

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 74/GT/2017

Coram:

**Shri P. K Pujari, Chairperson
Dr. M. K. Iyer, Member**

Date of Order: 29.04.2019

In the matter of

Petition for approval of tariff of Muzaffarpur Thermal Power Station, Stage-II (2 x 195 MW) from COD of Unit-I (18.3.2017) to 31.3.2019.

And

In the matter of

Kanti Bijlee Utpadan Nigam Limited
NTPC Bhawan, Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi – 110 003

.....Petitioner

VS

1. Bihar State Power Holding Company Ltd.,
Vidyut Bhawan, Bailey Road,
Patna – 800 001
2. North Bihar Power Distribution Company Ltd.,
Vidyut Bhawan, Bailey Road
Patna 800 001
3. South Bihar Power Distribution Company Ltd.,
Vidyut Bhawan, Bailey Road
Patna 800 001
4. Jharkhand Bijlee Vitaran Nigam Ltd.,
Engineering Building, HEC Township,
Dhurwa, Ranchi – 834 004
5. GRIDCO Ltd.,
Janpath,
Bhubaneshwar – 751 022



6. West Bengal State Electricity Distribution Company Ltd.,
Vidyut Bhawan, Bidhannagar, Block DJ,
Sector-II, Salt Lake City,
Kolkata – 700 091
 7. Power Department,
Govt. of Sikkim,
Kazi Road, Gangtok, Sikkim – 737 101
 8. Damodar Valley Corporation (DVC),
DVC Towers, VIP Road,
Kolkata, West Bengal – 700 054
- ...Respondents

Parties present:

For Petitioner: Shri M. G. Ramachandran, Advocate, KBUNL
Ms. Poorva Saigal, Advocate, KBUNL
Shri Shankar Saran, NTPC
Shri Sukhjinder Singh, NTPC
Shri Abhinav Jindal, KBUNL

For Respondents: Shri Rahul Kinra, Advocate, BSPHCL
Shri R.B.Sharma, Advocate, BSPHCL
Shri Ashutosh Srivastava, Advocate, BSPHCL
Shri Raj Kumar Mehta, Advocate, GRIDCO
Ms Himanshi Andley, Advocate, GRDICO

ORDER

This petition has been filed by the petitioner, Kanti Bijlee Utpadan Nigam Limited (KBUNL) for approval of tariff of Muzaffarpur Thermal Power Station, Stage-II (2x195 MW) from COD of Unit-I (18.3.2017) to 31.3.2019, in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).

2. KBUNL (the petitioner) is a subsidiary of NTPC Ltd and was set up as a joint venture company with the Respondent, BSPHCL to take over the assets and business of Muzaffarpur Thermal Power Station. NTPC holds 65% equity shares in

the joint venture company and thus, the petitioner is a Government company covered under Section 79(1)(a) of the Electricity Act, 2003. Muzaffarpur Thermal Power Station, Stage-I was established by the Respondent during 1985-86 and has been transferred and vested in favour of the petitioner with effect from 8.9.2006 in terms of the Bihar Electricity Reforms (Transfer of Muzaffarpur Thermal Power Station) Scheme, 2006. Muzaffarpur Thermal Power Station, Stage-I comprises of two units of 110 MW capacity which was commissioned during the years 1985-86 and the entire power generated from this generating station, is supplied to the Respondents in the State of Bihar viz., NBPDC (Respondent No. 2) and SBPDCL (Respondent No. 3) in terms of the Power Purchase Agreement dated 22.8.2006.

3. KBUNL has expanded the capacity at the same location by setting up Stage-II of Muzaffarpur Thermal Power Station, comprising of two units of 195 MW each, (hereinafter referred to as 'the generating station) in the Eastern Region. The Ministry of Power, Government of India vide its letter reference no. 5/14/2009 - Th.II dated 10.12.2010, has allocated the power generated from this generating station amongst the Respondent beneficiaries located in the Eastern Region.

4. The petitioner vide affidavit dated 14.3.2017 had filed this petition for approval of tariff of this generating station based on the anticipated COD of Unit-I (25.3.2017) and Unit-II (31.3.2017) till 31.3.2019. Since Unit-I of the generating station achieved COD on 18.3.2017 and Unit-II on 1.7.2017, the petitioner vide affidavit 19.2.2018 filed amended petition for approval of tariff of the generating station from the actual COD of Unit-I (18.3.2017) and Unit-II (1.7.2017) till 31.3.2019 considering the actual expenditure incurred as on actual COD of the said units. Accordingly, the annual

fixed charges claimed by the petitioner for the period from 18.3.2017 till 31.3.2019 is as under:-

	2016-17	2017-18		(₹ in lakh) 2018-19
	18.3.2017 to 31.3.2017	1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	
Depreciation	9951.57	10021.39	17142.90	19487.84
Interest on loan	14460.25	14422.58	23459.06	25226.53
Return on Equity	9946.22	10016.01	16734.08	19022.96
Interest on working capital	2391.21	2412.94	4501.11	4679.30
O&M Expenses	5265.00	5596.50	11193.00	11898.90
Total	42014.24	42469.42	73030.15	80315.54

5. The petitioner has filed the additional information in terms of the directions of the Commission with copy to the Respondents. Respondent No.1, BSPHCL (for and on behalf of Respondent Nos. 2 and 3) and Respondent No.5, GRIDCO have filed their replies and the petitioner has filed its rejoinder to the said replies. Accordingly, the matter was finally heard on 11.10.2018 and the Commission after hearing the parties, reserved its order in the Petition. Based on the submissions of the parties and the documents available on record, we proceed to determine the tariff of the generating station as stated in the subsequent paragraphs.

Commissioning Schedule and Time Overrun

6. The petitioner has submitted that as per resolution of the Board of Directors of the petitioner Company in the 18th meeting held on 6.3.2010, the Scheduled COD (SCOD) of Unit-I was 31 months from the date of Main Plant award and 3 months thereafter for Unit-II of the generating station. The Main Plant Package (Boiler Turbine and Generator) was awarded to M/s BHEL on 12.3.2010 and accordingly, the SCOD of Unit-I was 12.10.2012 and Unit-II was 12.1.2013. With the actual COD

of Unit-I as 18.3.2017 and Unit-II as 1.7.2017, petitioner has claimed time overrun of 1619 days in case of Unit-I and 1632 days in case of Unit-II. The SCOD from 'Zero date', 'actual COD' and time overrun for Unit-I and II are summarized as follows:

Units	SCOD as per investment approval dated 6.3.2010	Actual COD	Time overrun (days)
Unit-I	12.10.2012	18.3.2017	1619*
Unit-II	12.1.2013	1.7.2017	1632*

* However, the above time overrun works out to 1618 and 1631 days

Additional Return on Equity

7. As specified by the Commission, the time line for completion of Green field project of unit size of 200/210 MW from the date of investment approval is 33 months for the first unit with subsequent units at an interval of 4 months each. The actual COD of Unit-I and Unit-II is 18.3.2017 and 1.7.2017 respectively i.e. 1618 days (around 85 months) and 1631 days (around 88 months) from the date of investment approval for Unit-I and Unit-II respectively. Hence the Units-I and II of the generating station have been declared under commercial operation beyond the timeline specified by the Commission. In view of this, Unit-I and II of the generating station are not entitled to additional Return on Equity of 0.5% which is allowed for timely completion of the project under the 2014 Tariff Regulations.

Time Overrun

8. As stated, the time overrun in the commissioning of Unit-I as claimed by the petitioner is 1619 days and for Unit-II is 1632 days. The petitioner vide ROP of hearing dated 23.5.2017 was directed to furnish detailed reasons and justification for time and cost overrun along with supporting documents, namely, the detailed project

report, CPM analysis, PERT chart and BAR chart showing the critical activities/milestones which were affected and the period of delay on each and every activity/milestone with proper justification.

9. In response, the petitioner, vide affidavit dated 19.2.2018 furnished information regarding the factors responsible for the delay in commissioning of Unit-I and II of the generating station along with a PERT diagram.

10. However, it was noticed that the PERT diagram indicating factors for time overrun, furnished by the petitioner vide affidavit dated 19.2.2018 was not legible and clear. Also, the table indicating the reasons for delay submitted by the petitioner did not indicate the scheduled start date and scheduled finish date of each commissioning activity. This also did not indicate the activities that were affected along with the time period of the activities which were affected in parallel. Accordingly, the Commission vide ROP of the hearing dated 11.10.2018 directed the petitioner to furnish the following additional information:

- a. *Originally envisaged PERT chart indicating commissioning activities, duration, start date, end date of each activity as per original schedule.*
- b. *Details of critical activity i.e. duration, the start date and end date;*
- c. *Activities which got delayed due to reasons mentioned in the table, clearly indicating whether there was a shift in the critical activity. Rescheduled PERT chart corresponding to actual completion shall also be provided.*
- d. *Detailed reasons for time overrun along with proper justifications for delays, Delay period shall be accompanied by start date and end date so as to find out the overlapping of periods indicated against various reasons.*
- e. *Any other relevant material in the form of newspaper clippings, government notifications, meteorological data, efforts made by the petitioner to tackle the causes of delay etc. which support reasons of delay as mentioned by the petitioner.*

11. In response, the petitioner vide affidavit dated 31.10.2018 has submitted the detailed reasons with justification of time and cost overrun along with supporting

documents showing critical activities/ milestones which were affected. It also stated that the period of delay on each activity/ milestone with justification had already been furnished in the original petition and the amended petition (affidavit dated 19.2.2018). The petitioner has also furnished a table indicating the durations of hindrance/ factors in terms of number of days causing delay along with affected time period and overlapping period, the original envisaged PERT chart indicating the commissioning activities as per original schedule, the details of critical activities Vs the actual milestones achieved, the rescheduled PERT chart corresponding to actual completion, indicating shift in critical activities, as annexures to the said affidavit. The tabular information regarding the delay caused in number of days for Unit-I on account of various time overrun factors as claimed by the petitioner is as below.

Sl. No.	Reasons for delay	Duration of the hindrance	No. of days affected	Effective no. of days lost after adjusting the overlapped period
1	Ban on Mining lease in Bihar	Mar-10 to Nov-10	234	234
2	Policy change in specification of wagon tippler by Railway (RDSO)	Dec-10 to Dec-12	737	670
3	Power crisis in Tamil Nadu delayed BHEL works	Dec-11 to Dec-12	396	00
4	Heavy Rainfall	Aug-11 to Nov-11	67	67
5.	Agitation and Local Unrest	Oct-11	30	00
6.	Dharna Pradarshan and hunger strike by labourers	July-14 to Aug-14	31	00
7.	Change in law for land acquisition in Bihar	Mar-13 to Mar-17	1478	648
Total				1619*

* In actual, it should have been 1618 days.

12. We find that there is significant time overrun in the declaration of COD of Unit-I and II of the generating station. As regards time overrun, the petitioner has submitted that the project, since inception has been dogged by various issues such as ban in mining lease, local unrest and agitations, heavy rainfall, Policy change in specification by Railways and land acquisition related issues. It has also submitted that all these events brought the project construction work to a standstill on various occasions making all schedules go haywire. We now proceed to examine the justification/ reasons furnished by the petitioner for time overrun in the declaration of COD of the project. Regulation 12 of the 2014 Tariff Regulations provides for the following:

"12. Controllable and Uncontrollable factors:

The following shall be considered as controllable and uncontrollable factors leading to cost escalation impacting Contract Prices, IDC and IEDC of the project:

- (1) The "controllable factors" shall include but shall not be limited to the following:
 - a) Variations in capital expenditure on account of time and/or cost overruns on account of land acquisition issues;
 - b) Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or force majeure events; and
 - c) Delay in execution of the project on account of contractor, supplier or agency of the generating company or transmission licensee.
- (2) The "uncontrollable factors" shall include but shall not be limited to the following:
 - i. Force Majeure events; and
 - ii. Change in law.

Ban on mining lease in Bihar

13. The petitioner has submitted the following:

- (i) The Government of Bihar has completely banned mining in all parts of Bihar vide Bihar Gazette (Extra-ordinary) dated 26.2.2010 through Bihar Minor Mineral Concession (amendment) Rules, 2010 with a view to save environment, forest and fast depleting hill area. The decision of the Govt. of Bihar coincided with the timing of civil construction work at the project site. The civil construction work of power plant consumes huge quantity of stone aggregates of various sizes.
- (ii) Due to this ban, crusher industries were not getting sufficient stones for crushing, resulting into unprecedented crisis of stone aggregates in market.

(iii) Initially, KBUNL was getting aggregates from Sheikhpura (172 k.m) and Nawada (190 k.m) districts. However, as a result of this ban, supplies of aggregates were completely stopped from Sheikhpura and Nawada districts and KBUNL was forced to procure aggregates from Pakur district (approx 434 k.m) of adjoining State of Jharkhand. This took more time and cost as stone aggregates had to be transported over longer distance.

(iv) Moreover, there was huge demand for coarse chips as there were massive infrastructure works such as construction of National Highway etc, going on at peak in and around Patna. Therefore, supply of aggregates from Jharkhand (Pakur) was also restricted due to high demand subsequent to ban in Bihar.

14. The petitioner has submitted that due to the ban, supply of aggregates were adversely affected which resulted in the delay of various civil works at the project and the consequential delay in the erection work is 234 days (approx). Accordingly, the petitioner has submitted that the notification by the Govt. of Bihar for stoppage of stone quarry is a 'Change in law' event which was beyond the control of the petitioner and therefore the delay on this count may be condoned.

15. The Respondent, BSPHL vide affidavit dated 22.3.2018 has submitted the following:

- (a) The investment approval was granted to the project on 6.3.2010 which is after the date of notification of the amended Bihar Minor Mineral Concession Rules i.e 26.2.2010. As such, the petitioner cannot raise the plea that it was not aware of the same. Even otherwise, the petitioner cannot take the said plea since ignorance of law is not an excuse. Thus, the petitioner should have taken into account the procurement of construction materials before deciding the SCOD.
- (b) The perusal of the said notification of the Govt. of Bihar would show that there was no ban on the stone crushing but the activity related to mining and quarrying of stone in the State was merely regulated and the same is not covered under change in law.
- (c) There is a difference of only 200 km in the location from where the stone aggregates were procured after the alleged ban in mining.

Accordingly, the Respondent has submitted that the delay of 234 days due to ban on mining are not tenable and liable to be rejected.

16. The Respondent, GRIDCO vide affidavit dated 20.3.2018 has submitted that the delay in execution of the project on account of amendment to the said rules is not a factor which falls within the ambit of Regulation 12(2)(ii)-Change in law, under the 2014 Tariff Regulations, since the amendment was brought into force on 26.2.2010, i.e much before the inception of the project (6.3.2010). It has further submitted that the amended rules have provisions to allow mining for both (i) the leases which have expired before the amendment have come into effect and (ii) for quarrying or mining of stones to fulfill requirements of public use. Accordingly, the Respondent has submitted that the delay is attributable to the petitioner and the Commission may not allow the time and cost overrun on this head.

17. In response to the above, the petitioner in its rejoinder affidavits dated 5.4.2018 has clarified that since the amendment to the Bihar Minor Mineral Concession Rules, was introduced on 26.2.2010 just few days before the Investment approval on 6.3.2010, it was difficult to prejudge the actual impact of amendment on stone aggregate availability. It has further submitted that in spite of huge demand of stone aggregates due to massive infrastructure works in nearby area; the petitioner had arranged aggregates to some extent from adjoining state which was not upto the level of requirement for civil works of power plant, which has led to the delay.

18. The matter has been examined. Section 2(2) of Bihar Minor Mineral Concession (amendment) Rules, 2010 provides as under:

“Rule 53: Notwithstanding anything contained in the Bihar Minor Mineral Concession Rules, 1972 to the contrary-

(1) *No mining lease for stone shall be granted.*

(2) *Existing leases for stone granted under rule 9 and rule 52 would be allowed to subsist for the remaining period for which they have already been granted but they shall not be renewed thereafter:*

Provided where period of lease has expired before coming into force of these Rules but requisite statutory approval from Govt. of India has been received before enforcement of these Rules, lessee may be entitled to renewal subject to other statutory obligation.

Provided further that in public interest, if the State Government is satisfied that quarrying or mining of stone may not adversely affect ecology and environment and further there is requirement of stone for public use, it may relax the above restriction in any area for such period as it may deem fit necessary".

19. The above rules were notified by the Govt. of Bihar on 26.2.2010. The Investment Approval for the project was obtained by the petitioner on 6.3.2010, that is, after a gap of only 10 days. As such, we agree with the contention of the petitioner that it was difficult to pre-judge the actual impact of amendment on stone aggregate availability. Further considering the fact that there was a huge demand of aggregates on alternate source of supply i.e. Pakur district due to massive infrastructure works such as construction of National Highway and the fact that the alternate source of aggregate was further away by 244 Kms. as compared to original source i.e. Sheikpura and Nawada, we are of the considered view that the said factors leading to the delay of around 8 months (234 days) were beyond the control of the petitioner for which Petitioner cannot be made responsible. Accordingly, the prayer of the petitioner to condone the time overrun of 234 days in the COD of the project on this count is allowed.

Policy Change in specification of Wagon Tippler by Railways

20. The petitioner has submitted the following:

(a) NIT of CHP was done in August, 2010 with scheduled Bid Open Date on October, 2010. Meanwhile, model code of conduct (MCC) was imposed due to State Assembly

elections of Bihar. In view of MCC, the Bid opening date had to be extended upto December, 2010 till the completion of all phase of State Assembly elections.

(b) Railways revised the RDSO guideline vide notification dated 28.5.2010, as RDSO guidelines were applicable on procurement of wagon tippler made i.e. purchase order issued on after 1.12.2010. Therefore, if the bid had opened in October, 2010 as per original plan and Package had to be awarded as per original plan envisaged, then RDSO revised guideline of wagon tippler had not to be complied by the project. But, the Bid open date was extended due to assembly elections in Bihar to December, 2010 due to this applicability of revised guidelines imposed on this project.

(c) Engineering works and design of CHP was already finalized as per earlier guidelines of RDSO and tendering process was at a very advanced stage. Therefore, the petitioner and NTPC requested the Railways for exemption from revised guidelines on wagon tippler by RDSO. Even after follow up and regular discussions with Railway, no relief could be obtained from Railways. Therefore, the petitioner had no other options other than to change specifications as per revised guidelines issued by RDSO.

(d) After consolidation of new specification, revised estimate was made for initiation of fresh tender process by following applicable guidelines as PSUs. Therefore, fresh NIT was issued in March, 2012 and subsequently CHP work was awarded to M/s TSL on 18.12.2012 with completion period of 30 months.

(e) Because of this change in law, tendering was delayed by 26 months, which led to delay in completion of work. This is an event which is beyond the control of Petitioner which had caused the delay in project for more than two years.

21. The petitioner vide affidavit dated 30.10.2018 has sought condonation of delay on the ground of 'Change in Law' as the notification issued by Railways on 28.5.2010 has changed the Wagon tippler specification.

22. The Respondent GRIDCO has submitted that there are no guidelines in the model code of conduct to stop the execution of on-going projects/works and it only bars government machinery to be used for promotion of propaganda by the ministers/ politicians/ and political parties. It has further submitted that the plea of the petitioner is an afterthought to cover up its inability to complete the tendering process for Coal Handling Plant (CHP) for which the beneficiaries should not be penalized. The Respondent, BSPHCL has submitted that the Commission on prudence check

may allow or disallow the claim of the petitioner under this head after considering whether the technical changes made by the petitioner so as to meet the specification of the revised guidelines of RDSO were mandatorily required or not.

23. The matter has been examined. It is noticed from the above submissions that Railway (RDSO) vide notification dated 28.5.2010 had issued guidelines regarding new design of wagon tippler. The petitioner had floated the NIT of CHP during August, 2010 with the scheduled Bid Open date in October, 2010. It is therefore evident that Railways had specified new and more effective design even prior to the tendering process by the petitioner. Therefore, the claim of the petitioner that the new design is a 'Change in law' event is not acceptable. Also, the notification dated 28.5.2010 of RDSO made the new design mandatory for all purchase orders issued on or after 1.12.2010. The petitioner has also not clarified as to why it had opted for the old equipment/ design, once it knew that all future tippler equipments shall have to adhere to the new specifications of RDSO. From the correspondence made by Petitioner with Railways, it is noticed that the petitioner vide letter dated 10.12.2010 had sought some clarification with regard to the compatibility of the new equipment with the existing system and in response, the Railway vide letter dated 27.12.2010 had clarified that the Railways does not envisage any problem of mismatch between the new equipment and the existing conveyor system. The petitioner had issued the tender during August, 2010 with the old/ existing equipment. During the first week of September, 2010, the model code of conduct had come into effect. Thus, the petitioner was well aware that the tender opening as per schedule date was not possible and that the RDSO had mandated a change in design. With the Railways having clarified the compatibility of new equipment in the month of December' 2010,

the petitioner could have revised the specifications and re-tendered the same without wasting much time. Having not done so, the petitioner cannot seek relief under change in law. We are of the considered view that the notification issued by RDSO (Railways) does not constitute Change in law. Moreover, the delay of 24 months in finalizing the agency has not been justified by the petitioner as the correspondence indicates that Railway had taken only 17 days to clarify the issues raised by the petitioner. Therefore, the delay of 737 days as claimed by the petitioner on account of change in specification of tippler by RDSO cannot be condoned.

Power crisis in Tamil Nadu delaying BHEL Works

24. The petitioner has submitted the following:

- (a) As per original schedule, supply of pressure parts was to be completed by December' 2011. However, M/s BHEL could not supply the requisite materials in time and repeatedly shifted its commitments regarding supply of materials particularly pressure parts. Critical materials which contributed to delay in hydro test were mainly Tubes, Connection pipes, Suspensions, Panels, Coils pertaining to Super heater, Re-heater and Water Wall area.
- (b) The petitioner pushed hard for early supply of materials in each CRM (contract review meetings) and even the status was being reviewed during the meeting of higher authorities of M/s BHEL and KBUNL/NTPC. However, M/s BHEL consistently kept shifting the targets for materials supply.
- (c) M/s BHEL, vide its letter dated 12.11.2012, brought to the notice of the petitioner that Tamil Nadu is reeling under severe power cut to the tune of over 10-14 hours in many part including in and around Ranipet and other areas. Therefore, they are unable to take up the production due to severe power cuts being faced in Tamil Nadu.
- (d) BHEL, Ranipet was equipped to some extent with alternate diesel power supply to shop floor. The power cuts had substantially affected most of the fabrication work being done in ancillary units/vendors. BHEL, Ranipet has over 500 such units catering to over 60% of the project supplies.
- (e) BHEL had observed substantial delivery delays from their ancillary units/vendors due to long power cuts and as such landed to huge back logs. This force majeure situation had substantially affected M/s BHEL committed delivery. This delay of material supply by M/s BHEL due to force majeure situation delayed the boiler hydro testing by more than a year, which deferred the project execution.

25. Without prejudice to the above, the petitioner has prayed that the Commission may condone the delay in declaration of COD in exercise of the power under Regulation 54 (Power to Relax). The petitioner has further submitted that there has been no imprudence on part of the petitioner in selecting a renowned indigenous manufacturer (BHEL) as the Main Plant contractor and the experience gained by NTPC and BHEL during the execution of the project has enriched the total power sector as a whole. Accordingly, the petitioner has submitted that it is a fit case for grating relief by relaxation of Regulation 12 read with Regulation 9(2) and the Commission may allow the capital cost as claimed in the Petition.

26. The Respondent, GRIDCO has submitted that the delay in execution of the project on account of power crisis in Tamil Nadu is neither a force majeure condition nor is covered under ‘uncontrollable factor’ falling within the ambit of Regulation 12(2)(i) of the 2014 Tariff Regulations. The Respondent has further submitted that it is in no way responsible and should not be burdened with the financial implication due to such time overrun & cost overrun. The Respondent has pointed out that the Appellate Tribunal in its judgment dated 26.2.2015 in Appeal No. 107 of 2014 (PGCIL V CERC & ors) had upheld the order of this Commission by not condoning the delay due to contractor and the observation that the matter may be sorted out between the petitioner and the contractors/suppliers. It has stated that the time overrun in obtaining the required materials (i.e. pressure parts) from BHEL is required to be settled between the petitioner and its contractor or supplier. The Respondent has submitted that the amount collected by the petitioner from its Vendor as penalty/ liquidated damages should be adjusted from the capital cost in

terms of the second proviso to Regulation 11(B)(2) of the 2014 Tariff Regulations. Similar submission has been made by the Respondent, BSPHCL. It has also submitted that the delay in supply of critical equipment has to be taken up by the petitioner with M/s BHEL and the same cannot be passed on to the beneficiaries. Accordingly, the Respondent has submitted that a delay of 13 months of time over run may not be allowed as the same is due to a controllable factor which is not a pass through in tariff.

27. The matter has been examined. The petitioner has submitted that the delay of 13 months in carrying out the project work is attributable to the power crisis in Tamil Nadu which had affected the committed delivery schedule of BHEL. Accordingly, the petitioner has prayed for considering the same as a force majeure event and condone the delay or to grant the relief by relaxation of the provisions of the 2014 Tariff Regulations. It is evident from the above submissions of the petitioner that in terms of the original schedule, supply of pressure parts was to be completed by BHEL by December, 2011. Also, from the correspondence dated 12.11.2012 between BHEL and the petitioner, it is noticed that BHEL had cited the inadequate power supply from the State power utility as a reason for the delay in delivery. However, the said letter addressed to the petitioner by BHEL is after expiry of one year of the schedule delivery date of the equipment and also does not indicate the period of interruption of power supply. Further, there are no correspondences from the petitioner to BHEL with regard to the late delivery of equipments. In terms of Regulation 12 (1)(c) of the 2014 Tariff Regulations, the delay in execution of the project on account of contractor, supplier or agency of the generating company is a controllable factor. As such, the matter of delay in supply of pressure parts shall be

sorted out between the petitioner and BHEL in terms of contractual obligations. It is noticed that the petitioner is pleading the case of contractor or supplier even though the contractor or supplier is not a party to the Petition. This is not permissible in terms of the decision of the Appellate Tribunal in Appeal No. 107/2014. In the above background, the delay of 396 days in supply by BHEL due to power crisis in Tamil Nadu cannot be construed as a force majeure event nor there is any reason to grant the relief prayed for by exercising powers under the provisions of the 2014 Tariff Regulations, related to Power to Relax (Regulation 54). Accordingly, the delay claimed by the petitioner is not condoned, however, petitioner is allowed to retain the LD amount, if any, received from BHEL in terms of the contract for the delay caused.

Heavy rainfall in the month of September

28. The petitioner has submitted the following:

- (a) During the month of September, 2011, average rainfall in Muzaffarpur District was 424.6 mm which was more than double of long period average of 202.20 mm for the same month. Due to heavy rain during the month of September, 2011 all the area were heavily submerged in water and boiler erection work was severely hampered.
- (b) Even after the stoppage of rainfall, area was heavily submerged due to logging of water. Therefore, the movement of heavy machines was almost impossible in water/wet soil until unless the soil gets dried up.
- (c) The effect of excess rainfall stopped the work at all front and heavy water log/flow filled the excavated area with mud and water. Water logging in the plant was cleared with installation of submersible/ dewatering pumps. However, it took several days for water/ soil to dry up completely for movement of heavy machinery, which resulted in delay in boiler erection work and subsequently boiler commissioning by 67 days.

29. Accordingly, the petitioner has submitted that the excessive rainfall during September, 2011 was a natural event and the petitioner had no control over the event and hence the Commission may condone the delay due to heavy rainfall.

30. The Respondent, BSPHCL has submitted that there is no substance in the submission of the petitioner that there has been a delay of 67 days on account of rainfall. The Respondent, GRIDCO has submitted that heavy rain fall does not come under the ambit of 'Force Majeure' event in terms of Regulation 3(25) of the 2014 Tariff Regulations, as claimed by the petitioner. The delay in carrying out the project work is solely attributable to the petitioner and as such, the time overrun and cost overrun cannot be condoned in public interest.

31. The matter has been examined. As per Regulation 3 (25) of 2014 Tariff Regulations, definition of 'Force Majeure' is as follows:

"Force Majeure" for the purpose of these regulations means the event or circumstance or combination of events or circumstances including those stated below which partly or fully prevents the generating company or transmission licensee to complete the project within the time specified in the Investment Approval, and only if such events or circumstances are not within the control the generating company or transmission licensee and could not have been avoided, had the generating company or transmission licensee taken reasonable care or complied with prudent utility practices:

- a) *Act of God including lightning, drought, fire and explosion, earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, geological surprises, or exceptionally adverse weather conditions which are in excess of the statistical measures for the last hundred years;*
- b) *Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action.*
- c) *Industry wide strikes and labour disturbances having a nation- wide impact in India;*

32. The petitioner has submitted that during the month of September, 2011, the average rainfall in Muzaffarpur district was 424.6 mm which was more than double of long period average of 202.20 mm for the same month. The petitioner has also submitted that due to heavy rain during the month of September, 2011, all the area were heavily submerged in water and boiler erection work was severely hampered which was otherwise in full swing. It is noticed that the petitioner has enclosed the rainfall data for the month of September, 2011 and the percentage departure from

long time average as per IMD. It is evident from the data submitted that the rainfall was higher than the average figures, which indicate the unusual heavy rains, thereby affecting the project construction activities of the petitioner. As these works were hampered due to abnormally high rainfall and accumulation of water at construction site, we are of the view that the said event was not within the control of the petitioner and is a force majeure event causing delay in the progress of work. Hence, the time overrun of 67 days for the period from September, 2011 to November, 2011 has been condoned.

Agitation and local unrest during the month of October to November, 2011

33. The petitioner has submitted the following:

- (a) There was local unrest and dharna pradarshan under the banner of Kanti Vikas Sangarsh Samiti, during the month of October-November, 2011 regarding the demands of 24 hrs electricity supply to nearby villages of Kanti from the project, arrangement of health care, education and water facility for locals among other demands.
- (b) During the agitation, public properties were set on fire. Also, colony gates and main gates were blocked by the mob. Several people were arrested for causing violence and unrest. Due to unrest, movement on man and material in the plant area was completely stopped which in turn led to delay in commencement of boiler erection work. The fear and panic of violence caused the workers to leave from site.
- (c) The workers turned up for the job only after there were signs of peace in the area. The violence and unrest in the area has a cascading effect on the progress of the project, as it took time to bring back the site to the original strength after peace returned in the area. The incident lead to mass exodus of labourer and proved detrimental to the progress of the project which lead to delay of project for around 30 days.

Accordingly, the petitioner has prayed that the delay of 30 days caused by agitation and local unrest in the area may be condoned.

34. The Respondent GRIDCO has submitted that the delay in execution of the project on account of the factors mentioned by the petitioner is neither a 'Force

'Majeure' condition nor is it covered under 'uncontrollable factor' within the ambit of Regulation 12(2)(i) of the 2014 Tariff Regulations. It has also submitted that since the Bihar Govt. has 35% share in the generating station, the timely completion of the project becomes the sole responsibility of the petitioner as well as Govt. of Bihar for which the beneficiaries have no role to play. The Respondent has contended that since the beneficiaries have no role, the delay is solely on the petitioner, and the Respondent should not be burdened with any financial implication due to such time and cost overrun.

35. The matter has been considered. The petitioner, in justification of its claim that work was hampered due to 'agitation and local unrest' has furnished various correspondences with the local administration and supported by newspapers clippings. On scrutiny of the same, it is noticed that there was agitation and unrest by locals under the banner of Kanti Vikas Sangarsh samithi which caused a lot of hindrance to man and material movements in the plant area, thereby leading to stoppage of work and delay in commencement of boiler erection work. However, we also notice that the said period has been subsumed in the period of delay on account of rainfall (as per paragraph 32 above) and hence the delay due to this factor has not been separately considered for computation of the total period of delay condoned.

Dharna Pradarshan and Hunger strike by labourers

36. The petitioner has submitted that the labourers of boiler erection agency, M/s DCPL went on strike w.e.f. 18.7.2014 due to expulsion of some labourers by DCPL and issues related to demand of additional allowances. It has also submitted that due to strike by labourers, work of boiler erection in Unit-3 and Unit-4 came to

standstill. The petitioner has stated that it made all out efforts to mediate between M/s DCPL and the labourers/ Union so that the matter could be resolved at the earliest and further delay could be avoided. Meanwhile, the labourers went on an indefinite hunger strike w.e.f. 8.8.2014. The petitioner has submitted that several rounds of discussions were held among all the concerned and matter could only be resolved by 18.8.2014. As a result of this, the petitioner has stated that the boiler light up got delayed by more than a month.

37. The Respondent, GRIDCO has submitted that the delay in execution of the project on account of this factor is neither a 'Force Majeure' condition nor is it covered under 'uncontrollable factor' within the ambit of Regulation 12(2)(i) of 2014 Tariff Regulations, It has also submitted that it is the sole responsibility of the petitioner for the delay in execution of the project on account of Dharna Pradarshan and Hunger strike by labourers and the beneficiary GRIDCO has no role to play. It has stated that the delay is fully attributable to the petitioner and cannot be treated as force majeure event.

38. The matter has been considered. It is observed that the petitioner has claimed zero number of days against this reason of delay after considering the fact that period of delay i.e from 18.7.2014 to 18.8.2014 is overlapping with the execution schedule of 30 months for Coal handling plant including procurement of Wagon tippler. In light of the above and the fact that petitioner could complete the CHP in less than scheduled period of 30 months indicate that the delay due to Dharna Pradarshan and Hunger strike by labourers has not caused any effective delay. As such, no delay on this account has been considered for the purpose of total time overrun allowed.

Change in Law for Land Acquisition in Bihar

39. The petitioner has submitted the following:

- (a) It was initially envisaged that land for make-up water corridor to be acquired through The Bihar Underground Pipelines (Acquisition of Right of User in Land) Act, 2011. Accordingly, proposal was submitted to district authorities for land acquisition. Thereafter, Govt. of Bihar completed land notification and its declaration during September, 2012 to February' 2013.
- (b) Subsequently, camps were organized for disbursement of compensation in February, 2013 and March, 2013. However, few tenants received the payment and most of them boycotted the payment and raised demands of acquiring land under new Land Acquisition Act 2013, which had to come into effect from 01/01/2014 and also demanded payment at residential rate @ Rs. 20 lakh per Kattha etc.
- (c) Meeting was held under the Chairmanship of Additional Collector (Muzaffarpur) and in presence of District Land Acquisition Officer (DLAO), to sort out the issues and for early acquisition of the land. In the meeting, villagers reiterated that they will not give consent for acquisition of land under ROU Act and insisted that land must be acquired under the LA Act and rate should be residential @ Rs. 20 lakh per Kattha. In the meeting, Petitioner placed its apprehensions that if mode of land acquisition changed then it will halt project completion and that the scheduled target will not be achieved. The meeting remained inconclusive and Additional Collector requested Petitioner to discuss the matter with its higher authorities and to decide accordingly.
- (d) First meeting of the task force was held on 12-07-2014 and it was decided by the task force that (i) as the new Land Acquisition Act 2013 has come into effect from 01.1.2014 and in view of non-availability of Land Acquisition Policy by Bihar Govt for acquisition of land under the new Land Acquisition Act 2013, the acquisition of land may take longer time and hence land acquisition will not be done through Land Acquisition Act 2013. It was also decided that as the rate of land notified under ROU Act has already been decided hence 100% payment (whereas ROU Act provide for 20% compensation) at the decided rate shall be made and land shall be directly purchased from respective landowners.
- (e) During the meeting held on 8.8.2014 with the landowners, the above view were put forth by the task force that Land Notified and declared under ROU Act shall be directly purchased from the landowners. It was also decided on insistence of landowners that rate of land to be decided as per New notification and shall be conveyed to landowners in the next meeting.
- (f) During the meeting held on 16.8.2014 with the landowners, the landowners demanded that if the petitioner wants to purchase land then the minimum rate should be Rs. 20 lakh per Kattha. Whereas, the DLAO mentioned that the rate of land shall be paid as per BHUGTAN BHEETH and as per new notification, the rate of land was Rs.4.5 lakh per Kattha. On this, the landowners insisted that they will not sell the land

at the above rate and insisted for purchase of land at Rs. 20 lakh per Kattha.

- (g) Subsequently a meeting of task force was held on 27.8.2014 it was decided that the exorbitant rate being demanded by land owners is not justified and that in view of non-agreement on the rate of land it may be acquired under the new Land Acquisition Act.
- (h) Petitioner consistently and sincerely followed up with District Administration and higher authorities of BSPGCL/BSPHCL for early decision on the modalities of the land acquisition. DLAO Muzaffarpur, vide its letter dated 11.12.2015, intimated that there are two policy existing for acquisition of Land (i) Perpetual Lease Policy, 2014 and Right to Fair Compensation and (ii) Bihar Transparency in Land Acquisition, Rehabilitation and Resettlement Manual, 2014. It was also requested by DLAO to opt one policy, out of two mentioned above, under which Petitioner would like to acquire the land.
- (i) Thereafter, Petitioner vide its letter dated 21.3.2016 intimated its concurrence for acquisition of land under Perpetual Lease Policy, 2014. Further, proposal for this were submitted to District Magistrate (Muzaffarpur) on 1.4.2016.
- (j) Under the Perpetual Lease Policy, 2014, the District Administration/ Govt, shall first provide details of landowners, consent of the landowners and type/rate of land to Petitioner. Thereafter, Petitioner shall acquire the land by disbursing payments to willing landowners. As the land could not be acquired in time and make-up water pipeline could not be laid, the declaration of COD was delayed.
- (k) As stated above, the implementation of New Land Acquisition Act, 2013 and unwarranted demand of landowners and also due lack of pro activeness on part of administration, despite various follow up caused the delay in land acquisition which were totally beyond the reasonable control of the petitioner which delayed the project COD to almost two years.. Therefore, it cannot be attributable to the petitioner.

40. Accordingly, the petitioner has prayed that the Commission may condone the delay in COD due to delay in acquisition of land for makeup water corridor. The petitioner vide affidavit dated 30.10.2018 has made similar submissions as reasons for the delay on the ground that the 'New Land Acquisition Act, 2013' is a Change in law event.

41. The Respondent, GRIDCO has submitted that the Ministry of Power, GOI had allocated Power from this expansion project on 10.12.2010. It has submitted that after the allocation of power, the petitioner had signed the Power Purchase

Agreement with GRIDCO on 27.12.2010. The Respondent has stated that Bihar Underground Pipelines (Acquisition of Right of User in Land) Act, 2011 came into force with effect from 8.8.2011 and Land Acquisition Act, 2013 of Government of India was introduced on 1.1.2014. The Respondent has submitted that the Government of Bihar has a share of 35% in the said Generating Station and accordingly, if NTPC and Govt. of Bihar had taken up land acquisition consequent upon the Project Investment Approval i.e. during the year 2010 to 2013 (gap of more than 3 years), then such delay would not have occurred. It has thus submitted that the delay is solely attributable to the generator including the Govt. of Bihar and the Respondent, GRIDCO has no role for acquisition of land for the said project.

42. The Respondent, BSPHCL has submitted that the issue of land acquisition has been a problem for all infrastructure projects in India. It has stated that the petitioner should have considered these while declaring the SCOD of the project in 2012 and 2013 for Unit-I and II respectively. As such the petitioner cannot now take this plea as a reason for delay in COD of Unit-I. The Respondent has submitted that the delay is solely attributable to the petitioner as the purpose of delaying the process of land acquisition was to pay lesser price as compensation for acquisition of land. However, even after delay of 36 months, the petitioner had paid the price which was earlier being demanded by the landowners and therefore, the whole purpose of this delay was rendered nugatory. Accordingly, the Respondent has submitted that the petitioner cannot claim any cost or time overrun in this regard.

43. The matter has been considered. It is observed that though the process of land acquisition started from 3.9.2011, the petitioner has claimed delay of 648 days till COD of Unit-I i.e 18.3.2017.

44. It is evident from the submissions that the petitioner had sent proposal for land acquisition to the State Government of Bihar on 3.9.2011 in terms of the said Act of 2011. First, we have to consider the issue that whether or not the petitioner has started the process of land acquisition timely. As per the master schedule, the laying of makeup water line had to start from 30.5.2012 and its schedule end date was 26.9.2012 i.e. around 15 day before the scheduled COD of the Unit-I. As such, the petitioner had initiated the process of land acquisition under ROU in terms of Act, 2011, nine months before the start date of laying of makeup water line. Considering the fact that land requirement for make-up water corridor was only 1.95km (length) x25m (width), the initiation of land acquisition under ROU, nine months ahead of start date for laying make up water line is considered as reasonable.

45. However, the process of notification of land acquisition and its declaration was completed by the State Govt. of Bihar only during the period from September, 2012 to February, 2013. The petitioner has indicated the delay of around 36 months in acquisition staring from 1.3.2013 i.e after the process of notification of land acquisition and its declaration was completed by the State Government of Bihar till 18.3.2017 (COD of Unit-I). However, in the final run petitioner has claimed delay of 648 days on this account after removing the overlapping period with other reasons. Pursuant to March, 2013, problems had arisen with regard to disbursement of compensation payments as demands were made for acquiring the land under the new land acquisition Act which came into effect from 1.1.2014 and for payment of compensation at residential rate. It is noted that the petitioner had been consistently following up the matters with the State Authorities for an early decision on the

modalities of land acquisition and compensation to be paid and it was only based on the intimation of the DLAO, Muzaffarpur that the petitioner had exercised its option and granted concurrence for acquisition of land under the new Perpetual Lease Policy, 2014 on 1.4.2016. Meanwhile, Petitioner synchronized Unit-I on 31.3.2015 and Unit-II on 24.3.2016 with the help of Stage-I water. It is noted that Commission after considering the difficulties being faced by the petitioner in acquisition of land had twice allowed extension of time for injection of infirm power from Unit-I and Unit-II in petition no. 225/MP/2016 and petition no.64/MP/2017, finally till 30.6.2017 or COD of the unit-II, whichever is earlier. Amidst all these problems being faced by the petitioner in acquisition of land, Petitioner instead of waiting for complete acquisition of land for make-up water corridor, declared the COD of the Unit-I on 18.3.2017 and of Unit-II/ station on 1.7.2017 with the help of Stage-I water. In this background and considering the complexities involved in the process of land acquisition, constant efforts made by the petitioner with the State Government and the pro-active action of the petitioner in declaring COD of the station using Stage-I water, we are of the considered view that the time overrun on account of the delay in land acquisition was for reasons beyond the control of the petitioner and the petitioner cannot be made responsible for the delay. However, it is noted from the Annexure-F to the petition depicting "Scheduled V/s Actual completion with causes of delay for MTPS Stage-II Unit-I' that time overrun due to "Policy change in specification of wagon tippler by railways (RDSO) was the prime reason of delay in synchronization of Unit-I which finally occurred on 31.3.2015 after the re-tendering and award for wagon tipplers on 18.12.2012 with a completion schedule of 30 months for CHP. Thus non-acquisition of land has not played any role in delay of synchronization of Unit-I on 31.3.2015 as

the water of stage-I was used for synchronization. Further, as per schedule, the Unit-I was to achieve COD after a month from synchronization of Unit-I. Considering this time line over and above the actual synchronization date i.e 31.3.2015, Unit-I could have achieved COD on 1.5.2015 if the land acquisition problems were not continuing. As such, in true sense, delay in achieving COD due to land problems which can be condoned is from 2.5.2015 to 17.3.2017 (i.e. 686 days) for Unit-I. As the delay claimed by the petitioner under this head i.e 648 days for Unit-I is less than the duration of 686 days which can be condoned as above, the entire delay claimed by the petitioner is considered to be beyond the control of the petitioner and hence condoned.

46. Based on the above discussions, the time overrun claimed by the petitioner and the time overrun allowed/ disallowed till COD of Unit-I is summarized as under:-

	Reasons for delay	No. of days delay		
		Period of delay	Claimed period (days)	Not condoned
a	Ban on mining lease in Bihar	Mar-10 to Nov-10 (234 days)	234	0.00
b	Policy change in specification of Wagon tippler by Railways (RDSO)	Dec-10 to Dec-12 (737 days)	670	670
c	Power crisis in Tamil Nadu delaying BHEL works	Dec-11 to Dec-12 (396 days)	396*	396*
d	Heavy rainfall	Aug-11 to Nov-11 (97 days)	67	0.00
e	Agitation and local unrest	Oct-11 to Oct-11 (30)	30*	30*
f	Dharna Pradarshan and hunger strike by labourers	Jul-14 to Aug-14 (31 days)	31*	0.00
g	Change in law for land acquisition in Bihar	June-15 to Mar-17 (648 days)	648	0.00
Total			1619	670
Finally accepted position to account for actual time overrun of 1618 days in place of 1619 days as claimed by the petitioner			1618	670
				949
				948

*Not considered separately for the calculation of total claimed/ condoned/ not condoned delay as the delay is subsumed in other factors as discussed in the preceding paragraphs.

47. Further, there is a gap of 105 days between the actual CODs of the two units which translates into effective delay of 13 days after accounting for the scheduled gap of 92 days between the CODs of the two units. Considering the fact that the delay due to acquisition of land has not been found attributable to the petitioner, the effective delay of 13 days in achieving COD of Unit-II is condoned. Accordingly, the number of days condoned for COD of Unit-II work out to be 961 out of actual delay of 1631 days.

48. Thus, the total time overrun from SCOD to actual COD of the project and the time overrun allowed/ disallowed for Unit-I and Unit-II are summarized as under:

Description	Scheduled COD	Actual COD	Time overrun (days)	Time overrun allowed (days)	Time overrun disallowed (days)
Unit-I	12.10.2012	18.3.2017	1618	948	670
Unit-II	12.1.2013	1.7.2017	1631	961	670

49. Consequent upon disallowance of 670 days in COD of Unit-I and II, the Scheduled COD of the units of the generating station has been reset for computation of IDC & IEDC due to time overrun, as under:

Units	SCOD	Reset SCOD	Actual COD
Unit-I	12.10.2012	18.5.2015	18.3.2017
Unit-II	12.1.2013	31.8.2015	1.7.2017

Capital Cost

Approved Capital Cost

50. The Board of Directors of the petitioner company, in its 18th meeting on 6.3.2010 had approved the estimated capital cost of ₹3154.33 crore including IDC & FC of ₹220.72 crore and Working Capital Margin (WCM) of ₹58.19 crore as on the 1st quarter at 2010 Price Level and corresponding indicative estimated completion

cost of ₹3344.67 crore including IDC & FC of ₹230.28 crore and WCM of ₹59.79 crore. Thereafter, the Board of the petitioner company in its 44th meeting on 9.9.2014 had approved the Revised Cost Estimate (RCE-I) amount of ₹3942.16 crore including IDC, FC and WCM as on 4th quarter at 2013 Price Level. Further, the Board of the petitioner company in its 58th meeting on 8.8.2016 had approved the RCE-II amount of ₹4778.65 crore including IDC, FC and WCM as of 2nd quarter at 2016 Price Level.

Actual capital cost as on COD

51. The capital cost claimed by the petitioner vide Form 5b of the petition is summarized as under:

	Capital expenditure upto COD of Unit-I (upto 18.3.2017) (gross basis) (A)	Liabilities included in (A)	Capital expenditure upto COD of Unit-I on cash basis (upto 18.3.2017) (B)	Capital expenditure upto COD of Unit-II (upto 30.6.2017) (gross basis) (C)	Liabilities included in (C)	Capital expenditure upto COD of Unit-II on cash basis (upto 30.6.2017)
Capital cost excluding IDC & FC	169406.26	18137.59	151268.68	268466.29	20799.54	247666.74
Interest During Construction (IDC)	53411.36	0.00	53411.36	90640.40	0.00	90640.40
Financing Charges (FC)	0.00	0.00	0.00	0.00	0.00	0.00
FERV	0.00	0.00	0.00	0.00	0.00	0.00
Hedging Cost	0.00	0.00	0.00	0.00	0.00	0.00
Total IDC,FC,FERV & Hedging Cost	53411.36	0.00	53411.36	90640.40	0.00	90640.40
Capital Cost including IDC, FC, FERV & Hedging Cost	222817.62	18137.59	204680.03	359106.68	20799.54	338307.14

52. The petitioner has also claimed normative IDC amounting to ₹9054.02 lakh and ₹9606.57 lakh as on COD of Unit-I and Unit-II, respectively. The same is not

included in the capital cost claimed vide Form 5b but has been indicated at Form 1(I).

Un-discharged liabilities

53. The petitioner in Form 5b of the petition has claimed un-discharged liabilities of ₹18137.59 lakh as on COD of Unit-I and ₹20799.54 lakh as on COD of Unit-II. The petitioner has also furnished Form-18 (liability flow statement) duly certified by Auditor, which confirms the un-discharged liabilities as claimed vide Form-5b. Accordingly, these amounts have been considered for working out the capital cost, on cash basis.

Interest During Construction (IDC)

54. The petitioner has claimed IDC of ₹53411.36 lakh and ₹90640.40 lakh as on COD of Unit-I and Unit-II respectively. Based on the information furnished by the petitioner relating to IDC claimed such as loan agreements, drawls and repayment details and rate of interests etc, the claim of the petitioner has been verified.

55. As stated above, out of the total time overrun actually works out to 1618 days (instead of 1619 days as claimed by the petitioner) and 1631 days (instead of 1632 days as claimed by the petitioner) in respect of Unit-I and Unit-II respectively, the delay of 948 and 961 days each has been condoned and the balance delay of 670 days respectively have been disallowed for the said units. Accordingly, the SCODs have been reset to 18.5.2015 for Unit-I and 31.8.2015 for Unit-II and IDC has been allowed only upto these dates. Accordingly, the IDC accrued upto these dates has been allocated to the respective units, in the same proportion, as worked out by the petitioner. As such, IDC of ₹30143.12 lakh as on COD of Unit-I and ₹41020.31 lakh

as on COD of Unit-II has been considered for capitalization as on the COD of each units.

Normative IDC

56. Clause (5) of Regulation 25 of the 2014 Tariff Regulations provides as under:

“(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.

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.”

57. The petitioner has claimed normative IDC of ₹9054.02 lakh and ₹9606.57 lakh as on COD of Unit-I and Unit-II respectively towards equity of more than 30% of the cash expenditure deployed for the period till COD. The calculations for the same have been furnished by the petitioner vide Form-14A of the Petition. The petitioner has claimed normative IDC from the first quarter of 2010-11 and the first drawl of actual loan was made in the third quarter of 2011-12. For the period pertaining to which the actual loan was yet to be deployed, the petitioner has applied the rate of 12.45% p.a, the basis of which has not been explained by the petitioner. However, it is noted that this rate is same as the rate of interest applicable to the first drawl of loan.

58. It is noticed that the rate of interest claimed by the petitioner for calculation of normative IDC for the period prior to the drawl of actual loan is not in accordance with the above regulations. In a similar case, the Commission vide its order dated 6.5.2015 in petition No. 229/GT/2010 has decided as under:-

“45. (a) The petitioner has claimed notional IDC from the first quarter of 2007-08 and the first drawl of the actual loan was made in the fourth quarter (14.2.2008) of 2007-08. The

petitioner has worked out the notional IDC for first three quarters of 2007-08 by considering the rate of interest @ 10.75% per annum, applicable to the first drawl of loan. But, there was no drawl of actual loan for the generating station as well as the petitioner company as a whole before 14.2.2008. Hence, there was no weighted average rate of interest available to work out the normative IDC before actual drawl of the loan (14.2.2008). Therefore, no IDC has been allowed before the actual drawl of the loan.”

59. In line with the above decision, the normative IDC for the period prior to 1st drawl of actual loan has not been allowed in the present case of the petitioner. For the period after 1st drawl of the actual loan till the reset SCOD of the units, the normative IDC has been calculated and allowed based on the rate of interest on the actual loan and equity of more than 30% of the actual cash expenditure deployed. However, the same is subject to revision at the time of truing-up exercise based on the audited balance sheets with all schedules/ notes for every financial year since first fund infusion etc, to be furnished by the petitioner. Accordingly, the normative IDC of ₹4083.07 lakh for Unit-I and ₹4126.95 lakh for Unit-II is allowed.

Initial Spares

60. The cost of initial spares capitalized as on the actual date of COD of the generating station (1.7.2017) is ₹6365.09 lakh, which works out to 1.88% of the Plant and machinery cost of ₹339302.30 lakh. However, the initial spares capitalised as a percentage upto the cut-off date of generating station is less than the ceiling limit of 4% as specified under Regulation 13(a) of the 2014 Tariff Regulations.

Sale of infirm power from synchronization of Unit-I upto COD of Unit-I and Unit-II / generating station

61. The petitioner in Form-5B of the affidavit dated 20.2.2018 has submitted that the amount of infirm power sold up to COD of Unit-I and Unit-II is ₹319.18 lakh and ₹672.41 lakh respectively. The petitioner has also adjusted the amount of sale of

infirm power in the pre-commissioning expenses in Form-5B. Therefore, no separate adjustment of amount in the capital cost is required on account of sale of infirm power. However, the petitioner is directed to furnish the statement with regard to adjustment of the infirm power in the capital cost, duly certified by Auditor, at the time of truing-up exercise.

Liquidated Damages

62. The petitioner vide affidavit dated 20.2.2018 has submitted that the Liquidated Damages (LD) will be recovered at the time of contract closing of the different packages, in terms of the provision of the contract. The amount of LD, as and when recovered, shall however be retained by the petitioner in respect of the time overrun which has not been condoned.

Cost Variation

63. The petitioner vide ROP of hearing dated 23.5.2017 was directed to furnish the details of increase in IDC, IEDC and price escalation in the different packages of contracts from the SCOD to the actual COD. In response, the petitioner vide affidavit dated 30.10.2018 has furnished the information as regards increase in IDC, IEDC and price escalation in the different packages.

64. As regards escalation/increase in capital cost from the original Investment Approval to RCE-II, the petitioner has furnished the following reasons/justifications.

Item	Value (₹ in crore)	Reasons for increase in hard cost
Land	196	1. Revision in land rate after new Land Acquisition Act. 2. Inclusion of land cost of Make-up water pump house & make up water corridor after receipt from Land Acquisition department.
BTG package	235	The change in estimate on account of change in taxes and duties, price variation in the intervening period.

Ash Handling System	22	Due to change in pipe length from 30 km to 60 km
Coal Handling Plant	90	Due to change in Wagon Tippler design guidelines by RDSO, the award was delayed.
Mechanical system of storm water drain	31	Civil scope was included in Infrastructure package whereas mechanical system was not included in any of the packages.
Ash dyke	66	As per availability of Land the lead distance of Ash dyke increased. The increase in distance leads to increase in cost.
Initial spares	20	It was not considered in original estimate, but has been included in the revised cost.
Reduction in electrical Package	(-) 63	Estimate was on higher side which was changed subsequently in revised cost estimate
Reduction in T&P's	(-) 2.17	Requirement was reviewed and reduced
Reduction in C&I	(-) 1.53	Awarded at a lower value.
Total	595	

65. It is noticed that on account of the delay in declaration of COD of the units, the establishment expenses have increased. The total establishment expenses as claimed by the petitioner is ₹10259.31 lakh as on COD of Unit-I and ₹16117.53 lakh as on COD of Unit-II. Accordingly, establishment expenses have been allowed till the reset scheduled COD as discussed at para 50 above, on *pro-rata* basis as below:

(₹in lakh)					
Units	Zero date	Reset SCOD	Actual COD	Establishment expenses	Pro-rata reduction
Unit -I	12.3.2010	18.5.2015	18.3.2017	10259.31	2681.91
Unit -2	12.3.2010	31.8.2015	1.7.2017	16117.53	4047.51

66. After adjustment of IDC & IEDC on account of time overrun and un-discharged liabilities, the capital cost as on the COD of Unit-I and Unit-II is as under:-

	18.3.2017 (Unit-I)	1.7.2017 (Unit-II)
Capital cost claimed on cash basis (excluding IDC/ Normative IDC)	151268.68	247666.74
Less: IEDC disallowed due to Time Overrun	2681.91	4047.51
Add: IDC allowed	30143.12	41020.31
Add: Normative IDC allowed	4083.07	4126.95
Capital cost allowed on cash basis	182812.96	288766.49

Additional Capital Expenditure and discharge of liabilities

67. Regulation 14 (1) of the 2014 Tariff Regulations provides for the following:

"14. Additional Capitalization and De-capitalization:

(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."

68. The petitioner has claimed projected additional capital expenditure and discharge of liabilities from COD of the generating station (1.7.2017) till 31.3.2019 in respect of works which are within the original scope of work and upto the cut-off date in terms of Regulation 14 (1)(i),(ii) & (iii) of the 2014 Tariff Regulations as under:

	2016-17	2017-18		2018-19
	18.3.2017 to 31.3.2017	1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	
Additional capital expenditure	0.00	0.00	20018.77	63105.87
Discharge of liability	326.30	2675.30	3899.39	11422.41
Total	326.30	2675.30	23918.16	74528.28

69. The petitioner has furnished Form-18 duly certified by Auditor indicating the projected discharge of liabilities as above. Since the additional capital expenditure

claimed by the petitioner including discharge of liabilities is within the original scope of work and upto the cut-off date of the generating station, the same is allowed under Regulation 14 (i),(ii) & (iii) of the 2014 Tariff Regulations. However, the petitioner is directed to furnish the asset-wise details of the actual expenditure incurred and the liabilities discharged under original scope of work, duly certified by Auditor, at the time of revision of tariff based on truing-up exercise.

Capital cost allowed from 18.3.2017 to 31.3.2019

70. Based on the above discussions, the capital cost allowed for the period from 18.3.2017 till 31.3.2019 is summarized for the tariff period 2014-19 as under:-

	18.3.2017 to 31.3.2017	1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	1.4.2018 to 31.3.2019	(₹in lakh)
Opening capital Cost	182812.96	183139.26	288766.49	312684.65	
Admitted additional capital expenditure	326.30	2675.30	23918.16	74528.28	
Closing capital cost	183139.26	185814.56	312684.65	387212.93	

Reasonableness of Capital Cost

71. The capital cost (excluding IDC, FC & WCM) envisaged at the time of original Investment Approval was ₹3054.61 crore, which works out to be ₹7.83 crore/ MW. The Board of the petitioner company, while approving the Investment Approval for ₹3344.68 crore had sought clarification from NTPC for such a high cost and it was clarified that in view of smaller size of the units, project being non-mega and due to additional provisions for Coal Handling Plant, the cost of the project was higher. Further, due to the reasons of smaller size of units etc., the ratio of main plant (TG & SG) and Balance of Plant (BOP) cost was higher in comparison to other projects. It was also clarified that due to de-rating of unit size to 195 MW in view of Airports Authority of India's restriction on stack height, non-mega status and considering the

fact that facilities like Intake Pump House Building, Railway Siding, Coal Unloading & Handing System etc. were essentially required, the total revised cost and cost/MW of this project was relatively higher when compared to mega status projects and with higher capacity units.

72. The hard cost of the project till the cut-off date as furnished by the petitioner in Form-5B is ₹3794.17 crore which works out to be ₹9.73 crore/MW. This is higher than the cost envisaged at the time of original investment approval of ₹7.83 crore/MW. The petitioner, in response to directions of the Commission vide ROP of hearing dated 11.10.2018, has furnished the following reasons towards increase in hard cost:

- i) Land: Increase of ₹196 crore due to revision in land rate after the new Land Acquisition Act.
- ii) BTG Package: Increase of ₹235 crore due to change in estimate on account of change in taxes and duties, price variation in the intervening period.
- iii) Ash Handling System: Increase of ₹22.8 crore due to change in pipe length from 30 km to 60 km.
- iv) Coal Handling Plant: Increase of ₹90.5 crore due to change in Wagon Tippler design as per guideline by RDSO and delay in award.
- v) Mechanical system of storm water drain: Increase of ₹31 crore due to mechanical system not included in any of the packages in original Investment Approval.
- vi) Ash dyke: Increase of ₹66 crore due to non-availability of land as the lead distance of Ash dyke was increased. The increase in distance of piping lead to increase in cost.
- vii) Initial spares: Increase of ₹20 crore for spares as it was not considered in the original estimate, but was included in the revised cost.

73. The Commission vide its order dated 4.6.2012 has specified the 'Benchmark capital cost (Hard cost) for Thermal Power stations with coal as fuel in respect of

power projects of 500 MW capacity and above and not for projects of 200/250 MW capacity. Further, no contemporary project of 195/200 MW capacity has been commissioned during this period. It is noticed from the Board Resolution dated 6.3.2010 that the high cost of the project was a concern for the Board of Directors of the petitioner company. The Board, only after being satisfied of the reasons for high cost of the project, had approved the project cost. In this background, the estimated completion cost and the actual capital cost as on COD of the project is considered reasonable and has accordingly been considered for the purpose of tariff.

Debt-Equity

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

“19. Debt-Equity Ratio

(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.”

75. In the present case, the debt-equity position as per Form 6 of the petition as on COD is as under:

	<i>(₹ in lakh)</i>	
	COD of Unit-I	COD of Unit-II
Loans	242784.40	251417.93
Equity	121832.79	122320.26
Total	364617.19	373738.19
Debt Equity Ratio (%)	66.59:33.41	67.27:32.73

76. As per balance sheet of the petitioner company, as on COD of each units, the capital expenditure and the sources of funds has been indicated as follows:-

	(₹ in lakh)	
	18.3.2017	1.7.2017
Expenditure		
Tangible assets	278910.53	415794.29
+Intangible assets	5.98	5.98
Total Fixed Assets	278916.51	415800.27
+CWIP	162506.99	39410.83
Capital expenditure toward fixed assets and CWIP	441423.5	455211.1
+Capital Advances	10447.32	9596.27
Capital expenditure including advances	451870.82	464807.37
-Undischarged liabilities (As per balance sheet)	31561.48	35183.95
Capital Expenditure on cash basis (A)	420309.34	429623.42
Funding:		
Share capital	112224.30	112224.3
Share application money pending allotment	20343.07	27343.07
Loan from banks	241218.88	177382.7
Loan from other sources (secured)	0.00	53305.01
Current maturities of loan	13230.00	7817.00
loan from NTPC	12185.71	12100.00
Grant (Total grant received upto 31.3.14 as submitted in petition no. 240/GT/17 w.r.t. stage-I, 2014-19 period)	42965.00	42965.00
Total Funds raised (B)	442166.96	433137.08

77. The petitioner has not furnished the stage-wise balance sheet separately, but has furnished the combined balance sheet (comprising of both the stages). As such, it is not possible to arrive at the debt-equity ratio separately for Stage-II of the project. Hence, the same has been calculated for the company as a whole. It is further noticed that the petitioner has received RSVY grant from the Government of India. As this grant has been received exclusively for Stage-I, the amount of this grant has been reduced from the expenditure and funding. As the amount of grant received till COD of each unit in respect of Stage-II has not been furnished/ made available by the petitioner or is noticed from the company balance sheet as on COD, the same has been considered as ₹42965.00 lakh, as furnished by the petitioner in

petition no. 240/GT/2017 filed before the Commission for approval of tariff of Stage-I of the project for the period 2014-19.

78. The balance sheet of the company indicates amounts of ₹20343.07 lakh and ₹27343.07 lakh as share application money, pending allotment as on the respective date of COD of the units. As regards treatment of share application money while calculating the debt-equity ratio, the Commission vide its order dated 11.7.2017 in petition no. 277/GT/2014 (tariff of Vallur TPS for 2014-19) had decided the following:

“63..... The balance sheet also indicates that an amount of ₹11999.00 as share application money is pending for allotment as on 25.2.2015 and therefore, the same has not been considered as equity without its conversion into share capital. In this background, while calculating the debt equity ratio, actual equity has been restricted to share capital and the balance amount (which includes the long term loans as per the balance sheet ₹589798.49 and share application money of ₹11999.00 lakh) is considered as loan.

79. Accordingly, the share application money has been considered as loan in the present case, without its conversion into share capital. As such, the debt-equity ratio has been calculated based on the capital expenditure as per balance sheet, excluding the grant amount pertaining to Stage-I of the project and considering the paid up share capital as equity, as under:

	(Rs in lakh)	
	18.3.2017	1.7.2017
(a) Capital expenditure on cash basis	420309.34	429623.42
Less: Amount of grant	42965.00	42965.00
(b) Capital expenditure on cash basis excluding grant	377344.34	386658.42
(c) Equity (share capital)	112224.30	112224.30
(d) Debt Equity ratio (c/b)	29.74%	29.02%

80. The debt equity ratio calculated as above is subject to revision based on truing-up exercise, based on the following information to be furnished by the petitioner:

- Stage-II balance sheet as on COD of each unit;

- b) Reconciliation of un-discharged liabilities as on COD of both units as claimed for purpose of tariff of Stage-I in petition Nos. 241/GT/2017 and 240/GT/2017) and Stage-II, with the balance sheet;
- c) Reconciliation of the capital expenditure on cash basis for stage-I and stage-II with the sources of funds.

Return on Equity

81. Regulation 24 of the CERC Regulation 2014 provides as below:

"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."

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

"25. 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:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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."

83. The petitioner has considered "nil" tax rate towards grossing up of Return on Equity (ROE). The same has been considered for calculation of ROE allowed. However, the petitioner is directed to furnish the detailed calculation of the effective tax rate, duly certified by Auditor and supported by tax audit report for the respective years, at the time of revision of tariff based on truing-up exercise, in terms of Regulation 8 of the 2014 Tariff Regulations. Return on Equity has been computed as under:-

	18.3.2017 to 31.3.2017	2017-18		2018-19
		1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	
Gross Notional equity	54369.59	54466.63	83812.00	90754.05
Addition due to additional capitalisation	97.04	795.65	6942.04	21631.20
Closing Equity	54466.63	55262.28	90754.05	112385.24
Average Equity	54418.11	54864.46	87283.03	101569.64
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year	0.00%	0.00%	0.00%	0.00%
Rate of Return on Equity (Pre Tax)	15.50%	15.50%	15.50%	15.50%
Return on Equity (Pre Tax)	323.53	2120.17	10155.92	15743.29

Interest on Loan

84. 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 upto the date of de-capitalisation 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 the loan."

85. Interest on loan has been computed as under:

- a) The opening gross normative loan as on COD of each unit has been arrived at in accordance with Regulation 26 of the 2014 Tariff Regulations.
- b) The weighted average rate of interest has been worked out on the basis of the actual loan portfolio of respective year applicable to the project.
- c) The repayment for the years for the period 2014-19 has been considered equal to the depreciation allowed for the years.
- d) Interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest.

86. Accordingly, Interest on loan is worked out as under:

	18.3.2017 to 31.3.2017	2017-18		(₹ in lakh) 2018-19
		1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	
Gross Loan-Opening	128443.37	128672.63	204954.49	221930.60
Cum.Repayments upto Previous Period	0.00	326.53	2466.36	13220.17
Net Loan-Opening	128443.37	128346.10	202488.13	208710.44
Addition due to Drawl	229.26	1879.65	16976.12	52897.08
Repayment	326.53	2139.83	10753.81	16670.12
Net Loan-Closing	128346.10	128085.92	208710.44	244937.41
Average Loan	128394.74	128216.01	205599.28	226823.92
Rate of Interest	9.667%	9.667%	9.667%	9.667%
Interest on loan	476.10	3090.22	14920.32	21927.43

Depreciation

87. Regulation 27 of the 2014 Tariff Regulations provides as under:

"27. Depreciation:

(1) *Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof. Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the*

generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. 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.

(3) 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 station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

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

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

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

(5) 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 and transmission system: Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2014 from the gross depreciable value of the assets.

(7) The generating company or the transmission license, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services.”

88. Depreciation has been calculated as under:

	18.3.2017 to 31.3.2017	2017-18		2018-19
		1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	
Opening Gross Block	182812.96	183139.26	288766.49	312684.65
Additions during the period	326.30	2675.30	23918.16	74528.28
Closing Gross Block	183139.26	185814.56	312684.65	387212.93
Average Gross Block	182976.11	184476.91	300725.57	349948.79
Value of Freehold Land	17132.25	17132.25	17132.25	17132.25
Rate of Depreciation	4.6525%	4.6525%	4.7636%	4.7636%
Depreciable value	149259.48	150610.20	255233.99	299534.89
Remaining Depreciable value	149259.48	150283.67	252767.63	286314.72
Depreciation	326.53	2139.83	10753.81	16670.12

Operation & Maintenance expenses

89. Regulation 29(1) (a) of the 2014 Tariff Regulations provides for the normative O&M expenses for 200/210/250 MW units of coal based generating stations as under:-

(₹ In lakh/MW)				
2014-15	2015-16	2016-17	2017-18	2018-19
23.90	25.40	27.00	28.70	30.51

90. The petitioner has claimed O&M expenses as follows:-

	2016-17	2017-18		2018-19
		18.3.2017 to 31.3.2017	1.4.2017 to 30.6.2017	
O&M Expenses under Reg. 29(1)	5265.00	5596.50	11193.00	11898.90
Water Charges under Reg. 29(2)	0.00	0.00		0.00
Total O&M Expenses	5265.00	5596.50	11193.00	11898.90

91. The petitioner has claimed year-wise normative O&M expenses only and has not claimed any water charges. The petitioner has however submitted that the water charges shall however be claimed at the time of revision of tariff based on truing-up exercise. The normative O&M expenses claimed by the petitioner in accordance with

Regulation 29(1) are in order and the same is allowed *pro rata* for the period 2016-19 as under:-

			(₹in lakh)
2016-17	2017-18		2018-19
18.3.2017 to 31.3.2017	1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	
201.95	1395.29	8402.42	11898.90

Capital spares

92. The petitioner has not claimed any capital spares for the period 2016-19. Hence, not considered.

Operational Norms

93. The following norms for operation for 195 MW units and above project capacity has been considered by the petitioner for the purpose of tariff:

Target Availability (%)	83.0
Heat Rate (kcal/kwh)	2500.84
Auxiliary Power Consumption (%)	9.0
Specific Oil Consumption (ml/kwh)	0.50

Target Availability

94. Regulation 36 of the 2014 Tariff Regulations provides as under:

“(A)Normative Annual Plant Availability Factor

(a) All Thermal generating stations, except those covered under clauses (b)(c),(d) &(e)- 85%.

Provided that in view of the shortage of coal and uncertainty of assured coal supply on sustained basis experienced by the generating stations, the NAPAF for recovery of fixed charges shall be 83% till the same is reviewed. The above provision shall be reviewed based on actual feedback after 3 years from 1.4.2014.”.

The above provision shall be reviewed based on actual feedback after 3 years from 1.4.2014.

95. The petitioner has considered the Target Availability of 83% during the period 2017-19. The Commission due to shortage of domestic coal supply has relaxed

Target Availability norm to 83% for the first 3 years from 1.4.2014 and the same shall be reviewed after 3 years. Hence, in terms of the said Regulation, the Target Availability of 83% is allowed for the period 2016-17 (18.3.2017 to 31.3.2017) and 85% for the period 2017-19 is allowed.

Heat Rate

96. Regulation 36(C)(c) of Tariff Regulations, 2014 provides as follows:-

36(C) Gross Station Heat Rate:-

(c) Thermal Generating Station having COD on or after 1.4.2009 till 31.3.2014

(i) Coal-based and lignite-fired Thermal Generating Stations

$$= 1.045 \times \text{Design Heat Rate (kCal/kWh)}$$

Where the Design Heat Rate of a generating unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure:

Provided that the heat rate norms computed as per above shall be limited to the heat rate norms approved during FY 2009-10 to FY 2013-14:

Provided that the design heat rate shall not exceed the following maximum design unit heat rates depending upon the pressure and temperature ratings of the units:

Pressure Rating (Kg/cm ²)	150	170	170	247
SHT/RHT (0C)	535/535	537/537	535/565	565/593
Type of BFP	Electrical Driven	Turbine Driven	Turbine Driven	Turbine Driven
Max Turbine Heat Rate (kCal/kWh)	1955	1950	1935	1850
Min. Boiler Efficiency				
Sub-Bituminous Indian Coal	0.86	0.86	0.86	0.86
Bituminous Imported Coal	0.89	0.89	0.89	0.89
Max Design Unit Heat Rate (kCal/kWh)				
Sub-Bituminous Indian Coal	2273	2267	2250	2151
Bituminous Imported Coal	2197	2191	2174	2078

97. The petitioner vide affidavit dated 20.2.2018 in Form-2 has furnished the Turbine Cycle Heat Rate of 1971 Kcal/ kWh and Boiler Efficiency of 82.36%. Considering the ceiling limits of 86% and 1955 (kCal/kWh) for boiler efficiency and

Max. Turbine Heat Rate respectively, as provided in column 1 of the above, the Gross Station Heat Rate for the period 2016-19 for the generating station is computed as 2375 kcal/kWh ($1.045 \times 1955/0.86$). Accordingly, the Station Heat Rate of 2375 kcal/ kWh for the period 2016-19 is considered.

Auxiliary Power Consumption

98. Regulation 36(E)(a) of the 2014 Tariff Regulations provides for the Auxiliary Power Consumption of 8.5 % for coal based generating stations of 200 MW series sets with Induced Draft Cooling tower with electrical driven BFP. Further, the thermal generating stations with Induced Draft Cooling Tower are provided with additional 0.5% AEC. Hence, the Auxiliary Power Consumption of 9.0% as considered by the petitioner is in terms of the regulations, and is therefore allowed.

Specific Oil Consumption

99. Regulation 36(D)(a) of the 2014 Tariff Regulations provides for the Secondary Fuel Oil Consumption of 0.50 ml/kWh for coal-based generating stations. Hence, the Secondary Fuel Oil Consumption considered by the petitioner is as per norms and is therefore allowed.

Interest on Working capital

100. Sub-section (a) 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

(a) Coal based/lignite fired thermal generating stations

i) Cost of coal towards stock for 15 days for pit-head generating stations and 30 days for non-pit-head generating station for generation corresponding to the normative annual plant availability factor or the maximum coal stock storage capacity whichever is lower.

- ii) Cost of coal for 30 days for generating corresponding to the normative annual plant availability factor.*
- iii) Cost of secondary fuel oil for two month for generating corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil.*
- iv) Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 29.*
- v) Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor; and*
- vi) Operation and maintenance expenses for one month.”*

101. Working capital has been calculated considering the following elements:

Fuel components in working capital

102. The petitioner has claimed the cost for fuel component in working capital based on price and “as received GCV” of coal and Secondary fuel oil procured and burnt for the preceding three months of December, 2016, January, 2017 and February, 2017 for Unit-I and for the months of April, 2017, May, 2017 and June, 2017 for Unit-II as under:-

	2016-17 18.3.2017 to 31.3.2017	2017-18 1.4.2017 to 30.6.2017		2018-19
		1.7.2017 to 31.3.2018		
Cost of Coal for stock (1 month)	2497.03	2497.03	4995.66	4995.66
Cost of Coal for Generation (1month)	2497.03	2497.03	4995.66	4995.66
Cost of Secondary fuel oil 2 months	64.86	64.86	129.30	129.30

103. The computation of Energy Charges and Fuel component (coal cost) in working capital during the period 2016-19 is based on “as received GCV” of coal. The petitioner has claimed Energy Charge Rate (ECR) of 238.487 paise/kWh based on the Weighted Average Price, GCV of coal (on as received basis) & Oil procured and burnt for the preceding three months. The cost for fuel components in working capital has been computed at 83% NAPAF for the year 2016-17 and at 85% NAPAF

for the year 2017-18 & 2018-19 and is based on 'as received GCV' of coal and price of coal procured and secondary fuel oil for the preceding three months from COD of Unit-I (18.3.2017) and COD of Unit-II (1.7.2017) as given under:-

	2016-17	2017-18		2018-19 (₹in lakh)
	18.3.2017 to 31.3.2017	1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	
Cost of Coal for stock- 30 days	90.65	601.75	3614.66	4815.15
Cost of Coal for generation-30 days	90.65	601.75	3614.66	4815.15
Cost of Coal for 60 days	181.29	1203.50	7229.32	9630.30
Cost of Secondary fuel oil 2 months	2.49	16.56	99.40	132.42

Energy Charge Rate (ECR)

104. The petitioner has claimed an energy charge rate (ECR) of 238.487 Paise/kWh based on the weighted average price, GCV of coal (as received basis) & Oil procured and burnt for the procured and burnt for the preceding three months of COD of Unit-I and COD of Unit-II. The energy charge rate (ECR) as worked out based on operational norms specified in 2014 Regulations and on "As Received" GCV of coal for preceding 3 months i.e. December'2016, January'2017 and February'2017 for COD of Unit-I and April' 2017, May' 2017 and June'2017 for COD of Unit-II, as given below have been considered for allowing 2 months Energy Charge in Working capital:

Description	Unit	2016-17 (18.3.2017-31.3.2017) & 2017-18 (1.4.2017 - 30.6.2017)	2017-18 (1.7.2017-31.3.2018) & 2018-19
Capacity	MW	195	390
Gross Station Heat Rate	Kcal/kWh	2375	2375
Aux. Energy Consumption	%	9.0	9.0
Weighted average GCV of oil	Kcal/lit	9377.86	9499.57
Weighted average GCV of Coal (As Received)	Kcal/kg	3587.59	3676.76
Weighted average price of oil	₹/KL	54895.00	54719.00
Weighted average price of Coal	₹/MT	3069.50	3138.00
Rate of energy charge ex-bus	Paise/kWh	225.874	225.307

105. The Energy Charges for two months allowed in the working capital are as under:-

	2016-17	2017-18	(₹in lakh)	
	18.3.2017 to 31.3.2017	1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	2018-19
Cost of Coal for 60 days	181.29	1203.50	7229.32	9630.30
Cost of Secondary fuel oil 2 months	2.49	16.56	99.40	132.42
Energy Charges for 2 months	186.30	1240.12	7449.21	9923.22

O&M expenses for 1 month

106. O&M expenses for one month as considered by the petitioner are allowed as under:-

	2016-17	2017-18	(₹in lakh)	
	18.3.2017 to 31.3.2017	1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	2018-19
	438.75	466.38	932.75	991.58

Maintenance spares

107. Maintenance spares @ 20 % of the O&M expenses is allowed as under:

	2016-17	2017-18	(₹in lakh)	
	18.3.2017 to 31.3.2017	1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	2018-19
	1053.00	1119.30	2238.60	2379.78

Receivables

108. Receivables equivalent to two months of capacity charge and energy charge for sale of electricity has been calculated on normative plant availability factor. Accordingly, receivables have been worked out on the basis of two months of fixed and energy charges are as under:

	2016-17	2017-18	(₹in lakh)	
			2018-19	
Variable Charges	186.3	1240.12	7449.21	9923.22
Fixed Charges	239.44	1577.84	8054.50	11977.93

Rate of interest on working capital

109. Clause (3) of Regulation 28 of the 2014 Tariff Regulations provides as under:

"Interest on working Capital: (3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later."

110. In terms of the above regulations, Interest on working capital has been computed as under:-

	2016-17 18.3.2017 to 31.3.2017	2017-18		2018-19
		1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	
O&M expenses	16.83	116.27	700.20	991.58
Maintenance spares	40.39	279.06	1680.48	2379.78
Cost of coal for stock (1 month)	90.65	601.75	3641.66	4815.15
Cost of coal for generation (1 month)	90.65	601.75	3641.66	4815.15
Cost of coal for 60 days	181.29	1203.5	7229.32	9630.3
Cost of secondary fuel oil (2 months)	2.49	16.56	99.4	132.42
Receivables (Variable Charges)	186.30	1240.12	7449.21	9923.22
Receivables (Fixed Charges)	239.44	1577.84	8054.50	11977.93
Total	848.04	5636.85	32496.44	44665.53
Rate of Interest	12.80%	12.80%	12.60%	12.60%
Interest on working capital	108.55	721.52	4094.55	5627.86

Fixed Charges

111. Accordingly, the fixed charges approved for the generating station for the period from 18.3.2017 to 31.3.2019 is summarized as under:-

	2016-17 18.3.2017 to 31.3.2017	2017-18		2018-19
		1.4.2017 to 30.6.2017	1.7.2017 to 31.3.2018	
Return on Equity	323.53	2120.17	10155.92	15743.29
Interest on Loan	476.10	3090.22	14920.32	21927.43
Depreciation	326.53	2139.83	10753.81	16670.12
Interest on Working Capital	108.55	721.52	4094.55	5627.86
O&M Expenses	201.95	1395.29	8402.42	11898.90
Fixed Charges	1436.64	9467.03	48327.01	71867.60

112. The petitioner shall compute and claim the Energy Charges on month to month basis from the beneficiaries based on the formulae given under Regulation 30 (6) (a) of the 2014 Tariff Regulations read with Commission's order dated 25.1.2016 in petition No. 283/GT/2014.

113. Also, 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."

114. 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.

Revision of O&M expenses

115. The petitioner in the petition has submitted that it may be allowed revision of O&M charges including the revised salary of the employees of the petitioner with effect from 1.1.2017 as and when finalised. The matter has been examined. On this issue, the Commission in the Statement of Reasons to the 2014 Tariff Regulations has observed as under:

"29.26 Some of the generating stations have suggested that the impact of pay revision should be allowed on the basis of actual share of pay revision instead of normative 40% and one generating company suggested that the same should be considered as 60%. In the draft Regulations, the Commission had provided for a normative percentage of employee cost to total O&M expenses for different type of generating stations with an intention to provide a ceiling limit so that it does not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission would however, like to review the same considering the macro economics involved as these norms are also applicable for private generating stations. In order to ensure that such increase in employee expenses on account of pay revision in case of central generating stations and private generating stations are considered appropriately, the Commission is of the view that it

shall be examined on case to case basis, balancing the interest of generating stations and consumers”

116. Accordingly, the prayer of the petitioner for revision of O&M expenses if any, due to pay revision may be examined by the Commission, on a case to case basis, subject to the implementation of pay revision as per DPE guidelines and the filing of an appropriate application by the petitioner in this regard.

Application filing fee and Publication Expenses

117. The petitioner has sought reimbursement of filing fee and also the expenses incurred towards publication of notices for application of tariff for the period 2016-19. Accordingly, in terms of Regulations 52 of the 2014 Tariff Regulations, we direct that the petitioner shall be entitled to recover *pro rata*, the filing fees for the period 2016-19 and the expenses incurred on publication of notices directly from the Respondents, on production of documentary proof.

118. The fixed charges approved for the period 2016-19 as above are subject to revision based on truing up exercise in terms of Regulation 8 of the 2014 Tariff Regulations.

119. This order disposes of petition No. 74/GT/2017.

Sd/-

(Dr. M. K. Iyer)
Member

Sd/-

(P.K.Pujari)
Chairperson

