CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 281/GT/2015

Coram:

Shri Gireesh B. Pradhan, Chairperson
Shri A.K.Singhal, Member
Shri A.S.Bakshi, Member
Dr. M.K.Iyer, Member

Date of Order: 31st March, 2017

In the matter of

Approval of tariff of DGEN Mega Power Project (1200 MW) of Torrent Power Limited for the period from COD of Unit-51 (First block) upto 31.3.2019

And

In the matter of

Torrent Power Limited
Torrent House, Off Ashram Road,
Near Income Tax Circle,
Ahmedabad- 380009 **.......Petitioner**

Vs

1. Torrent Power Limited
Dahej Distribution, Plot No. Z/21
Dahej SEZ Limited

2. Torrent Power Limited
(Unit: Ahmedabad Distribution)
Electricity House, Lal Darwaja,
Ahmedabad- 380009

3. PTC India Limited
2nd Floor, NBCC Tower, Bhikaji Cama Place,
New Delhi- 110066 **......Respondents**

Parties present

Shri A.K.Ghosh, TPL
Shri Naresh K. Joshi, TPL
Shri R.S.Negi, TPL

ORDER

This petition has been filed by the petitioner, Torrent Power limited for approval of tariff of DGEN Mega Power Project (1200 MW) ("the generating station") for the period from COD of Unit- 51 (First Block) to 31.3.2019 in accordance with the provisions of the Central Electricity

Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 ("the 2014 Tariff Regulations").

2. The DGEN Mega Power Project was implemented by Torrent Energy Limited (TEL) as a Special Purpose Vehicle (SPV) company promoted by Torrent Power Limited (TPL). Under a scheme of merger approved by the Commission in order dated 7.1.2014 in Petition No. 209/MP/2014, TEL was merged to TPL. The erstwhile TEL was carrying on the business of generation, inter-State transmission of electricity and distribution of power under the distribution network of TEL at Dahej Special Economic Zone (DSEZ). The High Court of Gujarat vide order dated 13.8.2015 had approved the composite Scheme of Amalgamation of TEL with TPL. As a result of the merger, the whole of business of TEL along with its assets and liabilities have been automatically transferred to TPL and accordingly the name of TPL got substituted for TEL. The petitioner has submitted that all legal formalities of merger in terms of the order dated 13.8.2015 have been completed and the Scheme of Amalgamation is effective on and from 1.10.2015 with the appointed date as 1.4.2014. Accordingly, the petitioner has submitted that for finalization of the tariff application, certificates and approval which are presently in the name of TEL may be considered as if the same is in the name of TPL.

3. The generating station has been granted the status of Co- developer in the name of TEL by the Ministry of Commerce, GOI by virtue of which TEL is responsible for catering to the entire power requirement of the entities coming up in DSEZ. In this background, the erstwhile TEL has set up the generating station along with dedicated DGEN-Navsari transmission line as well as the power distribution infrastructure at DSEZ area. The project has been granted provisional Mega power status by the Ministry of Power, GOI vide letter dated 28.11.2011.

4. The generating station is a gas based combined cycle plant comprising of 3 generating blocks with a capacity of 400 MW each with advanced class machine under model no. SGTS-4000F of Siemens under the unit nomenclature Unit-51, Unit-52 and Unit-53 or Unit- 10, Unit-20 and Unit-30. The project has been executed through turnkey EPC contract awarded to the consortium comprising Siemens AG Germany and Siemens Limited. The selection of EPC contractor is made through ICB and Tata Consulting Engineers Limited has acted as the project

consultant to ensure fast and efficient execution of the project. The contract comprises of 5 parts namely (a) Offshore supplier (b) Offshore Services, (c) Onshore supplies, (d) Onshore services and (e) Onshore Civil Contracts.

5. PGCIL, the CTU has granted a long term open access to the generating station for a quantum of 1200 MW for which the beneficiaries/ target region are identified as (i) 400 MW for TPL and others, (ii) 400 MW for Western Region and (iii) 400 MW for Northern Region. The petitioner has been granted permission for establishment of dedicated 400 kV DGEN-Navasari transmission line which is in operation and the petitioner has set up associated distribution infrastructure comprising 220 kV and 33 kV network as distribution licensee of DSEZ area. Also the application to establish transmission system connecting DGEN TPS- Vadodara by 400kV D/C line and Navasari- Bhestan by 220 kV D/C line is finalized through competitive bidding by PGCIL. The petitioner has also submitted that it is registered CDM project and undertakes to share the proceeds of CDM benefits as and when realized in accordance with Regulation 46 of the 2014 Tariff Regulations. The water requirement of the project is being met from the reservoir of Gujarat Industrial Development Corporation (GDIC) and the generating station has been allotted 30 MLD (6.60 MGD) water from Phase-II reservoir of GIDC. As the work of Phase-II reservoir was progressing very slowly, GDIC allowed the petitioner to draw water for initial period from the existing Phase-I reservoir.

6. The commissioning activities and trial operations of all 3 blocks have been completed and the COD of the different units are as under:

Block	COD
Block 51 (First block)	7.9.2014
Block 52 (Second block)	12.9.2014
Block 53 (Third block)	13.11.2014

7. The total gas requirement of the generating station is around 5.25 MMSCMD which is projected to be met through domestic natural gas resources and/ or RLNG. The generating station has been recommended by MoP, GOI for allocation of 4.48 MMSCMD (70%) of the gas as against 6.375 MMSCMD applied by the petitioner. TEL has also entered into heads of agreement with Petronet LNG Limited and Indian Oil on 30.9.2010 and 20.5.2011 respectively for

supply of gas. In terms of the scheme for the utilization of gas based power generation capacity dated 27.3.2015 for revival of gas based power plants, the generating station has been allocated RLNG to the extent of 226.23 MMSCMD (equivalent to 35% PLF) during the period June, 2015 to September, 2015. During the period from October, 2015 to March 2016, the allocation of RLNG is expected to be 240.88 MMSCMD (approx.) which is equivalent to the PLF of 25% and the petitioner expects the scheme to continue till 31.3.2017.

8. In the above background, this petition has been filed by the petitioner, TPL for determination of tariff of the generating station along with dedicated DGEN-Navasari transmission lines for the period from COD of Block-51 (First block) to 31.3.2019. The capital cost and the annual fixed charges claimed by the petitioner vide affidavit dated 24.5.2016 is as under:

Capital cost

(₹ in lakh)

	2014-15			2015-16	2016-17	2017-18	2018-19
	7.9.2014 to 11.9.2014	12.9.2014 to 12.11.2014	13.11.2014 to 31.3.2015				
Opening capital cost	283929.04	388854.44	519964.59	532931.29	550938.97	553705.76	553705.76
Add: Addition during the year / period	104925.40	131110.15	12966.71	18007.68	2766.79	0.00	0.00
Less: De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Closing capital cost	**388854.44**	**519964.59**	**532931.29**	**550938.97**	**553705.76**	**553705.76**	**553705.76**
Average capital cost	**336391.74**	**454409.51**	**526447.94**	**541935.13**	**552322.37**	**553705.76**	**553705.76**

Annual fixed charges

(₹ in lakh)

	2014-15			2015-16	2016-17	2017-18	2018-19
	7.9.2014 to 11.9.2014	12.9.2014 to 12.11.2014	13.11.2014 to 31.3.2015				
Depreciation	232.39	3944.47	10319.56	27533.03	28036.41	28106.73	28106.73
Interest on loan	421.07	7007.56	17863.79	45185.50	42479.27	38996.51	35384.80
Return on equity	271.09	4540.93	11794.41	32036.50	32650.54	32732.32	32732.32
Interest on working capital	59.12	1131.49	5309.35	15812.43	15967.09	16111.65	16266.67
O&M expenses	145.48	3607.89	12132.99	34032.00	36348.00	38820.00	41472.00
Total	**1129.15**	**20232.34**	**57420.10**	**154599.47**	**155481.32**	**154767.20**	**153962.51**

9. The Respondent No.3, PTC has only filed its reply in the matter.

10. Before proceeding with the prayer of the petitioner for determination of tariff, we now examine whether the generating station of the petitioner is an inter-State generating station and falls within scope and ambit of Section 79 (1) (b) of Electricity Act 2003.

11. Section 79(1) of the 2003 Act provides as under:-

> *"79(1) The Central Commission shall discharge the following functions namely:-*
>
> *(a) To regulate the tariff of generating companies owned or controlled by the Central Government;*
>
> *(b) To regulate the tariff of generating companies other than those owned or controlled by the Central Government specified in clause (a), if such generating companies entered into or otherwise have a composite scheme for generation and sale of electricity in more than one State.*
>
> *(c) To regulate the inter-state transmission of electricity;*
>
> *(d) To determine the tariff of inter-state transmission of electricity;*
>
> *(e) xxxxxx*
>
> *(f) to adjudicate upon disputes involving generating companies or transmission licensee in regard to matters connected with clauses (a) to (d) above and to refer any dispute for arbitration;*

12. A perusal of Section 79 (1)(a) and (b) above would make it clear that the Central Commission has been vested with the power to regulate the tariff of generating companies owned and controlled by Central Government and the tariff of the generating companies other than those owned or controlled by the Central Government, if such generating companies enter into or otherwise have a composite scheme for generation and sale of electricity in more than one State. Clause (b) of sub-section (1) of Section 79 requires the following conditions to be satisfied:

(a) *The generating company is neither owned nor controlled by the Central Government;*

(b) *The generating company has a composite scheme for generation and sale of electricity in more than one state;*

(c) *The generating company has entered into a composite scheme for generation and sale of electricity in more than one state.*

(d) *The generating company otherwise has a composite scheme for generation and sale of electricity in more than one state.*

13. In the present case, the generating station of the petitioner which is located in the State of Gujarat is neither owned nor controlled by the Central Government. It is observed that the CTU vide letter dated 5.8.2011 has granted Long-Term Open Access for sale of 1200 MW from the

generating station to more than one state (a) to the extent of 400 MW in NR (b) 400 MW to TPL-Ahmedabad and (c) 400 MW at the same rate and similar terms and conditions and as per decision taken for the project by Govt. for supplying electricity to above three region. The petitioner has also made arrangements to sell 387 MW power to TPL-Ahmedabad distribution (TPL-A) and PPA with PTC for arrangement to sell 150 MW of power. As the petitioner had not furnished the Power Purchase Agreement (PPA) and/ or the Power Sale Agreement (PSA) with PTC and has also not furnished the details of the beneficiaries and the relevant state to which the power is sold, the Commission vide ROP of the hearing dated 16.2.2016 had directed the petitioner to furnish PPA/ PSA with TPL- A and with PTC for sale of 150 MW outside the State of Gujarat. In response, the petitioner vide affidavit 24.5.2016 had submitted that it has entered into PPA with the respondent, PTC India Limited for sale of power upto 150 MW. The respondent, PTC vide affidavit dated 12.4.2016 has submitted that it has executed a PPA with the petitioner on 26.9.2012 for 150 MW supply of power and the said PPA provides for PTC to enter into a suitable PSA with prospective buyers on back to back basis. It has also submitted that due to issues pertaining to availability and pricing of gas, the downstream PSA is still not tied up. It has further submitted that all possible endeavours are being made by it for the downstream sale of power in accordance with the provisions of PPA dated 26.9.2012 and for execution of the same as and when gas pricing and availability issues are sorted out by the petitioner. The High Court of Delhi in PTC India Ltd v Jai Prakash Power Ventures Ltd in its judgment dated 15.5.2012 has categorically held that when the trading licensee intervenes in the process of supply of electricity by a generating company to the distribution licensee, the transaction would be subject matter of regulation under section 62 of the Act. Considering the fact that the petitioner has entered into an agreement with PTC for 150 MW of power to be sold through PSAs to the different states in the northern and western region albeit at the appropriate time when the availability of domestic fuel is assured, it can be concluded that a composite scheme has been envisaged for generation and sale of power to more than one state thereby falling within the scope and ambit of Section 79 (1) (b) of the Electricity Act, 2003. Accordingly, we hold that the petitioner company satisfies the condition of clause (b) of sub-section (1) of Section 79 of the 2003 Act and consequently, the tariff of generating station of the petitioner shall be regulated by this Commission. The petitioner is directed to ensure that the generating station shall maintain the inter-state character of the project for generation and supply of power to the distribution licensees through PTC India Limited and back to back PSAs entered into in this regard with the distribution companies shall be filed before this Commission.

Commissioning Schedule

14. As per Investment approval dated 27.4.2010, the schedule date of commercial operation of Blocks- 51, 52 and 53 are 24.6.2013, 25.8.2013 and 25.10.2013 respectively. The details of the actual COD as against the schedule COD as per Investment approval is as under:

Block	Scheduled COD	Actual COD	Time overrun (in months)
Block-51 (First block)	24.6.2013	7.9.2014	14.47
Block- 52 (Second block)	25.8.2013	12.9.2014	12.59
Block- 53 (Third block)	25.10.2013	13.11.2014	12.62

15. Thus, there is significant time overrun in the declaration of commercial operation of Blocks-51, 52 and 53 of the generating station as against the scheduled COD of the said blocks. Considering the actual COD of the said blocks, the time overrun involved in Block-51 is 14.47 months, Block-52 is 12.59 months and Block-53 is 12.62 months.

Time overrun

16. As stated, the time overrun in case of Block- 51 is 14.47 months, Block-52 is 12.59 months and Block-53 is 12.62 months as against the scheduled COD of the Project. The petitioner has furnished reasons for time overrun as under:

S.No	Description of Activity	Original Schedule	Actual Schedule	Original Schedule	Actual Schedule	Time Overrun days	Reasons for Delay	Other Activity affected
		Start Date	Completion Date	Actual Start Date	Actual Completion Date			
1	Construction of Natural Draft Cooling Towers(construction phase)	23.10.2010	3.11.2012	2.6.2011	17.1.2014	440	1. NDCTs has to be relocated to new locations as the initially cast bored cast-in-situ piles had to be rejected on account of not meeting desired quality parameters. 2. Performance of the subcontractor engaged for cooling tower erection was not satisfactory leading to further delays in erection of the cooling tower structures.	Steam Turbine Commissioning

2	Cold commissioning of Unit-51 Generator (initial commissioning phase)	3.11.2012	23.11.2012	22.6.2013	2.8.2013	252	One bearing of Unit 51 Generator failed during initial trials and replacement bearing had to be arranged from Germany leading to delays	
3	Cold commissioning of Unit-52 Generator (initial commissioning phase)	5.1.2013	25.1.2013	17.9.2013	7.10.2013	255	In Unit 52, mechanical seals of Seal oil/Hydrogen got damaged during initial commissioning. This necessitated rework including opening of bearings, investigations and arranging for replacement from Germany	
4	Taking Unit-53 Condenser in service (initial commissioning phase)	11.6.2013	17.6.2013	18.1.2014	24.2.2014	252	During initial phase of commissioning trials with steam admission in Steam Turbine/Condenser, some of the condenser tubes got bucked and re-tubing was carried out in-situ.	
5	Cooling water pipe erection (erection phase)	13.10.2011	11.11.2012	22.12.2011	14.5.2013	184	Cooling Water pipes of large diameter (1.6m) had deficiency in internal and external coating. There pipes, many of which were already erected and backfilled, had to be sent back to supplier's facility for recoating.	

17. The Appellate Tribunal for Electricity in its judgment dated 27.4.2011 in Appeal No. 72 of 2010 has laid down the following principle for prudence check of time over run of a project as under:

> *"7.4. The delay in execution of a generating project could occur due to following reasons:*
>
> *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/supplied 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.

7.5 in our opinion, the above principle will be in consonance with the provisions of Section 61(d) of the Act, safeguarding the consumers ' interest and at the same time, ensuring recovery of cost of electricity in a reasonable manner."

18. The petitioner was directed vide ROP of the hearing dated 29.2.2016 to furnish justification for time overrun in the form of PERT and Bar chart indicating the activities affected due to various reasons for the delay. In response, the petitioner vide affidavit dated 30.4.2016 has submitted the Bar chart which does not indicate critical activities of the project, in the absence of which the reasons for delay of various activities could not be properly examined. However, on scrutiny of the reasons for the delay in the commissioning of the project as stated in the above table , it is observed that the main reasons for the delay were

(i) Relocation of Natural Draft Cooling Towers (NDCTs) to new locations as the initially cast bored cast-in-situ piles had to be rejected on account of not meeting desired quality parameters and Performance of the subcontractor engaged for cooling tower erection;

(ii) Cooling Water pipes of large diameter (1.6m) had deficiency in internal and external coating and the said pipes, many of which were already erected and backfilled, had to be sent back to supplier's facility in Germany for recoating;

(iii) Failure of some of the equipments viz. Generator, Steam Turbine, Condenser etc. during initial phase of commissioning trials.

19. It is observed that the petitioner has executed the project through M/s Siemens (EPC contractor) as the said EPC contractor is a world leader in Gas turbines and Combined Cycle projects. However, it is noticed that there has been failure/ rejection of some of the equipments used during the commissioning of the project, which in our view cannot be attributable to the petitioner. In our view, the factors responsible for the delay as stated above are solely attributable to the EPC contractor and the petitioner cannot be made responsible for the same as the petitioner has been able to recover LD as per contract for the delays due to the EPC contractor. Considering the above factors in totality, the delay of 14.47 months for Block- 51, 12.59 months for Block-52 and 12.62 months for Block- 53 days in the completion of the project is due to factors beyond the control of the generating company and is therefore covered by the principle [(situation (ii)] laid down in the judgment of the Tribunal dated 27.4.2011 in Appeal No. 72/2010. Accordingly, the said delay is condoned and the benefit of additional cost incurred due to time

overrun is given to the generating station. However, the Liquidated Damages of ₹65096.16 lakh recovered on account of the delay, has been considered for reduction of the capital cost. It is noticed that the EPC contractor had paid liquidated damages amounting to ₹65096.16 lakh for the delay on the part of the EPC contractor.

20. As stated, the scheduled COD of the generating station is 25.10.2013. Due to the delay in execution of the EPC contract, the project got delayed and actual COD was achieved by the generating station on 13.11.2014. This has resulted in the increase in hard cost of the project, IDC and FC and Overhead expenses. Accordingly, the increase in hard cost, IDC & FC, Overhead expenses and the LD recovered on account of delay due to time overrun is as under:

(₹ in lakh)

Increase in cost		LD recovered
Hard cost:	8711.55	
IDC, FC & FERV:	26006.92	
Overhead expenses	(-) 2898.85	
Total	**31819.62**	**65096.16**

21. Thus, there is no financial impact in the project cost due to time overrun.

Approved Project Capital cost

Generation project cost

22. The Board of Directors of TEL had approved the implementation of the project comprising three blocks of 400 MW each at an estimated project capital cost of ₹550000.00 lakh (including WCM) to be funded by the debt-equity ratio of 70:30. Subsequently, during October, 2010, SBI Capital Market Ltd had assessed the Generation Project Capital Cost at ₹532539.00 lakh, including WCM of ₹16566.00 lakh. Accordingly, the Generation Project cost, after excluding the WCM money of ₹16566.00 lakh is ₹515973.00 lakh.

Transmission line and associated Bays Project cost

23. The Board of Directors had on 30.3.2011 approved the implementation of connectivity transmission line comprising 400 kV DGEN- Navasari line at the estimated approved project capital cost of ₹28500.00 lakh.

Total project Cost

24. Accordingly, the total approved Project Capital Cost works out to ₹544473.00 lakh which comprises of (i) ₹515973.00 lakh for Generation project capital cost and (ii) ₹28500.00 lakh for Transmission line & associated bays.

Capital cost as on COD of generating station and transmission line

25. The petitioner has claimed capital cost towards Generation project and Transmission line & associated bays, on cash basis, as on COD of Blocks-51, 52 and 53 duly certified by Auditors as under:

(₹ in lakh)

	As on COD of Block-51 (7.9.2014)	**As on COD of Block-52 (12.9.2014)**	**As on COD of Block-53 (13.11.2014)**
Plant & Equipment excluding Taxes & Duties	136797.13	201025.85	281373.22
Initial Spares	4543.07	4543.07	5116.06
Total Civil works	45645.38	54881.31	67704.55
Construction & Pre-commissioning expenses	31484.03	46016.98	68304.65
Overheads including contingency & CSR incentive	5469.22	8294.81	12060.39
IDC, FC, FERV & Hedging Cost	42976.33	69791.62	100379.92
Capital cost of Generation project including Land & Site Development IDC, FC, FERV & Hedging Cost	282667.8	400306.3	550691.5
Capital cost Dedicated 400 kv Transmission lines & GIS Bays	26244.64	26199.64	26200.29
Capital cost of Generation project & Transmission lines	308912.44	426505.94	576891.79
Less; LD received from EPC Contractor	(-) 24983.45	(-) 37651.52	(-) 65096.16
Net capital cost including Transmission lines	283928.99	388854.42	511795.63
Add Normative IDC	0.00	0.00	8168.99
Capital cost (on cash basis) as on COD	**283929.04**	**388854.44**	**519964.59**

26. It is noticed from the above that the project capital cost of ₹519964.59 lakh, includes the cost of transmission line. The Commission vide order dated 16.7.2013 in Petition No. 123/TL/2012 had granted Transmission licence to the petitioner for Operation And Maintenance of Dgen –Navsari transmission line as a part of ISTS network and had in para 7(l) of the said order decided that till the time the system strengthening scheme for Westerner Region is implemented by PGCIL by completion a parallel path to the grid, the Dgen–Navsari transmission line shall be deemed to be operative as a dedicated transmission line. The relevant portion of the order is extracted as under:

> *"The DgenNavasari transmission line shall be included in the basic ISTS network for the purpose of pooling the transmission and loss charges under PoC regime in accordance with the Central Electricity Regulatory Commission (Sharing of Transmission charges and losses) Regulations, 2010 only after the system strengthening scheme for Western Region has been*

implemented by completion of Dgen-Vadodara transmission line by PGCIL for providing a parallel path to the grid. Till such time these conditions are fulfilled, the Dgen-Navasari-transmission line shall be deemed to be operating as the dedicated transmission line, despite grant of the transmission license. The petitioner shall submit application for determination of transmission charges above with full details at the appropriate time after completion of the above conditions."

27. Accordingly, in terms of the above direction, the Dgen–Navasari transmission line shall be included in the ISTS network when the system strengthening scheme for WR is complete by PGCIL. Accordingly, this line will come under 'POC charges' regime for which separate account of transmission line project cost shall be maintained. The petitioner in this petition has not submitted separate details of IDC, IEDC, un-discharged liabilities, LD if any recovered for the delay etc. of Transmission line & associated bays as on COD of Block-51 and as on COD of Block-53/generating station. In the absence of any such details, separately for generation and transmission line, the amount has been apportioned for the generating station and transmission lines, on pro-rata basis. Accordingly, the capital cost of dedicated line from Dgen to Navsari lines has been considered as part of the project capital cost.

28. The Board of Directors of TEL had on 30.3.2011 approved the implementation of the connectivity transmission line comprising 400 kv Dgen-Navsari line at an estimated approved Project capital cost of up to ₹28500.00 lakh. The petitioner has submitted that the cost of transmission line is ₹26200.29 lakh for 110 km as on COD of the generating station for Dgen-Navsari double circuit 400 kv line which includes the cost for 3 bays (2 bays at PGCIL Navsari sub-station and 1 bay at TEL Dgen CCPP). The dedicated transmission line for supply of power from the generating station has been constructed in terms of the provisions of the Act and the cost incurred for 110 km transmission line along with 3 bays appears to reasonable.

29. The cost incurred for 110 km transmission line along with 3 bays has been compared with NTPC-Sail Power Company (Bhilai captive power plant) in respect of which tariff was determined at the first instance by the Commission vide order dated 29.7.2010 in Petition No. 308/2009. In the case of NTPC-Sail Power Company, the cost of the dedicated transmission line was ₹47.00 crore for 13.79 km and 7 bays (3 bays at Bhilai and 4 bays at PGCIL Raipur sub-station). In respect of this project, cost for the dedicated line for 110 Km with 3 bays is ₹26200.29 lakh which

in our view, is reasonable and is accordingly allowed to be capitalized for the purpose of tariff. The petitioner has not submitted the date of commercial operation (COD) of transmission lines. However, for the purpose of tariff, the COD of Block- 51(Unit-I) has been considered as the COD of the transmission lines.

Initial Spares

30. As per Regulation 13 (b) of the 2014 Tariff Regulations, Initial spares shall be capitalized as a percentage (4%) of the Plant and Machinery cost upto the cut-off date of the generating station. The petitioner has capitalized initial spares of ₹5116.06 lakh as on COD of Block-53/ generating station. As per Regulation 13 (b) of the 2014 Tariff Regulations, the ceiling limit for grant of initial spares upto the cut-off date, for gas-based thermal generating stations is 4% of the Plant and Machinery cost upto the cut-off date. As per Form 5C, the certified value of Plant and Machinery cost as on COD is ₹281373.22 lakh and hence 4% of works out to ₹11254.92 lakh. Since the actual value of initial spares capitalized as on COD is ₹5116.06 lakh, which is lower than 4% of plant & Machinery cost as on COD, the actual capitalization of Initial spares for Rs.5116.06 lakh as claimed by the petitioner is allowed.

31. The petitioner has submitted the capital cost of ₹26200.29 lakh for dedicated 400kv Transmission lines & GIS Bays without furnishing the break-up of cost for the dedicated 400 kv Transmission lines & GIS Bays, initial spares etc. Since the cost of initial spares capitalized as on COD of transmission line has not been submitted, the ceiling limit cannot be verified at this stage. Considering the fact that the capital cost of Transmission line & bays is found reasonable, the entire cost has been considered. However, the petitioner is directed to furnish the cost of initial spares capitalized as on COD and the cut-off date of the transmission lines, GIS Bays along with detail break-up of the transmission lines & associated GIS Bays project cost, at the time of truing up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations.

Infirm Power

32. The petitioner vide affidavit dated 24.5.2016 has furnished the details of infirm power injected to the Grid from the date of synchronization of each blocks (Block 51 to 53) till COD of Block-53 (generating station). The total infirm power injected was 673.83 MUs and the revenue

earned by the petitioner is ₹19002.10 lakh. The petitioner has submitted that Start-up fuel cost incurred, net of infirm power as on COD (13.11.2014) is ₹40279.44 lakh. However, the petitioner in Form-5C has considered the Start-up fuel cost (net of revenue earned from infirm power) as on COD (13.11.2014) as ₹39626.47 lakh. In view of above, the Start up fuel cost (net of infirm power) as indicated in Form 5C amounting to ₹39626.47 lakh has been duly adjusted by the petitioner in the capital cost of the project and the same is being considered.

33. As stated, the petitioner has claimed capital cost amounting to ₹283929.04 lakh, ₹388854.44 lakh and ₹519964.59 lakh as on COD of Block-51, Block-52 and Block-53 respectively. This claim of the petitioner has been reconciled with the audited gross block as under:

(₹ in lakh)

	COD of Block-51 (7.9.2014)	COD of Block-52 (12.9.2014)	COD of Block-53 (13.11.2014)
Gross block	298296.94	416999.46	538509.13
Less: Un-discharged liabilities	21065.89	33377.59	27532.35
Gross block (on cash basis)	**277231.05**	**383621.87**	**510976.78**
Less: Pre-commissioning depreciation capitalised to gross block	2816.19	2816.19	2894.49
Add: Notional IDC	0.00	0.00	8168.99
Add: Un-reconciled values	9514.18	8048.76	3713.31
Capital cost claimed	**283929.04**	**388854.44**	**519964.59**

34. On reconciliation of the capital cost claimed by the petitioner as on COD of each Blocks with the corresponding audited gross block values (as shown in the table above) unexplained variances amounting to ₹9514.18 lakh, ₹8048.76 lakh and ₹3713.31 lakh has been observed as on COD of Block-51, Block-52 and Block-53 respectively. These unexplained values have not been allowed for the purpose of tariff. Further, the petitioner is directed to furnish proper reconciliation in the manner as indicated above at the time of truing-up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations.

35. Further, the capital cost claimed includes IDC, FC and FERV amounting to ₹42976.33 lakh, ₹69791.62 lakh and ₹100379.92 lakh as against the amounts of ₹42810.70 lakh, ₹69934.60 lakh and ₹100916.29 lakh included in the audited gross block as on COD of Block-51, Block-52 and Block-53 respectively. The details of loan as submitted by the petitioner are not adequate enough

to check the IDC, FC & FERV claims of the petitioner. Also, since the capital cost allowed has been computed in accordance with the audited gross block values, for the present, lower of the IDC, FC & FERV as claimed by the petitioner or that included in the gross block has been considered for the purpose of tariff. Accordingly, amounts of ₹142.98 lakh and ₹536.37 lakh have been deducted as on COD of Block-52 and Block-53 respectively.

36. As regards the petitioner's claim for Notional IDC amounting to ₹8168.99 lakh as on COD of Block-53 it is pertinent to mention that the provisions of the 2014 Tariff Regulations do not provide for Notional IDC. However, since the provisions of the 2014 Tariff Regulations do provide for normative IDC over and above the actual IDC, the same will be considered based on the petitioner submitting appropriate loan details at the time of truing-up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations.

37. Based on the above discussions, the capital cost in respect of the Blocks/generating station and Transmission lines & sub-station has been worked out as on the date of commercial operation and allowed as under:

Total Project Cost

(₹ in lakh)

Description	As on COD of Block-51 (7.9.2014)	As on COD of Block-52 (12.9.2014)	As on COD of Block-53 (13.11.2014)
Capital cost of Generation project including Land & Site Development IDC, FC, FERV & Hedging Cost	282667.8	400306.3	550691.5
Dedicated 400kv Transmission lines & GIS Bays	26244.64	26199.64	26200.29
Capital cost of Generation project & Transmission lines	308912.44	426505.94	576891.79
Total IDC, FC, FERV & Hedging Cost	42976.33	69791.62	100379.92
Less: LD received from EPC Contractor	(-) 24983.45	(-) 37651.52	(-) 65096.16
Net capital cost including Transmission lines	283928.99	388854.42	511795.63
Add: Notional IDC	-	-	8168.99
Capital cost on Cash basis as on COD	**283929.04**	**388854.44**	**519964.59**
Less: Unexplained difference between capital cost claimed and gross block	9514.18	8048.76	3713.31
Less: Notional IDC	0.00	0.00	8168.99
Less: Lower of excess of IDC, FC & FERV claimed over that included in gross block	0.00	142.98	536.37
Capital cost allowed	**274414.86**	**380662.70**	**507545.92**

Reasonableness of Capital Cost

38. The Commission has not specified the Bench mark capital cost in case of Gas Based power projects, unlike coal based power projects. Accordingly, the reasonableness / competitive cost of the petitioner's project has been derived by comparing the capital cost of this generating station with some of the contemporary Advance Class Gas Turbines machines installed in UNOSUGEN Gas Based power plant (382.50 MW) of Torrent Power Ltd and Palatana Gas Based Combined Cycle project (726.60 MW) of ONGC-Tripura Power Corporation Ltd. The comparative statement of estimated project cost as per investment approval combined cycle power projects are detailed as under:

(₹ in crore)

Name of the project	Capacity (MW)	Station COD	Capital Cost as on cut-off date	IDC, FC	Hard Cost	Cost (Rs cr/MW)
Dgen CCPP	**1200.00**	**13.11.2014**	**4971.39***	**1003.80**	**4195.85**	**3.31**
Uno-Sugen GBPP	382.50	4.4.2013	1796.25	277.40	1331.15	**3.97**
OTPC (Block-II)	726.60	24.3.2015	3135.8	811.57	2324.23	**3.20**

excluding transmission line cost of ₹ 262 crore.

39. It is observed from the above, that the hard cost of project as on the cut-off date of the generating station (31.3.2017) is ₹3.31 crore/MW and the same is less than the Uno-Sugen Project of TPL and comparable to Palatana CCP Project of OTPCL. The Commission in its tariff orders pertaining to Uno-Sugen and Palatana Projects had observed that the project costs of these generating stations were reasonable considering the escalation in the EPC contract for advanced class machines during the last 5 years in global market. Based on the above and considering the factors in totality, we are of the view that capital cost for ₹5199.65 crore claimed by the petitioner as on COD of the generating station (13.11.2014) is reasonable as compared to the contemporary gas based power projects with advance class machines, namely UNO SUGEN GBPP and ONGC Tripura Palatana CCPP.

Additional Capital Expenditure

40. Regulations 14 (1) of the 2014 Tariff Regulations, provides as under:

> *"14.(1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:*

(i) Un-discharged liabilities recognized to be payable at a future date;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;

(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and

(v) Change in law or compliance of any existing law:

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff

41. The petitioner has claimed projected additional capital expenditure from COD of station (13.11.2014) to 31.3.2017 under Regulation 14(1) of the 2014 Tariff Regulations as under:

(₹ in lakh)

	2014-15 (13.11.2014 to 31.3.2015)	**2015-16**	**2016-17**	**Total**
External Water supply system	0.24	4013.07	0.00	4013.07
Corporate Social Responsibility (CSR)	1.49	0.00	1199.28	1200.76
Gas Pipe Line	0.00	0.00	1217.51	1217.51
Township & Colony	1086.18	3115.84	0.00	4202.02
Miscellaneous Civil work	1946.97	0.00	350.00	2296.97
Tools & Tackles	0.00	2195.94	0.00	2195.94
Payment of un-discharged liabilities	9931.83	8682.83	0.00	18514.66
Total	**12966.71**	**18007.68**	**2766.79**	**33741.17**

42. The petitioner has claimed total additional capital expenditure of ₹33741.17 lakh during the period from 13.11.2014 to 31.3.2017 (₹12966.71 lakh in 2014-15 (13.11.2014 to 31.3.2015), ₹18007.68 lakh in 2015-16 and ₹2766.79 lakh in 2016-17 which also includes CSR cost of ₹1.49 lakh in 2014-15 and ₹1199.28 lakh in 2016-17 under Regulation 14 (1) of the 2014 Tariff Regulations. The petitioner has submitted that all these expenditure represents the balance of works for the generating station as well as un-discharged liabilities during the period 2014-17. Accordingly, the additional capital expenditure of ₹12966.7 lakh in 2014-15, ₹18007.68 lakh in 2015-16 and ₹2766.79 lakh in 2016-17 claimed by the petitioner has been allowed under Regulation 14(1) of the 2014 Tariff Regulations. The petitioner has not claimed any additional capital expenditure for the period 2017-19.

Corporate Social Responsibility

43. The petitioner has claimed total additional capital expenditure of ₹1200.77 lakh (₹1.49 lakh in 2014-15 and ₹1199.28 lakh in 2016-17) under Regulation 14(1) of the 2014 Tariff Regulations towards Corporate Social Responsibility (CSR) initiatives as per directives of the Ministry of Environment and Forest (MOE&F), GOI. The petitioner has submitted that the MOE&F,GOI while approving the setting up of the project had vide letter dated 21.10.2011 directed the petitioner to expense an amount of ₹1360.00 lakh towards CSR activities as one time cost. The petitioner has submitted that till 30.9.2015, a sum of ₹160.73 lakh has been incurred towards fulfilment of the obligations as mentioned in the letter of MOEF, GOI such expenditure incurred form part of the capital cost of the project. It has however submitted that the balance amount which is yet to be incurred has been considered as projected additional capital expenditure. Accordingly, the petitioner has prayed that the said amount may be allowed. The matter has been examined. It is observed that the Commission vide order dated 6.12.2013 in Petition No.175/GT/2013 [tariff of Uno-Sugen CCPP for 2009-14 (4.4.2013 to 31.3.2014)] had approved the additional capitalisation for expenditure incurred towards CSR activities. In view of this and since the expenditure of ₹1200.77 lakh towards CSR activities is considered under Regulation 14(1)(i) of the 2014 Tariff Regulations. The petitioner is further directed to submit the details of the schemes which has been undertaken duly endorsed by the District Administration and the same will be reviewed at the time of truing-up. The other expenditures on township, water system, tools & tackles etc. are balance expenditure/ undischarged liabilities within cut-off date and accordingly, allowed for capitalisation.

44. Accordingly, the additional capital expenditure allowed for the period 2014-17 is summarised as under:

(₹ in lakh)

	2014-15 (13.11.2014 to 31.3.2015)	2015-16	2016-17	Total
External Water supply system	0.24	4013.07	0.00	4013.07
CSR	1.49	0.00	1199.28	1200.76
Gas Pipe Line	0.00	0.00	1217.51	1217.51
Township & Colony	1086.18	3115.84	0.00	4202.02
Miscellaneous Civil work	1946.97	0.00	350.00	2296.97
Tools & Tackles	0.00	2195.94	0.00	2195.94
Payment of un-discharged liabilities	9931.83	8682.83	0.00	18514.66
Total	**12966.71**	**18007.68**	**2766.79**	**33741.17**

45. As the petitioner has furnished the audited gross block position as on 31.3.2015 also, the additional capital expenditure allowed for 2014-15 (13.11.2014 to 31.3.2015) is revised as shown below:

(₹ in lakh)

	2014-15 (13.11.2014 to 31.3.2015)
Closing gross block	539423.48
Less: Opening gross block	538509.13
Additional capital expenditure as per books	**914.35**
Less: Liabilities included above	98.77
Add: Discharges *	10886.39
Additional capital expenditure allowed	**11701.97**

(Opening liability + Addition during the period – Closing liability)

46. Based on the above, the additional capital expenditure allowed for the period 2014-19 is as under:

(₹ in lakh)

2014-15 (13.11.2014 to 31.3.2015)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
11701.97	18007.68	2766.79	-	-

47. Accordingly, the capital cost, allowed for the period 2014-19 in respect of the generating station is as under:

(₹ in lakh)

	2014-15			**2015-16**	**2016-17**	**2017-18**	**2018-19**
	7.9.2014 to 11.9.2014	**12.9.2014 to 12.11.2014**	**13.11.2014 to 31.3.2015**				
Opening capital cost	274414.86	380662.70	507545.92	519247.89	537255.57	540022.36	540022.36
Add: Additional capital expenditure	0.00	0.00	11701.97	18007.68	2766.79	0.00	0.00
Closing capital cost	**274414.86**	**380662.70**	**519247.89**	**537255.57**	**540022.36**	**540022.36**	**540022.36**
Average capital cost	**274414.86**	**380662.70**	**513396.91**	**528251.73**	**538638.97**	**540022.36**	**540022.36**

Debt–Equity Ratio

48. Regulation 19 of the 2014 Tariff Regulations provides as under:

19. (1) For a project declared under commercial operation on or after 1.4.2014, the debt equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:

ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.

Explanation.-*The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.*

(2) The generating company or the transmission licensee shall submit the resolution of the Board of the company or approval from Cabinet Committee on Economic Affairs (CCEA) regarding infusion of fund from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, debt equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.

(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014, the Commission shall approve the debt: equity ratio based on actual information provided by the generating company or the transmission licensee as the case may be.

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.

49. The petitioner has considered debt-equity ratio of 70:30 for purpose of tariff. The petitioner has not indicated the debt position as on COD of Block-51 & Block-52 in the petition. However, considering the debt position as on COD of Block-53 / generating station along with the position of capital expenditure on cash basis, the debt-equity ratio as on COD of Block-53, works out to 67.93:32.07, which is well within the normative debt-equity ratio of 70:30. Accordingly, the debt-equity ratio of 70:30 has been considered for the purpose of tariff as on the COD's along with for the purpose of additional capital expenditure. This subject to truing-up in terms of Regulation 8 of the 2014 Tariff Regulations.

Return on Equity

50. Regulation 24 of the 2014 Tariff Regulations provides as under:

> ***"24. Return on Equity:*** *(1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.*
>
> *(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:*

Provided that:

i). in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:

ii). the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

iii). additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

iv). the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues: vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.

51. Regulation 25 of the 2014 Tariff Regulations provides as under:

Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of "effective tax rate".

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

Rate of pre-tax return on equity = Base rate / (1-t)

Where "t" is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess.

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2014-15 to 2018-19 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term transmission customers/DICs as the case may be on year to year basis.

52. The petitioner has claimed return on equity considering the base rate of 15.50% and effective tax rate of 20.961% (i.e. MAT rate for 2014-15) and 21.342% (MAT rate for 2015-16) for

the period from COD (of first Block) to 31.3.2015 and for the period 2015-19 respectively. The same has been considered for the purpose of tariff. Accordingly, return on equity has been worked out and allowed as under:

(₹in lakh)

	2014-15			2015-16	2016-17	2017-18	2018-19
	7.9.2014 to 11.9.2014	**12.9.2014 to 12.11.2014**	**13.11.2014 to 31.3.2015**				
Normative Equity-Opening	82324.46	114198.81	152263.78	155774.37	161176.67	162006.71	162006.71
Addition of Equity due to additional capital expenditure	0.00	0.00	3510.59	5402.30	830.04	0.00	0.00
Normative Equity - Closing	**82324.46**	**114198.81**	**155774.37**	**161176.67**	**162006.71**	**162006.71**	**162006.71**
Average Normative Equity	82324.46	114198.81	154019.07	158475.52	161591.69	162006.71	162006.71
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for respective years	20.961%	20.961%	20.961%	21.342%	21.342%	21.342%	21.342%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.705%	19.705%	19.705%	19.705%
Return on Equity (Pre Tax)-annualised	**16143.83**	**22394.39**	**30203.14**	**31227.60**	**31841.64**	**31923.42**	**31923.42**

Interest on loan

53. Regulation 26 of the 2014 Tariff Regulations provides as under:

> ***26. Interest on loan capital****: (1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.*
>
> *(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.*
>
> *(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of Decapitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalization of such asset.*
>
> *(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.*
>
> *(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:*
>
> *Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:*

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.

54. Interest on loan has been worked out as under:

i) Gross normative loan corresponding to 70% of the admissible capital cost works out to ₹192090.40 lakh, ₹266463.89 lakh and ₹355282.14 lakh as on COD of Block-51, Block-52 and Block-53, respectively.

ii) Cumulative repayment as on COD Block-51 is considered as 'nil'.

iii) Accordingly, the net normative opening loan as on COD of Block-51 works out to "nil".

iv) Addition to normative loan on account of additional capital expenditure approved above has been considered.

v) Depreciation allowed has been considered as repayment of normative loan during the respective year of the period 2014-19.

vi) The petitioner has considered weighted average rate of interest of 13.06% and 12.87% for the period from COD of Block-51 to 31.3.2015 and 1.4.2015 to 31.3.2019, respectively. The same has been considered.

55. Necessary calculation for Interest on loan is as under:

(₹ in lakh)

	2014-15			**2015-16**	**2016-17**	**2017-18**	**2018-19**
	7.9.2014 to 11.9.2014	**12.9.2014 to 12.11.2014**	**13.11.2014 to 31.3.2015**				
Gross opening loan	192090.40	266463.89	355282.14	363473.52	376078.90	378015.65	378015.65
Cumulative repayment of loan upto previous year / period	0.00	189.52	3493.36	13574.52	40446.68	67825.70	95275.04
Net Loan Opening	192090.40	266274.37	351788.78	349899.00	335632.22	310189.95	282740.61
Addition due to additional capital expenditure	0.00	0.00	8191.38	12605.38	1936.75	0.00	0.00

Repayment of loan during the year	189.52	3303.84	10081.15	26872.17	27379.02	27449.34	27449.34
Net Loan Closing	191900.88	262970.53	349899.00	335632.22	310189.95	282740.61	255291.28
Average Loan	191995.64	264622.45	350843.89	342765.61	322911.08	296465.28	269015.94
Weighted Average Rate of Interest on Loan	13.0600%	13.0600%	13.0600%	12.8700%	12.8500%	12.8500%	12.8500%
Interest on Loan	**25074.63**	**34559.69**	**45820.21**	**44113.93**	**41494.07**	**38095.79**	**34568.55**

Depreciation

56. The petitioner has claimed depreciation considering the weighted average rate of depreciation (WAROD) of 5.054%, 5.118%, 5.154%, 5.087%, 5.083% for the period from COD of Block-51 to COD of Block-52, COD of Block-52 to COD of Block-53, COD of Block-53 to 31.3.2015, 2015-16 and 2016-19, respectively. The WAROD for the period 2015-19 has been considered same as claimed by petitioner. However, after considering the value of freehold land for the purpose of working out WAROD, the WAROD for the period from COD of Block-51 to COD of Block-52, COD of Block-52 to COD of Block-53 and COD of Block-53 to 31.3.2015 works out as 5.0416%, 5.1095% and 5.1563%, respectively. Necessary calculations in support of depreciation are as under:

(₹ in lakh)

	2014-15			**2015-16**	**2016-17**	**2017-18**	**2018-19**
	7.9.2014 to 11.9.2014	**12.9.2014 to 12.11.2014**	**13.11.2014 to 31.3.2015**				
Average Capital Cost	274414.86	380662.70	513396.91	528251.73	538638.97	540022.36	540022.36
Freehold land included above	719.67	719.67	719.67	719.67	719.67	719.67	719.67
Depreciable value @ 90%	246325.67	341948.73	461409.51	474778.85	484127.37	485372.42	485372.42
Balance depreciable value	246325.67	341759.21	457916.15	461204.34	443680.68	417546.72	390097.38
Depreciation (for the period)	**189.52**	**3303.84**	**10081.15**	**26872.17**	**27379.02**	**27449.34**	**27449.34**
Depreciation (annualized)	**13834.97**	**19450.05**	**26472.10**	**26872.17**	**27379.02**	**27449.34**	**27449.34**
Cumulative depreciation at the end	189.52	3493.36	13574.52	40446.68	67825.70	95275.04	122724.38

Operation & Maintenance expenses

57. Regulation 29 (1) of the 2014 Tariff Regulations provides the year-wise O & M expense norms for the capacity generating station as under:

(₹ in lakh/MW)

2014-15	2015-16	2016-17	2017-18	2018-19
26.55	28.36	30.29	32.35	34.56

58. The O&M expenses claimed by the petitioner vide affidavit dated 28.10.2015, based on above norms, are as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
31860.00	34032.00	36348.00	38820.00	41472.00	**182532**

59. The O&M expenses claimed by the petitioner as above based on norms is in order and allowed.

Water Charges

60. Regulation 29(2) of the 2014 Tariff Regulations provide as under:

"29.(2) The Water Charges and capital spares for thermal generating stations shall be allowed separately:

Provided that water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check. The details regarding the same shall be furnished along with the petition:

61. The petitioner has submitted that the water requirement of the project is met from the reservoir of Gujarat Industrial Development Corporation (GIDC) and the project has been allotted 30 MLD (6.60 MGD) of water from Phase-II reservoir of GIDC. The petitioner has submitted that as the work of Phase-II reservoir was progressing very slowly, GIDC allowed the petitioner to draw water for initial period from the existing Phase-I reservoir as a stop gap arrangement. The petitioner has claimed Water charges in terms of Regulation 29(2) of the 2014 Tariff Regulations based on the consideration of (a) running of 3 units and (b) current actual rate of water charges (Rate/m^3) during 2014-15. The petitioner has claimed water charge rate based on the actual rate of ₹33.68/m^3 for 2014-15 and thereafter escalated @ 6.75% per year. The water charges claimed by the petitioner are as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Unit Running	3	3	3	3	3	
Water quantity (1000 M^3)	12404.16	12438.14	12404.16	12404.16	12404.16	
Rate/M^3(including drainage cess)	33.68	36.00	38.43	41.02	43.79	
Water Charges	**4177.72**	**4477.73**	**4766.92**	**5088.69**	**5432.17**	**23943.23**

62. The petitioner has claimed total water charges in 2014-15 on actual basis and the water charge rate is based on the actual rate for 2014-15 and thereafter escalated @ 6.75% per year for the period 2014-19. The petitioner has not furnished the copy of water agreement or the copy of the notification of the GIDC/Govt. of Gujarat which indicates the contracted/allocated quantum of water and water charges. Further, the petitioner has not furnished the actual water consumption data from COD of generating station (13.11.2014) till 31.3.2016 in the additional information filed vide affidavit dated 24.5.2016. In the absence of actual water consumption data, the consumptive water claimed by the petitioner for 3 blocks (3 x 400 MW) of 1200 MW has been compared with the data of Sugen CCPP (1147.5 MW) of the petitioner which was considered in the Commission's order dated 6.10.2015 in Petition No.186/GT/2014. It is observed that the consumptive water claimed by petitioner is comparable to the claim made in Sugen CCPP Project. However, the Commission in the order dated 6.10.2015 has observed that the water quantum claimed in Sugen CCPP was much higher than the maximum water consumption during 2009-14, and accordingly, the Commission restricted the projected water quantity based on maximum consumption during 2009-14. Being similar project, the projected water quantity in case of DGEN is considered based on Sugen CCPP as 8026229 m^3 in absence of actual consumption data. The rate of water charges of ₹33.68/m^3 in 2014-15 is much higher as compared to the rate of water charges in the case of Sugen CCPP Project which is in the range of ₹19.492 to 25.944/m^3. This variation is on account of that present water rate is @ ₹25.27/ m^3 and drainage cess of ₹8.41/m^3 for the generating station. The petitioner vide affidavit dated 24.5.2016 has submitted that the rate of ₹33.68/m^3 claimed in 2014-15 is the actual rate. Accordingly, the water charges rate as claimed by the petitioner for the year 2014-15 has been considered for the computation of water charges on projected basis for the period 2014-19. Based on the above discussions, the water charges for the period 2014-19 has been allowed based on the actual water charge rate of ₹33.68/m^3 in 2014-15 without any escalation in the subsequent years of the tariff period in the absence of any document furnished by the petitioner indicating that the water charges are to be escalated at the rate of 6.75%. Accordingly, the water charges allowed are as under:

	Projected Qty. (m^3)	Rate (₹/m^3)	Water Charges [in ₹]
2014-15	8026229	33.68	270323393
2015-16	8026229	33.68	270323393
2016-17	8026229	33.68	270323393
2017-18	8026229	33.68	270323393
2018-19	8026229	33.68	270323393

63. The water charges allowed as above is subject to truing-up at the end of the tariff period and the petitioner is directed to place on record all relevant documents /information in support the claim.

O&M expenses for dedicated Transmission Lines

64. The petitioner has not claimed any O&M expenses for the dedicated Transmission Lines 400 kv and for Dgen to Navasari Bays/sub-stations. Accordingly, the O&M expenses for dedicated Transmission lines have not been considered in the O&M expenses of the generating station.

65. Based on the above, the total O&M expenses, including water charges, as claimed by the petitioner and as allowed is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
O&M Expenses claimed	31860.00	34032.00	36348.00	38820.00	41472.00	182532.00
O&M Expenses allowed	31860.00	34032.00	36348.00	38820.00	41472.00	182532.00
Water Charges claimed	4177.72	4477.73	4766.92	5088.69	5432.17	23943.23
Water Charges allowed	2703.23	2703.23	2703.23	2703.23	2703.23	2703.23
Total O&M Expenses claimed	36037.72	38509.73	41114.92	43908.69	46904.17	206475.2
O&M Expenses allowed	**34563.23**	**36735.23**	**39051.23**	**41523.23**	**44175.23**	**185235.2**

Operational Norms

66. The operational norms of the generating station claimed as per Regulation 36)(c)(d) of the 2014 Tariff Regulations are as under:

Target Availability for recovery of Fixed Charges (%)	85.00
Gross Station Heat Rate (GSHR)= Design Heat Rate x 1.05% (kCal/kWh) Design Heat Rate as submitted by petitioner =1744.41kCal/kWh	1831.63
Auxiliary Energy Consumption (Combined cycle)(%)	2.5

67. The operational norms considered by the petitioner in terms of the 2014 Tariff Regulations are in order and allowed. However, Regulation 23A of the 2014 Tariff Regulations provides as under:

> "*23A. Tariff Determination of Gas based generating stations: The tariff of gas based generating stations covered under the "Scheme for Utilization of Gas based power generation capacity" issued by the Government of India, Ministry of Power vide Office Memorandum No. 4/2/2015-Th.1 dated 27.3.2015 shall be determined in due consideration of the provisions of that scheme in deviation of the relevant regulations".*

68. The Scheme for utilization of gas based power generation capacity is presently applicable for the years 2015-16 and 2016-17. The Regulation 23A shall be applicable on the eligible gas based power plants. The petitioner in terms of the above scheme was the successful bidder for PSDF support for the period from 1.6.2015 to 30.9.2015 and from 1.10.2015 to 31.3.2016 under PSDF scheme. This project of the petitioner has been allocated RLNG to the extent of 226.23 MMSCM which is equivalent to 35% PLF during the period from June, 2015 to September, 2015. During the period from October, 2015 to March, 2015 the allocation should be 240.88 MMSCM (approx) equivalent to 25% PLF. The petitioner has stated that it has availed PSDF scheme during the period from 1.6.2015 to 30.9.2015 and from 1.10.2015 to 31.3.2016 and is likely to avail PSDF up to 31.3.2017. However, the petitioner has not furnished any details about the distribution companies to whom it has supplied/to be supplied power during the period from1.6.2015 to 30.9.2015 and from1.10.2015 to 31.3.2016. In view of this, the petitioner at the time of truing up shall furnish the following information;

i) The distribution companies to whom power was supplied under the PSDF scheme during the period from 1.6.2015 to 30.9.2015 and from1.10.2015 to 31.3.2016;

ii) The incremental electricity generated at target PLF and the target price at which the same were sold to the distribution companies;

iii) Details of the quantum of RLNG allocated under the PSDF scheme and whether the same was fully utilized for generation up to the target PLF;

iv) Whether there was any generation of electricity over & above the target PLF during the said period. If yes, the quantum of electricity generated along with the details to whom supply was made.

69. Under the PSDF scheme, the price/kwh of the incremental electricity should not exceed the target price and there is capping of fixed cost i.e.

- Forego the Return on Equity; and
- Fixed Cost recovery shall be limited only to meet debt service obligations and Operation & Maintenance cost.

70. Since the fixed cost and variable charges are determined by the Commission in terms of the provisions of the 2014 Tariff Regulations, the tariff for the period from 1.6.2015 to 30.9.2015 and from 1.10.2015 to 31.3.2015 charged from the discoms shall however not be higher than the net target price of electricity sold.

Interest on Working Capital

71. Sub-section (b) of clause (1) of Regulation 28 of the 2014 Tariff Regulations provides as under:

> *"28. Interest on Working Capital:*
>
> *(1) The working capital shall cover*
>
> *(b) Open-cycle Gas Turbine/Combined Cycle thermal generating stations*
>
> *(i) Fuel cost for 30 days corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*
>
> *(ii) Maintenance spares @ 30% of operation and maintenance expense specified in regulation 29; and*
>
> *(iii) Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel';*
>
> *(iv) Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*
>
> *(v) Operation and maintenance expenses for one month."*

Fuel Component and Energy Charges in working capital

72. The petitioner has claimed fuel cost based on fuel for one month corresponding to normative annual plant availability factor, taking into account the mode of operation of generating station on gas fuel. The petitioner vide affidavit dated 29.10. 2015 has claimed the fuel cost for 1 month corresponding to NAPAF of 85 % for the period 2014-19 as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Fuel cost (30 days)	48815.21	48815.21	48815.21	48815.21	48815.21

The above fuel cost is based on gas pricing of USD 13.83/MMBTU. However, the petitioner in subsequent affidavits has claimed landed cost of gas as USD 6.65 which is discussed below:

73. The petitioner has not used any liquid fuel during the year 2014-15 i.e. during the preceding three months from August, 2014 to October, 2014. Accordingly, the petitioner is not entitled for liquid fuel stock in the working capital.

74. The petitioner vide affidavit dated 29.10.2015 had claimed Energy Charge Rate (ECR) of ₹6.724 /kWh based on the gas price of ₹902.04 MMBTU-GHV. The petitioner in Form-15 of the petition has submitted fuel details such as quality, price, GCV etc. for the period 2014-15 to 2018-19 but has not furnished the details for the preceding three months from COD of Blocks/generating station. For computation of fuel components and 2 months energy charges in Working Capital for the period 2014-19, the fuel details of the preceding three months from COD i.e. August, 2014 to October, 2014 is required to be submitted by the petitioner.

75. The Commission vide ROP of hearing held on 29.2.2016 directed the petitioner to furnish the fuel details in Form-15 providing the fuel details for preceding 3 months from COD of generating station and the landed cost of (in Indian rupees) giving detailed break-up of the landed fuel price. In response, the petitioner vide affidavit dated 30.4.2016 has mainly submitted as under:

> (a) The fuel details for the preceding 3 months covering the period from August, 2014 to October, 2014 has been submitted. The domestic fuel was not available for commissioning of the project and hence the petitioner has sourced the Commissioning fuel on spot basis from the market, the price of which was very high.
>
> (b) As per the tariff filing forms, the information of commissioning fuel is shown in Form No. 15 and the details of the same are to be applicable for the purpose of computation of Energy Charge Rate (ECR). In case, we consider the details of commissioning fuel for determination of ECR, the ECR shall be very high and be uneconomical. Therefore, Form No. 15 is being submitted only for purpose of compliance of regulatory forms and not for the purpose of determination of fuel cost /ECR in the working capital.

Basic assumptions considered by the petitioner for determination of ECR

76. The petitioner has submitted that currently, the LNG price is on falling trend and based on the DES $5 per MMBTU LNG price, ECR has been determined with broad reasons as below:

> (a) The petitioner has submitted that on consideration of landed fuel cost, the basis of landed fuel cost for tariff determination is the actual weighted average cost of primary fuel and secondary fuel of the three preceding months and in the absence of landed cost for the three preceding months, the latest procurement price of primary fuel and secondary fuel for the generating station, before the start of the tariff period for existing generating stations and immediately preceding three months in case of new generating stations, shall be taken into account.

(b) It is informed that in August 2014, the Ministry of Petroleum and Natural Gas (MOPNG) GOI had constituted a Committee to undertake a comprehensive study of Gas Pricing. Currently the GOI has fixed APM gas price @ USD 4.2 MMBTU-GHV and the ceiling price of gas from PMT is USD 5.73 / MMBTU GHV. Finally the Committee has issued "New Domestic Natural Gas Pricing Guidelines, 2014. In implementation of the said guidelines, the GOI has started allocation of RLNG through reverse auction up to 35% PLF. The pricing of such gas starts @ US $ 8.54/MMBGU-GHV. In anticipation of reduction in gas prices, the petitioner has not entered into any long term fuel supply agreement (FSA).

(c) In the absence of any FSA, the petitioner has used imported RLNG at 20 $ per mmbtu as start-up fuel. As the petitioner has not entered into any FSA and in near future the petitioner expects stabilisation in gas prices, the petitioner has considered the landed price of $6.65 per mmbtu (DES $ 5 per mmbtu) for calculation of fuel.

(d) The petitioner has not considered any transportation cost considering the availability fuel at PLL Dahej. In case, if gas is required to be transported from any other place, the cost per mmbtu will increase to the extent of transportation charges as the case may be.

77. Based on these assumptions, the petitioner has considered the average landed cost of fuel as US$ 6.65 per MMBTU on GHV basis for the period from 2014-15 to 2018-19 as stated here under.

Gas Source	IOCL (USD)
Gas Sales Price (MMBTU–GHV)	5.00
Boil-off	0.0330
Custom Duty	0.00
Gas Sales Price (MMBTU–GHV)	5.0330
Marketing Margin & Re-gasification	0.7424
Tax (VAT)	0.8700
Total Gas Supply Price	6.65
Transportation Base Cost	0.00
Service Tax	0.00
Total Gas Transportation Price	0.00
Total landed price	6.65
Exchange Rate	71.00
Weighted Average GHV (in INR)	471.82

78. The petitioner has proposed to claim energy charges including variations in fuel cost, fuel transportation cost, exchange rate, etc. on a monthly basis as per Regulation 30(5) of the 2014 Tariff Regulations. The total energy charges for ex bus energy scheduled to be sent out based on normative parameters are as below. The ECR as determined by the petitioner for the period 2014-19 is as under:

	2014-15	2015-16	2016-17	2017-18	2018-19
Capacity in MW	1200	1200	1200	1200	1200
Days	365	366	365	365	365
PAF (Normative)	85%	85%	85%	85%	85%
Gross Station Heat Rate (kCal/kWh)	1831.63	1831.63	1831.63	1831.63	1831.63
Gross Generation (MUs)	8935.2	8959.68	8935.2	8935.2	8935.2
Aux Consumption	2.50%	2.50%	2.50%	2.50%	2.50%
Net Generation (MUs)	8711.82	8735.688	8711.82	8711.82	8711.82
Conversion Factor	3.968	3.968	3.968	3.968	3.968
Gas Requirement (MMBTU GHV)	64940071.86	65117989.86	64940071.86	64940071.86	64940071.86
Gas Rate (USD/MMBTU GHV)	6.65	6.65	6.65	6.65	6.65
Exchange Rate	71	71	71	71	71
Gas Rate (INR/MMBTU GHV)	471.82	471.82	471.82	471.82	471.82
Total Gas Cost (₹ in lakh)	306401.99	307241.45	306401.99	306401.99	306401.99
Energy Charge Rate (ECR) (INR/kWh) at Ex-bus	3.52	3.52	3.52	3.52	3.52

Gas Transportation

79. The petitioner has laid down a dedicated gas line from PLL, Dahej Terminal to the plant. The petitioner has considered the Gas supply through PLL, Dahej terminal and hence no separate transportation cost is considered. The petitioner has also submitted that in case gas is supplied from Hazira terminal of IOCL, the cost of transportation will increase and is recoverable as per regulation. On consideration of the above, the following emerges;

(i) Form 15 is submitted on incorporation of commissioning fuel cost which is very high and the same has not been considered for the purpose of determination of ECR.

(ii) ECR has been derived based on the basic concept of "New Domestic Natural Gas Pricing Guidelines, 2014

Copies of all fuel supply agreement

80. As stated above, the petitioner, in anticipation of falling trend of RLNG prices, has not entered into FSA. The petitioner has submitted that currently the gas prices are falling in the international market and it is expected that the trend shall continue. The petitioner has stated that it is waiting for the right opportunity to enter into medium term fuel supply agreement with affordable cost and in view of the above, currently the petitioner has not entered into Fuel Supply Agreement. In this context, the petitioner has submitted the following.

- In anticipation of reduction in Gas prices, the petitioner has not entered into any long term fuel supply agreement (FSA).

- The COD of first Unit no. 51 was 7th September 2014
- In the absence of any FSA, the petitioner has used imported RLNG at20 $ per mmbtu as start-up fuel.
- As petitioner has not entered into any FSA and in near future petitioner expects the stabilization in gas prices, the petitioner has considered landed price of $6.65 per mmbtu (DES $ 5 per mmbtu) for calculation of fuel.
- The petitioner has not considered any transportation cost due to consideration of availability fuel at PLL Dahej.

81. Based on these assumptions, the petitioner has considered the average landed cost of fuel as US$ 6.65 per MMBTU on GHV basis for the period from 2014-15 to 2018-19 as per the table above.

Analysis

82. The petitioner vide affidavit dated 24.5.2016 has furnished in Form-15, the actual cost of domestic fuel consumed for commissioning of Block-51,Block-52 and Block-53 during the period from August, 2014 to November, 2014. The petitioner has further submitted that since the commissioning fuel cost as in Form-15 is very high, and uneconomical, the same is not considered for purpose of determination of ECR/Fuel cost.

83. Regulation 28(2) of the 2014 Tariff Regulations provides as under:

> "*(2) The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this regulation shall be based on landed cost incurred (taking in to account normative transit and handling losses) by the generating company and the gross calorific value of the fuel as per actual for three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during tariff period."*

84. The petitioner has claimed fuel cost based on total landed price of gas of US$ 6.65/MMBTU (Basic price USD 5.0330 + Re-gasification charges of USD 0.7424 & Taxes of USD 0.8700) with exchange rate of ₹71.0/US$ which has been converted to ₹17.44/SMC. The basic cost of fuel considered by the petitioner is US$ 5.03 /MMBTU which is less than the ceiling price of gas from PMT of US$ 5.73/MMBTU (GHV) and is accordingly found reasonable and justified.

85. However, it is observed that the petitioner has considered the exchange rate of ₹71/US$ for computation of ECR for the period 2014-19 and accordingly ECR has been computed as ₹3.52 during 2014-19. For computation of fuel cost and energy charge in working capital, the fuel cost

and exchange rate considered is for the period from August, 2014 to October, 2014. The exchange rate of ₹71/US$ considered by the petitioner is on higher side as the average exchange rate during the period from August, 2014 to October, 2014 works out to ₹61.02/US$. In view of above, the RLNG rate in INR /MMBTU GHV works out to ₹405.50 lakh (6.65 x 61.02) and the Rate/SCM works out as ₹15.90/SMC. This rate of RLNG is much less than the RLNG rate of ₹31.74 /SMC allowed by the Commission in order dated 6.10.2015 in Petition No. 186/GT/2014 (tariff of Sugen CCPP). Thus, the cost of gas of ₹15.90/SMC as worked out is lower and hence considered for allowing the fuel cost and two (2) months energy charges in working capital.

86. Based on above discussions, the ECR works out to ₹3.023 with RLNG rate of ₹15.90/ SMC and the fuel cost worked out for the period 2014-19 is as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Fuel cost (30 days)	21647.64	21647.64	21647.64	21647.64	21647.64
Energy Charge for 2 months	43896.61	44016.87	43896.61	43896.61	43896.61
Cost of liquid for 15 days	0.00	0.00	0.00	0.00	0.00

O&M expenses for 1 month

87. O&M expenses for 1 month claimed by the petitioner for the purpose of working capital are as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
2655.00	2836.00	3029.00	3235.00	3456.00

88. The claim of the petitioner for O&M expenses (one month) is less than the O&M expenses (one month) worked out as per norms as the petitioner has not considered the water charges as part of O&M, while computing the O&M expenses (one month) for working capital. Since water charges form part of the O&M expenses, the O&M expenses for one month has been worked out and allowed as under:

(₹ in lakh)

2014-15			2015-16	2016-17	2017-18	2018-19
7.9.2014 to 11.9.2014	12.9.2014 to 12.11.2014	13.11.2014 to 31.3.2015				
960.09	1920.18	2880.27	3061.27	3254.27	3460.27	3681.27

Maintenance spares

89. The petitioner has claimed maintenance spares in the working capital as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
9558.00	10209.60	10904.40	11646.0	12441.60

90. The claim of the petitioner for maintenance spares is less than the maintenance spares worked out as per norms as the petitioner has not considered water charges as part of O&M, while computing the maintenance spares for working capital. Since water charges form part of the O&M expenses, maintenance spares cost has been worked out and allowed as under:

(₹ in lakh)

2014-15			2015-16	2016-17	2017-18	2018-19
7.9.2014 to 11.9.2014	**12.9.2014 to 12.11.2014**	**13.11.2014 to 31.3.2015**				
3456.32	6912.65	10368.97	11020.57	11715.37	12456.97	13252.57

Receivables

91. Receivables have been worked out on the basis of two months of fixed and energy charges (duly taking into account mode of operation of station on gas fuel and liquid fuel) as under:

(₹ in lakh)

	2014-15			2015-16	2016-17	2017-18	2018-19
	7.9.2014 to 11.9.2014	**12.9.2014 to 12.11.2014**	**13.11.2014 to 31.3.2015**				
Variable Charges - for two months	43896.61	43896.61	43896.61	44016.87	43896.61	43896.61	43896.61
Fixed Charges – for two months	12961.50	18667.89	25182.58	25526.80	25683.78	25573.59	25447.76
Total	**56858.11**	**62564.50**	**69079.18**	**69543.67**	**69580.38**	**69470.19**	**69344.36**

Rate of Interest on working capital

92. The rate of interest on working capital has been considered as 13.50% in terms of the regulations. Accordingly, Interest on working capital is worked out as under:

(₹ in lakh)

	2014-15			2015-16	2016-17	2017-18	2018-19
	7.9.2014 to 11.9.2014	**12.9.2014 to 12.11.2014**	**13.11.2014 to 31.3.2015**				
Cost of fuel – 30 days	21647.64	21647.64	21647.64	21647.64	21647.64	21647.64	21647.64
Liquid fuel stock – 15 days	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maintenance Spares @ 30% of O&M expenses	3456.32	6912.65	10368.97	11020.57	11715.37	12456.97	13252.57
Receivables – Two months	56858.11	62564.50	69079.18	69543.67	69580.38	69470.19	69344.36
O&M expenses – One month	960.09	1920.18	2880.27	3061.27	3254.27	3460.27	3681.27
Total Working Capital	**82922.16**	**93044.97**	**103976.06**	**105273.16**	**106197.66**	**107035.07**	**107925.84**
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	**11194.49**	**12561.07**	**14036.77**	**14211.88**	**14336.68**	**14449.74**	**14569.99**

Annual Fixed Charges

93. The annual fixed charges approved in respect of the generating station for the period 2014-19 is summarized as under:

	2014-15			2015-16	2016-17	2017-18	2018-19
	7.9.2014 to 11.09.2014	**12.9.2014 to 12.11.2014**	**13.11.2014 to 31.3.2015**				
Depreciation	13834.97	19450.05	26472.10	26872.17	27379.02	27449.34	27449.34
Interest on Loan	25074.63	34559.69	45820.21	44113.93	41494.07	38095.79	34568.55
Return on Equity	16143.83	22394.39	30203.14	31227.60	31841.64	31923.42	31923.42
Interest on Working Capital	11194.49	12561.07	14036.77	14211.88	14336.68	14449.74	14569.99
O&M Expenses	11521.08	23042.16	34563.23	36735.23	39051.23	41523.23	44175.23
Total	**77769.00**	**112007.35**	**151095.45**	**153160.81**	**154102.65**	**153441.52**	**152686.53**

Note: (i) All figures are on annualised basis (ii) All figures under each head have been rounded. The figure in total column in each year is also rounded. As such, the sum of individual items may not be equal to the arithmetic total of the column.

Energy/Variable Charges

94. The petitioner has claimed Energy Charge Rate (ECR) of Rs.3. 520/ kWh based on RLNG fuel for operation of the plant corresponding to 85% PLF. As discussed above, considering the landed cost of fuel as Rs.15.90/SMC during the period from August, 2014 to October, 2014 ECR has been determined as under:

	2014-19
Capacity (MW)	1200
Fuel	RLNG
Normative Heat-Rate (kCal/kWh)	1831.63
Auxiliary Power Consumption (%)	2.50
Weighted average price of LNG (Rs./SMC)	15.90
Weighted average GCV of LNG (kCal/SCM)	9880
Rate of Energy charge (ex-bus) (₹/kWh)	**3.023**

95. The ECR as computed above has been considered for computing two months of energy charge in the working capital. The petitioner shall calculate the month to month ECR based on formula given under Regulation 30(6)(b) read with Regulation 23 (A) of the 2014 Tariff Regulations.

96. The Commission in its order dated 19.2.2016 in Petition No. 33/MP/2014 (TPDDL v NTPC & Anr) had directed as under:

> "*The respondents shall introduce help desk to attend to the queries and concerns of the beneficiaries with regard to the energy charges. The contentious issues regarding the energy charges should be sorted out with the beneficiaries at the senior management level, preferably at the level of Executive Directors.*"

Accordingly, in line with the above decision, help desk shall be introduced by the petitioner and contentious issues if any, which arise in respect of energy charges for this generating station, shall be sorted out with the beneficiaries at the Senior Management level.

Application Fee and Publication Expenses

97. The petitioner has sought reimbursement of filing fees and the expenses incurred for publication of notices for application of tariff for the period 2015-19. The petitioner has deposited tariff filing fees of ₹5280000/- for the period from COD of Block-I (7.9.2014) to 31.3.2015 and for 2016-17 in terms of the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. The petitioner has also incurred charges towards publication of the said tariff petition in the newspapers. Accordingly, in terms of Regulation 52 of the 2014 Tariff Regulations and in line with the decision in Commission's order dated 6.1.2016 in Petition No.232/GT/2014, the petitioner shall be entitled to recover the filing fees (*pro rata* to the capacity) for the year 2014-16 and the expenses incurred on publication of notices for the period 2014-19 directly from the respondents. The filing fees for the remaining years of the tariff period 2017-19 shall be recovered pro rata after deposit of the same and production of documentary proof.

98. The annual fixed charges approved for the period 2014-19 as above are subject to truing-up in terms of Regulation 8 of the 2014 Tariff Regulations.

99. Petition No. 281/GT/2015 is disposed of in terms of the above.

-Sd/-	***-Sd/-***	***-Sd/-***	***-Sd/-***
(Dr. M.K.Iyer)	**(A.S.Bakshi)**	**(A.K.Singhal)**	**(Gireesh B. Pradhan)**
Member	**Member**	**Member**	**Chairperson**