>st</sup> March' 2015 (towards Unit No. 1 & 2), Rs. 286.96 Crore for FY 2015-16, based on books of accounts.
  - b. The petitioner confirmed that the works covered under additional capitalization are within the original scope of work and capitalized in Annual Audited Books of Accounts.
  - c. The figures for FY 2013-14, FY 2014-15 and FY 2015-16 are based on the Annual Audited Accounts and assets-cum-depreciation register of the respective year.
  - d. The additional capital expenditure incurred within the Cut-off date of the project.
  - e. The aforesaid assets under additional capitalization have been recorded in Asset-cum-depreciation registers of respective year.
  - f. The petitioner filed IDC and Finance charges of Rs. 659.19 Crore and 933.91 Crore incurred as on CoD of each Unit and thereafter no IDC and FC have been incurred and claimed by the petitioner. The petitioner claimed the additional capitalization of the aforesaid IDC & FC incurred upto CoD of each Unit in phased manner i.e. post CoD of respective Unit. The same has already been dealt in IDC & FC chapter of this Order.
  - g. In case of Overhead, the petitioner claimed the overhead incurred and capitalized post CoD of both the Units. The Commission has not considered the overhead expenses incurred and its capitalization post CoD of units as part of capital cost. As far as deductions are concerned, these have already been adjustment from the capital cost as on the CoD of each Unit.
99. In view of the above, the Commission has considered the additional capitalization in different heads to the extent of cost admitted in this order and proportionately capitalized in the books of accounts for FY 2013-14, FY 2014-15 and FY 2015-16 in accordance with the Regulation 20.1 of the Regulations, 2012. The details of

additional capitalization considered in this order are as given below:

**Table 18: Additional Capitalization Considered in this Order (Rs in Crore)**

Particular	Additional Capitalization			
	Unit No.1 01.02.2014 to 31.03.2014	Unit No.1 1.04.2014 to 27.12.2014	Unit 1&2 28.12.2014 to 31.03.2015	Unit 1&2 01.04.2015 to 31.03.2016
Cost of Land & Site Development	0.00	0.11	0.00	0.02
Plant & Equipment	101.20	-2.81	11.23	38.33
BOP (Mechanical, Electrical, POV and C&I)	51.83	12.19	0.18	13.05
Civil works including Railway siding	64.51	20.71	37.39	142.74
Initial spares	0.00	9.55	0.00	23.46
Erection, Testing & Commissioning	22.51	46.15	0.00	7.10
Start up fuel	0.00	0.00	0.00	0.01
Overheads	0.00	0.00	0.00	0.00
Interest during Construction and Finance Charges*	43.05	0.03	10.20	48.79
<b>Total</b>	<b>283.10</b>	<b>85.93</b>	<b>59.01</b>	<b>273.49</b>

*\*IDC considered upto CoD of respective Unit and capitalized allowed in phased manner*

100. In view of the above, the summary of the capital cost and additional capitalization considered by the Commission in this order is as given below:

**Rs. Crore**

Particular	Capital cost and Additional Capitalization			
	Unit No.1 01.02.2014 to 31.03.2014	Unit No.1 1.04.2014 to 27.12.2014	Unit 1&2 28.12.2014 to 31.03.2015	Unit 1&2 01.04.2015 to 31.03.2016
Opening Gross Fixed Assets	3027.29	3310.39	6851.84	6910.85
Additions during the period	283.10	85.93	59.01	273.49
Closing Gross Fixed Assets	3310.39	3396.33	6910.85	<b>7184.34</b>

**Debt : Equity Ratio and Funding of project cost and Add. Capitalization:**

**Petitioner Submission:**

101. The petitioner filed the actual project funding as on CoD of Unit No. 1 (01<sup>st</sup> February' 2014), as on 31<sup>st</sup> March' 2014, as on CoD of Unit No. 2 or the Station CoD (28<sup>th</sup> December' 2014), as on 31<sup>st</sup> March' 2015 and as on 31<sup>st</sup> March' 2016, as given blow:

**Table 19: Debt and Equity** **(Rs. in Crore)**

Particulars	Unit No.	Debt	Equity	Total
As on COD of Unit No. 1 (01 <sup>st</sup> February' 2014)	Unit No.1	2608.34	653.40	3261.74
	Unit No.2	2462.54	616.87	3079.41
As on 31 <sup>st</sup> March' 2014	Unit No.1	2675.13	693.26	3368.39
	Unit No.2	2529.33	656.74	3186.07
As on COD of Unit No. 2 (28 <sup>th</sup> December' 2014)	Unit No.1	2923.23	693.26	3616.49
	Unit No.2	2777.43	656.74	3434.17
As on 31 <sup>st</sup> March' 2015	Unit No.1	3037.91	693.26	3731.17
	Unit No.2	2892.12	656.74	3548.86
As on 31 <sup>st</sup> March' 2016	Unit No.1	3099.62	703.26	3802.88
	Unit No.2	2953.83	666.74	3620.57

102. The ratio of loan and equity draws as on the CoD of Unit No. 1 is 80 - 20 and as on CoD of Unit No. 2 is 81 - 19.

103. Further, the petitioner submitted that to fund the revised project cost of Rs. 7820 Crore, PFC vide letter dated 07.02.2014 approved the loan of Rs. 6238 Crore and GoMP shall infused an Equity of Rs. 1521 Crore in the project, the total amount to Rs. 7759 Crore and the funding difference of Rs. 61 Crore (Rs.7820 Crs-7759 Crs) are untied up funds, for which petitioner requested the GoMP; otherwise shall be met from the internal resources of petitioner. Thus, the petitioner has submitted the funding of aforesaid project cost in the ratio of 80:20.

**Provision under Regulations:**

104. Regarding Debt – Equity ratio and 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.”*

**Commission’s Analysis:**

105. The petitioner submitted that the funding of the project is being done through PFC Loan and GoMP Equity in 80:20 ratio. The funding pattern as approved by GoMP and its present status for the estimated completed project cost of Rs. 7820 Crore as filed by the petitioner is indicated in the table below:

**Table 20: Debt and Equity Funding and Ratio**

<b>Particulars</b>	<b>Amount (Rs. Crore)</b>	<b>% of Assets</b>
<b>Loan</b>		
Loan sanctioned from PFC Loan No.20701001	6238	80%
<b>Equity</b>		
Equity sanctioned from GOMP	1521	
Balance Equity (GoMP would be requested) or shall be met through internal sources	61	
<b>Total Equity</b>	<b>1582</b>	<b>20%</b>
<b>Total Finance (Loan + Equity)</b>	<b>7820</b>	

106. The Commission considered the following actual debt and equity ratio based on actual debt and equity draws as filed in the petition as on CoD of each Unit and additional debt and equity draws after the CoD of each Unit.

**Table 21: Debt and Equity Ratio Filed and Considered**

<b>Particular</b>	<b>Unit</b>	<b>Debt (Rs. Cr.)</b>	<b>Equity (Rs. Cr.)</b>	<b>Total (Rs. Cr.)</b>	<b>Debt</b>	<b>Equity</b>
As on COD of Unit No. 1 (01.02. 2014)	Unit No.1	2608.34	653.40	3261.74	80%	20%
Additional Draws from 02.02.2014 to 31.03.2015	Unit No.1	66.79	39.87	106.65	63%*	37%*
Additional Draws from 01.04.2014 to 27.12.2014	Unit No.1	248.10	0.00	248.10	100%	0%
As on COD of Unit No. 2 (28.12.2014)	Unit No.2	2777.43	656.74	3434.17	81%	19%

Additional Drawls from 29.12.2014 to 31.03.2015	Unit 1&2	229.37	0.00	229.37	100%	0%
Additional Drawls during FY 2015-16	Unit 1&2	123.42	20.00	143.42	86%#	16%#

*\*Equity has been capped at 30%, therefore debt and equity ratio has been considered in 70:30.*

*#petitioner filed the total equity drawl upto 31.03.2016 of Rs. 1370 Crore, therefore to fund the additional capitalization during FY 2015-16, the equity addition has been capped at Rs. 1370 Crore upto 31.3.2016 and balance funding of additional capitalization during FY 2015-16 has been met through Debt.*

107. Based the above debt and equity ratio, the Commission has considered the following debt and equity to fund the capital cost as on CoD of each Unit and to fund the additional capitalization considered in this Order.

**Table 22: Debt and Equity Considered on Different Dates (Rs. in Crore)**

Particular	Unit	Debt	Equity	Total
As on COD of Unit No. 1 (01.02.2014)	Unit No.1	2420.85	606.43	3027.29
Drawls from 02.02.2014 to 31.03.2015	Unit No.1	198.17	84.93	283.10
Drawls from 01.04.2014 to 27.12.2014	Unit No.1	85.93	0.00	85.93
As on COD of Unit No. 2 (28.12.2014)	Unit No.2	2794.69	660.82	3455.51
Drawls from 29.12.2014 to 31.03.2015	Unit No. 1&2	59.01	0.00	59.01
Drawls during FY 2015-16	Unit No. 1&2	255.68	17.81	273.49

### **Annual Capacity (fixed) Charges:**

108. The tariff for supply of electricity from a thermal power generating station shall comprise 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 following:

- 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:

**Return on Equity:**

**Petitioner’s Submission**

109. The petitioner filed Return on Equity (RoE) for SSTPP Stage I, Unit No.1 & 2 for FY 2013-14 to FY 2015-16 on the pre-tax basis at the base rate of 15.5% without grossing up with the tax rate. The amount of annual RoE claimed by the petitioner is as given below:

**Table 23: Return on Equity Claimed (Rs in Crore)**

Particular	Units	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 31.03.2015	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit No. 2	Unit No. 1&2
Opening Equity Normative	Rs. Cr.	653.40	693.26	656.74	1350.00
Additions in Equity	Rs. Cr.	39.87	0.00	0.00	20.00
Closing Equity	Rs. Cr.	693.26	693.26	656.74	1370.00
Average Equity during the year	Rs. Cr.	673.33	693.26	656.74	1360.00
Rate of Return on Equity	%	15.50%	15.50%	15.50%	15.50%
<b>Annual Return on Equity</b>	<b>Rs. Cr.</b>	<b>104.37</b>	<b>107.46</b>	<b>101.79</b>	<b>210.80</b>

**Provision in Regulations:**

110. With Regard to Return on Equity, Regulation 22 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 provides as under:

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

22.2 *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 1<sup>st</sup> 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.*

22.3 *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.*

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

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

### **Commission’s Analysis**

111. The Commission has considered the funding of project in accordance to the ratio of debt and equity claimed by the petitioner. For the purpose of computation of Return on Equity, the Commission has considered following equity amount to fund the capital cost as on CoD of each Unit and to fund the additional capitalization as considered in this Order.

**Table 24: Equity Considered on Different Dates** **(Rs in Crore)**

<b>Particular</b>	<b>Unit</b>	<b>Equity (Rs. Cr.)</b>
As on COD of Unit No. 1 (01.02. 2014)	Unit No.1	606.43
Additional Drawls from 02.02.2014 to 31.03.2015	Unit No.1	84.93
Additional Drawls from 01.04.2014 to 27.12.2014	Unit No.1	0.00
As on COD of Unit No. 2 (28.12.2014)	Unit No.2	660.82
Additional Drawls from 29.12.2014 to 31.03.2015	Unit No. 1&2	0.00
Additional Drawls during FY 2015-16	Unit No. 1&2	17.81

112. The Commission has determined the Return on Equity on pre-tax basis at the base rate of 15.50% without grossing up it by tax rate as MPPGCL has not paid any tax as per the books of accounts.

113. Accordingly, the annual Return on Equity by applying the base rate of return is computed as given below:

**Table 25: Return on Equity Considered** (Rs. in Crore)

Particular	Units	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 27.12.2014	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit No. 1&2	Unit No. 1&2
Opening Normative Equity	Rs. Cr.	606.43	691.37	1352.19	1352.19
Additions in Equity	Rs. Cr.	84.93	0.00	0.00	17.81
Closing Equity	Rs. Cr.	691.37	691.37	1352.19	1370.00
Average Equity during the year	Rs. Cr.	648.90	691.37	1352.19	1361.09
Base Rate of Return on Equity	%	15.50%	15.50%	15.50%	15.50%
<b>Annual Return on Equity</b>	<b>Rs. Cr.</b>	<b>100.58</b>	<b>107.16</b>	<b>209.59</b>	<b>210.97</b>

**Interest on Loan Capital:**

**Petitioner's Submission**

114. The petitioner filed Interest on Loan for SSTPP Stage I, Unit No. 1 & 2 for FY 2013-14 to FY 2015-16, considering the repayment for the period equal to depreciation in accordance to the Regulations, 2012, and applying weighted average rate of interest for the respective year.

115. The annual Interest on Loan claimed by the petitioner is as given below:-:

**Table 26: Interest on Loan claimed** (Rs. in Crore)

Particular	Units	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 31.03.2015	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit No. 2	Unit 1&2
Opening Loan	Rs. Cr.	2608.34	2647.89	2777.43	5682.99
Additions in Loan	Rs. Cr.	66.79	362.79	114.69	123.42
Repayment during the Year	Rs. Cr.	27.23	173.31	46.50	372.88

Closing Loan	Rs. Cr.	2647.89	2837.37	2845.62	5433.53
Average Loan during the year	Rs. Cr.	2628.11	2742.63	2811.52	5558.26
Wt. average Rate of Interest	%	12.96%	12.97%	12.97%	12.75%
<b>Annual Interest on Loan</b>	<b>Rs. Cr.</b>	<b>340.60</b>	<b>355.72</b>	<b>364.65</b>	<b>708.68</b>

**Provision in Regulations:**

116. With Regard to Interest on Loan, Regulation 23 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 provides as under:

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

*23.2 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.*

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

*23.4 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.*

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

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

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

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

*23.7 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”*

**Commission’s Analysis**

117. In the preceding paragraphs on Debt and Equity chapter, the Commission has considered the funding of project in accordance with the ratio of Debt and Equity claimed by the petitioner. For the purpose of computation of interest on loan, the Commission has considered following loan (Debt) amount to fund the capital cost as on CoD of each Unit and to fund the additional capitalization as considered in this Order.

**Table 27: Debt Considered on Different Dates (Rs in Crore)**

Particular	Unit	Debt (Rs. Cr.)
As on COD of Unit No. 1 (01.02. 2014)	Unit No.1	2420.85
Additional Drawls from 02.02.2014 to 31.03.2015	Unit No.1	198.17
Additional Drawls from 01.04.2014 to 27.12.2014	Unit No.1	85.93
As on COD of Unit No. 2 (28.12.2014)	Unit No.2	2794.69
Additional Drawls from 29.12.2014 to 31.03.2015	Unit No. 1&2	59.01
Additional Drawls during FY 2015-16	Unit No. 1&2	255.68

118. Vide Commission’s letter dated 05<sup>th</sup> August’ 2017, the petitioner was asked to file detailed calculations for working out the year-wise weighted average rate of interest along with supporting documents.

119. By affidavit dated 15<sup>th</sup> September’ 2017, the petitioner filed calculation sheet in support of wt. average rates of interest of loan No. 20701001 for the project. Further, vide letter dated 18<sup>th</sup> December’ 2017, the petitioner filed the detailed working of weighted average rate of interest for FY 2013-14 to FY 2015-16. The Commission has considered the weighted average rate of interest as filed by the petitioner.

120. In accordance with the provisions of the Regulations, 2012, the Commission has considered the annual repayment equivalent to the depreciation allowed for the year. Accordingly, the interest on loan is determined as given below:

**Table 28: Interest on Loan Considered (Rs in Crore)**

Particular	Units	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 27.12.2014	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit 1&2	Unit 1&2
Opening Loan	Rs. Cr.	2420.85	2592.88	5350.08	5321.24
Additions in Loan	Rs. Cr.	198.17	85.93	59.01	255.68
Repayment equal to dep.	Rs. Cr.	26.15	123.42	87.85	357.53
Closing Loan	Rs. Cr.	2592.88	2555.39	5321.24	5219.38
Average Loan during the year	Rs. Cr.	2506.87	2574.14	5335.66	5270.31
Weighted average Rate of Interest	%	12.96%	12.97%	12.97%	12.75%
<b>Annual Interest on Loan</b>	<b>Rs. Cr.</b>	<b>324.89</b>	<b>333.87</b>	<b>692.04</b>	<b>671.96</b>

**Depreciation:**

**Petitioner's Submission**

121. The annual depreciation amount claimed by the petitioner for SSTPP Stage I, Unit No.1 & 2 for FY 2013-14 to FY 2015-16 is as given below:

**Table 29: Depreciation claimed (Rs in Crore)**

Particular	Units	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 31.03.2015	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit No. 2	Unit 1&2
Opening Gross Block	Rs. Cr.	3152.10	3448.51	3621.49	7206.71
Gross Block Addition	Rs. Cr.	296.41	111.52	41.51	227.85
Deletion	Rs. Cr.	0.00	-16.31	0.00	59.11
Closing Gross Block	Rs. Cr.	3448.51	3543.72	3662.99	7493.66
Average Gross Block	Rs. Cr.	3300.31	3496.11	3642.24	7350.19
Weighted Average Rate of Depreciation	%	5.10%	4.96%	4.96%	5.07%
Annual Depreciation Amount	Rs. Cr.	168.48	173.31	180.55	372.88

**Provision in Regulations**

122. With regard to Depreciation Regulation 24 of MPERC (Terms and Conditions for

Determination of Generation Tariff) Regulations, 2012 provides as under:

*“24.1 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:*

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

*(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.”*

**Commission’s Analysis**

123. For the purpose of computation of depreciation, the Commission has considered the capital cost as on CoD of each unit and assets additions are as given below:

<b>Particular</b>	<b>Unit</b>	<b>Total (Rs. Cr.)</b>
Capital cost as on COD of Unit No. 1 (01.02.2014)	Unit No.1	3027.29
Assets Additions from 02.02.2014 to 31.03.2015	Unit No.1	283.10
Assets Additions from 01.04.2014 to 27.12.2014	Unit No.1	85.93
Capital cost as on COD of Unit No. 2 (28.12.2014)	Unit No.2	3455.51
Assets Additions from 29.12. 2014 to 31.03.2015	Unit No. 1&2	59.01
Assets Additions during FY 2015-16	Unit No. 1&2	273.49
<b>Total Capital Cost as on 31<sup>st</sup> March’ 2016</b>	<b>Unit No. 1&amp;2</b>	<b>7184.33</b>

124. With regard to weighted average of depreciation, the petitioner submitted that the effective rate of depreciation on annual basis as per audited books of accounts is worked out to 5.10% in FY 2013-14, 4.96% in FY 2014-15 and 5.07% in FY 2015-16. The petitioner also filed Asset-cum-depreciation registers of SSTPP from FY 2013-14 to FY 2015-16. The year-wise weighted average rate of depreciation has been verified from the rate worked out by the petitioner in Asset-cum-depreciation registers. The same rate of depreciation has been considered by Commission for determining the depreciation for FY 2013-14, FY 2014-15 and FY 2015-16 in this order.

125. Based on above, the Commission has determined the following annual Depreciation in accordance with the MPERC Regulations, 2012:

**Table 31: Depreciation Considered (Rs in Crore)**

Particular	Units	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 27.12.2014	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit 1&2	Unit 1&2
Opening Gross Block	Rs. in Cr.	3027.29	3310.39	6851.84	6910.85
Gross Block Addition	Rs. in Cr.	283.10	85.93	59.01	273.49
Closing Gross Block	Rs. in Cr.	3310.39	3396.33	6910.85	7184.34
Average Gross Block	Rs. in Cr.	3168.84	3353.36	6881.35	7047.59
Wt. Average Rate of Depreciation	%	5.10%	4.96%	4.96%	5.07%
<b>Annual Depreciation Amount</b>	<b>Rs. in Cr.</b>	<b>161.77</b>	<b>166.23</b>	<b>341.12</b>	<b>357.53</b>
<b>Cumulative Depreciation</b>	<b>Rs. in Cr.</b>	<b>26.15</b>	<b>149.57</b>	<b>237.42</b>	<b>594.95</b>

**Operation and Maintenance Expenses:**

**Petitioner’s Submission**

126. The petitioner claimed the following Annual Operation and Maintenance expenses for SSTPP Stage I, Unit No.1 & 2 for FY 2013-14 to FY 2015-16 are as given below:

**Table 32: Operation & Maintenance Expenses claimed (Rs. in Crore)**

	FY 2013-14	FY 2014-15		FY 2015-16
Units	Unit No. 1	Unit No. 1	Unit No. 2	Unit No. 1&2
<b>O&amp;M</b>	<b>77.70</b>	<b>83.88</b>	<b>83.88</b>	<b>181.08</b>

**Provision in Regulations:-**

127. Regarding the Operation and Maintenance expenses of thermal power stations, Regulation 36.1 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 provides as under:

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

*MPERC separately as actuals. The claim of pension and Terminal Benefits shall be dealt as per Regulation 26.5.”*

128. The norms for Operation and Maintenance Expenses prescribed under Regulation 36.1 of the Regulations, 2012 for the generating unit of “600 MW and above” are as given as below:

**Table 33: Normative Operation and Maintenance Expenses**

<b>Particular</b>	<b>Norms (Rs in Lakh Per MW)</b>
FY 2013-14	12.95
FY 2014-15	13.98
FY 2015-16	15.09

**Commission’s Analysis**

129. Considering the above mentioned rates of O&M expenses/ norms prescribed in the Regulations, the O&M expenses for SSTPP Stage 1, Units No. 1& 2 for respective years are worked out as given below:

**Table 34: O& M Expenses Considered**

<b>Particular</b>	<b>Units</b>	<b>FY 2013-14</b>	<b>FY 2014-15</b>		<b>FY 2015-16</b>
		<b>Unit No. 1</b>	<b>Unit No. 1</b>	<b>Unit 1&amp;2</b>	<b>Unit 1&amp;2</b>
Generating Unit Capacity	MW	600	600	1200	1200
Per MW O&M Expenses Norms	Rs Lakh/MW	12.95	13.98	13.98	15.09
<b>Annual O&amp;M expenses</b>	<b>Rs Crore</b>	<b>77.70</b>	<b>83.88</b>	<b>167.76</b>	<b>181.08</b>

**Interest Charges on Working Capital:**

**Petitioner’s Submission**

130. The petitioner claimed the Interest on Working Capital for SSTPP Stage I, Unit No.1 & 2 for FY 2013-14 to FY 2015-16 as given below:-

**Table 35: Interest on Working Capital claimed (Rs. in Crore)**

Particular	Units	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 31.03.2015	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit No. 2	Unit No. 1&2
Cost of Coal	Rs. Cr.	142.26	190.11	270.44	401.70
Cost of Main Secondary Fuel Oil	Rs. Cr.	3.89	3.23	3.23	3.81
O&M Expenses	Rs. Cr.	6.48	6.99	6.99	15.09
Maintenance Spares	Rs. Cr.	15.54	16.78	16.78	36.22
Receivables	Rs. Cr.	271.23	325.61	411.43	676.30
Total Working Capital	Rs. Cr.	439.40	542.71	708.86	1133.12
Rate of Interest	%	13.50%	13.50%	13.50%	13.35%
<b>Interest on working Capital</b>	<b>Rs. Cr.</b>	<b>59.32</b>	<b>73.27</b>	<b>95.70</b>	<b>151.27</b>

**Provision in Regulations:**

131. Regarding working capital for coal based generating stations, Regulation 37.1 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 provides that:
- “37.1 *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:  
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.*
  - (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.”*
132. Regulation 37.2 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 provides as under:

“37.2 The cost of fuel shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the Generating Company and Gross Calorific Value of the fuel as per actual for the preceding three months and no fuel price escalation shall be provided during the Tariff period.”.

### **Commission’s Analysis**

#### **(a) Cost of Coal for Working Capital**

133. The petitioner’s power station is a non pit head station. Therefore, the cost of two months’ coal stock for working capital purpose is worked out based on the norms prescribed under the Regulations, 2012. The weighted average rate of coal and GCV of coal for FY 2013-14 to FY 2015-16 considered as per the information filed by the petitioner by affidavit dated 15<sup>th</sup> September’ 2017. Accordingly, the two months’ cost of coal for working capital is worked out as under:

**Table 36: Computation of 2 months cost of coal for working capital**

Particular	Units	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 27.12.2014	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit 1&2	Unit 1&2
Installed Capacity of Unit	MW	600.00	600.00	1200.00	1200.00
Gross Station Heat Rate	kCal/kWh	2384.25	2384.25	2384.25	2384.25
Gross Generation	MUs	4467.60	4467.60	8935.20	8959.68
Gross Calorific Value of Coal	kCal/Kg	3417.30	3197.33	3197.33	3500.40
Sp. Coal Consumption	kg/kWh	0.70	0.75	0.75	0.68
Annual Coal Consumption	MT	3129111	3344381	6688762	6126391
Two months Coal Stock	MT	521518.50	557396.87	1114793.75	1021065.18
Rate of Coal	Rs./MT	2742.04	3502.49	3502.49	3887.64
<b>Coal Cost (Two months stock)</b>	<b>Rs in Cr.</b>	<b>143.00</b>	<b>195.23</b>	<b>390.46</b>	<b>396.95</b>

#### **(b) Cost of Secondary fuel oil for Working Capital**

134. Regarding the cost of secondary fuel oil for working capital, proviso of the aforesaid Regulation 37.1 provides 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”. Therefore, the cost of main fuel oil (furnace oil) is taken into account

while determining the cost of oil for working capital.

135. In the subject petition, the petitioner worked out weighted average rate of furnace oil as Rs. 52291/KL for FY 2013-14, Rs. 43332/KL for FY 2014-15 and Rs. 25532/KL for FY 2015-16 based on the landed price of furnace oil purchased during the year. The same weighted average rate of main secondary fuel (furnace oil) is considered by the Commission in this order. Accordingly, the cost of two months' main fuel oil stock at normative availability is worked out as given below

**Table 37: Cost of Main Secondary Fuel Oil for 2 Months availability**

Particular	Units	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 27.12.2014	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit No. 1&2	Unit No. 1&2
Installed Capacity	MW	600.00	600.00	1200.00	1200.00
NAPAF	%	85.00	85.00	85.00	85.00
Gross Generation	MUs	4467.60	4467.60	8935.20	8959.68
Normative Specific Oil Consumption	ml/kWh	1.00	1.00	1.00	1.00
Quantity of Sec Fuel Oil required	KL	4467.60	4467.60	8935.20	8959.68
Two months' stock of main fuel oil (HFO)	KL	744.60	744.60	1489.20	1493.28
Rate of Secondary Fuel Oil (HFO)	Rs./KL	52291.00	43332.00	43332.00	25531.76
<b>Cost of Secondary Fuel Oil</b>	<b>Rs. Crore</b>	<b>3.89</b>	<b>3.23</b>	<b>6.45</b>	<b>3.81</b>

**(c) O&M Expenses for Working Capital**

136. O&M Expenses of one month for working capital purpose is worked out as given below:

**Table 38: O&M expenses for one Month for Working Capital (Rs in Crore)**

Particular	FY 2013-14	FY 2014-15		FY 2015-16
	Unit No. 1	Unit No. 1	Unit No. 1&2	Unit No. 1&2
Annual O&M expenses	77.70	83.88	167.76	181.08
<b>O&amp;M Expenses for One Month</b>	<b>6.48</b>	<b>6.99</b>	<b>13.98</b>	<b>15.09</b>

**(d) Cost of Maintenance Spares for Working Capital**

137. Maintenance spares for working capital are worked out as per norms i.e. 20% of Annual O&M Expenses prescribed under the Regulations as follows:

**Table 39: Cost of Maintenance Spares for Working Capital (Rs in Crore)**

Particular	FY 2013-14	FY 2014-15		FY 2015-16
	Unit No. 1	Unit No. 1	Unit No. 1&2	Unit No. 1&2
Annual O&M expenses	77.70	83.88	167.76	181.08
<b>Maintenance Spares: 20% of Annual O&amp;M Expenses</b>	<b>15.54</b>	<b>16.78</b>	<b>33.55</b>	<b>36.22</b>

**(e) Receivables for Working Capital**

**Table 40: Receivables for Working Capital (Rs in Crore)**

Particulars	FY 2013-14	FY 2014-15		FY 2015-16
	01.02.2014 to 31.3.2014	01.04.2014 to 27.12.2014	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
	Unit No. 1	Unit No. 1	Unit No. 1&2	Unit No. 1&2
Variable Charges- two months	143.00	195.23	390.46	396.95
Fixed Charges- two months	125.14	131.22	267.26	267.14
<b>Receivables- two months</b>	<b>268.14</b>	<b>326.45</b>	<b>657.71</b>	<b>664.09</b>

138. Further, with regard to the rate of interest on working capital, Regulation 27.1 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 provides as under:

*“27.1 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 1<sup>st</sup> of April of that year plus 3.50%.*

139. As per aforementioned Regulation, 2012, the rate of interest on working capital for FY 2013-14, FY 2014-15 and FY 2015-16 has been taken equal to the State Bank of India’s (SBI) base rate as on 1<sup>st</sup> April of that financial year Plus 3.5%. The SBI base rate effective from 07<sup>th</sup> November’ 2013 is 10%, the same is considered to remain effective as on CoD of Unit No. 1 (FY 2013-14), as on 1<sup>st</sup>

April 2014 (FY 2014-15) and 1<sup>st</sup> April' 2015 (FY 2015-16). Accordingly, the rate of interest for FY 2013-14, FY 2014-15 and 2015-16 is considered as 13.50% (10.00%+3.50%).

140. Based on the above, the interest on working capital for SSTPP Stage I, Unit no. 1 & 2 for FY 2013-14 to FY 2015-16 is determined as given below:-

**Table 41: Interest on Working Capital Considered**

Particular	Units	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 27.12.2014	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit No. 1&2	Unit No. 1&2
Cost of Coal	Rs. Cr.	143.00	195.23	390.46	396.95
Cost of Main Secondary Fuel Oil	Rs. Cr.	3.89	3.23	6.45	3.81
O&M Expenses	Rs. Cr.	6.48	6.99	13.98	15.09
Maintenance Spares	Rs. Cr.	15.54	16.78	33.55	36.22
Receivables	Rs. Cr.	268.14	326.45	657.71	664.09
Total Working Capital	Rs. Cr.	437.05	548.67	1102.16	1116.16
Rate of Interest	%	13.50%	13.50%	13.50%	13.50%
<b>Annual Interest on working Capital</b>	<b>Rs. Cr.</b>	<b>59.00</b>	<b>74.07</b>	<b>148.79</b>	<b>150.68</b>

**Cost of Secondary Fuel Oil:**

**Petitioner's Submission**

141. The annual cost of secondary fuel oil claimed by the petitioner for SSTPP Stage I, Unit No.1&2 for FY 2013-14 to FY 2015-16 is as given below:

**Table 42: Details of Cost of Secondary Fuel Oil Claimed**

Particular	Units	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 31.03.2015	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit No. 2	Unit No. 1&2
Installed Capacity	MW	600.00	600.00	600.00	1200.00
NAPAF	%	85.00	85.00	85.00	85.00
Annual Gross Generation	MUs	4467.60	4467.60	4467.60	8959.68

Normative Spl.Oil Consumption	ml/kWh	1.00	1.00	1.00	1.00
Quantity of Sec. Fuel Oil	KL	4467.60	4467.60	4467.60	8959.68
Rate of Secondary Fuel Oil	Rs./KL	52291	43332	43332.00	25531
<b>Annual Cost of Secondary Fuel Oil</b>	<b>Rs. Cr.</b>	<b>23.36</b>	<b>19.36</b>	<b>19.36</b>	<b>22.88</b>

**Provision in Regulations:**

142. Regarding cost of secondary fuel oil, Regulation 38 of the Regulation, 2012 provides that, *“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:*

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

**Where,**

*SFC - Normative Specific Fuel Oil Consumption in ml/kWh*

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

*NAPAF- Normative Annual Plant Availability Factor in percentage*

*NDY - Number of Days in a Year*

*IC - Installed Capacity in MW*

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

**Commission’s Analysis**

143. Vide Commission’s letter dated 05<sup>th</sup> August’ 2017, the petitioner was asked to file the supporting documents (Bills/invoices) in respect of price of oil purchased for computation of secondary Oil expense.
144. By affidavit dated 15<sup>th</sup> September’ 2017, the petitioner submitted the following:  
*“It is to submit that, the information towards bills/invoices of oil is voluminous, accordingly, the statements elaborating the date wise & bill wise receipt of oil (Quantity & Amount) for FY 2013-14, FY 2014-15 & FY 2015-16 are annexed as Annexure-24A, 24B & 24C . Further, the copies of oil bills are annexed as Annexure-25A, 25B & 25C.”*

145. On perusal of aforesaid records submitted by the petitioner, it is observed that for generation of power, the petitioner has used two fuels i.e. furnace oil and LDO. However, while computing the aforesaid cost of secondary fuel as filed by the petitioner, instead of using the weighted average price of furnace oil and LDO, the petitioner has considered the price of main fuel (furnace Oil) only.
146. The Commission has considered the weighted average price of furnace oil and LDO as given at para 11.3 to 11.5 of petition for FY 2013-14, FY 2014-15 and FY 2015-16 as given below:

**Table 43: Weighted Average Price of Secondary Fuel (Rate/KL)**

Particular	Weighted Average Price of Secondary Fuel
FY 2013-14	60170.30
FY 2014-15	49531.10
FY 2015-16	34162.40

147. Considering the Normative Plant Availability Factor and norms for secondary fuel oil prescribed in the Regulation, the annual cost of secondary fuel oil is worked out as given below:

**Table 44: Secondary Fuel Oil Expense Considered**

Particular	Units	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 27.12.2014	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit No. 1&2	Unit No. 1&2
Installed Capacity	MW	600.00	600.00	1200.00	1200.00
NAPAF	%	85.00	85.00	85.00	85.00
Annual Gross Generation	MUs	4467.60	4467.60	8935.20	8959.68
Normative Sp .Oil Consumption	ml/kWh	1.00	1.00	1.00	1.00
Quantity of Sec. Fuel Oil	KL	4467.60	4467.60	8935.20	8959.68
Rate of Secondary Fuel Oil	Rs./KL	60170.30	49531.10	49531.10	34162.40
Annual Cost of Sec. Fuel Oil	<b>Rs. Crore</b>	<b>26.88</b>	<b>22.13</b>	<b>44.26</b>	<b>30.61</b>

148. The cost of secondary fuel oil arrived at as above shall be subject to fuel price adjustment at the end of each year of tariff period in terms of the proviso to Regulation 38.2 of the Regulations, 2012 as given below:

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

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

$$SFC \times NPAF \times 24 \times NDY \times IC \times 10 \times (LPSF_y - LPSF_i)$$

*Where,*

*LPSF<sub>y</sub> = The weighted average landed price of secondary fuel oil for the Year in Rs./ml.*

**Non-Tariff Income:**

**Petitioner’s Submission**

149. The petitioner claimed the Non-Tariff income pertaining to SSTPP Stage I, Unit No. 1 & 2 for FY 2013-14 to FY 2015-16 as given below:

**Table 45: Non Tariff Income Claimed (Rs in Crore)**

Particular	FY 2013-14	FY 2014-15		FY 2015-16
	01.02.2014 to 31.3.2014	01.04.2014 to 31.03.2015	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
	Unit No. 1	Unit No. 1	Unit No. 2	Unit No. 1&2
Non Tariff Income	17.33	9.00	2.32	26.39

**Provision in Regulations:**

150. Regarding Non-Tariff Income Regulation 31 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 provides as under:

- (a) *Any income being incidental to the business of the Generating Company derived from sources, including but not limited to the disposal of assets, income from investments, rents, income from sale of scrap other than the decapitalized/ written off assets, income from advertisements, interest on advances to suppliers/ contractors, income from sale of ash/ rejected coal, and any other miscellaneous receipts other than income from sale of energy shall constitute the*

*non tariff income.*

- (b) *The amount of Non-Tariff Income relating to the Generation Business as approved by the Commission shall be deducted from the Annual Fixed Cost in determining the Annual Fixed Charge of the Generation Company:*

*Provided that the Generation Company shall submit full details of its forecast of Non-Tariff Income to the Commission in such form as may be stipulated by the Commission from time to time. Non tariff income shall also be Trued-up based on audited accounts.”*

**Commission’s Analysis**

151. It is observed that income from other sources reflected in Audited Annual Accounts is for MPPGCL as whole. Therefore, vide Commission’s letter dated 05<sup>th</sup> August’ 2017, the petitioner was asked to file the power station-wise detailed break-up of the various components of income from other sources during FY 2013-14, FY 2014-15 and FY 2015-16 duly reconciled with the Annual Audited Accounts.
152. By affidavit dated 15<sup>th</sup> September’ 2017, the petitioner submitted the power station-wise detailed break-up of the various components of income from other sources, duly reconciled with the Annual Audited Accounts.
153. Based on the above information filed by the petitioner, the non tariff income for FY 2013-14, FY 2014-15 and FY 2015-16 is considered as given below:

**Table 46: Non Tariff Income Considered (Rs. in Crore)**

Particular	FY 2013-14	FY 2014-15		FY 2015-16
	01.02.2014 to 31.3.2014	01.04.2014 to 27.12.2014	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
	Unit No. 1	Unit No. 1	Unit No. 1&2	Unit No. 1&2
Non Tariff Income	17.33	6.75	4.57	26.39

**Recovery of Annual Capacity (Fixed) Charges:**

154. Normative Annual Plant Availability Factor for the control period for recovery of Annual Capacity (fixed) Charges as per Regulation 35.2 (A) of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations 2012 is 85%.
155. Considering the above, the following Annual Capacity (fixed) Charges for SSTPP Stage I, Unit No. 1 & 2 for FY 2013-14 to FY 2015-16 are determined in this order:

**Table 47: Annual Capacity Charges (Rs. in Crore)**

Sr. No.	Particulars	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 27.12.2014	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit No. 1&2	Unit No. 1&2
1	Return on Equity	100.58	107.16	209.59	210.97
2	Interest & Finance charges on loan	324.89	333.87	692.04	671.96
3	Depreciation	161.77	166.23	341.12	357.53
4	Operation & Maintenance expenses	77.70	83.88	167.76	181.08
5	Secondary fuel oil expenses	26.88	22.13	44.26	30.61
6	Interest on working capital	59.00	74.07	148.79	150.68
7	<b>Annual Capacity (fixed) charges (Rs in Crore)</b>	<b>750.82</b>	<b>787.34</b>	<b>1603.55</b>	<b>1602.83</b>
8	No. of Operational Days Applicable for the Period	59	271	94	366
9	Capacity (fixed) charges for no. of days of operation	121.37	584.57	412.97	1602.83
10	Less: Non Tariff Income	17.33	6.75	4.57	26.39
11	<b>Net Capacity (fixed) Charges for applicable days</b>	<b>104.04</b>	<b>577.82</b>	<b>408.40</b>	<b>1576.44</b>

156. The Annual Capacity (fixed) charges, as determined above are final for FY 2013-14, FY 2014-15 and FY 2015-16 as these are based on Annual Audited Accounts of the respective year.

157. The recovery of Annual Capacity (fixed) charges as determined above shall be made by the petitioner in accordance with Clause 40.2 and 40.3 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 on pro-rata basis with respect to actual Annual Plant Availability Factor achieved during respective year/period.

**Energy (variable) Charges:**

**Petitioner's Submission:**

158. With regard to energy charges, the petitioner submitted that for the control period FY 2013-14 to FY 2015-16, the energy (variable) charges has already been billed in accordance to proviso 41 of MPERC (Terms & Condition for determination of Generation Tariff) (Revision-II) Regulation, 2012. Therefore, no truing up of Energy Charges has been considered in this subject petition.

**Provisions in Regulations:-**

159. For determining the Energy (variable) Charges of thermal power station for FY 2013-14, FY 2014-15 and FY 2015-16 i.e. from COD of Unit No. 1 to 31<sup>st</sup> March' 2016, Regulation 41 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012 provides as under:

*41.1 "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).*

*41.2 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.*

*Provided that Generating Company shall provide details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal with details of the variation in energy charges billed to the beneficiaries along with the bills of the respective month:*

*Provided further that a copy of the bills and details of parameters of actual GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the Generating Company. The details should be available on its website for a period of a quarter on monthly basis.*

*41.3 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.”*

## **Commission’s Analysis:**

### **Operating Parameters**

160. The Commission has considered the Gross Station Heat Rate for SSTPP Stage I, Unit No. 1 & 2 as considered in the provisional tariff order issued on 10<sup>th</sup> November’ 2014, in petition No. 05 of 2014 for Unit No. 1 based on the parameters guaranteed by the manufacturer. Further, Regulation 35.2 (B) of MPERC (Terms and Conditions for determination of Generation tariff provides the basis for determining the station heat rate of the generating unit. Based on the above, the following Gross Station Heat Rate is considered in this order:

- Turbine Cycle Heat Rate: 1945 kCal/kWh

- Guaranteed Boiler Efficiency: 86.88%
- Design Heat Rate:  $1945/86.88\%=2338.72$  Kcal/kWh
- Gross Station Heat Rate:  $2338.72 \times 1.065 = 2384.25$  kCal/kWh.

161. The units of SSTPP have natural draft Cooling Tower. Accordingly, the norms for Auxiliary Energy Consumption and Specific Oil Consumption for FY 2013-14, FY 2014-15 and FY 2015-16 are considered by the Commission as per Regulation 35.2 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012, in this order. Further SSTPP, Stage I, Unit No. 1 & 2 being non pit-head generating Station, the normative transit loss are considered as per Regulation 41.4 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations' 2012.
162. Accordingly, the following norms of operation have been considered as per MPERC (Terms and Conditions for determination of Generation), Regulations, 2012:

**Table 48: Operating Parameters Considered**

Sr. No.	Particular	Norms
1	Gross Station Heat Rate (kCal/kWh)	2384.25
2	Auxiliary Consumption (%)	6.00
3	Specific Fuel Consumption (ml/kWh)	1.00
4	Transit Losses (%)	0.80

**Landed Cost of Coal**

163. With regard to landed cost of coal, Regulation 41.4 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 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 dispatched by the Coal Supply Company during the month as given below:*

*Pit head generating stations : 0.2%*

*Non-Pit head generating stations : 0.8%*

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

164. Vide Commission’s letter dated 05<sup>th</sup> August’ 2017, the petitioner was asked to file detailed calculation sheet for arriving at the weighted average rate of coal purchased as per MPERC Tariff Regulations, 2012 claimed in the petition along with supporting documents like copy of the bills/invoices.
165. By affidavit dated 15<sup>th</sup> September’ 2017, the petitioner filed the weighted average landed cost of coal for FY 2013-14, FY 2014-15 and FY 2015-16 along with the copy of sample invoice/bill purchased during the year.
166. Based on the above information, the weighted average landed price of coal has been worked out as follows:

**Table 49: Weighted Average Price/MT for FY 2013-14**

Month	Indian coal		Weighted Avg. price (Rs/MT)
	Qty (MT)	Price (Rs/MT)	
Feb	101254	2720.65	2720.65
Mar	154811	2756.03	2756.03
<b>Total</b>	<b>256065</b>		<b>2742.04</b>

**Table 50: Weighted Average Price/MT for FY 2014-15**

Month	Indian Coal		Imported Coal		Total
	Qty (MT)	Price (Rs/MT)	Qty (MT)	Price (Rs/MT)	Weighted Avg. price (Rs/MT)
April	127571	3374.12	31269	6568.10	4002.89
May	121751	2949.48	24986	6584.05	3568.37
June	103618	2748.99	2177	6608.81	2828.44
July	125374	2675.77	341.47	6629.67	2686.51
Aug	157066	2768.31	312.30	6657.62	2776.02
Sep	206996	2803.09	312.30	6670.27	2808.92
Oct	266450	2874.88	27639	6882.63	3251.54
Nov	209328	3050.63	21578	6894.05	3409.79
Dec	189149	2930.60	78745	6887.82	4093.79
Jan	210309	2996.60	47901	6906.07	3721.85
Feb	285975	3055.71	100153	6890.49	4050.37
Mar	347084	3078.07	46733	6900.14	3531.62
<b>Total</b>	<b>2350670</b>		<b>382147</b>		<b>3502.49</b>

**Table 51: Weighted Average Price/MT for FY 2015-16**

Month	Indian Coal		Imported Coal		Total
	Qty (MT)	Price (Rs/MT)	Qty (MT)	Price (Rs/MT)	Weighted Avg. price (Rs/MT)
April	359978	3566.30	166	6940.26	3567.86
May	374840	3577.60	7839	2124.47	3547.83
June	423500	3704.34	37339	6562.50	3935.92
July	467193	4307.56	36826	7167.81	4516.54
Aug	401239	3836.98	18235	7176.22	3982.14
Sep	533887	3721.92	65312	7447.04	4127.95
Oct	582863	3651.79	53110	7465.02	3970.23
Nov	520225	3693.82	12081	7471.43	3779.56
Dec	688319	3632.47	65320	7384.64	3957.68
Jan	752593	3612.24	36007	7389.43	3784.70
Feb	746994	3604.48	22028	7393.44	3713.01
Mar	649200	3605.98	20763	7398.24	3723.51
<b>Total</b>	<b>6500831</b>		<b>375026</b>		<b>3887.64</b>

### **Gross Calorific Value (GCV) of Coal**

167. With regard to Gross Calorific Value of coal, vide Commission's letter dated 05<sup>th</sup> August' 2017, the petitioner was asked to file the copy of laboratory test report for the preceding three months for Unit No. 1&2.

168. By affidavit dated 15<sup>th</sup> September' 2017, the petitioner submitted the following:

*"It is to submit that the Monthly weighted Average GCV of Coal(as fired) for FY 2013-14, FY 2014-15 & FY 2015-16 has been considered by MPPGCL for the purpose of working out the cost of Coal towards determination of working capital of SSTPP PH-1. The detailed Calculation sheet in this regard is annexed as Annexure-28.*

*Further as desired by Commission, the Monthly laboratory Reports of GCV of Coal (as fired) for FY 2013-14, FY 2014-15 & FY 2015-16 is annexed as Annexure-32.*

169. Based on the above information, for the purpose of computation of energy charges, the weighted average GCV of coal has been worked out as follows:

**Table 52: Weighted Average GCV of Coal during FY 2013-14**

Month	Indian Coal		Wtd. Avg. GCV (kCal/kg)
	Qty (MT)	GCV (kCal/kg)	
Feb	101254	3563.00	3563.00
Mar	154811	3322.00	3322.00
<b>Total</b>	<b>256065</b>		<b>3417.30</b>

**Table 53: Weighted Average GCV of Coal during FY 2014-15**

Month	Indian Coal	Imported Coal	Total		Wtd. Avg. GCV (kCal/kg)
	Qty (MT)	Qty (MT)	Qty (MT)	Blended GCV (kCal/kg)	
April	127571	31269.3	158840	3236	3236.00
May	121751	24986.3	146737	3432	3432.00
June	103618	2177.47	105796	3034	3034.00
July	125374	341.47	125716	2945	2945.00
Aug	157066	312.305	157378	2880	2880.00
Sep	206996	312.305	207308	3097	3097.00
Oct	266450	27639.4	294090	3141	3141.00
Nov	209328	21577.6	230906	3201	3201.00
Dec	189149	78745	267894	3230	3230.00
Jan	210309	47901	258210	3225	3225.00
Feb	285975	100153	386127	3287	3287.00
Mar	347084	46732.6	393817	3310	3310.00
<b>Total</b>			<b>2732818</b>		<b>3197.33</b>

**Table 54: Weighted Average GCV of Coal during FY 2015-16**

Month	Indian	Imported	Total		Wtd. Avg. GCV (kCal/kg)
	Qty (MT)	Qty (MT)	Qty (MT)	Blended GCV (kCal/kg)	
April	359978	166	360144	3343	3343.00
May	374840	7839	382679	3261	3261.00
June	423500	37339	460839	3288	3288.00
July	467193	36826	504019	3396	3396.00
Aug	401239	18235	419474	3318	3318.00
Sep	533887	65312	599199	3390	3390.00
Oct	582863	53110	635973	3415	3415.00
Nov	520225	12081	532306	3496	3496.00
Dec	688319	65320	753639	3579	3579.00
Jan	752593	36007	788600	3639	3639.00
Feb	746994	22028	769022	3681	3681.00
Mar	649200	20763	669963	3785	3785.00
<b>Total</b>			<b>6875857</b>		<b>3500.40</b>

170. Based on the above, the following energy charges ex-bus for SSTPP, Stage I, Unit No. 1 & 2 are determined:

**Table 55: Energy Charges**

Particular	Unit	FY 2013-14	FY 2014-15		FY 2015-16
Capacity	MW	600	600.00	1200	1200
NAPAF	%	85.00	85.00	85.00	85.00
Gross Station Heat Rate	kCal/kWh	2384.25	2384.25	2384.25	2384.25
Sp. Fuel Oil Consumption	ml/kWh	1.00	1.00	1.00	1.00
Aux. Energy Consumption	%	6.00	6.00	6.00	6.00
Transit Loss	%	0.80	0.80	0.80	0.80
Weighted average GCV of Oil	kCal/Ltr.	9920	9920	9920	9920
Weighted average GCV of Coal (as fired basis)	kCal/kg	3417.30	3197.33	3197.33	3500.40
Weighted Average landed price of Coal	Rs./MT	2742.04	3502.49	3502.49	3887.64
Heat Contributed from HFO	kCal/kWh	9.92	9.92	9.92	9.92
Heat Contributed from Coal	kCal/kWh	2374.33	2374.33	2374.33	2374.33
Specific Coal Consumption	kg/kWh	0.69	0.74	0.74	0.68
Sp. Coal Consumption including Transit Loss	kg/kWh	0.70	0.75	0.75	0.68
Rate of Energy Charge from Coal	Rs./kWh	1.920	2.622	2.622	2.658
<b>Rate of Energy Charge from Coal at ex bus</b>	<b>Rs./kWh</b>	<b>2.043</b>	<b>2.789</b>	<b>2.789</b>	<b>2.828</b>

171. The base rate of energy charges shall however be subject to month to month adjustment of actual fuel price and actual GCV of Coal. The above energy charges have been calculated for the purpose of calculation of two month's billing which is used for calculation of interest on working capital. However, the actual billing of energy charges shall be as per the formula provided in MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012.

### **Other Charges**

#### **Petitioner's Submission**

172. With regard to other charges, the petitioner submitted the following:

*“Other Charges comprises of Rent, Rates & Taxes, MPERC Fees, Entry Tax on R&M, Water Charges, Cost of Chemical, Cost of Consumable, Publication Charges & SLDC charges. Water Charges, which are payable to Government, have been paid based on rates specified by GoMP. Rent, Rates and Taxes for*

power stations & Common expenses has been taken on actuals. SLDC charges have claimed in accordance with Regulation 39, allocated to Thermal Power Stations on MW capacity basis.

As per the proviso 26.5 of MPERC Regulations 2012, the expenditure towards actual Pension & Terminal benefits shall be claimed by Transmission Licensee. Accordingly, MPPGCL had not claimed these expenses in this revised petition.”

173. The petitioner claimed the other charges pertaining to SSTPP Stage I, Unit No. 1 & 2 for FY 2013-14 to FY 2015-16 are as given below:

**Table 56: Other Charges Claimed (Rs. in Crore)**

Sr. No.	Particulars	FY 2013-14	FY 2014-15		FY 2015-16
		01.02.2014 to 31.3.2014	01.04.2014 to 31.03.2015	28.12.2014 to 31.3.2015	01.4.2015 to 31.3.2016
		Unit No. 1	Unit No. 1	Unit No. 2	Unit No. 1&2
1	<b>MPERC Fees</b>	0.01	0.18	0.00	0.36
2	<b>Water Charges</b>	1.49	4.83	1.24	29.12
3	<b>Cost of Chemical &amp; Lubricants</b>	0.34	1.13	0.29	3.67
4	<b>SLDC Charges</b>	0.02	0.12	0.03	0.12
5	<b>Rent, Rate &amp; Taxes</b>	0.05	0.12	0.03	0.13
6	<b>Entry Tax</b>	0.00	0.00	0.00	0.13
7	<b>Common Expenses</b>	0.00	1.03	0.27	0.00
8	<b>Total Other Charges</b>	<b>1.91</b>	<b>7.41</b>	<b>1.86</b>	<b>33.53</b>

### **Commission's Analysis**

174. The petitioner is allowed to recover expenses towards publication of notices in the subject matter directly from the beneficiaries in accordance with Regulation 30 of the MPERC (Terms and Conditions for Determination of Generation tariff) Regulations, 2012.
175. The petitioner is also allowed to recover Rent, Rate and Taxes payable to the Government, MPERC Fee, cost of chemicals and consumables, in accordance with Regulation 36.1 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012.
176. The petitioner is allowed to recover water charges, in accordance with Regulation

42 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012.

177. In addition to the above, the petitioner is also allowed to recover SLDC charges in accordance with Regulation 39 of the MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012.

**Implementation of the order:**

178. The final generation tariff/ true-up for FY 2013-14, FY 2014-15 and FY 2015-16 is determined for Unit No. 1 and Unit No. 2 of Shri Singaji Thermal Power Station (SSTPP) from CoD of each Unit to FY 2015-16 based on the Annual Audited Accounts of respective year.
179. The petitioner must take steps to implement the Order after giving seven (7) days' public notice in accordance with Clause 1.30 of MPERC (Details to be furnished and fee payable by licensee or generating company for determination of tariff and manner of making application) Regulations, 2004 and its amendments and recalculate its bills for the energy supplied to Distribution Companies of the State/ M.P. Power Management Company Ltd. since CoD of each Unit.
180. The petitioner is also directed to provide information to the Commission in support of having complied with this Order. The deficit/ surplus amount as a result of this order shall be recovered or passed on to the MP Power Management Company Ltd. three Distribution Companies of the state in terms of Regulation 15.3 of MPERC (Terms and Conditions for determination of Generation tariff) Regulations, 2012 in the ratio of energy supplied to them.

With the above directions, this petition No. 09 of 2017 is disposed of.

**(Alok Gupta)**  
Member

**(Dr. Dev Raj Birdi)**  
Chairman

**Date: 30<sup>th</sup> December' 2017**  
**Place : Bhopal**

**Annexure 1**

**Issue wise reply of the petitioner to the information gaps/issues communicated to it by the Commission:**

**1) Issue:**

**Delay in CoD:**

- a. In para 2.9 of the petition, the petitioner has mentioned that in accordance to the contract awarded to m/s. BHEL, CoD of Unit No. 1 & 2 were to be achieved within 42<sup>nd</sup> and 46<sup>th</sup> months from the effective date of contract (12/12/2008), i.e., by 11.06.2012 & 11.10.2012, respectively. Further, in Format TPS-2 of the petition, it is mentioned that the scheduled CoD as per the investment approval of Unit No. 1 & 2 was 11.06.2012 and 11.10.2012 respectively.
- b. The actual Date of Commercial Operation of Unit No.1 & 2 is 01.02.2014 and 28.12.2014 respectively. There is delay of 20 months and 26 months in achieving CoD of Unit No. 1 & 2 respectively.

In view of the above, the petitioner is required to inform the following:

- (i) Detailed reasons for delay in achieving CoD of the generating Units.
- (ii) Whether the delay in CoD was attributable to the delay in completion of works by the contractors/agencies?
- (iii) If yes, whether any Liquidated Damages/penalty have been recovered or to be recovered?
- (iv) The provisions under the contract for deduction of penalty /LD on account of delay in completion of works be informed?
- (v) The costs overrun on account of delay in CoD of Unit No. 1 & 2 be informed for each component of the capital cost.

**Petitioner's response:**

*The point wise submission of MPPGCL is as follows:-*

- (iii) *The detailed reasons for delay in achieving CoD of units of SSTPP PH-1 are elaborated as under:-*
  - a) *Delay in Acquisition of Land and Handing over of land: (Force Majeure) Due to agitation by land owners / villagers for getting compensation and other grants etc, there was delay in acquisition of land. Even after acquisition of land, lots of hurdles were created by land owners and work could not be taken up due to*

*agitation & unrest. After intervention of local administration, work could be started in piece-meal only. In addition to above, crops were also sown on the land by the land owners /villagers.*

*Order for leveling & grading was placed on M/s.Prasad& Co. on 18.10.2009 & 20.06.2009. However, prior to start of work, due to agitation, the work could be actually started only on 10 hectares out of 588 hectares on 18.10.2009, which was late by about four months. The said work got further affected due to subsequent protests by land owners/villagers.*

*After payment of demanded compensation, works of leveling & grading could be taken up & thereafter leveled land was handed over to BHEL with delay of about 7 months.*

*The work of Leveling and grading was delayed mainly due to continuous agitation by land owners and subsequent frequent forceful stoppage of leveling & grading work, which was a force majeure condition.*

*For delay in completion of leveling & grading work, Liquidated Damages (LD) was recovered from the contractor which has been protested by the contractor. Presently dispute is under arbitration court.*

*b) Delay in providing Construction Power & delay due to Interruption in Construction Power: (Force Majeure)*

*It was required to ensure the availability of Construction Power to M/s.BHEL, (EPC Contractor for Main Power Block) and M/s. L&T, (EPC Contractor for BoP). This activity got delayed due to delay in handing over the land due to the reasons elaborated as Sr.no.(a) above, to the contractor. M/s. Agarwal Agency (on whom order was placed by MPPGCL for "Installation of Construction Power Network".*

*There were frequent power interruption from the end of Discom, due to which erection work of Main Power Block (MPB) and Balance of Plant(BoP) got delayed.*

*The Contractor faced various other problems during execution. As a result, the*

construction power could be made available to BHEL in phased manner.

The Penalty as per contract has been recovered from the contractor due to delay in making available the construction power network. It is to mention that interruption in construction power from Discom's end was a force majeure condition for MPPGCL.

c) *Construction of Road Outside and inside plant roads (Force majeure):*

The condition of Roads outside & inside plant was very pitiable, which was worsening during each rainy season. Therefore, there were difficulties in movement of heavy vehicles and materials thereon. The outside plant road was repaired during transportation of Boiler Drum and Generator Stator. The inside water bound macadam (WBM) roads were also repaired by MPPGCL.

Since many heavy consignments were to be transported for the project, poor condition of road posed difficulty in delivery of material causing loss of time, especially during rainy seasons. This was a force majeure condition, as roads outside plant boundary were to be repaired & maintained by various other Govt. agencies responsible for the said work.

d) *Theft of Materials (Force majeure):*

The Barbed wired Fencing was available all along the boundary of the Plant prior to the start of work. The fencing along the Plant boundary was trespassed frequently so many times, resulting into theft of materials. Despite all security agencies deployed by MPPGCL, BHEL and L&T along with their sub contractor, theft of materials could not be avoided, which is a law & order problem and was force majeure in nature.

Both Main Power Block & BoP work got affected due to the same. It is to mention that once any material is lost due to theft, recouping of the same takes nearly 03 months for placing order to concern vendors/sub-vendors, its manufacturing, packing, forwarding, transportation & re-installation.

e) *Workers/Local villagers unrest/ disturbance (Force majeure):*

About a month delay was observed due to unrest/ disturbance by villagers as

well as workers of all contractors due to resentment on deaths of fellow workers in accidents, which led to complete stoppage of work. This was mainly a Law & order problem. The issues were then resolved with intervention of local administration, but the work got adversely affected.

f) *Incessant Rain (Force Majeure):-*

*Due to abnormally heavy rains in the year 2011, 2012 & 2013, the construction work unfavorably affected. As such, 30 days delay on account of this force majeure conditions has been considered.*

g) *Delay in clearance from State Load Dispatch Center for capacity addition:*

*During process for commissioning, there were delays in providing clearance from State Load Dispatch Centre M.P. due to low system demand.*

*Due to the above mentioned reason, contractual time extension was granted to M/s. BHEL after approval of competent authorities, as detailed under:*

- *For unit#1 from 11.06.2012 to 11.11.2013*
- *For unit#2 from 11.10.2012 to 11.03.2014*

*As such LD clause was made applicable beyond 11.11.2013 & 11.03.2014 for U# 1&2 respectively from M/s BHEL.*

*Similarly, contractual time extension was granted to M/s. L&T after approval of competent authorities as detailed under:-*

- *For unit#1 from April-2012 to Jan-2014.*
- *For unit#2 from August-2012 to July-2014.*

*As such LD clause was made applicable beyond Jan-2014 & July-2014 for U# 1&2 respectively.*

*The copy of extracts of Minutes of BoD, MPPGCL, is annexed as **Annexure-1**.*

(iv) *Besides force majeure reasons mentioned above, delays were also attributable to the following contractors, in achieving CoD of the project:*

- *M/s. Prasad & Co. Ltd. Hyderabad on which order for Leveling Grading works was placed.*
- *M/s. Agrawal Agencies Jabalpur on which order for Construction Power was placed.*

- *M/s. BHEL New Delhi on which order for Main Power Block was placed.*
- *M/s. L&T Vadodara on which order for Balance of Plant was placed*
  
- (v) *The process of deduction of Liquidated Damages (LD) from abovementioned contactors is under its way process. The same shall be informed to Commission as and when it is completed.*
  
- (vi) *There is a provision under the contract for deduction of Liquidated Damages (LD) on account of delay in completion of works of the above mentioned contractors. The relevant pages of contracts are annexed as **Annexure-2**.*
  
- (vii) *As desired by Commission, the detail of costs overrun components is annexed as **Annexure-3**.*

**2) Issue:**

As per Table 3.8.1 of the petition, the Date of Commercial Operation of Unit No.2 is 28.02.2014 whereas, in other part of the petition, the same has been indicated as 28.12.2014. The petitioner is required to clarify the aforesaid anomaly.

**Petitioner's response:**

*MPPGCL humbly submits that the Date of Commercial Operation (CoD) of Unit No.2 of SSTPP PH-1 was 28.12.2014, the same is considered in the instant petition. In Table No.3.8.1 of subject petition, there is typographical error, accordingly the CoD of Unit No.2 of SSTPP PH-1 may kindly be read as 28.12.2014 in place3 of 28.02.2014.*

**3) Issue:**

**Capital Cost:**

In para 2.8 of the petition, it is mentioned that the subject petition is based on the capital expenditure capitalized in Audited Books of Accounts for FY 2013-14, FY 2014-15 and FY 2015-16. It is observed that the Annual Audited Accounts for MPPGCL is for the Company as a whole, and it is difficult to identify the capitalized assets pertaining to SSTPP PH-I.

In view of the above, the petitioner is required to file the power station wise breakup of the audited figures with respect to the opening Gross Fixed Assets, assets added during the year and closing Gross Fixed Assets along with the

assets under CWIP during FY 2013-14, FY 2014-15 and FY 2015-16. A copy of the Annual Audited Accounts be also filed in this regard.

**Petitioner's response:**

*As desired by Commission, the power station wise breakup of the Audited figures with respect to the Opening Gross Block of Fixed Assets, assets added during the year and closing Gross Block of Fixed Assets along with the assets under CWIP during FY 2013-14, FY 2014-15 and FY 2015-16 are annexed as **Annexure- 4A & 4B.***

*Further, the copy of the Annual Audited Accounts for FY 2013-14, FY 2014-15 and FY 2015-16 have already been submitted by MPPGCL before Commission in the matter of True Up of respective financial years. The Commission vide its order has already determined the True up of above mentioned financial Years.*

**4) Issue:**

The petitioner is required to file the capitalization booklet with complete details of capitalization of all the capital cost components of SSTPP PH-I.

**Petitioner's response:**

*MPPGCL humbly submits that the Capital Expenditure of SSTPP PH-1 as capitalized in the Audited Books of Accounts during FY 2013-14, FY 2014-15 & FY 2015-16 respectively were considered in the subject petition. The same is detailed in Table No.28.1 at Page No.12 of subject petition. The related supporting documents i.e. Asset Cum Depreciation Register in line with Audited Books of Accounts are annexed as **Annexure-23.***

**5) Issue:**

On perusal of the DPR of the project, it is observed that the total estimated project cost including IDC was Rs. 4053 Crore and same estimated cost was approved by the BoD on 26.08.2006 and GoMP on 04.05.2007. In the subject petition, the petitioner has filed the actual capital cost of Rs. 7493.66 Crore for the project as on 31<sup>st</sup> March'16.

It is observed that the initial estimated project cost was approved by the Board of petitioner's company and GoMP and this has been further revised from time to time the latest revised estimated project cost as approved by the Board on

04.01.2014 and by GoMP on 23.01.2015 is Rs. 7820 Crore.

In view of the above, the petitioner is required to file a statement showing detailed break up of component wise initial estimated project cost as approved by its BoD and GoMP vis-à-vis all revisions of such project cost with detailed reasons/justification of the increase in costs with respect to initially estimated cost.

**Petitioner's response:**

A. Initial estimated project cost of Rs.4053 Crore:-

*On the main following assumptions initial estimated project cost of Rs.4053 Cr, prepared and was approved by BoD and GoMP on 26.08.2006 and 04.05.2007 respectively:*

- i. The cost was for **2x500 MW** capacities.*
- ii. Above cost estimate was worked out on the basis of order of Main Power Block of Bhoopal palli / Vijayawada TPS (**1x500 MW**) ordered on M/s BHEL on EPC basis in **August 2005**, Kahalgaon Stage –II (**2x500 MW**) (**ordered in year 2004**).*
- iii. Estimation of all civil, architectural & structural steel works was done on the basis of cost of civil work indicated in feasibility report (**Nov. 2001**) by escalation up to **Oct. 2005**.*
- iv. Price Variation of 2% was considered to arrive at the completed project cost with base date as **August 2006**.*
- v. Erection, Testing & Commissioning was taken @10% of equipment cost less spares.*
- vi. IDC was calculated with interest rate of **8.5% p.a.***

*The detailed break-up of initial project cost as approved by GoMP on 04.05.2007 is annexed as **Annexure-5A**.*

*After approval of above project costs, following main orders were placed:*

- i. Order for Project Consultancy work on M/s L&T-S&L, Baroda*
- ii. EIA Study Consultancy on DCPL*
- iii. Order for Consultancy work for Rail Transport system on M/s Balaji Rail Road System Ltd. (BARSYL), Secunderabad.*
- iv. Order for Chegaon Makhn line on Chief Engineer (IR), Madhya Pradesh Poorv Kshetra Vidyut Vitran Co. Ltd. as deposit work.*
- v. Orders for Main Power Block on M/s BHEL :*

- Order for supply of all the Main Powered lock equipment, mandatory spares, tools & tackles
  - Order for Erection, Testing & Commissioning, Freight & Insurance of Main Power Block.
  - Order for Main Plant Civil, Structural Steel and Architectural works including taxes & duties.
- vi. Order for GCW-1 work (for leveling and grading of the Power Station) on M/s Prasad & Company, Hyderabad.
- vii. Apart from above, the Price bid for Balance of Plant package which was one of the main order after Main Power Block was opened and proposal was under consideration of Board of Directors of MPPGCL. A Price bid for power for Permanent Construction was also opened.

**B. Reasons for first revision of the project cost from Rs. 4053 Crore. to Rs. 6750 Crore:**

The anticipated fund requirement for amount was of Rs. 6750 Cr. exceeding the approved project cost of Rs.4053 Crore. Therefore, revision of earlier approved project cost was necessary.

Following are the main reasons, which resulted in revision of the project cost from Rs. 4053 Crore to Rs. 6750 Crore:-

- i. Earlier approved project cost of Rs. 4053 Crore. was worked out on equipment/item basis for **2x 500 MW** capacity. Since order for Main Power Block was placed through **ICB for 2x600 MW** capacity, in compliance to Ministry of Power guidelines, the project cost need to take into account the actual capacity of the project. The project cost was earlier estimated from the orders of Bhoopalpalli / Vijayawada (**1x500 MW**)&Kahalgaon(**2x500 MW**) projects based on order value of year **2005 & 2004**& for Civil work cost of DPR prepared in **2001**.
- ii. IDC was calculated after considering interest rate as **8.5% p.a.** in the earlier estimated project cost. Whereas, the interest rate on PFC loan had changed to **11.5%p.a.** The IDC amount increased from **Rs.612.44 Crore** to **Rs.880.34 Crore** due to phasing of expenditure as per actual L-1 Schedule & change of interest rate.
- iii. In the earlier project cost of Rs. 4053 Crore, an estimation of total Civil and E&M works including Erection, Testing & Commissioning, freight, insurance taxes &

duties was **Rs.3072.05 Crore**. However, presently the estimation of Civil and E&M works including Erection, Testing & Commissioning, freight & insurance comes to **Rs.5306.4 Crore**. including the cost of Main Power Block on the basis of actual value of order and cost of Balance of Plant & Construction Power, based on prices quoted by the respective lowest bidders.

- iv. **A new provision of Rs.26.4 Crore. towards Entry tax** has been made in the revised project cost. Same will be **payable extra** at applicable rates, which was not considered in the earlier approved project cost.
- v. Against cost of land, a new **provision of Rs.18 Crore**. was made in the earlier approved project cost. However, in the revised project cost, a provision of **Rs.65 Crore**. has been made on the basis of actual expenditure incurred in the land acquisition activities.
- vi. Cost of Civil works which includes GCW-I (based on actual order value), GCW-II (other civil works), GCW-III (colony package) and **Rail Transport System** are estimated on the basis of latest estimated cost of these works.
- vii. Further, a provision of **Rs.247 Crore** has been made in the revised project cost **towards price variation** made based on maximum limit of Price Variation in offer of BoP. Whereas, in earlier approved cost, a provision of Rs. 132.32 Crore.
- viii. The costs of consultancy services have been **enhanced from Rs. 8 Crore to Rs.15 Crore** due to inclusion of **Third Party Inspection**, Project Monitoring works, project consultancy services for railway line from Surgeon Banjari to Bir to avoid reversal at Talwadia railway siding as additional scope of work to meet out railway norms.

The detailed break-up of revised project cost of Rs.6750 Crore approved by GoMP on 17.11.2009 is annexed as **Annexure-5B**.

- C. **Revision of the project cost from Rs. 6750 Crore. to Rs. 7820 Crore:**  
Subsequent to the approval of estimated cost of Rs.6750 Crore and during execution of works, **following additions have been envisaged** which further affected the cost of the Project:
  - i. **Civil Works-**  
Orders for General civil works GCW II-
    - (a) **Originally envisaged-** Roads inside PH, drainage, boundary wall, watch tower, security post, toilet, **rain water harvesting, horticulture, storage sheds** etc.
    - (b) **Subsequently added road from site to Purni road, road in between**

**PH to colony parallel to rail track, Electrification of road** etc, which increased the cost to Rs.112 Crore from Rs.50.50 Crore.

- (c) Order for GCW-III (Colony) was placed, wherein ordered cost was Rs.116.43 Crore. against provision of Rs.110.0 Crore.
- (d) Moreover, due to inability of Contractor M/s. Indu to complete GCW-III work on ordered rates, balance works were awarded to various different Contractors. Out of which, major works were ordered on M/s. Kalyan Toll and Finishing works of few quarters left out by M/s. Indu to a number of Contractors.
- (e) Apart from this, **furnished prefabricated accommodation near power house** has also been included in the scheme so that official related to commissioning/O&M are always remain available at site. Therefore, cost increased to Rs.177.42 Crore against Rs.110.0 Cres.

**ii. Private Railway Siding-**

Due to additional work of railway siding, cost was **increased to Rs.288.33 Crore** from Rs.111.0 Crore In this context, it is to submit that originally proposal was submitted to Railways for approval of transport route for coal/oil rack to power house from Talwadia (on main line between Itarsi-Surgaon Banjari Khandwa-Bhusawal) via Bir (a terminal station of Talwadia) and Talwadia-Bir, which is a single line station.

However, Railways highlighted that in case of load coming from Itarsi end, “engine reversal” will be required at Talwadia, which is absolutely not possible on regular basis due to existing rail traffic passing through Talwadia. Moreover, there was limitation of creating new facility, to avoid engine reversal at Talwadia.

As such, Railways insisted to connect Bir Station with “Surgaon-Banjari” to avoid Talwadia station for which laying of new rail tracks between SurgaonBanjari to Bir (about 12.5 km) along with up- gradation of SurgaonBanjari Station to take care of coal & oil racks for Power House, without affecting the ongoing traffic on main line.

In addition to above, Railways levies Departmental charges (including supervision charges) and D&G (Direction & General) charges. Applicability of charges on Overhead Electrification and Signal & Telecommunication works being carried out by Railways were included in the estimated cost as informed by

concerned Railway officials.

However, for civil works and S&T works being carried out through RITES, departmental charges were to be paid @ 4% and 6.25% respectively. However, D&G charges were to be paid at actual. D&G charges rate are as per Railway Circular Dt. 2.2.2011 @ 9.13% & 14.83% for civil works and S&T works respectively. As such, the Departmental and D&G charges combined together worked out to Rs.25.10 Cr. Moreover, operating cost of Bir Station by Railways for 10 years is Rs. 30 Crore which was also to be paid to Railways.

Thus, the cost towards civil works (being got done through RITES), OHE and S&T got done through Railways as deposit works & RITES and operation cost to be paid to Railways increased to Rs.288.33 Cr. from Rs. 111.0 Cr.

**iii. Increase in cost of spares-**

As per MPERC Regulation 2009 & RG-26 (i) of 2009, initial spares up to 2.5% of "Project Cost" can be capitalized. As such, total spare cost may be Rs.194.79 Cr, whereas spares ordered on M/s. BHEL and M/s. L&T are costing Rs.102.92 Cr. and Rs.31.31 Cr. respectively totaling to Rs.134.23 Cr. Therefore, a provision of additional spares costing Rs.60.30 Cr. has been made.

**iv. Preliminary Investigation, Survey & Cost of Land-**

Estimated cost of preliminary investigation, survey and cost of land has been revised from Rs.75 Cr. to Rs.118.21 Cr. based on the amount paid by MPPGCL for land acquired for plant area, ash bund, colony and approach road, Corridor of Raw water pipe line, Railway line from Bir to Plant and Surgaon Banjari to Bir. Moreover, expenditure incurred on account of rehabilitation and resettlement and as per demand of Revenue Authorities were also considered.

**v. Contingency-**

Though almost all requirements have been taken care in revised cost estimate shown under various heads, but still few like Tools & Plants, Furniture, Ambient Air Quality Monitoring System, certain miscellaneous purchases of office equipment will be taken up in due course of time, according to need. Based on few available estimates & few assumptions, around 0.5% provision (Rs.40 Crore) against contingency have been made. This has based reduced from Rs 80.72 Crore to Rs 40 Crore.

**vi. Establishment-**

Earlier, while it was estimated @2% of total cost, now it has been worked out on actual basis up to June'13 and assuming same for year 2013-14 & 2014-15 as

that for 2012-13, same has based reduced to Rs.60.0 Crore from Rs.134.54 Crore.

**vii. Start-up Fuel-**

Earlier only **Rs.10.0 Crore** was considered as start-up fuel cost. In fact, fuel (coal & oil) both are required upto CoD for completion of trial run during which Infirm Power is generated. Based on the oil consumption (LDO & HFO) up to CoD of Unit-1 indicated by BHEL/Site, cost of oil has been calculated for both Units as **Rs.128.34 Crore**.

Apart from this, coal cost was calculated considering trial run period of 30 days during which average load was 450 MW (75% of 600 MW) with coal consumption of **0.8 kg per kWh** as against guaranteed 0.6 kg per kWh only, because guaranteed heat rate may be achieved only after full load operation of Unit.

Auxiliary Power Consumption @ 6% was considered, which was reduced from total infirm power generated for counting sent out infirm power to grid.

Apart from coal & oil, "**starting power**" for trial run & commissioning of various equipment was also required to be taken from Discom on chargeable basis, for which charges have been considered as Rs.14.0 Crore

The total of all these estimated expenditure for both the Units worked out to Rs.297.70 Cr. However, estimated revenue earned from infirm power (sent out) of Rs.106.92 Cr. was also considered and thereby estimated net fuel cost worked out to Rs.190.78 Cr.

**viii. Water Charges-**

These charges are required to be paid to WRD. Reservoir capacity is to be considered for payment of water charges. However, as make-up water is also required while running the units, same has also been considered for "**one month**" Trial operation.

Apart from this, MPPCB also charge some fee on use of water and also agreement charges equal to the quarter payment was also to be paid to WRD.

Accordingly, estimated water charges amounting to Rs.2.50 Crore has also been included in cost.

**ix. Increase in IDC-**

It may be appreciated that due to increase in cost due to additional works and increase in cost of few existing works like colony roads etc., additional loan (including equity) is required; part of which to be incurred up to CoD of each Unit, attracted IDC.

Moreover, IDC has also increased due to delay in CoDs of Unit 1&2 due to various reasons (force majeure) from scheduled dates as detailed in MPPGCL's reply in para A. Delay in CoD - a(i).

Further, IDC has also increased due to change in rate of interest which has changed to **12.75% p.a.** as against original **11.5% p.a.** IDC on loan against both Units has been worked out considering CoD date of unit-1 in Dec-13 and thereafter expected CoD of Unit-2 as Sept-14. As such, IDC was increased to **Rs.1473.05 Cr.** from Rs.880.34 Cr. i.e. by Rs.592.71 Cr.

The Detailed Breakup of Estimated Project Cost amounting to Rs.7820 approved by GoMP on 24.01.15 is annexed as **Annexure-5C**.

It is to mention that cost revised towards Main Power Block, Balance of Plant, and general civil work I, II & III, 95% of civil works of Railway transportation system, OHE and S&T are on actual basis, **which is unavoidable**. Similarly due to delay, additional loan due to increase in cost and change in rate of interest, payment due to increase in IDC to PFC is also **unavoidable**.

**6) Issue:**

It is observed that as per investment approval the total capital expenditure of the project has become twice the initial estimated cost whereas, the expenditure on civil works become approximately four times the initial estimate. The petitioner is required to explain in details the reasons for such abnormal increase in cost of civil works.

**Petitioner's response:**

Initially, estimate was sanctioned by BoD amounting to Rs.4435.00 Crore in May 2006 for installation of 2x500 MW capacity plant, which was further revised to **Rs. 4053 Crore** by BoD, MPPGCL &GoMP. Later on, capacity was enhanced to 2x600 MW. Owing to enhancement in capacity of plant by 20%, all cost and also of related civil works got enhanced, proportionately.

In the aforesaid sanctioned estimate, initially cost of civil works including preliminary investigation & survey and cost of land as Rs.534.99 Crore was very tentative as it was derived based on cost of civil works indicated in the feasibility report (base date Nov.2001) by escalating as per RBI indices up to Oct.2005.

As such, this estimation was of first stage and after award of major works i.e. Main Power Block (BTG package) in Dec.08, Balance of Plant (BOP Package) in Oct.09 and award of GCW-I package, proper estimation of civil works was done in Aug.09 as Rs.1663.70 Crore, which was approved by the BoD of MPPGCL vide resolution passed in the 44th meeting held on 26.08.09. Thereafter, based on actual expenditure incurred in civil works for BTG, BOP, GCW-I,II,III, Railway Transportation System, Land Acquisition and Survey & Investigation, this estimate has been revised to Rs.2013.37 Crore.

In the initial estimate, land cost was considered as Rs.16.00 Crore where as actual expenditure incurred in acquisition of land (1200 Hect.) in compliance to prevailing Rehabilitation and Resettlement policy is Rs.117.50 Crore. Owing to installation of higher capacity of plant, quantum of land required for installation of plant was increased. Besides above, payment of land cost had to be paid in compliance to the revised R&R policy which includes certain additional financial advantages to the owner of private land.

As such, considerable increase in expenditure towards land acquisition from Rs.16.00 Crore to Rs.117.50 Crore has been resulted.

**Civil Works-(General Civil Works):-**

Expenditure against GCW-II got increased due to requirement for construction of Two Nos of outside roads with electrification in compliance to the norms of revised R&R policy & award of left over works.

As such, cost of GCW-II got increased to Rs.112.00 Crore from Rs.50.50 Crore.

**GCW-III Package:-**

Due to compliance of prevailing norms, for staff accommodation and inclusion of other facilities i.e. Higher Secondary School, Welfare Center, Approach Road to power house, Sewerage Treatment plant etc, expenditure against this package got increased.

The work of colony package was re-ordered, at higher cost after backing out by the first contractor.

Also cost for construction of furnished pre-fabricated accommodation near power house has also been added in the scope of this package.

As such, cost of GCW-III package got increased to Rs.177.42 Crore from Rs.110.00

Crore.

**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 BirViaTalwadia. But railway’s authorities indicated that in case of load coming from Itarsi end, Engine Reversal will be required at Talwadia Station, which is not possible on regular basis due to existing busy rail traffic from Itarsi to Khandwa, Moreover, there was limitation of creating new facilities to avoid engine reversal at Talwadia Station.

In view of this, **Railways insisted to lay a new line of 12.5 km from Surgaon-Banjari to Bir** and up- gradation of Surgaon Banjari Station to take care of coal and oil rack for power house without affecting the main line ongoing traffic. Further, additional payment involved in this head include O&M charges for Bir Station for ten years amounting to Rs.30.00 Crore In addition to above, Railways has also charged Departmental charges (incl. supervision) and Director & General charges on Civil and S&T works, at applicable rates as per railways circular dated. 30.1.2012 amounting to Rs.25.10 Crore. Thus, expenditure against the railway siding got increased to Rs.288.33 Crore from Rs.111.00 Crore.

**7) Issue:**

In format TPS-5B, the petitioner has filed original project cost as per the latest revision of the cost estimate. The petitioner is required to file Form TPS-5B with complete details like original project cost (initially approved by the BoD) for the project, revision of project cost at different points of time and the variance in project cost with the reasons of variance.

**Petitioner’s response:**

MPPGCL humbly submits that the detailed reasons for revision in estimated project cost are already furnished at MPPGCL’s reply to point No. B- Capital Cost sub-point(c) & (d). The Comparative tables indicating the revisions of estimated project Cost is as under:-

<b>Description</b>	<b>Earlier Project cost (Rs. Crs)</b>	<b>Revised Project cost (Rs. Crs)</b>

1	Mechanical, Electrical, I&C including Taxes & duties (Main Power Block, BoP, excluding civil Portion & Construction Power)	2290.13	3174.1
2	Civil Works (Main Power Block Civil, BoP Civil, GCW-I, GCW-II, GCW-III, Rail Transport Horticulture etc.)	512.24	1588.7
3	Erection, Testing & Commissioning of Main Power Block & BoP including taxes & duties	269.68	517.2
4	Entry Tax	---	26.4
5	Price variation	132.32	247.5
6	Cost of Land including preliminary investigation	24.75	75
7	Consultancy	8	15
8	Total Overheads (Estt., Audit & A/c, Contingency, Start up fuel)	203.29	225.26
9	IDC	612.44	880.34
<b>Total with IDC</b>		<b>4052.85</b>	<b>6749.5</b>
Say		<b>4053</b>	<b>6750</b>

Description		Original Cost	Revised Cost	Variance
		(Rs. Crs)	(Rs. Crs)	
1	<b>Main Power Block</b>			
a	Supply	2230.11	2230.11	0
b	Erection, Testing & commissioning	410.26	410.26	0
c	Civil Works	406.71	406.71	0
d	Spares	102.92	102.92	0
e	<b>Total MPB cost incl. spares</b>	<b>3150</b>	<b>3150</b>	<b>0</b>
2	<b>Balance of Plant</b>			
a	Supply	795.07	794.8	-0.27
b	Erection, Testing & commissioning	106.94	107	0.06
c	Civil Works	716.99	717.2	0.21
d	Spares	31	31	0
e	Entry Tax	26.4	26.4	0
f	Price Variation	247.5	247.5	0
g	<b>Total BoP cost incl. spares</b>	<b>1923.9</b>	<b>1923.9</b>	<b>0</b>
3	<b>Total (1e &amp; 2g)</b>	<b>5073.9</b>	<b>5073.9</b>	<b>0</b>
4	<b>Construction Power</b>	<b>15</b>	<b>15</b>	<b>0</b>
5	<b>Additional Spares Cost</b>	<b>0</b>	<b>61.29</b>	<b>61.29</b>
6	<b>Sub Total of E&amp;M works (3+4+5)</b>	<b>5088.9</b>	<b>5150.19</b>	<b>61.29</b>

<b>Description</b>		<b>Original Cost</b>	<b>Revised Cost</b>	<b>Variance</b>
		(Rs. Crs)	(Rs. Crs)	
7	<b>Civil Works</b>			
a	Cost of Land (1260 Hect. Approx )	65	117.5	52.5
b	Preliminary Investigation & survey	10	0.71	-9.29
c	Gen. Civil Work - I	193.5	193.5	0
d	Gen. Civil Work – II	50.5	112	61.5
e	Gen. Civil Work - III (Colony)	110	177.42	67.42
f	<b>Total of civil works including cost of land &amp; survey &amp; investigation (7a to e)</b>	<b>429</b>	<b>601.13</b>	<b>172.13</b>
8	<b>Railway Transportation System</b>			
a	Civil works	111	178.55	67.55
b	OHE and S&T	0	54.68	54.68
c	Departmental and D&G charges on Civil, OHE and S&T works	0	25.1	25.1
d	Deposit expenditure to Rly for O&M of Bir station	0	30	30
e	<b>Total of Railway Trans. System (8a to d)</b>	<b>111</b>	<b>288.33</b>	<b>177.33</b>
9	<b>Total Works (6+7+8)</b>	<b>5628.9</b>	<b>6039.65</b>	<b>410.75</b>
10	<b>Overheads :</b>			
a	Consultancy (L.S.) & Training ( 1Cr.)	15	15	0
b	Contingency	80.72	40	-40.72
c	Establishment Costs	134.54	60	-74.54
d	Start up Fuel	10	190.78	180.78
e	Water Charges Payable to MPWRD	0	2.5	2.5
f	<b>Total (10 a to e)</b>	<b>240.26</b>	<b>308.28</b>	<b>68.02</b>
11	<b>Project Cost (without IDC&amp;FC) (9 + 10f)</b>	<b>5869.16</b>	<b>6347.93</b>	<b>478.77</b>
12	<b>IDC+FC</b>	<b>880.34</b>	<b>1473.05</b>	<b>592.71</b>
13	<b>Total Project Cost (with IDC+FC+PV)</b>	<b>6749.5</b>	<b>7820.98</b>	<b>1071.48</b>
14	<b>(Say)</b>	<b>6750</b>	<b>7820</b>	<b>1070</b>
15	<b>Project Cost per MW (Without IDC)</b>	<b>4.89</b>	<b>5.29</b>	<b>0.4</b>
16	<b>Project Cost per MW (With IDC)</b>	<b>5.63</b>	<b>6.52</b>	<b>0.89</b>

Further, as desired, the TPS Form-5B for revised project cost of Rs.7820 Crore is annexed as **Annexure-6**.

**8) Issue:**

The petitioner is required to file a comparison of the project cost of SSTPP Stage

I, Unit 1 & 2 with the similar type of other comparable green field projects of same capacity. The petitioner is also required to justify how the capital cost of the project is comparable with the CERC benchmark capital cost.

**Petitioner's response:**

The Comparison of the project cost of SSTPP U#1&2 with other projects of similar capacities has been indicated below with data being gathered from TANGEDCO website:

<b>Project and Capacity</b>	<b>Cost/MW</b>	<b>Year</b>
Mettur TPP (1x600 MW)	7.83	2013
North Chennai TPP( 2x600MW)	6.72	2014
Kalisindh TPP Rajasthan (2x600MW)	7.89	2014

The Bench Mark Capital Cost for 2x600 MW Critical Project (based on 2011 indices as Base) is 4.54 Cr per MW, as per the Order No. L1/103/CERC/2012 dated 04-06-2012 of CERC providing the Benchmark Capital Cost (Hard Cost) for TPS.

Further, CERC has provided a clarification on Benchmark Capital Cost for Thermal Power Stations with Coal as Fuel vide its aforementioned order, under Issue No. 6, para No. 11.2 and the Relevant Extracts of the same have been reproduced below:-

**“However, to calculate the likely cost of similar package for another project, the fixed Component needs to be linked to escalation in WPI for the intervening period, which may be provided...”**

In view of above, the indicated capital cost (hard cost) per MW of 4.54 Crore.for 2x600 MW Shree Singaji TPP based on 2011 Index “As Base”, needs to be escalated based on WPI Index and brought forward to December, 2014/ October 2012 as the date of schedule station CoD was October-2012 and actual Station CoD was Dec-2014.

The table hereunder shows that the Bench Mark capital cost of 4.54 Crore./ MW translates into a project cost (hard cost) of Rs. 5448 Crore. as on December, 2011, which after applying the escalation factor based on WPI Index of 2013-14, December’2014 i.e. 178.70 & October 2012 i.e. 168.50. The escalated Capital cost works out to Rs. 6210.72 Crore/Rs.5829.36 Crore, converting into 5.17 Crore./ MW & 4.86 Crore ./ MW. The supporting documents in this regard are annexed as **Annexure-7A & 7B.**

<b>Particulars</b>	<b>As on Actual Station CoD (Dec-14)</b>	<b>As on Schedule Station CoD (Oct-12)</b>
<i>The WPI Index as at Dec-2011</i>	157.30	157.30
<i>The WPI Index as at Dec-14/ Oct12</i>	178.70	168.50
<i>Inflation factor</i>	1.14	1.07
<i>Bench Mark Capital Cost for 2x600 MW based on Indices of Dec-2011</i>	4.54	4.54
<i>Project cost at Bench Mark Capital</i>	5448	5448
<i>Escalation allowed upto Dec-14/Oct-12</i>	6210.72	5829.36
<b>New Benchmark as per Dec-2014/Oct-2012 indices shall be</b>	<b>5.17</b>	<b>4.86</b>

The hard cost in terms of CERC Order dated 04.06.2012 for Bench Mark capital cost, works out as under by removing expenses / estimates on account of IDC, (being soft cost) Railway Siding, Transmission Line, Township and Taxes, which were not considered by CERC, while Bench Marking the capital cost (Hard Cost) of thermal power projects:-

<b>For Calculating Bench Mark Capital Cost Compliance</b>	<b>Amount in Crore.</b>
GoMP approved Project Cost	7820
<b>Less:</b>	
Approved IDC	(-)1473.05
Railway Siding Expenses	(-)288.33
Transmission Line Exp	(-)9.78
Township Expenses	(-)177.42
Taxes(MBP &BoP packages only)	(-)153.23
Total capital cost (Hard cost)	5718.19
<b>Cost per MW</b>	<b>4.77</b>

The total estimated project completion cost of 7820 Crore translates into hard cost of **Rs. 5718.19 Crore**, which in turns works out to **4.77 Crore./ MW**.

In view of the above, the estimated completion cost of the project is well within the Bench Mark capital cost indicated by CERC for 2x600 MW Thermal Projects.

**9) Issue:**

A copy of the contract awarded to BHEL and other agencies for major works be filed by the petitioner.

**Petitioner's response:**

As desired by Commission, the copy of the contract awarded to BHEL and other

agencies for major works at SSTPP PH-1 are annexed as **Annexure-8A to 8I**.

**10) Issue:**

**Interest during Construction:**

It is observed that the IDC and Financing charges as per the investment approval (and as per DPR) are Rs. 612.44 Crore where as, the actual IDC & FC as on CoD of the Unit No.2 is Rs. 1593.10 Crore. The petitioner is required to submit the following:

- (i) The actual IDC & FC for Unit No.1 and Unit No.2 with detailed computation of IDC as on Scheduled CoD and as on actual CoD of both the units.
- (ii) The detailed reasons for increase in IDC from schedule CoD to actual CoD.
- (iii) The basis of allocation of IDC among Unit No.1 and Unit No.2.

**Petitioner's response:**

*The point wise reply of MPPGCL is as under:-*

- (i) *The statement indicating the date wise calculation of Interest. During Construction (IDC) for unit No.1 & 2 of SSTPP Ph-1 is annexed as **Annexure-9A & 9B**.*
- (ii) *It may be appreciated that due to increase in cost due to additional works and increase in cost of few existing works like colony roads etc., additional loan (including equity) is required; part of which to be incurred up to CoD of each Unit, which attracted IDC. The detailed reasons for delay in CoD(Force Majeure) are already furnished at MPPGCL's reply to Point- A Delay in CoD - a(i) above. Further, IDC has also increased due to change in rate of interest which has changed to 12.75% p.a. as against original 11.5% p.a.*
- (iii) *It is to submit that figures of Interest during Construction have been allocated based of work **completion ratio** of Unit No.1&2 at CoD of respective units. Accordingly, the allocated IDC has been reflected in form TPS-5B of subject petition.*

**11) Issue:**

The petitioner is required to file a detailed statement regarding funding agency wise actual interest paid as on respective CoD of Unit No.1 and Unit No.2, 31<sup>st</sup>

March'2014 and 31<sup>st</sup> March'2015.

**Petitioner's response:**

*As desired by Commission, the statement indicating actual interest paid as on respective CoD of Unit No.1 and Unit No.2 is annexed as Annexure 9A & 9B. Further the PFC statement indicating actual interest paid till date on PFC Loan No.20701001 drawn for SSTPP PH-1 is annexed as **Annexure-10**.*

**12) Issue:**

The petitioner is required to file a copy of bank certificate regarding actual interest paid as on respective CoD of Unit No.1 and Unit No.2, 31<sup>st</sup> March'2014 and 31<sup>st</sup> March'2015.

**Petitioner's response:**

*As desired by Commission, the PFC statement indicating actual interest paid till date on PFC Loan No.20701001 drawn for SSTPP PH-1 is annexed as **Annexure-11**.*

**13) Issue:**

In form TPS 5B of the petition, the petitioner has shown the capital expenditure incurred as on CoD of Unit No.1 and Unit No.2. In the aforementioned statement, the IDC as on respective dates has been shown as Rs. 659.19 Crore and Rs. 933.91 Crore. On the other hand, it is indicated in Table 2.8.2 that the IDC of Rs. 583.99 Crore and Rs. 872.37 Crore is capitalized in Books of Accounts. The petitioner is required to clarify the aforesaid discrepancy.

**Petitioner's response:**

*MPPGCL humbly submit that the figures indicated in TPS Form 5B of subject petition are on based of actual expenditure incurred at SSTPP PH-1, Khandwa. However, MPPGCL in the instant petition has considered the figures capitalized in the Audited Books of Accounts for the purpose of working out various Tariff components. The same is prayed at para No.24 at page No. 10 of instant petition.*

*Accordingly, the figures of Interest during Construction (IDC) submitted in Form TPS 5B were the actual amount of IDC incurred as on date of CoD of Unit No.1&2 amounting to Rs. Rs. 659.19 Crore and Rs. 933.91 Crore respectively. However, for the purpose of determination of Final tariff of SSTPP PH-1, MPPGCL has considered the IDC*

amounting to Rs. 583.99 Crore and Rs. 872.37 Crore as on CoD of Unit No.1&2 respectively as capitalized in Audited Books of Accounts. The same is indicated at Table 2.8.2 of subject petition.

*The differential amount will be capitalized along with additional capitalization for subsequent years.*

**14) Issue:**

**Overhead and pre-commissioning expenses:**

In form TPS 5B, the petitioner has filed total Construction & Pre Commissioning Expenses of Rs. 685.64 Crore as on CoD of Unit NO.2. The petitioner has not provided break-up of these expenses in the format. The detailed break-up of Construction & Pre Commissioning expenses be filed by the petitioner.

**Petitioner's response:**

*The detail break-up of Construction and Pre-Commissioning expenses is annexed as **Annexure-12.***

**15) Issue:**

The petitioner is also required to file the unit-wise actual Construction & Pre Commissioning expenses as on scheduled CoD and as on actual CoD of the units.

**Petitioner's response:**

*It is to submit that the major expenditure on account of Construction & Pre Commissioning expenses was incurred during the later stages of commissioning of project. The same is submitted in TPS Form-5B of the instant petition. Accordingly, as desired by Commission The detail break-up of Construction and Pre-Commissioning expenses as on actual CoD of units is annexed as **Annexure-13** .*

**16) Issue:**

The petitioner has included the contingency expenses in the Construction & Pre Commissioning expenses. The reasons for including contingency expenses in construction and pre-commissioning expenses be explained by the petitioner.

**Petitioner's response:**

*It is to submit that the contingency expenses are part of overheads and accordingly*

same is shown under the head Overheads in TPS Form 5B of subject petition. In this regard kindly refer Page No.F-25 to F-28, SI No.10.3 of TPS Form 5B of instant petition.

**17) Issue:**

In form TPS 5B, the petitioner has shown the capital expenditure incurred as on CoD of Unit No.1 and Unit 2. In the aforementioned statement, the overheads expenses as on respective dates have been shown as Rs. 44.67 Crore and Rs. 53.68 Crore. On the other side, the petitioner has shown the figure of Overheads expenses capitalized in Books of Accounts of Rs. 42.45 Crore and Rs. 51.17 Crore in Table 2.8.2 of the petition. In light of aforesaid observations, the petitioner is required to clarify the reasons for difference in figures.

**Petitioner's response:**

*MPPGCL humbly submit that, the figures indicated in TPS Form 5B of subject petition are based on actual expenditure incurred at SSTPP PH-1, Khandwa. However, MPPGCL in the instant petition has considered the figures capitalized in the Audited Books of Accounts for the purpose of working out various Tariff components. The same is prayed at para No.24 at page No. 10 of instant petition.*

*Accordingly, the figures of overheads submitted in Form TPS 5B were the actual amount of overheads incurred as on date of CoD of Unit No.1&2 amounting to Rs.44.67 Crore and Rs. 53.68 Crore respectively.*

*However, for the purpose of determination of Final tariff of SSTPP PH-1, MPPGCL has considered the overhead amounting to Rs. Rs. 42.45 Crore and Rs. 51.17 Crore as on CoD of Unit No.1&2 as capitalized in Audited Books of Accounts. The same is indicated at Table 2.8.2 of subject petition.*

*The differential amount will be capitalized along with additional capitalization for subsequent years.*

**18) Issue:**

**Infirm Power**

On perusal of the details regarding fuel expenditure during Pre-Commissioning activities, it is observed that the fuel expenditure for Unit No.1 is Rs. 104.97 Crore and for Unit No.2 is Rs. 87.85 Crore. However, the revenue generated from sale of infirm power from Unit No.1 & 2 is Rs. 7.89 Crore and Rs. 4.00 Crore respectively.

In view of the above, the petitioner is required to explain the reasons for high

expenditure on start up.

**Petitioner's response:**

*As desired by Commission the detailed reasons for high fuel expenditure on start up of Unit No. 1&2 is annexed as **Annexure-14**.*

**19) Issue:**

The petitioner is required to file the details regarding infirm power supplied to grid and revenue recovered from sale of infirm power from each unit along with SLDC statement. The petitioner is also required to file the actual fuel expenses for generation of infirm power indicating the unit wise details like quantity, rate and amount of fuel expenses used for generation of infirm power duly certified by the statutory Auditor.

**Petitioner's response:**

*As desired by Commission, the details regarding infirm power supplied to grid and revenue recovered from sale of infirm power from each unit along with SLDC statement is annexed as **Annexure 15A**. Further, details of fuel expenses used for generation of infirm power as per Audited Books of Accounts is annexed as **Annexure-15B**.*

**20) Issue:**

The petitioner is required to file a copy of bill/invoice for purchase of coal and oil for generation of infirm power.

**Petitioner's response:**

*As desired by Commission, the copies of Bill/invoices towards purchase of coal and oil for generation of infirm power along with statement indicating gist of total invoices/bills is annexed as **Annexure-16A & 16B**.*

**21) Issue:**

The petitioner is required to confirm whether the revenue from sale of infirm power has been accounted for arriving at the Capital cost claimed in the petition and capitalized in Annual Audited Accounts.

**Petitioner's response:**

*It is to confirm that revenue from sale of infirm power has been duly accounted for*

*arriving at the Capital cost claimed in the petition and capitalized in Annual Audited Accounts. The same is detailed at table No.27.1 page-11 of subject petition.*

**22) Issue:**

**Initial Spares:**

With regards to the initial spares, the petitioner is required to file a detailed list of the Initial Spares capitalized in the books of accounts along with their quantity and amount in light of Regulation 17.1(b) of MPERC(Terms and Conditions for determination of generation tariff) Regulation, 2012. The petitioner is also required to confirm whether any mandatory initial spares were supplied by any contractor/vendor as a part of contract.

**Petitioner's response:**

*As desired by Commission ,the detailed list of the Initial Spares as Submitted in TPS Form 5B & considered in the Books of accounts is annexed as **Annexure-17**. It is to submit that all initial spares are procured from the contractors of the project and OEM.*

**23) Issue:**

**Common Facilities:**

The petitioner is required to file the allocation/bifurcation of common capital expenditure incurred and capitalized on the common facilities between Unit 1 and Unit 2 as on CoD of both the units. The petitioner is also required to file the statement for appointment of Common facilities as per clause 8.3 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012.

**Petitioner's response:**

*It is to submit that, Proviso 8.3 of MPERC Regulations 2012 reads as under:*

*8.3. For the purpose of Tariff, the capital cost of the Project shall be segregated into stages and by distinct Units forming part of the Project. Where the Stage-wise, Unit-wise break-up of the capital cost of the Project is not available and in case of on-going Projects, **the common facilities shall be apportioned on the basis of the capacity of the Units.***

*In accordance with above, the common facilities comprising of Balance of Plant, General Civil works & work of Railway Sidings are equally apportioned in unit 1 & 2 of SSTPP PH-1 Khandwa. The same is elaborated in TPS Form-5B of instant petition.*

**24) Issue:**

**Additional Capitalization:**

With regard to the additional capitalization, the petitioner is required to submit the details of additional capitalization in terms of Regulation 20.1 of MPERC (Terms and Conditions for determination of generation tariff) Regulations, 2012. The petitioner is also required to file a comprehensive reply to the following issues with all relevant supporting documents in favour of its claim for additional capitalization:

- Whether the addition of asset is on account of the reasons (a) to (e) in clause 20.1 of the Regulations, 2012.
- Whether the assets addition during the year are under original scope of work. Supporting documents be also filed in this regard.
- The petitioner is also required to file the approved vis-à-vis actual funding for aforesaid works.
- Whether the assets under additional capitalization have been capitalized in Annual Audited Accounts.

**Petitioner's response:**

*The point wise submission of MPPGCL is as under:-*

- *The assets additions claimed by MPPGCL during FY 2013-14, FY 2014-15 & FY 2015-16 are in accordance with proviso 21.1 [(a) to (e)] of the Regulations, 2012.*
- *The assets addition were under original scope of work of revised project cost amounting to Rs.7820 Crore. Supporting document in this regard is annexed as **Annexure-18**.*
- *As desired, the detail of funding of Asset Additions is annexed as **Annexure-19**.*
- *The asset additions submitted in instant petition are in conformity with the Audited Books of Accounts of respective years.*

**25) Issue:**

**Funding of the project:**

The assets capitalized and funding considered in the subject petition are not matching at different points of time. The petitioner has considered more funding

than the assets capitalized for each unit. In view of the above, the following details of the assets capitalized and corresponding funding (as per books of accounts) be filed.

<b>Particulars</b>	<b>Assets Capitalized</b>	<b>Loan</b>	<b>Equity</b>	<b>Debt-Equity Ratio</b>
Unit No.1 as on its CoD i.e. 01.02.2014				
Unit No.1 as on 31 <sup>st</sup> March 2014				
Unit No.2 as on its CoD i.e. 28.12.2014				
Unit No.1 & 2 as on CoD of Unit-2				
Unit No.1 & 2 as on 31 <sup>st</sup> March 2015				
Unit No.1 & 2 as on 31 <sup>st</sup> March 2016				

The reasons for any anomaly/mismatch be also be filed in this regard.

**Petitioner’s response:**

*As desired by Commission, the details of the assets capitalized and corresponding funding as per books of accounts, in prescribed format is annexed as **Annexure-20**. Here, it is to mention that difference between Assets Capitalized and funding as on 31.03.2016 as reflected in Annexure-20 is on account of retention payment, which shall be met from loan/ Equity drawls of FY 2016-17 & subsequent years.*

**26) Issue:**

A copy of the loan agreement executed with PFC along with terms and conditions of the loan be also filed by the petitioner.

**Petitioner’s response:**

*As desired by Commission, copy of the loan agreement executed with PFC along with terms and conditions of the PFC loan 20701001 is annexed as **Annexure-21**.*

**27) Issue:**

**Annual Capacity (fixed) Charges:**

The petitioner is required to file the detailed calculations for working out the year-wise weighted average rate of interest after CoD along with supporting

documents.

**Petitioner's response:**

*As desired by Commission, detailed calculations for working out the year-wise weighted average rate of interest after CoD along with supporting documents is annexed as **Annexure-22**.*

**28) Issue:**

The petitioner is required to file the year-wise Asset-cum-Depreciation register (in support of depreciation worked out in the subject petition) duly reconciled with Annual Audited Accounts. Any difference in the figures between these two records be also explained by the petitioner.

**Petitioner's response:**

*As desired by Commission, the year-wise Asset-cum-Depreciation register duly reconciled with Annual Audited Accounts of respective years is annexed as **Annexure 23**. It is to mention that there is no difference in the figures of Audited Accounts and Asset cum Depreciation register of SSTPP PH-1.*

**29) Issue:**

Supporting documents (Bills/invoices) in respect of price of oil purchased be filed by the petitioner for computation of secondary Oil expense.

**Petitioner's response:**

*It is to submit that, the information towards bills/invoices of oil is voluminous, accordingly, the statements elaborating the date wise & bill wise receipt of oil (Quantity & Amount) for FY 2013-14, FY 2014-15 & FY 2015-16 are annexed as **Annexure-24A, 24B & 24C** .*

*Further, the copies of oil bills are annexed as **Annexure-25A, 25B & 25C**.*

**30) Issue:**

Supporting documents for interest on working capital claimed in the petition for FY 2013-14, FY 2014-15 and FY 2015-16 be filed.

**Petitioner's response:**

*As desired by Commission, the supporting documents towards rate of interest for*

*working out interest on working capital claimed in the instant petition for FY 2013-14, FY 2014-15 and FY 2015-16 is annexed as **Annexure-26**.*

**31) Issue:**

Income from other sources reflected in Audited Annual accounts is for MPPGCL as whole. The power station-wise detailed break-up of the various components of income from other sources for FY 2013-14, FY 2014-15 and FY 2015-16 duly reconciled with the Annual Audited Accounts be filed by the petitioner.

**Petitioner's response:**

*As desired by Commission, power station-wise detailed break-up of the various components of income from other sources for FY 2013-14, FY 2014-15 and FY 2015-16 duly reconciled with the Annual Audited Accounts of respective years is annexed as **Annexure-27**.*

**32) Issue:**

**Coal Cost :**

Information regarding the break-up of coal cost for preceding three months is not filled up in form TPS-15. The petitioner is required to file the details of coal cost including the cost of transportation etc. in form TPS-15. The supporting documents in this regard be also filed.

**Petitioner's response:**

*It is to submit that, the Monthly weighted Average Rate of Coal for FY 2013-14, FY 2014-15 & FY 2015-16 has been considered by MPPGCL for the purpose of working out the cost of Coal towards determination of working capital of SSTPP PH-1. The detailed Calculation sheet is annexed as **Annexure-28**.*

*In this regard, the comprehensive Coal Models of SSTPP PH-1 for FY 2013-14, FY 2014-15 & FY 2015-16 is annexed as **Annexure-29A, 29B & 29C**.*

**33) Issue:**

Detailed calculation sheet for arriving at the weighted average rate of coal purchased during FY 2014-15 and FY 2015-16 as per MPERC Tariff Regulations, 2012 claimed in the petition to work out the cost of coal for working capital along with supporting documents like copy of the bills/invoices be filed.

**Petitioner's response:**

*As desired by Commission, the comprehensive Coal Models of SSTPP PH-1 for FY 2013-14, FY 2014-15 & FY 2015-16 is annexed as **Annexure-29A, 29B & 29C** through which the weighted average rate of coal has been considered.*

*Further, it is to humbly submit that as the information towards bills/invoices of oil is voluminous, accordingly the statements elaborating the date wise & bill wise receipt of coal (Quantity & Amount) along with GCV for FY 2013-14, FY 2014-15 & FY 2015-16 are annexed as **Annexure-30A, 30B & 30C**.*

*Further, as desired by Commission, the copies of Coal bills are annexed as **Annexure-31A, 31B & 31C**.*

**34) Issue:**

With regard to the Gross Calorific Value of coal, the petitioner is required to file a copy of laboratory test report for the preceding three months for unit No. 1 & 2 respectively.

**Petitioner's response:**

*It is to submit that the Monthly weighted Average GCV of Coal(as fired) for FY 2013-14, FY 2014-15 & FY 2015-16 has been considered by MPPGCL for the purpose of working out the cost of Coal towards determination of working capital of SSTPP PH-1. The detailed Calculation sheet in this regard is annexed as **Annexure-28**.*

*Further as desired by Commission, the Monthly laboratory Reports of GCV of Coal (as fired) for FY 2013-14, FY 2014-15 & FY 2015-16 is annexed as **Annexure-32**.*

**35) Issue:**

Manufacturer/ Supplier certificate for guaranteed performance parameters be filed by the petitioner.

**Petitioner's response:**

*As desired by Commission, the guaranteed performance parameters Of Manufacturer/ Supplier i.e M/s BHEL New Delhi is annexed as **Annexure-33**.*

**36) Issue:**

The petitioner is required to file Month-wise details of the firm power generated from Unit 1 and Unit 2 for FY 2013-14, FY 2014-15 and FY 2015-16 along with

the supporting documents. SLDC's Certificate for the month-wise statement of Plant availability factor for Unit 1 and Unit 2 be also filed by the petitioner.

**Petitioner's response:**

*As desired by Commission, Month-wise details of the firm power generated from Unit 1 and Unit 2 for FY 2013-14, FY 2014-15 and FY 2015-16 along with supporting documents is annexed as **Annexure-34**.*

*Further as desired, the month-wise SLDC statement of Plant availability factor for Unit 1 and Unit 2 is annexed as **Annexure-35**.*

**37) Issue:**

It is observed that the petitioner has not filed the component wise detailed break-up of the actual capitalization as on CoD of Unit No.1 (01st February'2014), as on 31st March'2014, as on CoD of Unit No.2 or the Station CoD (28<sup>th</sup> December'2014), as on 31st March'2015 and as on 31st March'2016 for Unit NO.1 and Unit No.2 separately. Therefore, the petitioner is required to file the capitalization booklet with complete details of capitalization of all the capital cost components of SSTPP Unit No.1 & 2.

**Petitioner's response:**

*It is to humbly submit that MPPGCL vide Annexure No.23 of letter No.1089 dated 15.09.2017 has already submitted the detailed Asset-cum-Depreciation Register of SSTPP PH-I which clearly reflects the actual capitalization made at SSTPP PH-I as per Audited Books of Accounts for the period FY 2013-14 to FY 2015-16.*

*However, as desired by the Hon'ble Commission, the statement indicating component wise detailed break-up of the actual capitalization as on CoD of Unit No.1 (01st February'2014), as on 31st March'2014, as on CoD of Unit No.2 or the Station CoD (28<sup>th</sup> December'2014), as on 31st March'2015 and as on 31st March'2016 for Unit No.1 and Unit No.2 separately are annexed as **Annexure -1**.*

*Further, the account head wise actual capitalization on respective dates is also annexed as **Annexure-2** for kind reference of Hon'ble Commission.*

**38) Issue:**

The aforesaid break-up of cost components is also required to be filed for all the revisions of capital cost as per various BoD approvals and GoMP approval.

**Petitioner's response:**

*It is to humbly submit that MPPGCL in its reply vide letter No. 1089 dated 15.09.2017 has already submitted the detailed break up of all revisions of approved Capital Cost by GoMP /BoD of MPPGCL. However, as desired the Hon'ble Commission the detailed comparative breakup of approved Capital Cost by GoMP/BoD MPPGCL is submitted as **Annexure 3.***

**39) Issue**

The information regarding the fuel expenses for generation of infirm power and revenue from sale of infirm power as filed in the petition is not certified by the Chartered Accountant. Therefore, the petitioner is required to furnish the aforesaid information duly certified by Chartered Accountant.

**Petitioner's response:**

*It is to humbly submit that the figures of Fuel expenses and Revenue from sale of Infirm Power considered in the subject petition are as per the captured amount in the Audited Annual Statement of Accounts of MPPGCL for respective years.*

*Further, MPPGCL vide **Annexure-15A & 15B** of letter No. 1089 dated 15.09.2017 have already been submitted the details of Fuel Expenditure (Coal & Sec. Oil) along with copy of SLDC statements (monthly SEAs) towards Revenue from Sale of Infirm power (based on DSM rates).*

*However, as desired by Hon'ble Commission the C.A. Certification with effect to information regarding Fuel Expenses incurred for generation of Infirm power (pre-CoD) and Revenue from Sale of Infirm power as per Audited Annual Statement of Accounts of MPPGCL & monthly SEA issued by SLDC-MP for respective periods is annexed as **Annexure -4.***

**40) Issue**

It is observed that the quantity of coal details as filed under Annexure 14 and Annexure 15B of the reply are not reconciled, therefore, the petitioner is required to reconcile the same.

**Petitioner's response:**

*It is to humbly submit that there was typographical error in the quantity column of Annexure-14 of MPPGCL reply letter No. 1089 dated 15.09.2017. The same has been corrected by site office at Power Station and the updated Annexure-14 is annexed as **Annexure -5** for kind reference please.*

**41) Issue**

Regulation 23.5 of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2012, provides that 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. In terms of aforesaid Regulation, the petitioner is required to file the rate of interest on term loan as on 01<sup>st</sup> April'2013, 01<sup>st</sup> April'2014 and 01<sup>st</sup> April 2015.

**Petitioner's response:**

*It is humbly to submit that the 80% funding of SSTPP PH-1, Khandwa has been done through M/s PFC Loan No.20701001 and 20% through GoMP Equity. The same is well elaborated in **Chapter 3 - Funding of Project** of the subject petition no. 09 of 2017. Further, MPPGCL wish to submit that the detailed working of Weighted Average Rate of Interest is indicated in **Form No.TPS-13** of the petition No. 09 of 2017 was already submitted before Hon'ble Commission vide **Annexure No. 22** of letter No. 1089 dated 15.09.2017.*

*However, as desired the Hon'ble Commission the detailed working of Weighted Average Rate of Interest for FY-14 to FY-16 is once again annexed as **Annexure-6**.*

**42) Issue**

It is observed that while claiming the additional capitalization, the petitioner has shown the pre-commissioning and construction expenditure post CoD of both the units. In view of above, the petitioner is required to clarify the basis of claim of such expenditure post CoD of Unit No. 1 & 2.

**Petitioner's response:**

*In regard to Hon'ble Commission's observation, it is to submit that the total expenditure covered under the head of "Construction & Pre-commissioning Expenses" of the **Form-TPS-5B** includes Erection, Testing & Commissioning (ET&C) and Freight expenses of Main Power Block (MPB), & Balance of Plant (BoP) and also the "Pre-commissioning expenses" like Startup- Fuel expenses and Construction Power.*

*The Pre-commissioning expenses in respect of 'Startup-Fuel expenses' and 'Construction Power' (indicated at S. No. 9.7 & 9.8 in the form TPS-5B) as on CoD of U#1 & 2 and up to 31<sup>st</sup> March'16 in the Form-TPS-5B is as under:*

<b>Particular</b>	<b>CoD of U#1</b>	<b>CoD of U#2</b>	<b>Up to 31<sup>st</sup>Mar'16</b>	<b>Difference</b>
-------------------	-------------------	-------------------	------------------------------------	-------------------

	<b>U#1</b>	<b>U#2</b>	<b>U#1</b>	<b>U#2</b>	<b>U#1</b>	<b>U#2</b>	<b>U#1</b>	<b>U#2</b>
<i>Startup Fuel</i>	97.08	0	97.08	83.89	97.08	83.85	0.00	-0.04
<i>Construction Power</i>	2.63	2.63	2.63	2.63	2.50	2.70	-0.13	0.07

*It may be seen from the above that there is very minor deviation in Pre-commissioning expenses, for which MPPGCL submission is as under:*

- a) The difference in expenditure of startup fuel in U#2 after CoD is due to an ‘Infirm Power’ bill towards revision amounting to Rs. 4.27 Lakh, raised by SLDC-MP during FY 2015-16 and was taken in to account subsequently.*
- b) Electrical works amounting to Rs. 27.41 Lakhs (Rs.13.70 Lakh each unit) which was erroneously booked by site office under the Head of “Construction Power” which has now been moved to the other head for contingency & Over heads. Therefore this amount has been subtracted from “Construction Power” head at a later date.*

*Further, retention amount of Rs.16.16 Lakh has been released to the parties and payment of recommended spares amounting to Rs.4.25 Lakh was made, therefore these amounts gets added in U#2 during the FY 2015-16 post CoD which actually pertains to pre-commissioning activity. Accordingly total addition of Rs.0.07 Lakhs ( Rs 16.16 Lakhs +Rs 4.25 Lakhs – Rs.13.70 Lakhs) was made.*

*In view of above, it is to emphasize that both the above pre-commissioning activities were accomplished before CoD of the units but a very minor addition and deletion i.e. adjustment of expenditure was done post CoD of the units is observed due to the reasons mentioned above.*

*In regard to the Other heads which are included in the “Construction & Pre-commissioning Expenses” of the **Form-TPS-5B** are plant construction work which includes Erection, testing & Commissioning and Freight Expenses of Main Power Block (MPB) & Balance of Plant (BoP) respectively. It is to mention that erection/construction of all the major Auxiliaries/packages of MPB and BoP were completed before achieving CoD of both the units. However, some of the plant construction works, which did not directly hamper the CoD of the units, were in progress even during the CoD and completed after CoD of the units. As such claim of these works have been captured only after CoD.*

*Therefore, the additional capitalization of expenditure mentioned in the Form-TPS-5B under ET&C and Freight of MPB and BoP after CoD of both Units are mainly due to*

*those minor balance works (not affecting the operation of the units) and which completed after CoD.*

*Similarly there are few works which were completed prior to CoD but due to delay in Certification of work or submission of Invoices by the contractor at a later date were taken in the account after CoD of the units.*

*The Hon'ble Commission is humbly requested to consider the same.*

**43) Issue**

It is observed that under Table 2.8.1, the petitioner shown the deduction of Rs. 16.31 Crore for Unit No.1, during 01<sup>st</sup> April 2014 to 27<sup>th</sup> December'2014, whereas, in the detailed break of additional capitalization, the petitioner has shown the deduction of Rs. 9.95 Crore under Plant and machinery and Rs. 13.49 Crore under Overhead Head resulting total deduction of Rs. 23.44 Crore. In view of the aforesaid, the petitioner is required to reconcile these figures at different places.

**Petitioner's response:**

*It is to humbly submit that the total deduction /adjustment of Rs. 16.48 Crore during FY 2014-15 as shown in Table 2.8.1 of subject petition (09 of 2017) was on account of adjustment of Entry tax / Account head re-classification, the same is reflected in component wise detailed break up of actual capitalization annexed as **Annexure-1**. It can be appreciated that there is no difference between the figures submitted in the petition at Table No. 2.8.1 and as detailed breakup of actual capitalization shown in **Annexure-1**.*

*MPPGCL humbly request Hon'ble Commission to kindly consider the above submission for determination of Final Tariff of SSTPP Stage I Khandwa in petition of 09 of 2017.*

**Annexure-2**

**Response of the petitioner on the comments offered by Respondent (MPPMCL):**

**Comment:-**

That, the erstwhile M.P. State Electricity Board (MPSEB) accorded administrative approval for installation of 2x500 MW Malwa Thermal Power Project Khandwa long back on 14.12.2004. The BoD of MPPMCL on 10/02/2006 approved the estimated cost of ₹ 4434.69 Crore for the Project. The aforesaid cost has been revised to ₹ 4053 Crore & approved by BoD of MPPGCL on 26.08.2006. Thereafter on the advice of CEA, the project capacity in the first phase was planned as 2x600 MW and GoMP accorded revised administrative approval for it on 2.01.2008. It is respectfully submitted that the progress of the project from the year 2006 to year 2012 was very slow. The main plant contract were awarded in July-August 2009. On account of this abnormal delay the project cost estimate was revised to ₹ 6750 Crore in 2009. Even after the award of the contract the project was not completed on scheduled CoD of Unit 1 & 2 which is 11/06/2012 & 11/10/2012 respectively. The actuals CoD of Unit 1 & 2 is 01/02/2014 & 28/12/2014 respectively. Due to delay in completion of the project and other reasons attributed to the petitioner the project capital cost has been substantially increased from initial estimated cost of ₹ 4053 Crore to ₹ 7820 Crore, i.e. about 92% higher. It is humbly prayed to the Hon'ble commission that suitable prudence check may kindly be applied while approving the project cost.

It is to state that for installation of 2x500 MW coal based Malwa TPP, administrative approval of GoMP was conveyed to MPPGCL/erstwhile MPSEB vide Energy Deptt. letter dtd.18.05.2001. The BoD of MPPGCL on 10th of Feb'06 approved the estimated cost of Rs.4434.69 Crore. The above cost was revised to Rs.4053 Crore and approved by BoD of MPPGCL and GoMP on 26.08.2006 and 04.05.2007 respectively.

In regard to MPPMCL submission that the progress of project was very slow from 2006-2012, it is to mention that the mandatory clearances of the project are taken from concerned authorities well in time by MPPGCL on the dates given below:

- (i) Water Availability No-objection-Certificate from CWC – 01.11.02
- (ii) Publication of Project Scheme Notification vide letter dtd.22.09.05 and for publication in newspaper vide letter dtd.07.11.05
- (iii) Airport Authorities of India- Permission granted in Feb'02, the same has been

- extended up to 2010 vide letter dtd.17.01.06.
- (iv) Sanctioning of loan from M/s. PFC vide letter dtd.29.05.06
  - (v) Coal Linkage- SECL issued the letter of assurance on 18.09.2006
  - (vi) The order for EIA Study Consultancy work was placed on 21.11.2005, well before the approval of project cost.
  - (vii) Project consultancy and consultancy for Rail Transport system orders were placed on 08.08.2006 and 20.10.2006 respectively. This is parallel to the process of approval of estimated project cost and the work for preparation of specification of Main power Block (MPB) and its associated civil works was underway at the same time.
  - (viii) It is to highlight that application to obtain clearance from Madhya Pradesh Pollution Control Board in prescribed formats and fee was submitted on 08.09.2006 by MPPGCL for the subject project.
  - (ix) Environmental clearance was given by MoE&F on 01.10.2008.
- As no activities can be initiated on the site of the proposed plant till Environmental clearance is accorded. The Order placement formalities for MPB was under process although environmental clearance was not issued by MoE&F and subsequently order for MPB was awarded to M/s. BHEL after taking necessary approvals from the competent authorities on 12.12.2008 and not in July-August 2009 as wrongly mentioned in the MPPMCL letter dtd.16.08.17.

### **Reasons for Increase in estimated Project Cost**

MPPMCL has mentioned that on account of above delay the project cost estimate was revised to Rs.6750 Crore in 2009. In this regard, it is to mention that the main assumptions in preparation of initial project cost estimate of Rs.4053 Crore, which was approved by BoD and GoMP on 26.08.2006 and 04.05.2007 respectively, were as under:

- (i) The project cost was for 2x500 MW capacities instead of 2x600 MW constructed later.
- (ii) Above cost estimate was worked out based on order of Main Power Block of Bhoopalpalli/Vijayawada TPS (1x500 MW) ordered on M/s BHEL on EPC basis (in August '05), Kahalgaon Stage –II (2x500 MW) (ordered in year 2004).
- (iii) Estimation of all civil, architectural & structural steel works was done on the basis of cost of civil work indicated in feasibility report (Nov. 2001) by escalating up to Oct. 2005.

- (iv) Price Variation was considered @ 2% to arrive at the completed project cost with base date as Aug.'06.
- (v) Erection, Testing & Commissioning was taken @10% of equipment cost less cost of spares.
- (vi) IDC was calculated with interest rate of 8.5% p.a.

Subsequently, following major orders were placed:

- a. Order No.2546 dtd.21.11.2005 for EIA Study Consultancy work on DCPL
- b. Order No.1856 dtd.08.08.2006 for Project Consultancy work on M/s L&T-S&L, Vadodara.
- c. Order No.2606 dtd.20.10.2006 for Consultancy work Rail Transport system on M/s Balaji Rail Road System Ltd (BARSYL), Secunderabad.
- d. Order No.230 dtd.31.01.2008 for "Chegaon Makhan" to project site line on CE (IR), MPPKVCL as deposit work.
- e. Orders for Main Power Block on M/s BHEL :
  - i. Order No.2907 dtd.12.12.2008 for supply of all the MPB equipment, mandatory spares, tools & tackles
  - ii. Order No.2908 dtd.12.12.2008 for Erection, Testing & Commissioning, and Freight & Insurance of Main Power Block.
  - iii. Order No.2909 dtd.12.12.2008 for Main Plant Civil, Structural Steel and Architectural works including taxes & duties.
- f. Order No. 743 dtd.28.07.2009 for GCW-1 work (for leveling and grading of the Power Station) on M/s Prasad & Company Hyderabad.

Apart from above, the Price bid for Balance of Plant(BoP) package which was one of the main order after price bid of Main Power Block was opened and proposal was under consideration of Board of Directors of MPPGCL. A Price bid for Permanent Construction Power was also opened.

As the anticipated fund requirement amount for BoP was exceeding with respect to the approved project cost of Rs.4053 Crore, hence revision of earlier approved project cost was found necessary.

Following are the main reasons which resulted in enhancement of the project cost from Rs. 4053 Crore to Rs. 6750 Crore:

- a. Earlier approved project cost of Rs. 4053 Crore. was worked out on

equipment/item basis for 2x 500 MW capacity. Since order for Main Power Block was placed through ICB for 2x600 MW capacity, in compliance to Ministry of Power guidelines the project cost need to take into account the actual capacity of the project.

The project cost was earlier estimated from the orders of Bhoopalpalli / Vijayawada (1x500 MW) & Kahalgaon (2x500 MW) projects based on order value of year 2005 & 2004 & for Civil work cost of DPR prepared in 2001 taking in to consideration suitable escalation.

- b. In IDC calculation interest rate was taken as 8.5% p.a. in the earlier estimated project cost, whereas the interest rate on PFC loan was changed and increased by 3% i.e. to @11.5%.The IDC amount increased from Rs.612.44 Crore to Rs.880.34 Crore due to phasing of expenditure as per actual L-1 Schedule & change of interest rate.
- c. In the earlier project cost of Rs. 4053 Crore, an estimation of total Civil and E&M works including Erection, Testing & Commissioning, freight, insurance taxes & duties was 3072.05 Crore. However, at the time of revision of project cost to Rs.6750 Crore, the estimation of Civil and E&M works including Erection, Testing & Commissioning, freight & insurance came to Rs.5306.4 Crore including the cost of Main Power Block on the basis of actual order value and cost of Balance of Plant & Construction Power on the basis of prices quoted by the lowest bidder, which was taken care.
- d. A new provision of Rs.26.4 Crore towards Entry tax has been made in the revised project cost. Same was payable extra at applicable rates, which was not considered in the earlier approved project cost.
- e. Against cost of land, a provision of Rs.18 Crore was made in the earlier approved project cost. However, in the revised project cost, a provision of Rs.65 Crore have been made on the basis of actual expenditure incurred in the land acquisition activities according to R&R policy of GoMP.
- f. Cost of civil works which includes GCW-1 (based on actual order value),GCW-II (other civil works) GCW-III (colony package) and Rail Transport System are estimated on the basis of latest estimated cost of these works.
- g. Further, a provision of Rs.247 Crore was made in the revised project cost towards price variation based on maximum limit of PV indicated in offer for BoP. Whereas, in earlier approved cost, a provision of Rs. 132.32 Crore was made in

this head.

- h. The costs of consultancy services have been enhanced from Rs.8 Crore to Rs.15 Crore, due to inclusion of Third Party Inspection, Project Monitoring Works, Project Consultancy Services for Railway line from “Surgaon Banjari to Bir” to avoid reversal at Talwadia Railway siding as additional scope of work to meet out Railway norms.

Subsequent to the approval of estimated cost of Rs.6750 Crore and during execution of works, following additions/deletions have been envisaged, which further affected the cost of the Project:-

i. **Civil Works-**

- a. Orders for General civil works GCW II- Originally envisaged roads inside Power House, Drainage, Boundary wall, Watch tower, Security post, Toilet, Rain water harvesting, Horticulture, Storage sheds etc. Subsequently, added road from site to Purni road, road in between PH to colony (parallel to rail track) and electrification of road, which increased the cost to Rs.112 Crore from Rs.50.50 Crore.
- b. Order for GCW-III (Colony)- The ordered cost was Rs.116.43 Crore against provision of Rs.110 Crore. Due to compliance of prevailing norms for staff accommodation and inclusion of other facilities i.e. Higher Secondary School, Welfare Center, Approach Road to power house, Sewerage Treatment plant etc, and expenditure against this package got increased.

The work of colony package was re-ordered at higher cost, after backing out by the first contractor. Apart from this, prefabricated furnished accommodation near Power House has also been included in the scheme, as for commissioning officials are required always remain available at site. This is very necessary for commissioning activities.

Therefore, cost increased to Rs.177.42 Crore against Rs.110.0 Crore

ii. **Private Railway Siding-**

Similarly, due to huge additional work of railway siding, cost was increased to Rs.288.33 Crore from Rs.111 Crore In this context, it is to submit that originally proposal was submitted to Railways for approval of transportation of coal/oil racks with transport route to Power House from Talwadia (on main line between Itarsi-Khandwa-Bhusawal) via Bir (a terminal station of Talwadia), which is single line station.

However, off-late, Railways highlighted that in case of load coming from Itarsi end,

“Engine Reversal” will be required at Talwadia, which is “absolutely” not possible on regular basis. As it involves engine reversal and surface crossing at Talwadia station for incoming and outgoing rack from Itarsi end this will result in heavy detention of racks at Talwadia itself, which is not acceptable to Railways. Therefore, requirement of chord line to avoid engine reversal and surface crossing was proposed by Railways.

Subsequently, Railways insisted to connect Bir Station with “Surgaon-Banjari”, which was a undeveloped station ahead of Talwadia on main line towards Itarsi to avoid reversal at Talwadia station. This resulted in laying of new rail tracks between Surgaon Banjari to Bir (about 12.5 km) and also up gradation of Surgaon Banjari Station to take care of coal & oil racks for Power House without affecting ongoing traffic of the main line.

Apart from above, Railways levy Departmental charges (including supervision charges) and D&G (Direction & General) charges as per Railway Circular dated 30.01.2012. As far as applicability of such charges on Overhead Electrification and Signaling & Telecommunication works being carried out by Railways are concerned, these were included in the estimated cost as informed by concerned Railway officials.

However, for civil works and Signaling & Telecommunication works being carried out through RITES, Departmental Charges were to be paid @ 4% and @ 6.25% respectively. However, D&G charges were to be paid at actual. D&G charges rates as per Railway Circular dated 2.2.2011 were 9.13% & 14.83% for civil works and S&T works, respectively. As such, the Departmental and D&G charges combined together worked out to Rs.25.10 Crore Moreover, operating cost of Bir Station by Railways for 10 years equal to Rs.30 Crore was also to be paid to Railways.

Accordingly, cost towards civil works (being got done through RITES), OHE and S&T got done through Railways/RITES as deposit works and operation cost to be paid to Railways has increased to Rs.288.33 Crore from Rs. 111 Crore.

**iii. Increase in cost of spares-**

As per MPERC Regulations, initial spares up to 2.5% of “Project Cost” can be capitalized. As such, spares of the total cost may be provisioned for Rs.194.79 Crore, whereas spares ordered on BHEL and L&T are amounting to Rs.102.92 Crore and Rs.31.31 Crore respectively, totaling to Rs.134.23 Crore. It is further

noticed that the spares as provided by BHEL and L&T are not adequate and requirement of additional spares was felt. The expenditure required on these spares shall be more than 2.5% limit. However, in order to comply with the norms, limited provision of additional spares amounting to Rs.60.31 Crore has been made.

**iv. Preliminary Investigation, Survey & Cost of Land-**

Estimated cost of preliminary investigation, survey and cost of land have been revised from Rs.75 Crore to Rs.118.21 Crore based on the amount paid by MPPGCL for :-

- land acquired for plant area,
- Ash bund,
- Colony and approach road,
- Raw water pipe line corridor,
- Railway line from Bir to Plant and
- Railway line for Sargaon Banjari to Bir.

Moreover, extra expenditure incurred due to rehabilitation and resettlement policy of Government and as per demand of Revenue Authorities which has also been considered. It is worthwhile to mention that due to Government R&R policy, compensation to the land owners were to be made, extra land was acquired for Railway corridor from “Sargaon Banjari to Bir” to meet Railway norms and to provide approach road to villagers of nearby area.

**v. Contingency-**

Though, almost all requirements have been taken care in revised cost estimate, but still few like tools & plants, furniture, ambient air quality monitoring system, certain miscellaneous purchase of office equipments needs to be taken up in due course of time, according to site requirements. Based on few available estimates & few assumptions, around 0.5% provision (Rs.40 Crore) against contingency have been made. This is reduced from Rs.80.72 Crore to Rs.40 Crore.

**vi. Establishment-**

Earlier, it was 2% of total cost, subsequently it has been worked out on actual basis up to June'13 and assuming same for year 2013-14 & 2014-15 as that of

2012-13. Accordingly, same has reduced to Rs.60 Crore from Rs.134.54 Crore, which includes payment against energy charges for Power House and offices.

**vii. Start-up fuel-**

Earlier, only Rs.10. Crore was estimated as start-up fuel cost. In fact fuel (coal & oil both) are required upto CoD for trial run completion during which infirm power generated. Based on the Oil consumption (LDO & HFO) up to CoD of Unit-1 indicated by BHEL/Site, cost of oil has been calculated for both Units as Rs.128.34 Crore Apart from this, coal cost was calculated considering trial run period of 30 days during which average load was considered as 450 MW (75% of 600 MW) with coal consumption of 0.8 kg per kWh. It is pertinent to mention here that guaranteed 0.6 kg per kWh as guaranteed heat rate may be achieved only after operation of Unit on full load(600 MW).

Further, Auxiliary power consumption @ 6% was considered, which was reduced from total infirm power generated for counting sent out infirm power to grid. Apart from coal & oil, starting power for trial run & commissioning of various equipment was also required to be taken from Discom on chargeable basis, for which charges have been considered as Rs.14.0 Crore

Accordingly, the total estimate of all these expenditure for both Units worked out to be Rs.297.70 Crore. The estimated revenue earned from infirm power (sent out) of Rs.106.92 Crore was also considered and thereby net fuel cost worked out to be Rs.190.78 Crore.

**viii. Water Charges-**

Water charges were not applicable at the time of earlier estimation of project cost. Later on, as per GoMP policy, water charges were imposed @ Rs.5.50 per cum. These charges are required to be paid to WRD towards use of water in the project. Plant water allocation is to be considered for payment of water charges. However, as make-up water is also required while running the units, same has also been considered for Trail operation of one month. Apart from this, Madhya Pradesh Pollution control Board(MPPCB) also charge some fee on use of water and also agreement charges equal to the quarter payment was also to be paid to WRD. Accordingly, water charges amounting to Rs.2.50 Crore has been included in the project cost.

**ix. Increase in IDC-**

It is to mention here that initial estimated project cost was for 2x500 MW units , later on, estimate of Rs.6750 Crore was made for 2x600 WW units, which increased to Rs.7820 Crore(i.e.about 15.85%).

It may be appreciated that due to increase in cost due to additional works and increase in cost of few existing works like colony roads etc., additional loan (including equity) was required; part of which to be incurred up to CoD of each Unit. This has also attracted the IDC. Moreover, IDC has also increased due to delay in CoD's of Unit 1&2 due to various reasons (Force Majeure) as mentioned in upcoming paras from scheduled dates i.e. June-2012 and Oct-2012.

IDC has also increased due to change in rate of interest, which has changed to 12.75% p.a. as against original 11.5% p.a. IDC on loan against both Units was worked out considering CoD date of U#1 in Dec.'13, and thereafter then expected CoD of U#2 in Sept'14. As such, IDC increased to Rs.1473.05 Crore from Rs.880.34 Crore i.e. by Rs.592.71 Crore.

It is to mention that revised cost towards Main Power Block, Balance of Plant, Land, Gen. Civil Works I, II & III, 95% of civil works of Railway Transportation System, Overhead Electrification and Signaling & Telecommunication are on actual basis, which was unavoidable.

Similarly, additional loan due to increase in cost due to reasons mentioned above and change in rate of interest of PFC loan increased IDC, which was also unavoidable. All these actual costs totals to 91% of aforesaid estimated cost.

MPPMCL has mentioned that the project cost has been substantially increased from initial estimated cost of Rs.4053 Crore to Rs.7820 Crore. i.e. about 92% higher, in this regard, it is to mention that initial project estimated cost (Rs.4053 Crore) was on basis of estimation and was not for actual capacity of the plant. Basis of cost of Main Power Block/ Civil works was as per year 2004-05 whereas actual order for MPB and BoP was placed in the year 2008/2009. Therefore, the actual enhancement in the project cost estimate must be measured from first revision of Rs.6750 Crore to Rs.7820 Crore which is 15.85% which is due to reasons elaborated above.

In this regard, the cost of other projects of similar capacity in comparison to SSTPP PH-1(2x600 MW) is tabulated as under:

<b>Project and Capacity</b>	<b>Cost/ MW Rs.</b>	<b>Project Cost (Rs. Crs)</b>	<b>Year</b>
<b>SSTPP PH-1, (2x600 MW) Khandwa</b>	6.52	7820	2015
<b>North Chennai TPP (2x600MW)</b>	6.72	8064	2014
<b>Kalisindh TPP Rajasthan (2x600MW)</b>	7.89	9468	2014
<b>Mettur TPP (1x600 MW)</b>	7.83	4698 (for one unit) 9396 (Proportionately for two Units)	2013

As evident from above, the project cost of SSTPP PH-1(2x600 MW) is comparatively lower to units of similar capacity.

**Reasons for delay in achieving CoD:-**

The detailed reasons for delay in achieving scheduled COD of the generating units are:

**a. Delay in Acquisition of Land and Handing over of Land: (Force Majeure)**

Due to agitation by the land owners/ villagers for getting compensation and other grants etc., land could be acquired late. Even after acquisition of land, lots of hurdles were created by land owners and work could not be taken up due to agitation & unrest. After intervention of local administration so many times, work could be started only in piece-meal. Even after acquisition of land, crops were sown on the land by the land owners/villagers.

The order for leveling & grading was placed on M/s Prasad & Co. on 20/06/2009. However, as mentioned above, due to agitation by land owners/ villagers to fulfill their demands (basically regarding payments of compensation, grants & facilities), the work could actually be started only on 10 hectares land out of 588 hectares on 18/10/2009.

Subsequently, this work further got affected due to protest by the land owners/villagers. After payment of compensation, works of leveling & grading could be taken up in full scale. The leveled land was handed over to M/s BHEL with delay of 7 months.

The Leveling and grading works were delayed mainly due to agitation by land

owners and forceful stoppage of leveling & grading work, which is a force majeure condition.

However, for delay in completion of leveling & grading work, Liquidated Damages(LD) has been recovered from the contractor. The deduction of LD has been protested by the contractor which is under arbitration.

**b. Delay in providing Construction Power & delay due to Interruption in Construction Power: (Force Majeure)**

MPPGCL was required to ensure the construction power availability to M/s BHEL (Main Power Block Contractor) and M/s. L&T (BoP). This has got delayed mainly due to:-

- Delay in handing over of land to the contractor to whom order was placed by MPPGCL for “Installation of Construction Power Network” and
- Various other problems during execution.

As a result, the construction power could be made available to BHEL in phased manner.

In addition to above, there was power interruption from the Discom’s end due to which erection work of Main Power Block and Balance of plant got delayed.

The Penalty as per contract has been recovered from the contractor due to delay in making available the Construction Power Network. However, interruption in construction power from Discom’s end is a force majeure condition for MPPGCL.

**c. Outside and inside plant roads (Force majeure):**

The condition of Roads, both outside & inside plant, was very bad, which experienced worst in Rainy season. Therefore, there were difficulties in movement of heavy cargo vehicles and materials. The outside plant road was repaired at few occasions e.g. during transportation of Boiler drum and Generator stator. The inside WMB roads were also repaired by MPPGCL at few occasions. Since many heavy consignments were to be transported for the project, condition of road posed difficulty & time loss especially during rainy seasons.

This was a force majeure condition, as roads outside plant boundary were to be repaired & maintained by some other Govt. agencies responsible for the said work.

**d. Theft of materials (Force majeure):**

Fencing was available as all along the boundary of the Plant prior to the start of erection work. The fencing was trespassed many times, resulting into theft of

materials. Despite all security agencies deployed by MPPGCL, BHEL and L&T, theft of materials could not be avoided altogether. This was a law & order problem (force majeure). Both Main Power Block & BoP work got affected due to this reason. Exact assessment of delay due to theft of materials was not possible, as once any material is lost due to theft, recouping of the same took nearly three months or more due to involvement of many activities such as placing order to concern vendors, manufacturing, packing forwarding, transportation & re-installation etc.

**e. Workers unrest/ disturbance from local villagers (Force majeure):**

About a month delay was observed due to unrest/ disturbance by local villagers & workers of all contractors due to resentment on the death of fellow workers in accidents, which led to complete stoppage of work. This was a Law & Order problem. The issue was resolved with intervention of local administration anyhow, but ultimately the work got affected being a force majeure situation.

**f. Incessant Rain (Force Majeure):-**

Due to heavy rains in the year 2011, 2012 & 2013 the construction work got suffered considerably. As such, 30 days delay on account of this force majeure conditions has been considered. Unprecedented heavy rains are a force majeure condition.

**g. Delay in capacity addition:**

During process of commissioning, there was delay by SLDC,MP in giving clearance for synchronizing the unit with the system due to low system demand.

Due to the various reasons as elaborated above contractual time extension was granted to M/s. BHEL as under:

- For unit#1 from 11.06.2012 to 11.11.2013
- For unit#2 from 11.10.2012 to 11.03.2014

LD is therefore applicable beyond 11.11.2013 & 11.03.2014 for U# 1&2 respectively.

Similarly, due to the reasons as elaborated above, contractual time extension was granted to M/s. L&T as under:

- For unit#1 from April-2012 to 31.01.2014
- For unit#2 from Aug-2012 to 31.07.2014

LD is therefore applicable beyond 31.01.2014 & 31.07.2014 for U# 1&2 respectively.

**Comment:-**

4. That, in the present cost plus Tariff Regime, the main factor governing the Generation Tariff is the Project Capital Cost. Therefore, in spirit and objective of the Electricity Act, 2003, that is to supply electricity to the consumer at reasonable cost, the prudence check on capital cost by the Hon'ble Commission is necessary. **The Tariff Policy dated 06.01.2006** provide that when allowing the total capital cost of the project, **the Appropriate Commission would ensure that these are reasonable** and to achieve this objective, requisite benchmarks on capital cost should be evolved by the Regulatory Commission. The Central Commission also while framing the Terms and Conditions of Tariff for 2009-14 inter-alia noted as under:

“In a cost based regulation capital cost of the project is perhaps the most important parameter.

While admitting the projected capital expenditure as on CoD, prudence check of capital cost shall be carried out based on the applicable benchmark norms to be published separately by the Commission from time to time.”

5. That, in line with Tariff Policy, the Central Commission, vide order dated 04.06.2012, approved the benchmark norms as on December 2011 for capital cost for Thermal Power Station/ Unit size(s) 500/600/660/800 MW which shall be taken into consideration while determining the capital cost.
6. That, Regulation 16 'CERC's principles' of the MPERC Tariff Regulations, 2012 provides that the State Commission while framing the Tariff Regulations shall be guided by the principles and methodologies specified by the CERC. The Regulation 17.2 of MPERC Tariff Regulations, 2012 provides as under:-  
“17.2 - 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”
7. That, the CERC vide order dated 04.06.2012 approved the benchmark norms (Total Hard Cost) for 2x600 MW Thermal Plant as ₹ 4.54 Crore per MW as on December 2011. Shri Singaji Thermal Power Project has 2 units of 600 MW and

the scheduled CoD of the Unit 1&2 were 11.06.2012 and 11.10.2012 respectively, as such the aforesaid benchmark cost is the most appropriate capital cost for the project. However, the total hard cost of the project as per Form No. TDS-5A as on 31.03.2016 is ₹ 6346.95 Crore (excluding IDC ₹1473.05 Crore), which comes to ₹ 5.29 Crore per MW and substantially high as compared to the Benchmark cost of ₹ 4.54 Crore per MW. It is respectfully submitted that the similar plant i.e. 2x600 MW capacity Power Plant of Udupi Power Corporation (UPCL) was commissioned in September 2012 at capital cost of ₹ 5800 Crore i.e. ₹ 4.83 Crore per MW. It is, therefore, respectfully prayed to the Hon'ble Commission to limit the admitted capital cost up to the Benchmark capital cost approved by Central Commission in its order dated 04.06.2012.

**Petitioner's Response:**

*As per the CERC Order No. L1/103/CERC/2012, dated 04-06-2012 providing the Benchmark Capital Cost (Hard Cost) for TPS, the Bench Mark Capital Cost for 2x600 MW Critical Project (based on 2011 indices as Base) is 4.54 Cr per MW.*

*Further, CERC has provided a clarification on Benchmark Capital Cost for Thermal Power Stations with Coal as Fuel vide its aforementioned order, under Issue No. 6, para No. 11.2. The relevant extracts of the same have been reproduced below:-*

***“However, to calculate the likely cost of similar package for another project, the fixed Component needs to be linked to escalation in WPI for the intervening period, which may be provided...”***

*In view of above, the indicated Capital cost (hard cost) per MW of 4.54 Crore for 2x600 MW Shree Singaji TPP based on year 2011 Index “as base”, needs to be escalated on basis of WPI Index and brought forward to October -12 and December, 2014. as the date of schedule station CoD was October-2012 and actual Station CoD was Dec-2014.*

*The table hereunder elaborates the Bench Mark Capital Cost of 4.54 Crore./ MW translates, into a project cost (hard cost) of 5448 Crore. as on December, 2011. After applying the escalation factor based on WPI Index of Oct-2012 (Schedule station COD) i.e. 168.50 and Dec-14 (Actual station COD) i.e. 178.70, works out to Rs.5829.36 Crore/ Rs.6210.72 Crore, converting into Rs.5.17 Crore./ MW and Rs.4.86 Crore./MW respectively.*

<b>Particular</b>	<b>In Rs. Crore</b>	
	<b>As on Actual Station COD</b>	<b>As on Schedule Station COD</b>
<i>The WPI Index as at Dec-2011</i>	157.30	157.30
<i>The WPI Index as at Dec-14/ Oct-12</i>	178.70	168.50
<i>Inflation factor</i>	1.14	1.07
<i>Bench Mark Capital Cost for 2x600 MW based on Indices of Dec-2011</i>	4.54	4.54
<i>Project cost at Bench Mark Capital</i>	5448	5448
<i>Escalation allowed upto Dec-14/ Oct-12</i>	6210.72	5829.36
<i>New Benchmark as per Dec-2014/ Oct-2012 indices shall be (per MW)</i>	<b>5.17</b>	<b>4.86</b>

*The hard cost in terms of CERC Order dated 04.06.2012 for Bench Mark capital cost, works out as under by removing expenses / estimates on account of IDC, Railway Siding, Transmission Line, Taxes and Township, which were not considered by CERC while Bench Marking the capital cost (Hard Cost) of thermal power projects:-*

<b>For Calculating Bench Mark Capital Cost compliance</b>	<b>Amount (in Rs. Crore)</b>
<i>Project Cost</i>	7820
<i>Less:</i>	
<i>IDC</i>	(-)1473.05
<i>Railway Siding Expenses</i>	(-)288.33
<i>Transmission Line Expenses</i>	(-)9.78
<i>Township Expenses</i>	(-)177.42
<i>Taxes (MPB and BoP Packages only)</i>	(-) 153.23
<i>Total capital cost (Hard cost)</i>	5718.19
<b>Cost per MW</b>	<b>4.77</b>

*As reflected in table above, the total estimated project completion cost of Rs.7820 Crore translates into hard cost of Rs.5718.19 Crore which in turns works out to Rs.4.77 Cr/MW.*

*Accordingly, the estimated completion cost of the project is well within the Bench Mark capital cost indicated by CERC for 2x600 MW Thermal Projects.*

**Comment:**

8. That, the petitioner under para 24 of the petition has stated that it has considered the capital expenditure as captured and capitalized in the Audited Books of Accounts for determination of Tariff. However, the petitioner has not provided the Audited Books of Account to the answering respondent. The Regulation 9 of the Tariff Regulations, 2012 provide for submission of Annual Accounts. In absence of the Annual Accounts, the answering respondent is unable to examine the reasonability of various costs and expenditure. It is, therefore, respectfully prayed to the Hon'ble Commission to direct the petitioner to provide the copy of Annual Accounts to the answering respondent. It is also prayed that the answering respondent may be allowed 15 days' time from the receipt of Accounts to file response on the Audited Account.

**Petitioner's Response:**

*As directed by Hon'ble Commission vide letter dated 04.09.2017, MPPGCL has submitted the copies of Audited Accounts to M P Power Management Company Limited for FY 2013-14, FY 2014-15 & FY 2015-16 vide letter dated 06.09.2017 under intimation to Hon'ble Commission.*

**Comment:-**

9. That, the cost of Interest during Construction amounting to ₹ 1473.05 Crore appears to be very high. The reasons may be abnormal delay in commissioning of the project and the higher rate of interest about 13%. It is respectfully submitted that the Hon'ble Commission may kindly allow only the justified and reasonable IDC. Any cost on account of time over run and high rate of interest has to be borne by the petitioner.

**Petitioner's Response:**

*The increase in the estimation of Interest during Construction (IDC) is primarily on account of the following:-*

- i. Additional works of Railway siding and increase in cost of few existing works like colony, roads etc., additional loan (including equity) is required; part of which to be incurred up to CoD of each Unit which attracted IDC.*
- ii. IDC has also increased due to change in rate of interest on PFC loan which has changed to 12.75% p.a. as against original 11.5% p.a. The increase interest rates are directly linked with scenarios of capital market, which is beyond the control of*

entity.

- iii. Moreover, IDC has also increased due to delay in CoDs of Unit 1&2 due to various reasons (Force Majeure) as mentioned above from scheduled dates i.e. June-2012 and Oct-2012. However, IDC on loan against both Units was worked out (Rs.1473.05 Crore) considering CoD date of U#1 in Dec.'13, and thereafter expected CoD of U#2 in Sept'14 which is 06 months prior to the delay due to force majeure reasons. As such, increase in IDC from Rs.880.34 Crore. to 1473.05 was unavoidable.

**Comment:-**

10. That, the net cost of generation of infirm power is ₹ 180.94 Crore which appears to be abnormally high. It is respectfully prayed that the Hon'ble Commission may kindly allow only reasonable cost of generation of infirm power after prudence check.

**Petitioner's Response:**

*The details of cost of generation of infirm power were already submitted to Hon'ble Commission vide Annexure No.14, 15A & 15B of letter dated 15.09.2017 along with necessary justifications.*

**Comment:-**

11. That, the petitioner under para 33 of the petition has stated that the Energy Charges for the control period FY 2013-14 to FY 2015-16 has already billed in accordance to proviso 41 of MPERC Tariff Regulations, 2012 and no approval of Energy Charges is required. It is respectfully submitted as per the Regulation 41 of Tariff Regulations, 2012 determination and approval of Energy Charges (Variable Charges) which include prudence check on various parameters determining the Energy Charges by the Hon'ble Commission is required. It is, therefore, respectfully prayed that the petitioner may be directed to submit details and calculation of Energy Charges to the Hon'ble Commission for prudence check and approval.

**Petitioner's Response:**

*It is to submit that the monthly Energy bills raised on MPPMCL for SSTPP PH-1(2x600 MW) have already submitted to MPPMCL. Further, the copies of Energy Bills for SSTPP PH-1(2x600MW) Khandwa shall be submitted as and when desired by the Hon'ble*

Commission.

**Comment:-**

12. In view of above submissions, it is respectfully submitted to the Hon'ble Commission that
- (i) The petitioner may be directed to serve the copy of audited accounts to the answering respondent. The answering respondent may be allowed 15 days' time to file its response on the audited accounts

**Petitioner's Response:**

*As directed by Hon'ble Commission vide letter dated 04.09.2017, MPPGCL has already submitted the copies of Audited Accounts to M P Power Management Company Limited for FY 2013-14, FY 2014-15 & FY 2015-16 vide letter dated 06.09.2017 under intimation to Hon'ble Commission.*

**Comment:-**

- (ii) The petitioner may be directed to submit revised Form No. TPS-5C providing details of all packages/contracts.

**Petitioner's Response:**

*It is to submit that that MPPGCL has already submitted all the additional information as desired by Hon'ble Commission vide letter dated 15.09.2017.*

**Comment:-**

- (iii) The petitioner may be directed to submit details and calculations of Energy Charges (Variable Charges) to the Hon'ble Commission for approval.

**Petitioner's Response:**

*It is to submit that the monthly Energy bills raised on MPPMCL for SSTPP PH-1(2x600 MW) have already submitted to MPPMCL. Further, the copies of Energy Bills for SSTPP PH-1(2x600MW) Khandwa shall be submitted as and when desired by the Hon'ble Commission.*

**Comment:-**

- (iv) The project capital cost ₹ 5.29 Crore per MW may kindly be prudently checked keeping in view the CERC Benchmark norms ₹ 4.54 Crore per MW and prevailing market cost of other similar projects at that time. It is respectfully

prayed that only justified and reasonable project capital cost may kindly be allowed after prudence check.

**Petitioner's Response:**

*Kindly refer MPPGCL's response on Point No.5, 6, 7 & 8 above, wherein detailed justifications for the same are elaborated.*

**Comment:-**

- (v) The IDC amounting to ₹ 1473.05 Crore is abnormally high. It is respectfully prayed that IDC on account of time over run and higher interest rate shall not be allowed.

**Petitioner's Response:**

*Kindly refer MPPGCL's response on Point No.10 above, wherein detailed justifications for the same are elaborated.*

**Comment:-**

- (vi) The cost of generation of infirm power ₹ 180 Crore is abnormally high and therefore it is respectfully prayed to the Hon'ble Commission to only consider justified and reasonable cost after prudence check.

**Petitioner's Response:**

*The details of cost of generation of infirm power were already submitted to Hon'ble Commission vide Annexure No.14, 15A & 15B of letter dated 15.09.2017 along with necessary justifications.*

\*\*\*\*\*