

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 199/GT/2017**

**Coram:**

**Shri P.K.Pujari, Chairperson**

**Dr. M.K. Iyer, Member**

**Shri I.S.Jha, Member**

**Date of Order: 8<sup>th</sup> January, 2020**

**In the matter of**

Petition for determination of tariff of Kudgi Super Thermal Power Station, Stage-I (2400 MW) for the period from COD of Unit-I to 31.3.2019

**And**

**In the matter of**

NTPC Ltd

NTPC Bhawan, Core-7, SCOPE Complex,  
7, Institutional Area, Lodhi Road,  
New Delhi-110003

.....Petitioner

**Vs**

1. Andhra Pradesh Eastern Power Distribution Company Ltd  
Corporate Office P&T Colony, Seethammadhara,  
Visakhapatnam-530013
2. Andhra Pradesh Southern Power Distribution Company Ltd,  
Corporate Office, Back side Srinivasa Kalyana Mandapam  
Tiruchhanur Road, Kesavayana Gunta,  
Tirupati-517503
3. Telangana State Northern Power Distribution Company Ltd  
H.No 2-5-31/2, Vidyut Bhawan  
Nakkalagutta, Hanamkonda,  
Warangal-506001
4. Telangana State Southern Power Distribution Company Ltd  
Mint Compound, Corporate Office, Hyderabad-500063
5. Tamil Nadu Generation & Distribution Corporation Ltd.  
144, Anna Salai, Chennai- 600002
6. Bangalore Electricity Supply Company Ltd.  
K.R.Circle, Bengaluru- 560001
7. Mangalore Electricity Supply Company Limited  
Corporate Office, MESCOM Bhavan, First floor,  
Kavoor Cross Road, Bijai,  
Mangalore- 575004



8. Chamundeshwari Electricity Supply Company Limited  
Corporate Office No. 29, Vijayanagara 2<sup>nd</sup> Stage, Hinkal,  
Mysore- 570017

9. Gulbarga Electricity Supply Company Limited  
Station Main Road, Gulbarga- 585102

10. Hubli Electricity Supply Company Limited  
Corporate Office, Navanagar, PB Road,  
Hubli- 580025

11. Kerala State Electricity Board Ltd  
Vaidyuthi Bhavanam, Pattom  
Thiruvananthapuram- 695004

.....Respondents

### **Parties present**

Shri Rohit Chhabra, NTPC  
Shri Patanjali Dixit, NTPC  
Shri Vineet Kant Rajora, NTPC  
Shri S.Vallinayagam, Advocate, TANGEDCO  
Shri Arunav Patnaik, Advocate, Karnataka discoms  
Shri Shikhar Saha, Advocate, Karnataka discoms

### **ORDER**

The Petitioner, NTPC has filed this petition for approval of tariff of Kudgi Super Thermal Power Station (3 x 800 MW) (“the generating station/ Project”) based on the anticipated COD of Unit-I (25.7.2017) to 31.3.2019, in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations"). Pursuant to the actual COD of Unit-I on 31.7.2017, Unit-II on 31.12.2017 and Unit-III on 15.9.2018, the Petitioner vide affidavit dated 4.3.2019 has amended the petition and has prayed for approval of tariff of the generating station from the actual COD of the said units till 31.3.2019.

2. The generating station, located in the Bijapur district of the State of Karnataka, comprises of three units of 800 MW each. The Ministry of Power, GOI



vide its letter dated 6.10.2015 had allocated the power from the generating station to the Respondent beneficiaries as detailed below:

States	Total allocation in (MW) (rounded off)	Share in installed capacity (%)
Karnataka (including home State share)	1200.00	50.00
Tamilnadu	300.00	12.50
Kerala	105.00	4.38
Telangana	234.00	9.75
Andhra Pradesh	201.00	8.38
Unallocated	360.00	15.00
<b>Total</b>	<b>2400.00</b>	<b>100.00</b>

3. The Investment Approval (IA) of the project was accorded by the Board of the Petitioner Company in its 376<sup>th</sup> meeting held on 28.12.2011 and the same was subject to Environmental Clearance (EC) of MOE&F, GOI. The approval was granted at an estimated cost of ₹15166.19 crore, including Interest During Construction & Financing Cost of ₹ 2487.67 crore and Working Capital Margin of ₹445.77 crore as of the 4<sup>th</sup> quarter 2011 price level and corresponding indicative estimated completed cost of ₹16934.65 crore, including IDC & FC of ₹2654.84 crore and WCM of ₹460.06 crore. Accordingly, the capital cost and annual fixed charges claimed by the Petitioner as per Form 1(i) and Form 1 of the amended petition for the period from actual COD of Unit-I (2017-18) to 2018-19 is as under:

(a) Capital cost

(₹ in lakh)

	2017-18	2017-18	2018-19	2018-19
	31.7.2017 (COD of Unit-I) to 30.12.2017	31.12.2017 (COD of Unit-II) to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 (COD of Unit-III) to 31.3.2019
Capital Cost as on COD	602597.84	970642.36	1086947.95	1362547.31
Railway augmentation deposit works	94600.00	94600.00	-	94600.00
ERV charged to revenue	(-) 1753.00	(-) 1984.00	-	15025.00
Inter-Unit transfer out before COD	2157.00	2157.00	-	2157.00
Notional IDC	1251.00	1251.00	-	1322.00



Unamortised Finance Charges	616.00	1536.00	-	1633.00
Opening Capital Cost	699468.84	1068202.36	1086947.95	1477284.31
Add: Additions during the year / period & Liability discharged	36657.69	18745.59	45073.60	45225.00
<b>Closing Capital Cost</b>	<b>736126.53</b>	<b>1086947.95</b>	<b>1132021.54</b>	<b>1522509.31</b>
Average Capital Cost	717797.69	1077575.15	1109484.75	1499896.81

**(b) Annual Fixed Charges**

	(₹ in lakh)			
	2017-18	2017-18	2018-19	2018-19
	31.7.2017 (COD of Unit-I) to 30.12.2017	31.12.2017 (COD of Unit-II) to 31.3.2018	01.04.2018 to 14.09.2018	15.09.2018 (COD of Unit-III) to 31.03.2019
Depreciation	35271.22	53933.71	55509.74	75792.79
Interest on Loan	31642.14	47151.66	47581.99	63005.56
Return on Equity	42433.60	63702.34	65761.95	88902.66
Interest on Working Capital	11347.93	21886.70	22067.52	33698.00
O&M Expenses	14843.29	28683.29	30299.43	45003.43
<b>Total</b>	<b>135538.18</b>	<b>215357.71</b>	<b>221220.63</b>	<b>306402.44</b>

**Commissioning schedule**

4. As stated, the IA of the project was accorded by the Board of the Petitioner Company in its 376<sup>th</sup> meeting on 28.12.2011 with indicative estimated completed cost of ₹16934.65 crore, which included the IDC & FC of ₹2654.84 crore and WCM of ₹460.06 crore, which was subject to Environmental Clearance (EC). The EC was granted by MOE&F, GOI on 25.1.2012. The Petitioner in Form-5D has submitted that the Steam Turbine and Generator Package was awarded on 17.2.2012. Considering the date of EC, the Petitioner has considered 25.1.2012 as the 'Zero Date'. The Petitioner has considered Scheduled Commercial Operation Date (SCOD) of Unit-I as 31.5.2016, of Unit-II as 30.11.2016 and of Unit-III as 30.5.2017. However, considering the timeline of 52 months for Unit-I and subsequent units at an interval of 6 months in terms of the 2014 Tariff Regulations for Greenfield projects, the SCOD of the units of the project is worked out as 25.5.2016 for Unit-I, 25.11.2016 for Unit-II and 25.5.2017 for Unit-III. These dates have been considered for the purpose of analysis of time overrun of the project.



5. The actual COD of Unit-I is 31.7.2017, of Unit-II is 31.12.2017 and of Unit-III is 15.9.2018, thereby resulting in the delay of 14.2 months for Unit-I, 13.2 months for Unit-II and 15.7 for Unit-III from SCOD as under:

	SCOD	Actual COD	Time overrun
Unit-I	25.5.2016	31.7.2017	14.2 months
Unit-II	25.11.2016	31.12.2017	13.2 months
Unit-III	25.5.2017	15.9.2018	15.7 months

### **Admissibility of additional ROE**

6. The timeline for completion of Project as specified under the 2014 Tariff Regulations for green field projects (Coal/lignite) with a unit size of 660 MW/800 MW from the date of IA is 52 months for the first unit, with SCOD of subsequent units at an interval of 6 months each. The zero date of the project is 25.1.2012. The SCOD of Unit-I is 25.5.2016, Unit-II is 25.11.2016 and Unit-III is 25.5.2017 and the actual COD of Unit-I is 31.7.2017, Unit-II is 31.12.2017 and Unit-III is 15.9.2018. Since the actual time taken for declaration of commercial operation of Unit-I is 67 months, 72 months for Unit-II and 81 months for Unit-III (that is more than 52 months for all the units), the Petitioner is not entitled for additional RoE of 0.5% considered towards timely completion of the project.

### **Time Overrun**

7. The Petitioner vide its affidavit dated 4.3.2019 has submitted that the COD of the Units got delayed on account of the following reasons, which were beyond its control:

- (a) Right of Use (RoU) for Make-up Water Pipelines
- (b) Ban imposed on the river bed sand mining by NGT order dated 5.8.2013 (Change of law)
- (c) Law and Order Issues (Bandhs/agitations/riots etc)
- (d) Drought
- (e) Villagers' resistance - Power Input arrangement for running design make up water pump



(f) Villagers' resistance - Northern side Railway siding and water reservoir for Lagoon-2

8. The Petitioner vide its affidavit dated 10.6.2019 has furnished unit-wise reasons for time overrun along with the delay analysis, indicating the activities delayed, the reasons for the said delay and the corresponding delay on account of the delay in each of the activities, corresponding to the units. The Respondents TANGEDCO, BESCO, KSEB and CESC have filed their replies in the matter. The Petitioner has filed its rejoinder to the said replies.

### **Analysis and decision**

9. For prudence check of time over run and cost overrun of a project, the Appellate Tribunal for Electricity (the Tribunal) in its judgment dated 27.4.2011 in Appeal No. 72 of 2010 (MSPGCL V MERC & ors) had laid down the following principles:

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

*(i) Due to factors entirely attributable to the generating company, e.g., imprudence in selecting the contractors/suppliers and in executing contractual agreements including terms and conditions of the contracts, delay in award of contracts, delay in providing inputs like making land available to the contractors, delay in payments to contractors/suppliers as per the terms of contract, mismanagement of finances, slackness in project management like improper co-ordination between the various contractors, etc.*

*(ii) Due to factors beyond the control of the generating company e.g. delay caused due to force majeure like natural calamity or any other reasons which clearly establish, beyond any doubt, that there has been no imprudence on the part of the generating company in executing the project.*

*(iii) Situation not covered by (i) & (ii) above.*

*In our opinion in the first case the entire cost due to time over run has to be borne by the generating company. However, the Liquidated damages (LDs) and insurance proceeds on account of delay, if any, received by the generating company could be retained by the generating company. In the second case the generating company could be given benefit of the additional cost incurred due to time over-run. However, the consumers should get full benefit of the LDs recovered from the contractors/supplied of the generating company and the insurance proceeds, if any, to reduce the capital cost. In the third case the additional cost due to time overrun including the LDs and insurance proceeds could be shared between the generating company and the consumer. It would*



*also be prudent to consider the delay with respect to some benchmarks rather than depending on the provisions of the contract between the generating company and its contractors/suppliers. If the time schedule is taken as per the terms of the contract, this may result in imprudent time schedule not in accordance with good industry practices.*

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

10. The Commission vide ROP of the hearing dated 14.5.2019 had directed the Petitioner to furnish details of schedule start and schedule completion along with actual start and actual completion date of each activity. The Commission also directed the Petitioner to furnish any other relevant information towards the justification that the time overrun, if any, was not attributable to the Petitioner. The Petitioner in reply dated 10.6.2019 has submitted the scheduled and actual dates with respect to each milestone activity.

11. It is observed that there is a time overrun of 432 days in the COD of Unit-I, 401 days in the COD of Unit-II and 478 days in the COD of Unit-III of the generating station. The Petitioner has accounted the time overrun to the following reasons:

S.No	Reasons	Time Period
1	a. Right of Use clearance for Make-up Water Pipeline	(13 <sup>th</sup> December, 2012 - 29 <sup>th</sup> January, 2015)
	b. Start of Make-up Water System Package	(Schedule - January, 2014 & Actual - March, 2015)
2	Change of Law (ban on Mining etc imposed by Govt.)	(5 <sup>th</sup> August, 2013 - 16 <sup>th</sup> December, 2013)
3	NGT order dated 13.3.2014 for suspension of project works	(13 <sup>th</sup> March, 2014 - 14 <sup>th</sup> April, 2014)
4	Law & Order issues -(Bandhs/ Agitations/Riots etc.,)	(5 <sup>th</sup> July, 2014 - 1 <sup>st</sup> April, 2015)
5	Drought	(March, 2016 -July, 2016)
6	Villagers Resistance - Power Input arrangement For running Design Make-up Water Pump	(August, 2017 - December, 2017)
7	Villagers Resistance - Northern side Railway Siding and Water Reservoir for Lagoon-2	(February, 2018 - September, 2018)



12. Based on the submissions of the parties and the documents available on record, we proceed to examine, on prudence check, the reasons for time overrun of the Project as stated in the subsequent paragraphs.

**Delay due to Right of Use clearance for Makeup Water Pipeline (13<sup>th</sup> December, 2012 - 29<sup>th</sup> January, 2015) and Start of Makeup Water System Package (Schedule - January, 2014 and Actual - March, 2015) in respect of Units-I to III.**

13. The Petitioner has prayed for condonation of delay on the ground that the same was uncontrollable and has submitted the following:-

(i) The request for Right of Use (ROU) corridor for laying Make-up Water lines from Make-up Water Pump House at Almatti back waters to plant reservoir was made by Petitioner to District Administration on 13<sup>th</sup> December, 2012. The issue was discussed in the meeting held on 1.2.2014 in presence of the local MLA for crop compensation. The issue was also discussed on 24.9.2014 in the PMO review of Central Power Projects under the Ministry of Power, GOI.

(ii) For the ROU of Water Pipeline, a 40 metre corridor was required. On request of NTPC for intervention of District Administration, meetings were held with the farmers/owners of land in the presence of the MLA to arrive at a fair and reasonable level of compensation. At the final meeting held by Deputy Commissioner, Vijayapura on 13<sup>th</sup> November, 2014, the farmers demanded ten years of Crop compensation based on the sugarcane yield for Right of Way (RoW) and RoU.

(iii) Order for ROW for 66 kV lines and ROU for Make-up Water lines was issued by Deputy Commissioner, Vijayapura on 29.1.2015 in exercise of his powers under the Electricity Act, 2003 and the Indian Telegraph Act, 1885, for ₹5,80,000/- per acre, which is equivalent to 8 years net yield of sugarcane crop, as one time flat compensation fixed for both RoW and RoU area. The payment disbursement was in two stages, i.e. 65% before start of work and 35% after four months.

(iv) After payment of compensation in line with the Deputy Commissioner's order, the laying of Water pipeline was completed and water was charged to plant reservoir on 4<sup>th</sup> March, 2016.

(v) Delay by the District Administration in giving permission for RoU of Water pipeline, falls under uncontrollable factors. Therefore, the time period of around 25.5 months taken by the Administration for giving clearance had



resulted in the delay in start of erection work for execution of Make-up Water System Package.

(vi) The scheduled start date of the above erection work was from January, 2014 whereas, the same had actually started during March, 2015.

14. Respondent No.5 TANGEDCO vide its reply affidavit dated 28.3.2019 has submitted that the Investment Approval for the Project was accorded and the zero date was fixed as 25.1.2012, whereas, the request for Use of Makeup Water Pipelines was made by the Petitioner only during December, 2012 i.e. after a lapse of 10 months from the zero date. It has, therefore, submitted that the claim of the Petitioner to consider the delay as uncontrollable factor and to condone the delay is not justifiable and, therefore, the same may be rejected.

15. Respondent No.6 BESCO vide its reply affidavit dated 24.4.2019 has submitted that the application should have been made by the Petitioner shortly after the date of Investment Approval, but the Petitioner had applied to the District Administration only on 13<sup>th</sup> December 2012 i.e. almost 11 months after the date of grant of Environment Clearance. The Respondent has submitted that the Petitioner has furnished no reasons for the delay in applying for the Makeup Water pipelines. The Respondent has further submitted that the delay in making the application and the failure to take any proactive steps are clearly attributable to the Petitioner.

16. Respondent No.11 KSEB vide its reply affidavit dated 22.5.2019 has submitted that a considerable delay of 3 years has occurred in getting the RoU clearance for Makeup Water Pipeline and the start of Makeup Water System Package and the same is fully attributable to the Petitioner. Hence, the Respondent has prayed that the time overrun and cost overrun due to delay on this count may not be allowed.



The Respondent while pointing out that the Petitioner had not made proper follow-up in getting the RoU has submitted that the Petitioner had applied to the District Administration almost 11 months after the grant of Environment Clearance and a time period of 2 years from December, 2012 to 2014 was lost due to lack of follow up, after seeking request from the District Administration. The Respondent has submitted that since no proper justification has been furnished by the Petitioner for the long delay in getting the RoU, the claim of the Petitioner to consider the delay as an uncontrollable factor may be rejected.

17. The Petitioner in its rejoinder affidavit dated 1.5.2019 has mainly submitted that the contentions made by the respondent may be rejected since detailed reasons along with documents have been furnished in the Petition. The Petitioner has reiterated that the delay in the project were for reasons beyond the reasonable control of the Petitioner.

18. The submissions have been considered. As stated, the request for ROU corridor for laying make up water lines from Makeup water pump house at Almatti back waters to plant reservoir was made by the Petitioner to the District administration on 13.12.2012. Pursuant to this, the issue of crop compensation was discussed in the meeting dated 1.2.2014 with the local MLA and subsequently was discussed in the PMO review held on 24.9.2014 and thereafter, negotiations were carried out to arrive at a fair and reasonable level of compensation. It is noticed that on 29.1.2015, an amount of ₹5,80,000/- per acre, which was equivalent to 8 years net yield of sugarcane crop as one time flat compensation was fixed for both RoW and RoU area. It is further observed that the final meeting was held on 13.9.2014 in presence of the DC, Vijayapura and order for ROW for 66 KV lines & ROU for Makeup water lines was issued by the DC on 29.1.2015. This has led to the



delay in getting the “Right of Use” clearance for makeup water pipeline from 13.12.2012 to 29.1.2015. On perusal of the documents furnished by the Petitioner, it is observed that the scheduled start date for erection work of Makeup Water Pipeline was January, 2014 and therefore, the claim of the Petitioner for delay from 13.12.2012 is not justifiable. The work of Makeup Water Pipeline was actually started during March, 2015. Accordingly, there is an actual delay of 14 months (January, 2014 to March, 2015) in the schedule start of the makeup water pipeline erection work. It is further observed that the Petitioner had applied for ROU to the District Administration on 13.12.2012 i.e. after a gap of around 10 months from the date of the IA and the meeting on this issue was held only on 1.2.2014 leading to a further delay of 13 months. The Petitioner has not placed on record any material to show that it was pursuing the matter diligently with the local authorities during the intervening period for obtaining the clearances for start of work. It is noticed that the issues were resolved only on 29.1.2015, almost a year from the meeting which was held on 1.2.2014. In our view, there was delay in applying to the district authorities as well as lack of follow-up action on part of the Petitioner. In view of the above discussions, we are of the considered view that the delay in the laying of Makeup Water Line due to ROU issue was for reasons which were not beyond the control of the Petitioner. Accordingly, in terms of the principles laid down by the Tribunal in the judgment dated 27.4.2011 [(situation 7.4 (i))], the delay on this count cannot be condoned. However, the Liquidated Damages (LD) recovered from the contractor and Insurance proceeds if any, received by the generating company, on account of the said delay, could be retained by the generating company.



**Ban imposed by National Green Tribunal (NGT) for sand mining on the river bed causing delay for the period from 5.8.2013 to 16.12.2013 and NGT order dated 13.3.2014 for suspension of project work-causing delay for the period from 13.3.2014 to 14.4.2014**

19. As regards the ban imposed by NGT for sand mining on the river bed, the Petitioner has submitted the following:-

(i) The river bed sand mining for the Project was envisaged from Bheema River in Bijapur District and the tributaries of Krishna River in Bagalkot District. The river bed sand mining was stopped due to the ban imposed by order of NGT dated 5.8.2013 in Application No. 171/2013. The Petitioner has submitted that it made various correspondences with the State and local administration for grant of permission for sand mining for the project construction, but the Petitioner did not get permission for the same.

(ii) The packages which were affected include Site levelling, SG civil works & TG civil works. EC for the Project was accorded by MoE&F, GOI on 25.1.2012 and thereafter the construction activities had started. Subsequent to the NGT order dated 5.8.2013, fresh policy guidelines were issued by the Govt. of Karnataka on 16.12.2013 with regard to Sand mining.

(iii) An appeal (12/2012) was filed by Mr. M.P. Patil before the NGT challenging the EC accorded to the Project on 25.1.2012 by the MOE&F GOI. NGT by order dated 13.3.2014 had ordered the suspension of Project work.

(iv) NGT further directed MoE&F to refer the matter to the Expert Appraisal Committee (EAC) for re-scrutiny, with the entire process to be completed by EAC within six months from the date of order. During this period or until further order was passed by the MoE&F, whichever was earlier, the Project was directed to maintain status quo.

(v) The erection activities at the project stopped immediately after the NGT order. In view of uncertainty in starting the work, the contractor also started to demobilise the manpower.

(vi) Petitioner filed an appeal (C.A. No. 3870/2014) before the Hon'ble Supreme Court and the Court on 1.4.2014 stayed the operation of order of NGT. Accordingly, the work was restarted and the mobilisation of manpower took two weeks' time for execution of the Project works.

20. Respondent No.5 TANGEDCO has submitted that it is the responsibility of the Petitioner to seek necessary approvals/permissions from the concerned authorities



prior to the commencement of any work associated with the Project. It has submitted that the Petitioner had not approached the authorities concerned seeking approvals for sand mining prior to the ban imposed vide NGT order dated 5.8.2013. The Respondent has stated that on account of the fault on the part of the Petitioner to take timely action, the delay due to ban in terms of NGT order would not fall within the provisions of 'Change in Law'. Hence, the Respondent has prayed that the claim of the Petitioner on this ground is not justifiable and is liable to be rejected.

21. Respondent No.6 BESCO and the Respondent No.11 KSEB have submitted that the claim of the Petitioner may be rejected as the NGT had only prohibited the illegal mining of sand and the Petitioner being a responsible Government Company should have ensured that its requirements for sand was met in a manner duly complying with all the applicable laws right from the beginning. The Petitioner in its rejoinder to the replies of the Respondents, TANGEDCO and BESCO have submitted that the contentions made by the Respondents may be rejected as the reasons for delay in the project were beyond reasonable control of the Petitioner.

22. The matter has been examined. As stated, the IA of the Project was accorded on 28.12.2011, subject to EC accorded by MOE&F, GOI. The MOE&F on 25.1.2012 has granted EC for 2440 acres (987.43 hectares) of land for the Project which was valid for a period of 5 years. The construction activities started after grant of EC by MOE&F. It is noticed that in Application No. 171/2013 (NGT Bar Association v MOE&F & ors), the NGT vide order dated 5.8.2013 had held as under:

*"In the meantime, we restrain any person, company, authority to carry out any mining activity or removal of sand from river beds anywhere in the country without obtaining Environment Clearance from MoEF/ SEIAA and license from the competent authorities"*



23. It is observed that pursuant to the above order, the work of transportation of sand to the Project of the Petitioner was stopped. The Petitioner vide its Letters dated 3.9.2013 and 1.10.2013 to the Deputy Commissioner Bagalkot,; Letter dated 11.9.2013 to the Secretary, Mines, Sugar, Textiles & SSI, Govt., of Karnataka,; Letter dated 9.10.2013 to Deputy Commissioner Hospet,; Letter dated 28.10.2013 to Deputy Commissioner Bijapur,; Letter dated 30.10.2013 to the Secretary, Govt. of Karnataka,; Letter dated 8.11.2013 to the Deputy Commissioner, Koppal; and Letter dated 9.11.2013 to the Principal Secretary (Forests, Ecology & Environment), Govt. of Karnataka had requested to accord permission for sand mining. In response to the letter dated 30.10.2013 by the Petitioner, the Government of Karnataka, vide its letter dated 16.12.2013 addressed to the Petitioner, conveyed that allotment of sand mining/quarry blocks for the exclusive use of the Petitioner does not fall within the purview of the Department of Forest, Ecology and Environment and also stated that the Department of Mines and Geology, PWD and the Deputy Commissioner of the concerned districts may be approached in this regard. The Government of Karnataka had further informed that as per EIA Notification, 2006, prior EC is required from SEIAA, Karnataka for mining/quarrying of river sand in an area less than 50 Ha, and EC from the MOE&F, GOI is required for an area of 50 Ha and above. The Petitioner has attributed the delay from 5.8.2013 to 16.12.2013 to the ban on mining imposed by the NGT/GoK. As the site levelling work, SG civil works & TG civil works were affected. The contention of the Respondents that the Petitioner did not have clearance for quarrying the river sand as per EIA Notification, 2006 is incorrect as the Petitioner does not undertake the quarrying of sand from the river-bed. The Petitioner procures sand from mining agencies, dealers and local market. It is these mining agencies who are required to obtain clearances for land mining. The ban on mining



has, therefore, resulted in shortage of sand which in turn has affected the civil works of the Project. It is observed that consequent upon the NGT order, the Petitioner had vide its letters made several correspondences to the local authorities and the GoK, thereby taking active steps for restoration of the supply of sand as the civil works of the project were getting affected/delayed. In our view, the Petitioner has taken all reasonable measures to mitigate the delay and for restoration of the sand supply. Accordingly, we hold that the delay is not attributable to the Petitioner and accordingly, the delay on this count is condoned. Further, the Petitioner has prayed for condonation of delay for the period from 13.3.2014 to 14.4.2014 on account of delay due to NGT order as regards EC granted to the Petitioner. As stated, the EC granted by MOE&F on 25.1.2012 for the Project was challenged before the NGT in Appeal No.12/2012 and the NGT vide its order dated 13.3.2014 had remanded the matter to MoE&F, GOI with direction to MOE&F to refer the matter to Expert Appraisal Committee for re-examination. Till then, the EC dated 25.1.2012 was directed to be kept in abeyance. As a result of this, the erection activities at the Project were stopped and manpower was demobilised. Only after the Hon'ble Supreme Court stayed the order of the NGT dated 13.3.2014 that the work could begin. The Petitioner has submitted that it took about two weeks for the Petitioner to mobilise the manpower, which was demobilised after the NGT order, and start the works from 14.4.2014. In view of this, we hold that delay on account of NGT order and the consequent demobilisation of manpower from the Project till the re-mobilisation which had caused a complete standstill in the works of the Project is beyond the control of the Petitioner. Accordingly, in terms of the principles laid down by the Tribunal in its judgment dated 27.4.2011 [(situation (ii) above)], the delay of 133 days from 5.8.2013 to 16.12.2013 due to ban on mining and the delay of 32 days from



13.3.2014 to 14.4.2014 due to NGT order for suspension of work, cannot be attributable to the Petitioner. However, the LD recovered from the contractor and the insurance proceeds, if any, would be considered for reduction of capital cost.

### **Law and Order (Bandhs/Agitations/Riots etc)**

24. As regards Law and Order, the Petitioner has submitted the following:

(i) On 5.7.2014, there was agitation at Project surroundings resulting in mob arson & violence at labour colonies which had caused exodus of workforce from site.

(ii) Subsequent to stay on NGT order (related to grant of EC) by the Hon'ble Supreme Court, an organisation namely 'Uttara Kannada Jana Hagu Parisara Rakshan Samithi' (UKJHPRS) gave representations to various authorities, including the Chief Minister of Karnataka, against the project. It also indulged in negative publicity with the aim of creating apprehensions in the minds of local villagers against the Project. The tactics included morphing of images & presenting pictures of health risks.

(iii) An unauthorised meeting was organised by the said organisation (UKJHPRS) on 5.7.2014 at the entrance to the Project wherein, the mob turned violent and indulged in arson, setting fire to the labour colony rooms including its efforts to enter plant premises. After lathi charge and tear gas shelling failed to control the mob, the police had to resort to firing, resulting in injury to farmers. This issue was taken up by Karnataka Rajya Raitha Sangha (farmers' association) by organising public meetings near the plant on 21.7.2014 supported by 'La Via Campesina South Asia' on 5.8.2014 and Rail roko on 12.8.2014.

(iv) The Petitioner took steps for restoration of harmony and to get the working conditions back to normal by (i) creating awareness amongst local people on the benefit of the Project to the community; (ii) engaging in dialogue with agitators by visit to their tents with local MLA; and (iii) sending letters to all MP's, MLA's and MLC's by the competent authorities of the Petitioner, reflecting the commitment of the Petitioner to environment preservation and explaining the benefits of project.

(v) On 26.8.2014, Karnataka Rajya Raitha Sangha organised a procession in Bijapur and in subsequent meeting with DC, demanded that the Petitioner should file affidavit before the Hon'ble Supreme Court that there will not be any harmful effect from the Project. The Petitioner reaffirmed its commitment and filed affidavit before the Court on 4.9.2014 indicating that



the operation of plant would be in conformity with all applicable environmental laws.

(vi) A meeting was held on 6.9.2014 with the Energy Minister of the State Govt. of Karnataka to ensure the withdrawal of agitation. However, the farmers' association did not withdraw their agitation. The agitating leaders were engaged through back channels using the services of PR consultant and through series of meetings by DC-Bijapur.

(vii) The agitation which started on 5.7.2014 was finally withdrawn on 1.4.2015. During the period of 199 days, the entire progress of the project was severely hampered due to non-availability of man power.

Accordingly, the Petitioner has prayed that the delay may be condoned as the circumstances were beyond the control of the Petitioner.

25. The Respondent No.5 TANGEDCO has submitted that it is the responsibility of the Petitioner to overcome the issues associated with the project and to commission the project before the timeline and hence the delay may not be condoned.

26. Respondent No.6 BESCO has submitted that the SCOD of the Project was in April 2016, which indicates that most of the equipment ought to have been transported to the site and should have been within the Project premises by the time the agitations started. It has also submitted that the Petitioner has not furnished any documents/material to show that there was stoppage of works during the period from 6.7.2014 to 1.4.2015. The Respondent has further submitted that it was the responsibility of the Petitioner to overcome the issues associated with the completion of the Project and to commission the project as per the timeline specified. Similar submissions have been made by the Respondent No.11 KSEB. It has however added that the impediments to transportation of equipment, men and materials for the project were not reported during the above period.



27. We have examined the matter. The Petitioner has attributed the delay of 240 days from 5.7.2014 to 1.4.2015 to Bandhs/Agitation and Riots by organisation viz. UKJHPRS and the farmer association. However, it is noticed from the submissions of the Petitioner that the laying of Makeup Water Pipelines was being carried out from March, 2015 onwards. Further, from the milestone activities furnished by the Petitioner, it is noticed that the work of Boiler hydro test for Unit-I and TG Erection start of Unit-II was carried out on 31.1.2015 and 30.3.2015 respectively. All these activities were carried out by the Petitioner during the period covered by bandhs/agitation. Moreover, from the submissions of the Petitioner in the Civil Appeal No. 3870 of 2014 filed by the Petitioner before the Hon'ble Supreme Court, it is observed that normalcy was restored in the Project site on 25.8.2014. It was also submitted by the Petitioner in the said appeal that 65% of the original deployed work force was remobilized and the activities on all fronts were commenced. In view of this, we are not inclined to condone the delay except from 5.7.2014 till 25.8.2014. Accordingly, in terms of the principles laid down by the Tribunal in the judgment dated 27.4.2011 [(situation (ii))], the total delay of 51 days from 5.7.2014 to 25.8.2014 is condoned for all the three units of the generating station. However, the LD recovered from the contractor and the insurance proceeds, if any, would be considered for reduction of capital cost.

### **Drought**

28. The Petitioner has prayed for time overrun due to drought situation in Bijapur district and has made the following submissions:

- (i) There was drought in Bijapur district due to low annual rainfall during 2015 (for rabi season rainfall is about 1/3 rd of average annual rainfall) and consequently low reservoir levels at Almatti Dam. A restriction for drawl of water was declared by the District administration in the month of February, 2016.



(ii) State of Karnataka has faced drought for the third consecutive year and it was worst in about four decades. The northern districts such as Raichur, Kalburgi, Bijapur and Bidar were among the most drought affected districts. The Almatti dam, which stores water from the river Krishna, was seeing 'dead storage' at only 10% of its capacity of 124 tmcft at the start of summer season of 2016. The district administration had barred drawing of water for farming and industries on 13.2.2016.

(iii) Due to ban imposed on water drawl for industrial purposes, special permission for reduced water drawl of 0.05 tmc, against the requirement of 0.3 tmc was taken, thereby constraining the plant capabilities for commissioning. In future, water could only be drawn after MDL levels of Almatti reached at 506.87 tmcft water level. As on 28<sup>th</sup> June, 2016 level was only 505.54 tmcft.

(iv) For the purpose of pre-commissioning and initial operation, 0.3 tmc of water was required from the middle of January,2016 up to May,2016. The Petitioner had requested Krishna Bhagya Jala Nigam Limited (KBJNL) to allocate the necessary quantity so that water drawl could be started. KBJNL on 16.2.2016 permitted Petitioner to draw 0.3 tmc of water subject to some conditions. One such condition was the formal clearance of the Deputy Commissioner, Vijayapura and Regional Commissioner, Belgavi prior to the commencement of water drawl.

(v) The Office of Regional Commissioner, Belagaum issued order on 2.3.2016 in granting permission to the Petitioner to lift water for 30 days, limited to 0.05 tmc. Thus, the commissioning and erection activities were severely impacted due to non-availability of water.

Accordingly, the Petitioner has submitted that the delay on this count may be condoned.

29. The Respondent No.5 TANGEDCO has submitted that the pre-commissioning activities have to be completed within six months before the date of anticipated COD of the units. It has pointed out that the period of requirement of water as indicated by the Petitioner is for a period between January 2016 and May 2016 which is almost a year prior to the anticipated COD of Unit-I. Therefore, the delay in getting the required quantum of water will not have any impact on the pre-commissioning activities. Accordingly, the Respondent has submitted that the



claim of the Petitioner for condonation of delay on this ground is not justifiable and may be rejected.

30. Respondent No.6 BESCO has submitted that the pre-commissioning activities were being carried on by the Petitioner between the period from January 2016 to May 2016 and the SCOD of Unit I was in April,2016. It has submitted that if the Petitioner had complied with the original commissioning schedule, the restrictions on water drawl, which arose in February 2016, would have had no or minimal impact on the pre-commissioning activities, since, the pre-commissioning activities would have been substantially completed by that time. Accordingly, the Respondent has submitted that the claim of the Petitioner for condonation of delay may be rejected. Similar submissions have been made by the Respondent No.11 KSEB. It has also submitted that the claim of the Petitioner may be rejected as the arrangements for water and other amenities for construction of the project are attributable to the Petitioner in terms of the Regulations in force.

31. We have examined the matter. The Petitioner has attributed the delay due to drought situation for the period from March, 2016 to July,2016 to the low annual rainfall during 2015 and has submitted that due to unavailability of water, the commissioning and erection activities of the project were affected. In support of the same, the Petitioner has furnished the newspaper clippings for the period from February, 2016 to May, 2016 with regard to the barring of river water from the Krishna and Bhima Rivers, scarcity of water and drought situation in the State of Karnataka. It is noticed from the details of the milestone activities furnished by the Petitioner, that the work of TG Erection and Boiler erection of all the three units were completed by the year 2015 and the Commissioning activities were scheduled to be on January, 2016 for Unit-I, July, 2016 for Unit-II and January,



2017 for Unit-III. However, the commissioning activities of Units-I, II and III were actually completed during December, 2016, May, 2017 and March, 2018 respectively. Since, the scheduled commissioning of Unit-III was January, 2017, due to drought the activities of schedule completion of commissioning activities of only Unit-I and Unit-II were affected. The Petitioner had completed the Boiler light up of Unit-I on 20.12.2015. It is observed that the Petitioner vide its letter dated 1.1.2016 had requested the Managing Director, Krishna Bhagya Jal Nigam Limited (KBJNL) to allocate the necessary quantum of water so that the water drawl can be started from the 3<sup>rd</sup> week of January,2016, as the first unit was targeted to be commissioned by March,2016. In response to this request, KBJNL vide its letter dated 16.2.2016 had permitted the Petitioner to draw the required quantum of water (0.3 TMC) subject to clearance from Deputy Commissioner, Vijayapura.

32. As stated earlier, the Petitioner required 0.3 tmc of water for the pre-commissioning activities for the period from January, 2016 to May, 2016. It is noticed from records that the District administration on 13.2.2016 had barred the drawing of water for farming and industries due to less storage of water in the Almatti dam. The Petitioner, on 26.2.2016, had requested the office of Regional Commissioner for lifting of water for the Project and in response, the Regional Commissioner, Belgaum, on 2.3.2016, had allowed the lifting of only 20 cusecs of water per day for 30 days (i.e. 0.05 tmc). However, the Petitioner started drawing of water from 4.3.2016 and could only draw about 0.02 tmc of water till 29.3.2016, due to problems in the pumping system established for drawing water. However, the Petitioner has not clarified the status after 29.3.2016 (25 days after it started drawing water from 4.3.2016) with regard to its requirement for water, its availability, and to when it was allowed to draw the normal requirement of



water. It appears from the claim of the Petitioner that the position with respect to water availability had improved after July, 2016. From the bar chart for Unit-I, it is observed that with the available water drawl, the Petitioner could achieve the 'Steam blowing completion' on 12.6.2016, thereby indicating that sufficient water was available. As such, in the absence of any clear details/position with regard to the availability of water vis-a-vis its requirement, we are of the view that the delay due to drought, which is a force majeure event, was beyond the control of the Petitioner for the period from 15.1.2016 to 3.3.2016 (i.e. the date from which the Petitioner requested for allocation of quantum of water to a date prior to the date on which it started to draw the water) and accordingly, the delay on this count is condoned. Accordingly, in terms of the principles laid down by the Tribunal in the judgment dated 27.4.2011 [(situation (ii))], the total delay from 15.1.2016 to 3.3.2016 is condoned. However, the LD recovered from the contractor and the insurance proceeds, if any, would be considered for reduction of capital cost.

**Resistance by villagers/landowners-Power Input arrangement for running Design Make Up Water Pump**

33. The Petitioner, in the main petition, has claimed time overrun for the period from August,2017 to December,2017 on account of the delay in power input arrangement for running Design Make Up Water Pumps due to resistance by Villagers. However, it is noticed from the affidavit dated 10.6.2019 submitted by the Petitioner that the Petitioner has claimed delay of 3 months on account of villagers resistance between full load commissioning to COD of Unit-I. Further, the Petitioner has submitted that following steps were taken to expedite the arrangement of power at Makeup Water Pump House, for running design make up water pumps:



(i) The transmission line work for power input to make-up water pump house envisaged through 66 kV line from the generating station could not be taken up due to villagers' resistance despite having ROU and ROW clearances.

(ii) This issue was taken up in the meeting of the 14<sup>th</sup> Cabinet Committee of Infrastructure (CCI) -Project Monitoring Group (PMG), reviewed by the Chief Secretary, Govt. of Karnataka. In the said meeting, it was pointed out that the resistance by the Villagers'/Landowners for tower construction was yet to be addressed. The situation further worsened with the onset of monsoon and the start of sowing season.

(iii) As a contingency measure, the Petitioner approached the discoms, namely Hubli Electricity Supply Company Ltd. (HESCOM) for providing temporary 7.5 MVA power connection at Almatti pump house from its network. However, the enablement of this power supply required augmentation of KPTCL sub-station at Nidugundi by way of establishment of 110/33 KV transformer and 33KV bay. This augmentation work had to be done on 'deposit work basis' for which the estimates were received from KPTCL. The approval for providing power connection was accorded by the Power Sanction Committee of Karnataka Power Transmission Corporation Ltd (KPTCL) on 17.6.2017.

(iv) The Petitioner was unable to envisage the delay in the power input for Makeup Water Pump House which was for the reasons stated above. The details of the same have also been furnished by the Petitioner in Petition No.172/MP/2017 and 260/MP/2017 filed before this Commission, wherein the Commission vide its orders dated 18.8.2017 and 29.12.2017 respectively, had allowed the extension for interchange of infirm power into the grid for commissioning tests including full load test of Unit-II or the actual date of commercial operation, whichever was earlier.

34. Respondent No.5 TANGEDCO has submitted that the Petitioner is not a new entrant in the field of execution of generation projects and all the necessary arrangements required for successful commissioning of the project has to be taken in advance. Accordingly, the Respondent has submitted that the Commission may reject all the above issues, as the Petitioner should have done proper planning in getting all necessary clearances and arrangements.

35. Respondent No.6 BESCOM has submitted that as per the RoW issued by the Deputy Commissioner, Vijayapura on 29.1.2015, the 40 meters corridor width was



used for laying underground water pipelines (ROU) and for erection of electric towers with transmission line (ROW). It has, therefore, submitted that the same corridor was being used for setting up transmission lines for supplying power from the Plant to the Makeup Water Pump House and for laying of pipelines from the Makeup Water Pump House to the Plant. The Respondent has pointed out that when the work for laying of pipelines was completed in March 2016, there was no occasion to delay the setting up of the transmission lines. The Respondent has also submitted that the claim of the Petitioner for condonation of delay from April 17 to December 17, is in any case beyond the SCOD of all units of the Project and therefore no condonation of delay is possible.

36. Respondent No.11 KSEB has submitted that the claim of the Petitioner is baseless as any resistance by the villagers hindering the execution of work can be effectively handled with the help of the District Administration. It is submitted that the Petitioner ought to have taken proper steps in this regard and, therefore, the prayer of the Petitioner may be rejected.

37. We have examined the submissions of the parties and the documents available on record. The date of "Commissioning at full load" as per original schedule of Unit-I was 31.1.2016 and date of scheduled COD is 25.5.2016. However, the actual date of "Commissioning at full load" of unit-I was 25.12.2016 and actual date of commercial operation was 31.7.2017. Accordingly, the actual time taken for completion of the activities from full load commissioning to COD is seven months and six days in place of original schedule of four months. The Petitioner vide affidavit dated 10.6.2019 w.r.t delay of Unit-I has attributed the said delay to villagers resistance due to which power input arrangement for running make up water pump could not be put into place. Further, it is observed



that Petitioner in the Petition has also furnished the proceedings of the 14<sup>th</sup> CCI-PMG meeting held on 18.5.2017 under the chairmanship of Chief Secretary, Government of Karnataka, in which it is mentioned that construction of 66 KV Transmission Towers in ROU/ROW was hindered due to resistance from the villagers. Despite having received the clearance for ROU/ ROW from Govt. of Karnataka, the Petitioner could not take up the work of Transmission line due to villagers resistance. Finally, the Petitioner came up with alternate arrangement which was also approved by Power sanction committee of KPTCL on 17.6.2017. After the availability of power supply from alternate arrangement the Petitioner could declare the COD of Unit-I on 31.7.2017.

38. It is observed that the actual date of full load commissioning of Unit-I was 25.12.2016 and considering the original schedule of 4 months from full load commissioning to COD, the Petitioner should have declared COD by 25.4.2017. However, by this date, even the alternate arrangement of power for running was not in place. The Petitioner could only declare the COD on 31.7.2017 after it could arrange the power from KPTCL on 17.6.2017. In light of above facts, it is evident that the Petitioner was taking all possible steps to mitigate the delay caused by villager's resistance. Hence, we are of the view that the delay of 97 days i.e. from 25.4.2017 to 30.7.2017 in achieving COD of unit-I due to villagers' resistance was an uncontrollable factor. Accordingly, the corresponding delay of 97 days is condoned. However, the LD recovered from the contractor and the insurance proceeds, if any, would be considered for reduction of capital cost.

39. Further, the full load commissioning of Unit-II was carried out on 23.3.2017 against the original schedule of 31.7.2016. There was a schedule of 4 months from "commissioning at full load" to COD of Unit-II. However, the Petitioner has taken 9



month and 8 days to declare the COD of Unit-II i.e. 31.12.2017 and the Petitioner has attributed the said delay to villagers' resistance.

40. As mentioned above, due to continued resistance by the Villagers, the Petitioner had come up with an alternate arrangement of power supply for Makeup Water Pumping System from the discoms viz., HESCOM/KPTCL, which was approved on 17.6.2017. Considering the fact that the Petitioner has taken 9 months and 8 days to carry out the activity from "commissioning at full load" to COD of Unit-II, against the schedule of 4 months, there is an effective delay of 5 months and 8 days up to 31.12.2017 i.e. COD of Unit-II. Since, the Petitioner has carried out commissioning at full load of Unit-II on 23.3.2017 and the power input was available on 17.6.2017, the said delay of 85 days from 24.3.2017 to 16.6.2017 is condoned and the Petitioner is given the benefit of the additional cost incurred due to time overrun. However, the LD recovered from the contractor and the insurance proceeds, if any, would be considered for reduction of capital cost. Out of 5 months and 8 days delay, the period from 24.3.2017 to 16.6.2017 is condoned and the balance period of 2 months (approx.) is not condoned. Therefore, the increase in cost on account of the said delay of 2 months has to be borne by the Petitioner. However, the Liquidated Damages (LD) and Insurance proceeds if any, received by the generating company, on account of the said delay, could be retained by the generating company.

**Resistance by Villagers-Northern side Railway Siding and Water Reservoir for Lagoon-2**

41. In respect of Unit-III of the Project, the Petitioner has claimed time overrun for the period from February, 2018 to September, 2018 on account of the delay caused by resistance by Villagers to the work of Railway Siding and Water Reservoir. The Petitioner has submitted that though Unit-III of the Project was test



synchronized on 22.8.2017, the completion works/activities got severely affected after the synchronization, due to the following reasons:

(i) The Railway siding of the Project was connected only from one side i.e. from Southern side to South Western line against the design connection bulb on both sides (Southern and Northern). With one side connectivity of the siding, a maximum of 6-7 rakes/day could be reached to the plant, with which the coal requirement of only two units operation could be facilitated. To enable the rake movement up to the level of 9-11 rakes/day, required to run all three units on a sustainable basis after the commercial operation, the completion of northern side bulb of railway siding was essential.

(ii) The works of Northern side Railway Siding bulb were constrained by the delays in land acquisition. The land acquisition in respect of the Project was carried out by Karnataka Industrial Area Development Board (KIADB), a Govt. of Karnataka Undertaking, which looks after the industrial area development in the State of Karnataka.

(iii) The land acquisition requirement for the railway siding (both sides) was made by Petitioner on 8.12.2012. Though the works on the Northern Siding bulb had started, the same were on a standstill due to resistance from Villagers. Subsequent to the availability of encumbrance free land (anticipated in February, 2018), the construction of one Road over Bridge (RoB) and one Road under Bridge (RuB) on the northern side Railway Siding line was also to be taken up.

(iv) Besides the availability of Railway Siding land, the physical possession of land for Water Reservoir for Lagoon-2 was also delayed due to resistance from villagers and pending payments from KIADB. The part possession of the land was completed during the first week of January, 2018 after continued persuasion with the State Govt. and works were restarted. The reservoir of Lagoon-1 was under operation which could suffice for sustainable operation of only two units.

(v) For continuous running of three units during the summer months, wherein the water drawal was restricted by certain agreement conditions, the water storage capacity wouldn't be sufficient enough without Lagoon-2.

(vi) Though, the northern bulb Railway siding and Water Reservoir for Lagoon-2 were still a constraint, based on the indication from South Western Railways for augmented supply of coal rakes and with the expected onset of monsoon in June, 2018, in line with the water agreement conditions, the Petitioner had declared the COD of Unit-III w.e.f. 00:00 hrs of 15.9.2018.



(vii) This delay has also been condoned by the Commission in its Order dated 23.2.2018 in Petition No. 51/MP/2018 and Order dated 1.6.2018 in Petition No.146/MP/2018, wherein extension of time for interchange of power with the grid was permitted.

42. Respondent TANGEDCO has submitted that all necessary arrangements required for successful commissioning of the Project has to be taken in advance as all the activities which form part and parcel of execution of a Project are overlapping in nature. It has also submitted that instead of taking a proactive stand in settling all issues related to commissioning, the Petitioner has involved in blame game and has sought extension of time and condonation of delay by citing trivial issues. Accordingly, it has prayed that the Commission may reject the claim of the Petitioner.

43. Respondent No.6 BESCO has submitted that despite the SCOD for the Units falling in 2017, the Petitioner had not taken any steps prior to March, 2016 for expediting the land acquisition process for the Railway Siding. It has also submitted that the Petitioner being the most experienced entity in the nation with regard to execution of thermal power projects, ought to be aware of the time taken and the hurdles faced in the setting up of a thermal power project. The Respondent has stated that proactive steps for avoidance of delay need to be taken by the Petitioner in order to be able to make out a case for condonation of delay, but the Petitioner has failed to take any proactive action. The Respondent has accordingly submitted that the delay on this account from February 2018 to September 2018, which period is in any case beyond the SCOD of all units of the Project, may not be condoned as Petitioner has not made out any case for condonation of delay.



44. Respondent No.11 KSEB has submitted that the claim of the Petitioner is baseless as any resistance by the villagers hindering the execution of work can be effectively handled with the help of the District Administration. It has submitted that the Petitioner ought to have taken proper steps in this regard and therefore, the prayer of the Petitioner may be rejected.

45. We have considered the submissions. The generating station was connected only from one side i.e. from Southern side to South Western line against the design connection bulb on both sides (Southern and Northern) for transportation of coal. A maximum of 6 to 7 rakes per day was possible with the one side connectivity of the siding, with which the coal requirement of only two units operation was possible. To cater the requirement of coal in all the three units 9 to 11 rakes per day is required for the generating station. Hence, the works of Northern side railway siding bulb was required which was constrained by the delays in land acquisition. Besides the availability of Railway siding land, the physical possession of land for water reservoir for Lagoon-2 was also delayed due to villagers' resistance. The reservoir of Lagoon-1 was under operation which could cater to the requirement of only two units of the generating station. As per submissions of the Petitioner, the Scheduled COD of Unit-III of the generating station was 30.5.2017 (considered as 25.5.2017) and the actual COD of the Unit-III of the generating station is 15.9.2018. The Petitioner has attributed the delay from February, 2018 to September, 2018 due to Villagers resistance for possession of land for transportation of coal from the Northern side and Reservoir for Lagoon-2. Land acquisition at the Project was carried out by KIADB, which looks after industrial area development in the State of Karnataka. The Petitioner has made up the land acquisition requirement for the Railway Siding (both sides) on 8.12.2012. However,



KIADB did not complete the payment disbursement for the above land and had not provided the possession letter to the Petitioner. It could not be inferred from the submissions of the Petitioner that during the intervening period of around 4 years, between 8.12.2012 (i.e. date on which land requirement request was made by the Petitioner) and 3.1.2016 (first letter to KIDAB for land acquisition issue for Railway Siding) the Petitioner had taken up the matter with the concerned authorities of the Central Govt. and the State Govt. (MOP, GOI and GoK) to persuade KIDAB to release the payment to the Villagers/Land owners. Hence, the delay for the period from 13.3.2018 to 15.9.2018 cannot be said to be beyond the control of Petitioner.

46. The Petitioner has placed reliance on the decision of the Commission in its Order dated 23.2.2018 in Petition No. 51/MP/2018 and Order dated 1.6.2018 in Petition No.146/MP/2018 to contend that the Commission had allowed extension of time period for injection of infirm power into grid. In our view, the reliance placed on the aforesaid orders would not be of any help to the Petitioner's claim for condonation of delay. It is observed that in the aforesaid Petitions filed by the Petitioner, the Commission had vide its orders allowed the injection of infirm power into the grid for commissioning tests, including full load test of Unit-III upto 31.5.2018/31.8.2018 or the actual date of commercial operation, whichever was earlier. It was, however, clarified in the said orders that the extension of time shall not automatically entitle the Petitioner for IDC/IEDC for delay in declaration of COD and that the same would be considered on merits at the time of determination of tariff. The relevant portion of the order is extracted hereunder:

*"It is clarified that the extension of time as allowed in this order shall not automatically entitle the Petitioner for IDC/IEDC for delay in declaration of COD which shall be considered on merit at the time of determination of tariff of the unit/generating station."*



47. Accordingly, in terms of the principles laid down by the Tribunal in the judgment dated 27.4.2011 [(situation 7.4 (i))], the delay for the period from 13.3.2018 to 15.9.2018 cannot be said to be beyond the control of Petitioner and hence not condoned. However, the Liquidated Damages (LD) received from the contractor and insurance proceeds, if any, received by the Petitioner, on account of the said delay, could be retained by the Petitioner.

48. To summarise, the period of delay condoned in terms of the above discussions are 133 days for the period from 5.8.2013 to 16.12.2013 due to ban on mining imposed by the Govt, 32 days for the period from 13.3.2014 to 13.4.2014 due to NGT order for suspension of project work; 51 days for the period from 5.7.2014 to 24.8.2014 due to Law & Order issues; 49 days for the period from 15.1.2016 to 3.3.2016 on account of Drought situation; and 97 days for Unit-I from 25.4.2017 to 30.7.2017 & 85 days for Unit-II from 24.3.2017 to 16.6.2017 on account of villagers resistance in power input arrangement for running Design Make Up Water Pumps. Based on the above decisions, we analyse below the impact of the reasons of delay as on COD of the individual units.

#### **Unit I-Milestone wise analysis of Time overrun**

49. The SCOD of Unit-I of the Project is 25.5.2016. The details furnished by the Petitioner in respect of time overrun for Unit-I of the Project are as stated in the page below:



Task	Milestone	Scheduled Start Date	Scheduled Completion Date	Actual Start date	Actual Completion date	Schedule Duration (month)	Actual Duration (month)	Delay (month)	Reasons of delay with individual delay (Start and End date)
A	Zero Date of the Station/ start date of Unit-I	25.1.2012	25.1.2012	25.1.2012	25.1.2012	0	0	0	
B	Boiler Erection Start	31.3.2013	31.3.2013	4.5.2013	4.5.2013	14	15	1	1. ROU for Makeup water pipeline was received from the District Administration on 29.01.2015 for the appeal done from NTPC on 13.12.2012. 2. Shri M. P. Patil filed Appeal No. 12/2012 on 22.02.2012 in National Green Tribunal (NGT) against Union of India (through MOEF) challenging the accord of Environmental Clearance for Kudgi STPP.
C	TG Erection Start	31.5.2014	31.5.2014	21.6.2014	21.6.2014	28	28	0.7	3. Status quo order on project activities received from NGT Delhi on 13.03.2014, which was subsequently lifted by the Honble Supreme Court on 01.04.2014 4. On 5th July'14 an unauthorised meeting is organised by an organisation named "Uttara Kannada Jana Hagu Parisra Rakshan Samiti" at the entrance to plant where the mob turned violent and indulged in arson setting fire to labour colony rooms and tried to enter plant premises. After lathi Charge and tear gas shelling failed to control the mob, police as a last resort had to resort to firing in which two persons were injured. As a result of the environment of threat created by arsonists, mass exodus of labour occurred from Site. With the support of state administration labour strength was restored only from mid-August'2014
D	Boiler Hydro test	30.9.2014	30.9.2014	31.1.2015	31.1.2015	32	36	4	5. NGT order issued on 05.08.2013 for ban on sand mining.
E	Boiler Light up	30.6.2015	30.6.2015	20.12.2015	20.12.2015	41	46	5	Time period of around 25.5 months taken by administration for giving clearance resulted in delay in start of erection work for execution of Makeup water system package. Scheduled start date for erection work was Jan 2014 which actually started in March 2015.
F	TG Box up	30.4.2015	30.4.2015	24.4.2015	24.5.2015	39	38	-	
G	TG Oil flushing completion	30.6.2015	30.6.2015	30.6.2015	30.6.2015	41	41	0	



H	Steam Blowing completion	30.9.2015	30.9.2015	12.6.2016	12.6.2016	44	52	8	An order was issued by district administration on 12.02.2016 barring drawing of water from either Krishna or Bhima river as a precautionary measure to save water for summer. Permission for drawing min amount of water i.e. 0.05 TMC issued by Regional Commissioner, Belagavi on 02.03.2016 for a period of 30 days. Water drawing from Almatti reservoir started only from 4.3.2016.
I	Unit Synchronization	30.11.2015	30.11.2015	28.11.2016	28.11.2016	46	58	12	
J	Commissioning/ Full load	31.1.2016	31.1.2016	25.12.2016	25.12.2016	48	59	11	
K	COD	31.5.2016	31.5.2016	31.7.2017	31.7.2017	52	66	14	Villagers Resistance - Power input arrangements for running make up water pump at the pump house. The details of the same have also been given in PetitionNo.102/MP/2017. The Commission has allowed the extension based on bonafide reasons for interchange of power with the grid in petition 102/MP/2017 vide order dated 30.5.2017.

50. It is observed that the activity of 'Boiler Erection Start' which was scheduled to commence from 31.3.2013 had commenced on 4.5.2013, with a delay of 34 days. The reasons furnished by the Petitioner against this activity as above do not justify the delay. As stated, one Mr. Patil had filed appeal before NGT against the grant of EC to the Project and NGT vide its order dated 13.3.2014 had stopped all Project activities. As such, there was no impact on the milestone activity of "Boiler Erection Start". In the absence of justification, the delay of 34 as claimed by the Petitioner cannot be condoned. Similarly, the 'T.G. Erection Start' got delayed by 21 days, but on overall basis the 'Turbine Generator Package' had been completed on time, with the completion of the last activity i.e. 'TG Oil flushing completion'. In other words, the scheduled and the actual completion dates were the same i.e. 30.6.2015. The delay in achieving COD has occurred from the Boiler Package side.



51. The next activity was the Boiler Hydro Test with a completion schedule of 32 months from the 'Zero date', which took around 36 months from the Zero date. As such, there is a delay of 4 months (123 days). From the justifications furnished by the Petitioner, it is noticed that (i) the order of NGT had affected the progress of the work from 13.3.2014 to 13.4.2014 (32 days); (ii) Mob violence affected the progress of the work from 5.7.2014 to 24.8.2014 (51 days); and (iii) ban on mining affected the work from 5.8.2013 to 16.12.2013 (133 days). We have in this order held that the delays caused on account of the NGT orders and mob violence was beyond the control of the Petitioner. The Petitioner had also made several correspondences with the various Mining authorities and the Govt. of Karnataka and had requested them for restoring the availability of sand. In this background, the delay of 123 days up to actual date of Hydro test i.e. 31.1.2015 has been condoned. This delay subsumes the delay of 34 days in the start of Boiler.

52. In respect of 'Boiler Light up', the Petitioner has claimed a time overrun of 173 days i.e. 50 days more than the activity of 'Boiler Hydro Test' for which the delay of 123 days had already been condoned. The reason for this delay as furnished by the Petitioner is the late clearance given by the administration which had resulted in the delay in start of erection work for Makeup Water System Package. The scheduled start date for erection work as mentioned is January, 2014 and the same had actually commenced in March 2015. We have in this order in para 18 above has decided that the delay on this count was not beyond the control of the Petitioner. Accordingly, only the delay of only 123 days till 'Boiler Light up', is allowed against the total delay of 173 days.

53. The activity of 'Steam Blowing completion' was scheduled for 30.9.2015 and the same got completed on 12.6.2016. The Petitioner has attributed the delay due



to 'Drought' on account of low reservoir level. It is observed that there was restriction on the Water drawl by the District Administration and the Petitioner was not permitted to draw the required quantum of water from the Almatti Dam. As decided in para 32 above, the delay of 49 days (from 15.1.2016 to 3.3.2016) has been condoned. Accordingly, the total delay allowed till this activity is 172 days (123+49).

54. As regards the activity of 'Unit Synchronization', it is noticed that the Petitioner had taken around 6 (six) months against the two months' time scheduled after the 'Steam Blowing completion' activity. The Petitioner has attributed the delay to 'Drought' wherein it was not permitted to draw the required quantum of water. However, as decided in para 32 above, the delay on account of Drought is 49 days and the same had already been condoned as above. Accordingly, the delay for a further period (beyond the period of 172 days) since the last activity has not been condoned.

55. The activity of 'Commissioning at full load' was achieved in one month (approx.) against the scheduled time period of two months after 'Unit Synchronisation'. It is observed that after the commissioning of the unit, the Petitioner had taken around 7 (seven) months in the declaration of COD against the scheduled time period of 4 (four) months. The reason as attributed by the Petitioner for such additional time is the 'Villagers resistance' on account of which the power input arrangements for running Make up Water Pump at the pump house had got delayed. It is noticed from the Petitioner's earlier submissions in the main petition that the delay claimed on this count starts from August, 2017. However, Unit-I had achieved COD on 31.7.2017 i.e. before the date from which the impact of Villagers resistance was claimed. In paras 37 & 38 above, we have condoned the



delay of 97 days from 26.4.2017 to 30.7.2017 due to Villagers' resistance. Accordingly, the total time overrun of 269 days (172+97 days) till COD of Unit-I has only been condoned as against the total delay of 432 days.

**Unit II-Mile stone wise analysis of Time overrun:**

56. The details furnished by the Petitioner in respect of time overrun for Unit-II of the Project are as under:

Task	Milestones	Schedule Start Date	Schedule Completion Date	Actual Start date	Actual Completion date	Schedule Duration (month)	Actual Duration (month)	Delay (Days/month)	Reasons of delay with individual delay (Start and End date)
A	Scheduled Start Date (i.e. Zero Date + 6 months)	25-Jul-2012	25-Jul-2012	25-Jul-2012	25-Jul-2012	0	0	0	The reasons are same as that of Unit-I as the zero date of the subsequent units were at an interval of 6 months thereafter (i.e. 6 months after 25.01.2012).
B	Boiler Erection Start	30-Sep-2013	30-Sep-2013	16-Sep-2013	16-Sep-2013	14	13	0	
C	TG Erection Start	30-Nov-2014	30-Nov-2014	30-Mar-2015	30-Mar-2015	28	32	4	
D	Boiler Hydro test	30-Mar-2015	30-Mar-2015	31-Aug-2015	31-Aug-2015	32	37	5	
E	Boiler Light up	30-Dec-2015	30-Dec-2015	31-Oct-2016	31-Oct-2016	41	51	10	
F	TG Box up	30-Oct-2015	30-Oct-2015	25-Feb-2016	25-Feb-2016	39	43	4	
G	TG Oil flushing completion	30-Dec-2015	30-Dec-2015	26-Apr-2016	26-Apr-2016	41	45	4	
H	Steam Blowing completion	30-Mar-2016	30-Mar-2016	4-Jan-2017	4-Jan-2017	44	53	9	
I	Unit Synchronization	30-May-2016	30-May-2016	18-Feb-2017	18-Feb-2017	46	54	8	
J	Commissioning/ Full load	31-Jul-2016	31-Jul-2016	23-Mar-2017	23-Mar-2017	48	55	7	
K	COD	30-Nov-2016	30-Nov-2016	31-Dec-2017	31-Dec-2017	52	65	13	Villagers Resistance - Power Input arrangement for running design make up water pump. Details of the same have also been given by the Petitioner in the earlier petition no. 172/MP/2017 and 260/MP/2017 and Commission has allowed the extension for interchange of power with grid vide order dated 18.08.2017 & 27.11.2017 in petition no. 172/MP/2017 & 260/MP/2017 respectively.



57. The Commission had examined in detail the time overrun claimed by the Petitioner and has, on prudence check, condoned the time overrun for reasons which were beyond the control of the Petitioner and not attributable to it. Accordingly, the activities/milestones falling under the period condoned for the Unit-II of the generating station has been considered.

58. The activity of 'Boiler Erection Start' for Unit-II of the generating station had commenced prior to schedule date of 30.9.2013. However, the actual date of commencement of work is 16.9.2013. Hence, there is no delay in the work of 'Boiler Erection Start' for Unit-II of the generating station.

59. As regards the activity of "TG Erection Start", a schedule of 28 months (approx.) was considered by the Petitioner from the 'Schedule start date' of Unit-II i.e. 25.7.2012 to 'TG Erection start' date of 30.11.2014. However, the actual completion period is 32 months from the 'Schedule start date' to 'TG Erection start' date of 30.3.2015. Accordingly, there is a delay of 120 days. As stated earlier, this activity was affected by reasons such as (i) ban on mining;, (ii) NGT order dated 13.3.2014; and (iii) law and order issues, for a period more than the delay of 120 days claimed by the Petitioner. Accordingly, delay of 120 days till 'TG Erection start' has only been condoned as the same was for reasons beyond the control of the Petitioner.

60. The activity of 'Boiler Hydro Test' is with a completion schedule of 18 months from the 'Boiler Erection start' date of 30.9.2013. As per schedule, this activity should have been completed by 30.3.2015 as against the actual completion date of 31.8.2015. As such, there is a delay of 5 months (153 days). From the justifications/reasons furnished by the Petitioner, it is noticed that the progress of work was affected by the (i) order of NGT for a period from 13.3.2014 to 13.4.2014



(32 days); (ii) mob violence from 5.7.2014 to 24.8.2014 (51 days); and (iii) ban on mining from 5.8.2013 to 16.12.2013 (133 days). This activity has been affected by the reasons like ban on mining, NGT order dated 13.3.2014 and law and order issues for a period more than the period of delay of 153 days as claimed by the Petitioner. Accordingly, the delay of 153 days up to the actual date of 'Boiler Hydro test' of 31.8.2015 has been condoned.

61. For the activity of 'Boiler light up', the Petitioner has claimed a time overrun of 306 days i.e. 153 more days from the previous activity of 'Boiler Hydro Test' for which the delay of 153 days has already been condoned. The reason for this delay as furnished by the Petitioner is the late clearance given by the administration which had resulted in the delay in start of erection work for Makeup Water System Package. The scheduled start date for erection work as mentioned is January, 2014 and the same had actually commenced in March 2015. We have in this order in para 18 above decided that the delay on this count was not beyond the control of the Petitioner. However, it is observed that the schedule period between 'Boiler hydro test' and 'Boiler light up' is 9 months. As such, considering the actual date of achieving 'Boiler hydro test' on 31.8.2015 i.e. the date till time overrun of 153 days has been condoned, the work of 'Boiler light up' should have been completed by 30.5.2016. However, the actual completion date of 'Boiler Light Up' is 31.10.2016. As such, the period from the date of actual 'Boiler Hydro Test' to the actual date of 'Boiler light up' was also affected by 'Drought' for 49 days, which has been condoned in para 32 above. Accordingly, delay of 202 days (153+49) till 'Boiler light up' is condoned in respect of Unit -II.

62. As regards the activity of 'Steam Blowing completion' which was scheduled to be completed on 30.3.2016, actually got completed on 4.1.2017, thereby causing a



delay of 280 days. The activity of 'Unit synchronisation' which was scheduled on 30.5.2016 was actually completed on 18.2.2017, causing a delay of 264 days. For the activity of 'Commissioning full load' which was scheduled on 31.7.2016, was completed only on 23.3.2017, thereby causing a delay of 235 days. The Petitioner has submitted that the same reasons for delay which have caused the delay in respect of Unit-I were responsible for delay in respect of Unit-II. Since, we have not condoned any further period of delay due to 'Drought' for Unit-I, the same is not allowed for Unit-II also. Accordingly, further delay till "commissioning full load" over and above the allowed delay of 202 days allowed till the "Boiler Light Up" is not condoned.

63. The SCOD considered for time overrun of Unit-II is 25.11.2016 and the actual COD of the said unit is 31.12.2017. The Petitioner has attributed the further delay after "Commissioning full load" on power input arrangement on account of the villagers' resistance. We have, in para 40 of this order, after prudence check, permitted the delay on account of the villagers' resistance for a further period of 85 days w.e.f. 24.3.2017 to 16.6.2017. Accordingly, the delay on this count has been condoned in respect of Unit-II of the generating station. On overall basis, the delay of only 287 days (i.e. 202+85), till the actual COD of the Unit-II has been condoned against an actual delay of 401 days in achieving COD.

### **Unit III- Milestone-wise analysis of Time overrun**

64. The details furnished by the Petitioner in respect of time overrun for Unit-III of the Project are as under:



Task	Milestone	Schedule Start Date	Schedule Completion Date	Actual Start date	Actual Completion date	Schedule Duration (month)	Actual Duration (month)	Delay (Days/month)	Reasons of delay with individual delay (Start and End date)
A	Scheduled Start Date (i.e. Zero Date +12 months)	25-Jan-2013	25-Jan-2013	25-Jan-2013	25-Jan-2013	0	0	0	The reasons are same as that of Unit-I as the zero date of the subsequent units were at an interval of 6 months thereafter (i.e. 12 months after 25.01.2012).
B	Boiler Erection Start	30-Mar-2014	30-Mar-2014	20-Aug-2013	20-Aug-2013	14	6	0	
C	TG Erection Start	30-May-2015	30-May-2015	25-Sep-2015	25-Sep-2015	28	32	4	
D	Boiler Hydro test	30-Sep-2015	30-Sep-2015	31-Mar-2016	31-Mar-2016	32	38	6	
E	Boiler Light up	30-Jun-2016	30-Jun-2016	9-Apr-2017	9-Apr-2017	41	50	9	
F	TG Box up	30-Apr-2016	30-Apr-2016	31-Aug-2016	31-Aug-2016	39	43	4	
G	TG Oil flushing completion	30-Jun-2016	30-Jun-2016	31-Oct-2016	31-Oct-2016	41	45	4	
H	Steam Blowing completion	30-Sep-2016	30-Sep-2016	2-Jun-2017	2-Jun-2017	44	52	8	
I	Unit Synchronization	30-Nov-2016	30-Nov-2016	22-Aug-2017	22-Aug-2017	46	54	8	
J	Commissioning/Full load	31-Jan-2017	31-Jan-2017	12-Mar-2018	12-Mar-2018	48	61	13	
K	COD	30-May-2017	30-May-2017	15-Sep-2018	15-Sep-2018	52	67	15	Villagers Resistance -Northern side Railway siding and water reservoir for Lagoon-2. This delay has also been condoned by the Hon'ble Commission vide its order dated 23.02.2018 & 01.06.2018 in petition no. 51/MP/2018 and 146/MP/2018 respectively wherein time extension for interchange of power with grid has been allowed.

65. The 'SCOD' of Unit-III of the generating station as considered by the Petitioner is 30.5.2017. However, considering the SCOD of 25.5.2017 and the actual COD of Unit-III as 15.9.2018, there is a total delay of 478 days in the COD of Unit-III. The reasons for the delay in the activities from 'Boiler Erection start' to 'Commissioning full load' as submitted by the Petitioner is the same as that of the delay of Unit-I. The Commission in this order had examined in detail the time



overrun claimed by the Petitioner and has, on prudence check, condoned the time overrun for reasons which were beyond the control of the Petitioner and not attributable to it. Accordingly, the activities/milestones falling under the period condoned for the Units-I & II of the generating station have been considered for Unit-III also based on the analysis of milestone activities of Unit-III.

66. The activity of 'Boiler Erection start' of Unit-III of the generating station had actually commenced on 20.8.2013 prior to the scheduled date of 30.5.2014. Hence, there is no delay in the said activity of Unit-III of the generating station.

67. The activity of 'TG Erection start' was scheduled around 28 months from the 'Schedule start date' of Unit-III (25.1.2013) to 'TG Erection start' date of 30.5.2015. However, the actual completion period is 32 months from the 'Scheduled start date' to the actual date of 'TG Erection start' (i.e. 25.9.2015). As such, there is a delay of 118 days. This activity has been affected by the reasons like ban on mining, NGT order dated 13.3.2014 and law and order issues which had already been condoned and the period of delay is more than the delay of 118 days claimed by Petitioner. Accordingly, the delay of 118 days till the 'TG Erection start' has been condoned due to reasons which are not attributable to the Petitioner.

68. The completion schedule of 'Boiler Hydro Test' activity is 32 months. As per schedule, this activity should have been completed by 30.9.2015 as against the actual completion date of 31.3.2016. As such, there is a delay of 6 months (183 days) upto the completion date of 'Boiler Hydro Test'. From the justifications/ reasons furnished by the Petitioner, it is observed that that the progress of work was affected by the (i) ban on mining;, (ii) Order dated 13.3.2014 of NGT; (iii) law



and order issues and (iv) Drought, which had already been condoned and the period of delay condoned is more than the delay of 183 days as claimed by the Petitioner. Accordingly, the delay of 183 days claimed up to the 'Boiler Hydro Test' by the Petitioner is condoned.

69. It is observed that from the 'Schedule start date' of Unit-III i.e. 25.1.2013 to actual date of 'Steam blowing completion' i.e. on 2.6.2017, the delay of 245 days has been claimed by the Petitioner. As such, the activities till 'Steam blowing completion' have been affected by reasons like ban on mining, order of NGT dated 13.3.2014, Law and Order issues and Drought which had already been condoned. Hence, the delay up to 'Steam blowing completion' has already been subsumed in the activities up to 'Boiler Hydro Test'. Accordingly, the delay of only 183 days till 'Steam Blowing completion' on 2.6.2017 has been condoned as the same is for reasons which were beyond the control of the Petitioner.

70. Further, on TG side the last activity is 'T.G Oil flushing completion' which was completed on 31.10.2016 prior to the date of completion of 'Steam blowing completion' i.e. 2.6.2017. As such, both the Turbine and Boiler were available on 2.6.2017 for the next activities of 'Unit synchronization' and 'Commissioning' of Unit-III of the Project.

71. The total delay claimed by the Petitioner up to the 'synchronisation of Unit-III' which was achieved on 22.8.2017, is 265 days. Further, there is a total delay of 405 days in the 'Commissioning full load' of Unit-III which was achieved on 12.8.2018. Considering the fact that delays after 3.3.2016 (15.1.2016 to 3.3.2016 due to 'Drought') had not been condoned, no further delay beyond the delay of 183 days has been condoned till the 'Commissioning full load' of Unit-III of the Project. It is mentioned here that delay between "Commissioning full load" and



‘COD’ as condoned for Unit-I and Unit-II which was caused by non-availability of power for makeup water pumps till 17.6.2017 has not been considered as one of the reasons of delay in achieving ‘Commissioning full load’ of unit-III as the Petitioner had been able to achieve ‘Commissioning full load’ of unit-I and Unit-II before 17.6.2017 i.e date of availability of power for makeup water pumps, may be by some alternate arrangement. Similarly, non-availability of power for make-up pump till 17.6.2017 has not been considered as one of the reasons for further delay beyond 183 days condoned already till previous milestone activities.

72. The scheduled COD of Unit-III was 25.5.2017 and the actual COD is 15.9.2018 thereby leading to a delay of 478 days. The Petitioner has attributed the further delay between the ‘Commissioning full load’ and ‘COD’ on account of Villagers resistance towards acquiring the land for Northern Side Railway siding and Water reservoir for Lagoon-2. We have, in paras 44 to 46 of this order, not permitted/ condoned the delay due to villagers’ resistance in Northern Side Railway siding and Water reservoir for Lagoon-2 and therefore, the said period has not been condoned for Unit-III of the generating station. Accordingly, the delay of only 183 days till actual COD of the Unit-III has been condoned, as against the actual delay of 478 days in achieving COD of Unit-III.

73. Accordingly, the time overrun allowed (against the actual time overrun) for Units-I to III and the schedule COD (reset) for the purpose of computation of IDC due to time overrun, is summarized as under:

Units	SCOD as per IA	Actual COD	Time Overrun considering SCOD ( <i>in days</i> )	Time Overrun allowed ( <i>in days</i> )	SCOD (reset) for IDC & IEDC computation
I	25.5.2016	31.7.2017	432	269	18.2.2017
II	25.11.2016	31.12.2017	401	287	8.9.2017
III	25.5.2017	15.9.2018	478	183	24.11.2017



## Capital Cost

74. Regulation 9(2) of the 2014 Tariff Regulations provides as under:-

*“The Capital cost of a new project shall include the following:*

*(a) The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*

*(b) Interest during construction and financing charges, on the loans*

*(i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*

*(c) Increase in cost in contract packages as approved by the Commission;*

*(d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;*

*(e) Capitalized Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;*

*(f) Expenditure on account of additional capitalization and de-capitalization determined in accordance with Regulation 14 of these regulations;*

*(g) Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and*

*(h) Adjustment of any revenue earned by the transmission licensee by using the assets before COD.”*

75. The IA of the project is based at SBI cap appraisal at 4<sup>th</sup> quarter 2011 Price level as under:

- i. Estimated cost of ₹15166.19 crore including IDC & FC of ₹2487.67 crore and WCM of ₹445.77 crore
- ii. Indicative estimated completed cost of ₹16934.65 crore including IDC & FC of ₹2654.84 crore and WCM of ₹460.06 crore

## Impact of time overrun on IDC and IEDC

76. As stated above, out of the delay of 432 days in the COD of Unit-I, 401 days delay in the COD Unit-II and 478 days delay in the COD Unit-III of the generating station, time overrun of 163 days, 114 days and 295 days has been disallowed for Unit-I, Unit-II and Unit-III respectively. Hence, the total delay of total 269 days for Unit-I, 287 days for Unit-II and 183 days for Unit-III has been condoned. Consequent



upon this, the reduction in the IDC and IEDC has been dealt with in subsequent paragraphs.

### **Initial Spares**

77. Regulation 13 of the 2014 Tariff Regulations provides as under:

*“13. Initial Spares: Initial spares shall be capitalized as a percentage of the Plant and Machinery cost up to cut-off date, subject to following ceiling norms:*

*(a) Coal-based/lignite-fired thermal generating stations - 4.0%*

*(b) Gas Turbine/Combined Cycle thermal generating stations - 4.0%*

*Provided that:*

*i. where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:*

*iv. for the purpose of computing of initial the cost spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the break-up of head wise IDC & IEDC in its tariff application.”*

78. The COD of the generating station is 15.9.2018 and accordingly the cut-off date of the generating station is 31.3.2021. The Petitioner in Form-5B of the amended petition has not furnished the details of initial spares and has submitted that it is included in the respective packages. Hence, the Petitioner is directed to furnish the total amount of initial spares, after bifurcation of the amounts for different packages, at the time of truing-up of tariff of the generating station.

### **Infirm power**

79. The total construction & pre-commissioning expenses as per IA furnished by the Petitioner in Form-5B of the amended petition is ₹9882.74 lakh and total expenditure as on COD of the Unit-III of the generating station is ₹37597.59 lakh. The Petitioner has not furnished the details of infirm power and the revenue earned from sale of infirm power. The Petitioner in Form-5B, under the head start-up fuel, has submitted that the cost has been included in the Erection Testing and



Commissioning cost. Accordingly, the Petitioner is directed to furnish the details of infirm power injected in the grid by Units-I to III till COD and the revenue earned from sale of infirm power, excluding fuel cost, and the details of the fuel used from synchronization till COD at the time of truing up of tariff of the generating station.

### **Liquidated Damages**

80. The Petitioner in the amended petition has not furnished the details of Liquidated Damage recovered from the contractors. Hence, the Petitioner is directed to submit, amongst others, the details of LD, if any, recovered, till COD at the time of truing up of tariff of the generating station.

### **Additional Capital Expenditure**

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

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

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

*(ii) Works deferred for execution;*

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

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

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

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

82. The Petitioner in Form-9A of the amended petition has claimed the year wise statement of the actual and Projected additional capital expenditure from 31.7.2017(COD of Unit-I) to 31.3.2019 as under:



(₹ in lakh)

	2017-18	2017-18	2018-19	2018-19
	31.7.2017 (COD of Unit-I) to 30.12.2017	31.12.2017 (COD of Unit-II) to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 (COD of Unit-III) to 31.3.2019
Additional Capital Expenditure on cash basis (excluding discharges)	20836.62	8237.82	39246.17	12525
IDC included in above	1082.71	369.27	1508.74	-
Additional capital expenditure (excluding IDC and discharges)	19753.92	7868.55	37737.43	12525

83. The Petitioner has claimed additional capital expenditure under Regulation 14(1)(i), 14(1)(ii) and 14(1)(iii) of the 2014 Tariff Regulations. Since the claims of the Petitioner for additional capital expenditure form part of the original scope of work of the Project and falls within the provisions of the aforesaid provisions of the Regulations, the claim of the Petitioner is allowed.

#### **Railway augmentation deposit works**

84. The Petitioner has claimed cost of ₹94600.00 lakh towards Railway infrastructure augmentation and has submitted that as per Policy of the Ministry of Railways, GOI dated 10.12.2012, the Petitioner has opted for Capacity Augmentation (Doubling/ Third line/ Fourth line, etc.) with funds provided by customers. The Petitioner has pointed out that as per the option, Railway owns and operates the said project and in order to facilitate its timely execution, funds are provided to Railways by developers. It has submitted that to meet the coal requirement (of 13.1 MMTPA approx.) of the generating station, the doubling of Hotgi-Bijapur-Gadag line was approved by the NTPC Board under the Customer funding model of the Ministry of Railways Policy. Accordingly, the Petitioner has submitted that it has initially paid an amount of ₹400 crore to South Western Railway (SWR) on 11.4.2014. The Petitioner has stated that the cost of project based on current estimates is ₹94600.00 lakh as per communication of the Railway



Ministry. The Petitioner has submitted that the entire amount has been paid by the Petitioner to SWR for ensuring seamless coal rake transportation to the generating station. The Petitioner has, therefore, requested the Commission to allow the said expenditure towards transportation on coal, in the capital cost of the Project, for the purpose of tariff. It has submitted that the rebate offered by Railways in the freight bills shall be passed on to the beneficiaries, in the fuel transportation cost of the Project.

85. The Respondents TANGEDCO, MESCOM, BESCO & HESCO have submitted that the Commission in its order dated 15.2.2016 in Petition No.59/MP/2015 had considered the prayer of the Petitioner seeking in-principle approval to consider the expenditure incurred through the Indian Railways for timely completion of rail connectivity and/or capacity augmentation of rail infrastructure required for transportation of coal (as per Railway Board Policy dated 10.12.2012) in the capital cost of power projects for the purpose of tariff and had rejected the same. Accordingly, the Respondents have submitted that the present claim of the Petitioner may be rejected.

86. Respondent CESC has submitted that the expenditure is not covered under any of the provisions of the 2014 Tariff Regulations. It has submitted that the same would pose a huge tariff shock to the end consumers. The Respondent has also submitted that the Petitioner has not obtained any consent from the beneficiaries and the matter was not raised by the Petitioner in any forum and was never discussed with the beneficiaries, prior to entering into agreement with Railways.

87. Respondent KSEB has submitted that the claim of the Petitioner for Rail infrastructure may be rejected as this work is not covered under the original scope



of work of the Project and the Petitioner has also not sought any consent of the beneficiaries before making such investment.

88. The Petitioner in its rejoinder has submitted that the funds given to Indian Railway is as per the Railway Board Policy dated 10.12.2012 and hence the same may be allowed in the capital cost and the rebate offered by Indian Railways in freight bills shall be passed on to the beneficiaries in the fuel transportation cost of the Power Project.

89. We have considered the matter. In order to ensure timely availability of rail infrastructure for supply of coal to project of the Petitioner, the Board of Petitioner Company had decided to undertake the implementation of the Rail infrastructure projects associated with the upcoming Kudgi Power Project in terms of the Policy of the Ministry of Railway dated 10.12.2012. It is pertinent to mention that the Petitioner had earlier filed Petition No. 59/MP/2015 seeking in-principle approval for considering the expenditure incurred through the Indian Railways for timely completion of rail connectivity and/ or capacity augmentation of rail infrastructure required for transportation of coal (as per Railway Board Policy dated 10.12.2012) in the capital cost of power projects for the purpose of tariff. It had also submitted, amongst others, that as per the Railway Board Policy dated 10.12.2012, an amount of ₹902.57 crore (₹400 crore for Doubling of Hotigi-Bijapur-Gadag line, ₹250 crore for Flyover at Bakthiyarpur including 3rd line and surface triangle, ₹140 crore for Electrification of Manpur-Tilaiya-Bakthiyarpur line and ₹112.57 crore for Gauge Conversion of balgona-Kotwa section) has been deposited with Railways under Customer Funding Model to facilitate seamless transportation of coal rakes for its upcoming Super Thermal Power Projects at Kudgi, Barh Stagell



and Kotwa. However, the Commission vide its order dated 15.2.2016 rejected the prayer of the Petitioner and held as under:

*“6. We have perused the said order dated 29.7.2010. In our view, the said order does not support the case of the Petitioner. It is not mandatory for the Petitioner to participate in the scheme under the Customer Funding Model as per the Policy of Ministry of Railways. As per the Policy, the fund provided by NTPC shall be refunded by Railways through rebate in the freight which may be up to 7% of the amount invested every year. Further, NTPC will receive interest on the funds provided by it to Railways at a rate equal to prevailing rate of dividend payable by Railways to the general exchequer.*

*7. In our view, the request of the Petitioner to capitalize of such expenditure on funding provided to Railways in the capital cost of the power projects cannot be allowed. However, NTPC may retain the rebate in freight charges in consideration of the investment made by NTPC. It is, however, clarified that beneficiaries will be charged for the normal freight charges in tariff without considering the rebate in freight charges to NTPC.”*

90. It is further noticed that the Petitioner had also not obtained the consent of any of the beneficiaries prior to such huge expenditure being incurred by it. In this background and in the light of the aforesaid decision, we are not inclined to allow the said expenditure claimed by the Petitioner towards Railway augmentation deposit work. It is however made clear that the Petitioner shall retain the rebate in freight charges in consideration of the investment made by the Petitioner. It is, also clarified that beneficiaries will be charged for the normal freight charges in tariff without considering the rebate in freight charges to the Petitioner.

### **Environmental Norms**

91. The Petitioner has submitted that the Ministry of Environment Forests & Climate Change (MOEF&CC), GOI vide Notification dated 7.12.2015 has notified the Environment (Protection) Amendment Rules, 2015, wherein the emission norms relating to SPM, NO<sub>x</sub>, SO<sub>x</sub> etc. have been tightened further. It has submitted that in order to comply with the revised norms of MOEF&CC, the Petitioner has to modify/install various systems. The Petitioner has submitted that it has vide Notification of Award (NoA) dated 31.7.2018 already awarded the Flue Gas



Desulphurisation (FGD) System Package for the Project and the cost for supply and installation of Emission Control System (ECS) and other equipment's for the Project is to the tune of ₹721.28 crore, which is expected to be progressively incurred with in a contract period of 45 months from the date of award. Accordingly, the Petitioner has prayed the Commission may allow the additional capitalization on mandatory installation of ECS under change in law. It has also prayed that the Commission may allow relaxed norms for Auxiliary Power Consumption and O&M charges for this Project by exercise of the 'Power to Relax' under the 2014 Tariff Regulations, as and when such equipment/ system are commissioned for Emission Control Works.

92. The matter has been considered. MOEFCC, GOI vide its Notification dated 7.12.2015 has notified the Environment (Protection) Amendment Rules, 2015 amending the Environment (Protection) Act, 1986. Through the amendment, the existing/applicable environmental norms for all existing, as well as future Thermal Power Projects. The Petitioner has submitted that the MOEFCC Notification is a 'Change in law' event and the Petitioner is required to comply with the revised norms prescribed by the MOEFCC Notification and install Emission Control System (ECS) and carry out major capital works/modifications for it to be able to operate the projects and supply power to the beneficiaries. It is observed that the Petitioner had filed Petition No.98/MP/2017 (NTPC V UPPCL & ors) seeking approval of expenditure on installation of various ECS, for compliance of MOEF&CC Notification dated 7.12.2015 mandating compliance with revised Environmental norms for Thermal Power Stations and the Commission by its order dated 20.7.2018 observed the following:



“44. In our view, the MOEFCC Notification dated 7.12.2015 requiring the thermal generating stations to implement the revised environmental norms amounts to ‘Change in Law’ in accordance with the 2014 Tariff Regulations as well as the Policy directions issued by the MoP under section 107 of the Act.

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49. Based on the guidelines and operational parameters decided by CEA, the Commission shall undertake prudence check and grant the tariff for the capital and operational expenditure on ECS in respect of the generating stations regulated by the Commission. The Commission may, if required, specify detailed guidelines in this regard. 50. The treatment of shut down period required for installation and commissioning of ECS at the projects of the Petitioner shall be decided by the Commission consequent upon preparation of such schedule by CEA. The detailed guidelines referred to in para 49 above will address this aspect also. The Petitioner may thereafter approach the Commission with an appropriate Petition in this regard.”

93. The prayer of the Petitioner is disposed of in terms of the above. Accordingly, the cost of expenditure on installation of ECS shall be considered separately after submission of details of the actual expenditure incurred and the consequential effect on operational norms and the O&M expenses of the generating station.

#### Actual Capital Cost as on COD of Unit-I

94. The details of the capital cost claimed by the Petitioner as on COD of Unit-I is as under:

	(₹ in lakh)
	<b>Amount</b>
Gross Block (as per IND AS) as on COD of Unit-I	666570.14
Less: Gross Block (as per IND AS) for Kudgi-II, including above	5757.03
Gross Block (as per IND AS) for the generating station as on COD of Unit-I	<b>660813.11</b>
Less: IND AS adjustment to Gross Block the generating station as on COD of Unit-I	88.24
Gross Block as per IGAAP (i.e. historical cost basis), the generating station, as on COD of Unit-I (on accrual basis)	<b>660724.87</b>
Less: Un-discharged liabilities, including above	58127.02
<b>Gross Block as per IGAAP for the generating station, as on COD of Unit-I (on cash basis)</b>	<b>602597.85</b>
Add: Railway augmentation deposit works	94600.00
Add: ERV charged to revenue	(-)1753.00
Add: Inter-unit transfer out before COD	2157.00
Add: Notional IDC	1251.00
Add: Unamortised Finance Charges	616.00
Less: Rounding-off differences	0.01
<b>Capital cost claimed as on COD of Unit-I</b>	<b>699468.84</b>



95. The Auditor certified capital cost, on accrual as well as on the cash basis, amounting to ₹660724.87 lakh and ₹602597.85 lakh respectively, including IDC & FC of ₹87405.15 lakh and FERV of ₹8629.87 lakh, as on COD of Unit-I. Accordingly, the hard cost component of capital cost as on COD of Unit-I works out to ₹564689.85 lakh, on accrual basis, and ₹506562.83 lakh, on cash basis. Also, the hard cost (on cash and accrual basis) includes IEDC of ₹34341.35 lakh as on COD of Unit-I, which includes an expenditure of ₹6.92 lakh towards contingency. Since, the 2014 Tariff Regulations do not provide for admissibility of any expenditure towards contingency, the amount of ₹6.92 lakh is not allowed. Considering the details of IEDC submitted in the petition, the allowable IEDC (after accounting for depreciation capitalized and forming part of capital cost upto COD) works out to ₹27293.89 lakh. Accordingly, the hard cost considered for the purpose of tariff as on COD of Unit-I works out to ₹499515.37 lakh, after accounting for corresponding un-discharged liabilities of ₹58127.02 lakh.

96. We now proceed to examine the claim of the Petitioner with respect to IDC & FC, FERV, Notional IDC, FERV charged to revenue, un-amortized finance cost, inter-unit transfer of assets before COD and deposit towards railway augmentation work as under:

a) **IDC & FC**-The Petitioner has claimed IDC & FC amounting to ₹87405.15 lakh as on COD of Unit-I. However, considering the details of draws, repayments, rate of interest applicable to each loan and disallowed time overrun of 163 days, the allowable IDC and FC as on COD of Unit-I works out to ₹76020.20 lakh. Accordingly, the IDC & FC to be deducted as on COD of Unit-I works out to ₹11384.95 lakh.

b) **FERV**- The Petitioner has claimed FERV on loan amounting to ₹8629.87 lakh as on COD of Unit-I. Considering the details of draws, repayments and



exchange rates, the claim is found to be in order and accordingly allowed for the purpose of tariff.

c) **Notional IDC**- The Petitioner has claimed Notional IDC amounting to ₹1251.00 lakh as on COD of Unit-I. There is no provision under the 2014 Tariff Regulations for allowing Notional IDC. However, clause 2(b) of Regulation 9 of the 2014 Tariff Regulations provides for allowance of Normative IDC (over and above actual IDC). Accordingly, considering the quarterly debt-equity position corresponding to actual cash expenditure, allowable Normative IDC (over and above actual IDC) works out to ₹763.08 lakh as on COD of Unit-I.

d) **FERV charged to revenue** - The Petitioner has claimed (-)₹1753.00 lakh towards FERV charged to revenue [(-)₹1041.97 lakh pertaining to loan FERV charged to revenue post 1.4.2016 and (-)₹711.02 lakh pertaining to short-term FERV charged to revenue pertaining to package FERV], as on COD of Unit-I. On perusal of the statement showing the details of FERV calculations, it is observed that FERV amounting to (-)₹1041.97 lakh was charged to revenue prior to COD. As per consistent methodology adopted by the Commission, FERV charged to revenue upto COD is allowed as part of capital cost for the purpose of tariff. As such an amount of (-)₹1752.99 lakh is allowed under this head.

e) **Un-amortized Finance Cost** - The Petitioner has claimed ₹616.00 lakh as un-amortized bond issue expenses corresponding to loan drawn after IND AS. The Petitioner has submitted that in the erstwhile IGAAP, loan issue expenses paid upfront were accounted as and when incurred and the same used to be claimed as part of IDC. However, under IND AS, the upfront bond issue expenses are to be amortized over the tenure of loan resulting in part capitalization of IDC. It appears from the submissions of the Petitioner that the claim under this head is on account of differential treatment of upfront fees under IND AS and IGAAP. Further, the claim is over and above the Auditor certified (cash) capital cost (as per IGAAP) amounting to ₹602597.85 lakh. Since, the Auditor certified cash capital cost of ₹602597.85 lakh is as per IGAAP, any further adjustment to the same on account of IND AS adjustment is not justifiable. Accordingly, the Petitioner's claim under this



head has been ignored for the purpose of tariff. This is subject revision based on truing up exercise.

f) **Inter-unit transfer out of asset upto COD** - The Petitioner has claimed an amount of ₹2157 lakh as on COD of Unit-I towards inter-unit transfer of assets prior to COD of Unit-I. The Petitioner in its justification has not furnished any details. Hence, the claim of the Petitioner is not allowed. However, the Petitioner is directed to submit the details of the assets claimed under inter-unit transfer at the time of truing up exercise and same would be considered in accordance with law.

g) The rounding off gap amounting to (-) 0.01 lakh has been considered for the purpose of tariff.

97. In view of the above, the allowable capital cost as on COD of Unit-I works out to ₹583175.52 lakh.

**Additional Capital Expenditure for the period from COD of Unit-I to COD of Unit-II:**

98. The Petitioner has claimed additional capital expenditure amounting to ₹36657.69 lakh for the period from COD of Unit-I till COD of Unit-II. The Petitioner's claim has been reconciled as under:

	(₹ in lakh)
	2017-18 (31.7.2017 to 30.12.2018)
Closing Gross Block as per IGAAP pertaining to Kudgi-I *	1038324.43
Opening Gross Block as per IGAAP pertaining to Kudgi-I *	660724.87
<b>Additional capital expenditure as per IGAAP pertaining to Kudgi-I</b>	<b>377599.56</b>
Less: Exclusion of capitalization pertaining to Unit-II	354664.85
<b>Net additional capital expenditure claimed (on accrual basis) including IDC of ₹1082.71 lakh</b>	<b>22934.71</b>
Less: Un-discharged liabilities included above	2098.09
Add: Discharges of liabilities (against allowed assets/works)	15821.07
<b>Net additional capital expenditure claimed (on cash basis) including IDC of ₹1082.71 lakh</b>	<b>36657.69</b>

\* Duly certified by the auditor

99. The Petitioner has not furnished the auditor certificate in respect of the additional capital expenditure claimed and is therefore directed to furnish the



Auditor certified statement showing reconciliation of additional capital expenditure claimed with additional capital expenditure as per audited Financial Statement at the time of truing up exercise. The additional capital expenditure allowed above, excludes IDC and discharges of un-discharged liabilities. In line with the consistent methodology adopted by the Commission, the IDC corresponding to the additional capital expenditure and discharges of liabilities corresponding to already admitted assets/works has been considered for the purpose of tariff. Accordingly, the entire additional capital expenditure claim of the Petitioner amounting to ₹36657.69 lakh has been considered for the purpose of tariff.

#### **Actual Capital Cost as on COD of Unit-II**

100. The details of the capital cost claimed by the Petitioner as on COD of Unit-II is as under:

	(₹ in lakh)
Gross Block (as per IND AS) as on COD of Unit-II	1045990.56
Less: Gross Block (as per IND AS) for Kudgi Stage-II, included above	5757.03
<b>Gross Block (as per IND AS) for the project as on COD of Unit-II</b>	<b>1040233.53</b>
Less: IND AS adjustment to Gross Block, pertaining to Kudgi, as on COD of Unit-II	1909.10
<b>Gross Block as per IGAAP (i.e. historical cost basis), for the generating station as on COD of Unit-II (on accrual basis)</b>	<b>1038324.43</b>
Less: Un-discharged liabilities included above	67682.06
<b>Gross Block as per IGAAP for the generating station, as on COD of Unit-II (on cash basis)</b>	<b>970642.37</b>
Add: Railway augmentation deposit works	94600.00
Add: ERV charged to revenue	(-)1984.00
Add: Inter-unit transfer out before COD	2157.00
Add: Notional IDC	1251.00
Add: Un-amortised Finance Charges	1536.00
Less: Rounding-off differences	0.01
<b>Capital cost claimed as on COD of Unit-II</b>	<b>1068202.36</b>

101. The capital cost certified by Auditor, on accrual and cash basis, amounting to ₹1038324.43 lakh and ₹970642.37 lakh respectively as on COD of Unit-II, includes IDC & FC of ₹135655.50 lakh and FERV of ₹13580.98 lakh. Accordingly, the hard



cost component of capital cost as on COD of Unit-II works out to ₹889087.95 lakh, on accrual basis, and ₹821405.89 lakh, on cash basis. The hard cost (on cash as well as accrual basis) includes IEDC amounting to ₹51138.96 lakh as on COD of Unit-II, which includes expenditure of ₹6.92 lakh towards contingency. It is pertinent to mention that the 2014 Tariff Regulations do not provide for admissibility of any expenditure towards contingency and accordingly the amount of ₹6.92 lakh has not been allowed. Considering the details of IEDC submitted in the Petition, the allowable IEDC (after accounting for depreciation capitalized and forming part of capital cost upto COD) has been worked out as ₹45059.49 lakh. Accordingly, the hard cost considered for the purpose of tariff as on COD of Unit-II is ₹815326.42 lakh, after accounting for corresponding un-discharged liabilities amounting to ₹67682.06 lakh.

102. We now proceed to examine, the Petitioner's claim of IDC & FC, FERV, Notional IDC, FERV charged to revenue, un-amortized finance cost, inter-unit transfer of assets before COD and deposit towards railway augmentation work as under:

(a) **IDC & FC** - The Petitioner has claimed IDC & FC of ₹135655.50 lakh as on COD of Unit-II. However, considering the details of drawls, repayments, rate of interest applicable to each loan and disallowed time overrun of 114 days, the allowable IDC & FC works out to ₹121570.77 lakh as on COD of Unit-II. Accordingly, the IDC & FC to be deducted as on COD of Unit-II is to ₹14084.73 lakh.

(b) **FERV** - The Petitioner has claimed FERV on loan amounting to ₹13580.98 lakh as on COD of Unit-II. Considering the details of drawls, repayments and exchange rates, the claim is found to be in order and accordingly allowed for the purpose of tariff.



(c) **Notional IDC** - The Petitioner has claimed Notional IDC amounting to ₹1251.00 lakh as on COD of Unit-II. As stated above, there is no provision under the 2014 Tariff Regulations for allowing Notional IDC. However, Regulation 9(2)(b) of the 2014 Tariff Regulations provides for allowance of Normative IDC (over and above actual IDC). Accordingly, considering the quarterly debt-equity position corresponding to actual cash expenditure, the allowable Normative IDC (over and above actual IDC) works out to ₹987.45 lakh as on COD of Unit-II.

(d) **FERV charged to revenue** - The Petitioner has claimed (-)₹1984.00 lakh towards FERV charged to revenue [(-)₹1155.96 lakh pertaining to loan FERV charged to revenue post 1.4.2016 and (-)₹828.13 lakh pertaining to short-term FERV charged to revenue pertaining to package FERV, as on COD of Unit-II. It is observed from the details of FERV calculations the amount of (-) ₹1156.96 lakh was charged to revenue prior to the COD. As per consistent methodology adopted by the Commission, FERV charged to revenue upto COD is allowed as part of capital cost for the purpose of tariff. Accordingly, the amount of (-)₹1984.09 lakh is allowed under this head.

(e) **Un-amortized Finance Cost** - The Petitioner has claimed ₹1536.00 lakh as the un-amortized bond issue expenses corresponding to loan drawn after IND AS. The Petitioner has submitted that in the erstwhile IGAAP, loan issue expenses paid upfront were accounted as and when incurred and the same used to be claimed as part of IDC. However, under IND AS, the upfront bond issue expenses are to be amortized over the tenure of loan resulting in part capitalization of IDC. It appears from the submissions of the Petitioner that the claim is on account of differential treatment of upfront fees under IND AS and IGAAP. Further, the claim under this head is over and above the auditor certified (cash) capital cost (as per IGAAP) amounting to ₹970642.37 lakh. Since, the capital cost of ₹970642.37 lakh is as per IGAAP, any further adjustment to the same on account of IND AS adjustment is not justifiable. Accordingly, the Petitioner's claim under this head has been ignored for the purpose of tariff. This is however subject to truing up.



(f) **Inter-unit transfer out of asset upto COD** - The Petitioner has claimed an amount of ₹2157 lakh as on COD of Unit-II towards inter-unit transfer of assets prior to COD of Unit-II. The Petitioner in its justification has not furnished any details. Hence, the claim of the Petitioner is not allowed. However, the Petitioner is directed to submit the details of the assets claimed under inter-unit transfer at the time of truing up exercise and same would be considered in accordance with law.

(g) The rounding off gap amounting to (-) 0.01 lakh has been considered for the purpose of tariff.

103. In view of the above, the allowable capital cost as on COD of Unit-II works out to ₹949481.51 lakh.

**Additional Capital Expenditure for the period from COD of Unit-I to COD of Unit-II:**

102. The Petitioner has claimed additional capital expenditure amounting to ₹18745.59 lakh for the period from COD of Unit-II to 31.3.2018 and ₹45073.60 lakh for the period from 1.4.2018 to COD of Unit-III/Station. The Petitioner's claim has been reconciled as shown below:

	(₹ in lakh)	
	2017-18 (31.12.2017 to 31.3.2018)	2018-19 (1.4.2018 to 14.9.2018)
Closing Gross Block as per IGAAP pertaining to Kudgi-I		
Opening Gross Block as per IGAAP pertaining to Kudgi-I		
Additional capital expenditure as per IGAAP pertaining to Kudgi-I	21377.32	-
Less: Exclusion of capitalization pertaining to Unit-III	12200.00	-
<b>Net additional capital expenditure claimed (on accrual basis)</b> (includes IDC amounting to Rs.369.27 lakh and Rs.1508.74 lakh for the period from COD of Unit-II to 31.3.2018 and from 1.4.2018 to COD of Unit-III/Station)	<b>9177.32</b>	43861.48
Less: Un-discharged liabilities included above	939.50	4615.32
Add: Discharges of liabilities (against allowed assets/works)	10507.77	5827.43
<b>Net Additional Capital Expenditure claimed (on cash basis)</b>	<b>18745.59</b>	<b>45073.60</b>



103. The net additional capital expenditure claimed as above includes IDC amounting to Rs.369.27 lakh and Rs.1508.74 lakh for the period from COD of Unit-II to 31.3.2018 and from 1.4.2018 to COD of Unit-III/Station respectively.

104. The Petitioner has not furnished the auditor certificate in respect of the additional capital expenditure claimed and is therefore directed to furnish the Auditor certified statement showing reconciliation of additional capital expenditure claimed with additional capital expenditure as per audited Financial Statement at the time of truing up exercise. The additional capital expenditure allowed above, excludes IDC and discharges of un-discharged liabilities. As per consistent methodology adopted by the Commission, the IDC corresponding to the additional capital expenditure and discharges of liabilities corresponding to already admitted assets/works has been considered for the purpose of tariff. Further, on perusal of Form-9A in respect of statement showing details of additional capital expenditure claimed during the period from COD of Unit-II to 31.3.2018, it is observed that the additional capital expenditure claimed during this period includes an amount of ₹7.77 lakh towards contingency payment. As stated earlier, the expenditure towards contingency has not been allowed for the purpose of tariff and the same is subject to revision at the time of truing-up. Accordingly, the following additional capital expenditure has been considered for the purpose of tariff:

2017-18 (31.12.2017 to 31.3.2018)	2018-19 (1.4.2018 to 14.9.2018)
18737.81	45073.60

**Actual Capital Cost as on COD of Unit-III/ generating station (15.9.2018)**

105. The details of the capital cost claimed by the Petitioner as on COD of Unit-III/ generating station is as under:



(₹ in lakh)

Gross Block (as per IND AS) as on COD of Unit-III	1489362.13
Less: Gross Block (as per IND AS) for Kudgi Stage-II, included above	5757.03
<b>Gross Block (as per IND AS) as on COD of Unit-III</b>	<b>1483605.10</b>
Less: IND AS adjustment to Gross Block as on COD of Unit-III	3765.36
<b>Gross Block as per IGAAP (i.e. historical cost basis), as on COD of Unit-III (on accrual basis)</b>	<b>1479839.74</b>
Less: Un-discharged liabilities included above	117292.38
<b>Gross Block as per IGAAP as on COD of Unit-III (on cash basis)</b>	<b>1362547.36</b>
Add: Railway augmentation deposit works	94600.00
Add: ERV charged to revenue	15025.00
Add: Inter-unit transfer out before COD	2157.00
Add: Notional IDC	1322.00
Add: Unamortised Finance Charges	1633.00
Less: Rounding-off differences	0.05
<b>Capital cost claimed as on COD of Unit-III/ generating station</b>	<b>1477284.31</b>

106. The auditor certified capital cost certified on accrual and cash basis amounting to ₹1479839.74 lakh and ₹1362547.36 lakh respectively as on COD of Unit-III, which includes IDC & FC of ₹195885.91 lakh and FERV of ₹49822.39 lakh. Accordingly, the hard cost component of capital cost as on COD of Unit-III works out to ₹1234131.39 lakh on accrual basis and ₹1116839.01 lakh on cash basis. Further, the hard cost on accrual basis and on cash basis includes IEDC amounting to ₹92289.90 lakh and ₹60988.97 lakh respectively, as on COD of Unit-III, which includes expenditure of ₹46.76 lakh towards contingency. Since the 2014 Tariff Regulations do not provide for admissibility of any expenditure towards contingency, the amount of ₹46.76 lakh is not allowed. Considering the details of IEDC, the allowable IEDC (after accounting for depreciation capitalized and forming part of capital cost upto COD) works out to ₹65206.72 lakh on accrual basis and ₹48610.94 lakh on cash basis. Accordingly, the hard cost considered for the purpose of tariff as on COD of Unit-III works out to ₹1104460.98 lakh, after accounting for corresponding un-discharged liabilities amounting to ₹102587.23 lakh (total liability as on COD of Unit-III (₹117292.38 lakh) *minus* un-discharged liabilities corresponding to disallowed IEDC (₹14705.15 lakh)).



107. We now proceed to examine the Petitioner's claim of IDC & FC, FERV, Notional IDC, FERV charged to revenue, un-amortized finance cost, inter-unit transfer of assets before COD and deposit towards railway augmentation work as under:

a) **IDC & FC**- The Petitioner has claimed IDC & FC amounting to ₹195885.91 lakh as on the COD of Unit-III. However, considering the details of draws, repayments, rate of interest applicable to each loan and disallowed time overrun of 295 days, the allowable IDC & FC works out to ₹152614.07 lakh. Accordingly, IDC & FC to be deducted as on the COD of Unit-III is ₹43271.84 lakh.

b) **FERV** - The Petitioner has claimed FERV on loan amounting to ₹49822.39 lakh as on COD of Unit-III. Considering the details of draws, repayments and exchange rates, the claim is found to be in order and accordingly allowed for the purpose of tariff.

c) **Notional IDC** - The Petitioner has claimed Notional IDC amounting to ₹1322.00 lakh as on the COD of Unit-III. As stated, there is no provision under the 2014 Tariff Regulations for allowing Notional IDC. However, Regulation 9(2)(b) of the 2014 Tariff Regulations provides for allowance of Normative IDC (over and above actual IDC). Accordingly, considering the quarterly debt-equity position corresponding to actual cash expenditure, the allowable Normative IDC (over and above actual IDC) works out to ₹1120.23 lakh as on COD of Unit-III of the generating station.

d) **FERV charged to revenue** - The Petitioner has claimed an amount of ₹15025.00 lakh towards FERV charged to revenue (₹8952.21 lakh pertaining to loan FERV charged to revenue post 1.4.2016, ₹3572.84 lakh pertaining to loan FERV treated as borrowing cost drawn after 1.4.2016 transferred to revenue and ₹2499.66 lakh pertaining to short-term FERV charged to revenue pertaining to package FERV) as on the COD of Unit-III. On perusal of the statement showing the details of FERV calculations, it is observed that FERV amounting to ₹8952.21 lakh was charged to revenue prior to the COD. As per consistent methodology adopted by the Commission, FERV charged to revenue upto COD is allowed as part of capital cost for the purpose of tariff. Further, on perusal of the statement showing IDC capitalized upto COD along with Form-5B, it is observed that ₹3572.84 lakh pertaining to loan FERV treated as borrowing cost already forms part of auditor certified cash capital cost ₹1362547.36 lakh as per IGAAP (on cash basis). As such, any further adjustment of the same over and above auditor certified (cash) capital cost (as per IGAAP) is unjustifiable. Accordingly, the claim of the Petitioner under this head has been ignored for the purpose of tariff, subject to truing up. As



such, out of the Petitioner's claim of ₹15025.00, an amount of ₹11451.87 lakh is allowed under this head.

e) **Un-amortized Finance Cost** - The Petitioner has claimed ₹1633.00 lakh as un-amortized bond issue expenses corresponding to loan drawn after IND AS. The Petitioner has submitted that in the erstwhile IGAAP, loan issue expenses paid upfront were accounted as and when incurred and the same used to be claimed as part of IDC. However under IND AS, the upfront bond issue expenses is to be amortized over the tenure of loan resulting in part capitalization of IDC. It appears from the submissions of the Petitioner that the claim is on account of differential treatment of upfront fees under IND AS and IGAAP. Further, the claim under this head is over and above the capital cost (as per IGAAP) amounting to ₹1362547.36 lakh and therefore any further adjustment to the same on account of IND AS adjustment is not justifiable. Accordingly, the Petitioner's claim under this head has not been considered for the purpose of tariff. This is however subject to truing up.

(f) **Inter-unit transfer out of asset upto COD** - The Petitioner has claimed an amount of ₹2157 lakh as on COD of Unit-I towards inter-unit transfer of assets prior to COD of Unit-I. The Petitioner in its justification has not furnished any details. Hence, the claim of the Petitioner is not allowed. However, the Petitioner is directed to submit the details of the assets claimed under inter-unit transfer at the time of truing up exercise and same would be considered in accordance with law.

(g) The rounding off gap amounting to (-) 0.05 lakh has been considered for the purpose of tariff.

108. In view of above, the allowable capital cost as on COD of Unit-III/Station is worked to ₹1319469.48 lakh.

**Projected Additional Capital Expenditure for the period from COD of Unit-III/ generating station to 31.3.2019**

109. The Petitioner has claimed projected additional capital expenditure amounting to ₹45225.00 lakh for the period from COD of Unit-III to 31.3.2019. The Petitioner's claim has been reconciled as shown below:

	(₹ in lakh)
	<b>2018-19</b> <b>(15.9.2018 to</b> <b>31.3.2019)</b>
Net additional capital expenditure claimed (on accrual basis)	14400.00
Less: Un-discharged liabilities included above	1875.00



Add: Discharges of liabilities (against allowed assets/works)	32700.00
<b>Net additional capital expenditure claimed (on cash basis)</b>	<b>45225.00</b>

110. The Petitioner has not furnished the auditor certificate in respect of additional capital expenditure claimed and is therefore directed to furnish the auditor certified statement showing the reconciliation of additional capital expenditure claimed with additional capital expenditure as per audited financial statement at the time of truing up. The corresponding IDC details shall also be furnished at the time of truing up. The additional capital expenditure allowed above excludes IDC and discharges of un-discharged liabilities. In line with the consistent methodology adopted by the Commission, the IDC corresponding to the additional capital expenditure and discharges of liabilities corresponding to already admitted assets/works has been considered for the purpose of tariff. Accordingly, the entire additional capital expenditure claimed by the Petitioner for ₹45225.00 lakh has been considered for the purpose of tariff.

#### **Capital Cost considered for the purpose of tariff**

111. In view of above, the capital cost approved for the purpose of tariff for the period from COD of Unit-I till 31.3.2019 is as under:

(₹ in lakh)

	2017-18		2018-19	
	31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
Opening Capital Cost	583175.52	949481.51	968219.32	1319469.48
Add: Additional capital expenditure	36657.69	18737.81	45073.60	45225.00
<b>Closing Capital Cost</b>	<b>619833.22</b>	<b>968219.32</b>	<b>1013292.92</b>	<b>1364694.48</b>
Average Capital Cost	601504.37	958850.41	990756.12	1342081.98

#### **Reasonableness of Capital Cost**

112. We now examine the reasonableness of capital cost of the generating station. The comparison of the said capital cost with the benchmark capital cost specified by the Commission is as under:



	(₹ in crore)
	<b>Units- I, II &amp; III (2400 MW)</b>
Capital cost as on 31.3.2019 without IDC, FC, FERV & Hedging charges	11094.1985
Capital cost (Rs/MW)	4.62
Benchmark capital cost (December, 2011)	4.59

113. The hard cost of the project as on 31.3.2019 is ₹11094.1985 (₹4.62 crore/MW), which is higher than the benchmark cost of ₹4.59 crore/MW based on December, 2011 price level for 3 units of 800 MW, as specified by Commission vide its order dated 4.6.2012 for thermal power stations, with coal as fuel.

114. The Petitioner in Form-5B has submitted that the total estimated capital expenditure up to the cut-off date of the generating station is ₹16934.6509 crore, including IDC, FC, FERV & Hedging cost, which is the approved estimated completed cost. This is inclusive of IDC & FC of ₹2654.84 crore and WCM of ₹460.06 crore. Thus, the total cost of the generating station, excluding IDC & FC and WCM, as on the cut-off date, works out to ₹13819.75 crore, which is ₹5.76 crore/MW. The cut-off date of the generating station is 31.3.2021 and the projected hard cost till the cut-off date is ₹5.76 crore/MW. As such, there is a gap of 9 years and 3 months between December, 2011 and March, 2021. Considering this gap, the yearly escalation in the hard cost works out to 2.48% (approx). Since, the hard cost of the generating station as on the year 2018 is being compared to 2011 price level, the increase in the capital cost of the project appears to be competitive and reasonable.

### Debt-Equity Ratio

115. 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.”*

116. Considering the details of cash expenditure and the net loan position as on the COD, the debt-equity ratio as on COD of Unit-I, Unit-II and Unit-III works out to 71.58:28.42, 73.24:26.76 and 69.79:30.21 respectively, which is within the normative debt-equity norm of 70:30. As such, debt-equity ratio of 71.58:28.42, 73.24:26.76 and 70:30 has been considered for the purpose of tariff as on COD of Unit-I, Unit-II and Unit-III respectively. Further, for the additional capital expenditure during the period from COD of Unit-I to COD of Unit-II and COD of Unit-II to COD of Unit-III, the debt-equity ratio of 71.58:28.42 and 73.24:26.76 and for the projected additional capital expenditure allowed from COD of Unit-III to 31.3.2019, the debt-equity ratio of 70:30 has been considered for the purpose of tariff. This is subject to truing up exercise in terms of Regulation 8 of the 2014 Tariff Regulations

### **Return on Equity**

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

*“24. Return on Equity:*

*(1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.*

*(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:*

*Provided that:*

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



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

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

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

v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.”

118. 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:

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

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

119. The Petitioner has claimed return on equity considering the base rate of 15.5% and effective tax rate of 21.3416% (MAT Rate @ 18.5% plus surcharge @ 12% plus Education Cess @ 3%) and 21.5488% (MAT Rate @ 18.5% plus surcharge @ 12% plus Education Cess @ 4%) for the period from COD of Unit-I to 31.3.2018 and 2018-



19 respectively. This has been considered, subject to truing-up exercise. Return on equity has been computed as under:

	2017-18		2018-19	
	31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
Normative Equity - Opening	165733.46	254065.95	259079.88	395840.85
Addition due to additional capital expenditure	10417.80	5013.94	12060.97	13567.50
Normative Equity - Closing	176151.26	259079.88	271140.85	409408.35
Normative Equity - Average	170942.36	256572.91	265110.37	402624.60
Base Rate for return on equity	15.500%	15.500%	15.500%	15.500%
Applicable Tax Rate	21.3416%	21.3416%	21.5488%	21.5488%
Rate of Return on Equity (Pre-tax)	19.705%	19.705%	19.758%	19.758%
<b>Return on Equity</b>	<b>33684.19</b>	<b>50557.69</b>	<b>52380.51</b>	<b>79550.57</b>

## Interest on Loan

120. 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 de-capitalization 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.”

121. Interest on loan has been worked out as mentioned below:

i) Gross normative loan corresponding to admissible capital cost works out to ₹417442.06 lakh as on COD of Unit-I, ₹695415.56 lakh as on COD of Unit-II and ₹923628.64 lakh as on COD of Unit-III/Station.

ii) The net opening loan (normative) as on COD of Unit-I is same as gross normative loan, the cumulative repayment of normative loan up to the previous year/period being nil.

iii) Depreciation allowed has been considered as (normative) repayments for respective periods.

iv) Average net loan has been calculated as average of opening and closing.

v) Weighted average rate of interest has been computed considering details of actual loan portfolio as submitted by the Petitioner, after adjusting IDC corresponding to allowable additional capital expenditure.

122. Necessary calculation for interest on loan is as under:

(₹ in lakh)

	2017-18		2018-19	
	31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
Gross Normative Loan	417442.06	695415.56	709139.44	923628.64
Cumulative Repayment	-	12389.44	24269.48	46953.46
Net Normative Loan - Opening	417442.06	683026.12	684869.95	876675.18
Addition due to additional capital expenditure	26239.89	13723.88	33012.63	31657.50
Repayment of Normative Loan	12389.44	11880.04	22683.98	36788.71
Net Normative Loan - Closing	431292.51	684869.95	695198.61	871543.97



Normative Loan - Average	424367.29	683948.04	690034.28	874109.57
Weighted Average Rate of Interest	6.2418%	6.3473%	6.2980%	6.6987%
Interest on Loan	26488.27	43412.52	43458.53	58553.78

## Depreciation

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

*(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 licensee, 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.”

124. The Petitioner has claimed depreciation considering weighted average rate of depreciation of 4.9138%, 5.0051%, 5.0032% and 5.0532% for the period from COD of Unit-I to COD of Unit-II, COD of Unit-II to 31.3.2018, 1.4.2018 to COD of Unit-III and from COD of Unit-III to 31.3.2019 respectively. Considering the rates of depreciation enclosed in the Appendix-III to the 2014 Tariff Regulations, the admissible weighted average rate of depreciation works out to 4.9138%, 4.9696%, 5.0041% and 5.0532% for the period from COD of Unit-I to COD of Unit-II, COD of Unit-II to 31.3.2018, from 1.4.2018 to COD of Unit-III and from COD of Unit-III to 31.3.2019 respectively and the same has been considered for the purpose of tariff. This is subject to truing-up. Accordingly, depreciation has been calculated as under:

	(₹ in lakh)			
	2017-18		2018-19	
	31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
Average Capital Cost	601504.37	958850.41	990756.12	1342081.98
Weighted Average Rate of Depreciation	4.9138%	4.9696%	5.0041%	5.0532%
Depreciable Value	511912.48	833523.92	862239.06	1178432.34
Remaining Depreciable Value	511912.48	821134.48	837969.57	1131478.88
Depreciation for the period	12389.44	11880.04	22683.98	36788.71
<b>Depreciation for the year (annualised)</b>	601504.37	958850.41	990756.12	1342081.98
Cumulative depreciation (at the end of the year/period)	4.9138%	4.9696%	5.0041%	5.0532%



## Operation & Maintenance Expenses

125. Regulation 29(1) (a) of the 2014 Tariff Regulations provides for the following O&M expense norms for coal based generating stations of 600 MW sets & above:

(₹ in lakh/MW)

2017-18	2018-19
17.30	18.38

126. The annualised O&M expenses claimed by the Petitioner in Form-3A vide its affidavit dated 4.3.2019 based on above norms as on 31.3.2019 is as under:

(₹ in lakh)

2017-18		2018-19	2018-19
31.7.2017 (COD of Unit-I) to 30.12.2017	31.12.2017 (COD of Unit-II) to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 (COD of Unit-III) to 31.3.2019
<b>13840.00</b>	<b>27680.00</b>	<b>29408.00</b>	<b>44112.00</b>

127. The annualized O&M expenses claimed by the Petitioner as above is in order and hence allowed for the purpose of tariff

## Water Charges

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

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

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

*Provided that the generating station shall submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance or special allowance or claimed as a part of additional capitalization or consumption of stores and spares and renovation and modernization.”*

129. In terms of the above regulations, water charges are to be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check of the details furnished by the Petitioner. The Petitioner vide affidavit dated 4.3.2019 has furnished the water charges to be



allowed in tariff based on actual for the period from COD of Unit-I i.e. (31.07.2017) up to COD of the generating station(15.9.2018) and projections from station COD till 31.3.2019. The details in respect of water charges such as type of cooling water system, water consumption, rate of water charges furnished by the Petitioner is as under:

Description	Remarks
Type of Plant	Coal
Type of cooling water system	Closed Circuit Cooling System
Allocation of water for the generating station Annual water requirement per unit	5.2 TMC per annum 21900000 CuM
Rate of Water charges	As fixed by GOK from time to time for industrial usage. However, the present rate is Rs 3200 per MCFT
Water Charges for the period 31.7.2017 to 31.3.2018 (Rs in lakh)	670.69
Water Charges for the period 1.4.2018 to 14.9.2018 (Rs in lakh)	407.86

130. The Petitioner in the Form-3A of its affidavit dated 4.3.2019 has claimed water charges as under:-

2017-18		2018-19	2018-19
(₹ in lakh)			
31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
1003.29	1003.29	891.43	891.43

131. The Petitioner has furnished the detail of type of plant, type of cooling water system, along with contracted quantum. However, the Petitioner has not furnished the Water agreement entered into with the State Govt. agency. The Petitioner has claimed water charges based on actual for the period from COD of Unit-I i.e. (31.7.2017) up to station COD i.e. (15.9.2018) and based on projections from station COD (i.e.15.9.2018) till 31.3.2019. Since, the water charges claimed by the Petitioner up to COD of the generating station are on actuals, the same is allowed for the period 2017-18 and 2018-19. However, the Petitioner is directed to furnish the details of actual water consumption along with the Water agreement at



the time of truing up of tariff and the same shall be subject to retrospective adjustment. Accordingly, the total annualized O&M expenses including water charges claimed and allowed is summarized as under:

(₹ in lakh)

	2017-18		2018-19	2018-19
	31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
Normative O&M Expenses claimed	13840	27680	29408	44112
<b>O&amp;M Expenses as allowed (annualized)</b>	<b>13840</b>	<b>27680</b>	<b>29408</b>	<b>44112</b>
Water Charges claimed	1003.29	1003.29	891.43	891.43
<b>Water Charges allowed (annualized)</b>	<b>1003.29</b>	<b>1003.29</b>	<b>891.43</b>	<b>891.43</b>
<b>Total O&amp;M Expenses allowed (annualized)</b>	<b>14843.29</b>	<b>28683.29</b>	<b>30299.43</b>	<b>45003.43</b>

132. The Water charges allowed as above is subject to truing-up at the end of the tariff period and the Petitioner is therefore directed to place on record all relevant information.

133. The Petitioner has claimed additional O&M expenses on account of the installation of ECS and other equipment. The same shall be guided by our observations in para 91 of this order.

### Operational Norms

134. The operational norms in respect of the generating station considered by the Petitioner are as under:

Normative Annual Plant Availability Factor (%)	85
Heat Rate (kcal/kWh)	2241.41
Auxiliary Power Consumption (%)	5.75
Specific Oil Consumption (ml/kWh)	0.50

135. The operational norms claimed by the Petitioner are discussed as under:

### Normative Annual Plant Availability Factor (NAPAF)

136. Regulation 36(A)(a) of the 2014 Tariff Regulations provides as under:



“(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.”

137. The Petitioner has considered the NAPAF of 85% for the periods 2017-18 and 2018-19 and the same is in line with the operational norms specified under the 2014 Tariff Regulations. Accordingly, NAPAF of 85% has been considered for the said periods.

### Station Heat Rate (SHR)

138. Regulation 36(C)(b)(i) of the 2014 Tariff Regulations provides Station Heat Rate as under:

#### (C) Gross Station Heat Rate

(b) New Thermal Generating Station achieving COD on or after 1.4.2014

(i) Coal-based and lignite-fired Thermal Generating Stations  
= 1.045 X 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 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 <sup>2</sup> )	150	170	170	247
SHT/RHT (OC)	535/535	537/537	537/565	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

Provided further that in case pressure and temperature parameters of a unit are different from above ratings, the maximum design unit heat rate of the nearest class shall be taken:



*Provided also that where unit heat rate has not been guaranteed but turbine cycle heat rate and boiler efficiency are guaranteed separately by the same supplier or different suppliers, the unit design heat rate shall be arrived at by using guaranteed turbine cycle heat rate and boiler efficiency:*

*Provided also that where the boiler efficiency is below 86% for Sub-bituminous Indian coal and 89% for bituminous imported coal, the same shall be considered as 86% and 89% respectively for Sub-bituminous Indian coal and bituminous imported coal for computation of station heat rate:*

*Provided also that maximum turbine cycle heat rate shall be adjusted for type of dry cooling system:*

*Provided also that if one or more generating units were declared under commercial operation prior to 1.4.2014, the heat rate norms for those generating units as well as generating units declared under commercial operation on or after 1.4.2014 shall be lower of the heat rate norms arrived at by above methodology and the norms as per the Regulation 36(C)(a)(i):”*

139. The Petitioner has furnished design turbine cycle heat rate and boiler efficiency of the generating station as 1819.30 kcal/kWh and 84.82% respectively. Thus, the unit design heat rate worked out from the data furnished by the Petitioner works out as 2144.90 kcal/kWh ( $1819.30/0.8482$ ). Considering the margin of 4.5% in terms of the 2014 Tariff Regulations, the Gross Station Heat Rate (GSHR) works out as 2241.42 kcal/kWh ( $1.045 \times 2144.90$ ). Accordingly, the Petitioner has prayed for consideration of the heat rate norm of 2241.41 kcal/kWh in terms of Regulation 54 (Power to relax) of the 2014 Tariff Regulations.

140. As per Regulation 36(C)(b)(i) of the 2014 Tariff Regulations, for new thermal generating station achieving COD on or after 1.4.2014, the GSHR= $1.045 \times$  Design Heat Rate i.e. 2241.41 (i.e.  $1.045 \times 2144.90$ ), provided that the design heat rate shall not exceed the maximum design unit heat rates depending upon the pressure and temperature ratings of the units as specified under the regulations (where ceiling design heat rate for plants having temperature of 565/593°C and pressure rating of 247 Kg/cm<sup>2</sup> using sub bituminous coal is given as 2151 kcal/kWh). The design heat rate of the generating station i.e. 2144.90 kcal/kWh is lower than the ceiling design heat rate of 2151 kcal/kWh. Further, Regulation 36(C)(b)(i) provides



that where the boiler efficiency is below 86% for sub-bituminous Indian coal and 89% for bituminous imported coal, the same shall be considered as 86% and 89% respectively for Sub-bituminous Indian coal and bituminous imported coal for computation of station heat rate. The boiler efficiency of the generating station is 84.82%. However, the same shall be considered as 86% as per the above regulation. Accordingly, the unit design heat rate works out as 2115.47 kcal/kWh (1819.30/0.86). Thus, considering the multiplying factor of 1.045, the applicable Station Heat Rate is 2210.66 kcal/kWh (1.045 x 2115.47). Accordingly, the claim of the Petitioner to consider the heat rate of 2241.41 kcal/kWh is rejected and the GSHR of **2210.66 kcal/kWh** has been considered for the purpose of tariff.

#### **Auxiliary Power Consumption (APC)**

141. Regulation 36(E)(a)(i) of the 2014 Tariff Regulations provides for APC as under:

##### ***(E) Auxiliary Energy Consumption***

*(a) Coal-based generating stations except at (b) below:*

	<i>With Natural Draft cooling tower or without cooling tower</i>
<i>(i) 200 MW series</i>	8.5%
<i>(ii) 300/330/350/500 MW and above</i>	
<i>Steam driven boiler feed pumps</i>	5.25%
<i>Electrically driven boiler feed pumps</i>	7.75%

*Provided further that for thermal generating stations with induced draft cooling tower, the norms shall be further increased by 0.5%.*

142. The Petitioner has considered APC of 5.75% for the period 2017-19. The normative APC for 500 MW and above generating plants having steam driven boiler feed pump is 5.25%. Further, for thermal generating stations with induced draft cooling tower, the norms shall be further increased by 0.5%. Since the Petitioner has Steam Driven Boiler Feed Pump along with induced draft cooling tower, the APC of 5.75% as claimed by the Petitioner is as per the specified norms and is



allowed. It is noticed that the Petitioner has also prayed for additional APC on account of installation of FGD system as and when FGD is installed for ECS. The same shall be guided by our observations in para 92 of this order and shall be based on the actual auxiliary consumption of the equipment.

### Specific Oil Consumption

143. Regulation 36(D)(a) of the 2014 Tariff Regulation provides for the Secondary fuel oil consumption of 0.50 ml/kWh for coal based generating station. Hence, the Secondary Fuel Oil consumption as considered by the Petitioner is as per norms and is allowed.

144. Based on the above, the operational norms allowed for the period 2017-19 is as under:

Normative Annual Plant Availability Factor (%)	85
Heat Rate (kcal/kWh)	2210.66
Auxiliary Power Consumption (%)	5.75
Specific Oil Consumption (ml/kWh)	0.50

### Interest on Working Capital

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

*“28 (1) The working capital shall cover:*

*(a) Coal-based/lignite-fired thermal generating stations*

*(i) Cost of coal or lignite and limestone towards stock, if applicable, for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*

*(ii) Cost of coal or lignite and limestone for 30 days for generation corresponding to the normative annual plant availability factor;*

*(iii) Cost of secondary fuel oil for two months for generation 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 charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and*

(vi) *Operation and maintenance expenses for one month.”*

### **Fuel Cost and Energy Charges in Working Capital**

146. The Petitioner has claimed cost for fuel component in working capital based on ‘as received’ GCV of coal and secondary fuel oil procured for the preceding three months of April 2017, May 2017 and June 2017 for Unit-I, September 2017, October 2017 and November 2017 for Unit-II and June 2018, July 2018 and August 2018 for Unit-III as under:

(₹ in lakh)

	2017-18		2018-19	2018-19
	31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
Cost of coal towards stock	15597.68	32000.68	32000.68	52389.60
Cost of coal towards generation	15597.68	32000.68	32000.68	52389.60
Cost of secondary fuel oil 2 months	219.67	393.48	393.48	685.97

147. The Petitioner in Form-15 has claimed the details of LDO with respect to the fuel computation of energy charges. The Commission vide ROP of the hearing dated 14.5.2019 had sought clarification from the Petitioner regarding consumption of LDO and details of HFO for computation of fuel components and energy charges. In response, the Petitioner has submitted that the LDO system has been commissioned for all the Units of the project as per the scheme. The Petitioner has also submitted that the LDO is being fired using HFO pressurizing pumps since the commissioning of the system and usage of HFO system will be phased out in the Petitioner Company. Accordingly, HFO is not being used in the project and LDO is fired in the boiler. Hence, LDO is considered for computation of fuel component in energy charges.



148. The Petitioner in Form-15 has furnished 'as billed' GCV and 'as received' GCV of coal during preceding three months of the COD of each unit. In compliance with the direction of the Commission, the Petitioner vide its affidavit dated 10.4.2019 has submitted that the coal samples for measuring 'as received' GCV of coal were taken from wagon top. The Petitioner has also placed on record the GCV of coal for preceding three months on 'as received' basis.

149. In view of the above, the cost for fuel components in working capital has been computed at 85% NAPAF and based on 'as received' GCV of coal & price of coal procured along with secondary fuel oil for the preceding three months of COD of each unit of the generating station. Accordingly, the cost for fuel component for the purpose of tariff is allowed as under:

*(₹ in lakh)*

	2017-18		2018-19	2018-19
	31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
Cost of coal towards stock (30 days)	15381.46	31664.61	31664.61	50962.48
Cost of coal towards generation (30 days)	15381.46	31664.61	31664.61	50962.48
Cost of secondary fuel oil 2 months	222.72	398.95	398.95	695.50

150. It is pertinent to mention that the cost of coal towards stock and generation allowed during the years 2017-18 and 2018-19 is less than the cost claimed by the Petitioner. This is due the fact that while the claim of the Petitioner is based on quantity and price of coal supplied during previous three months plus the quantity and price of opening stock for the prior periods, the cost allowed in this order for the years 2017-18 & 2018-19 is based on quantity and price of coal supplied during previous three months only as per the provisions of the 2014 Tariff Regulations. Further, the cost of secondary fuel oil for 2 months allowed during the year 2017-18 and 2018-19 is more than the claim of the Petitioner. In this regard, it is



observed that Petitioner has claimed secondary fuel oil for 60 days instead of 2 months. However, the cost of secondary fuel oil for 2 months as computed in this order is considered in terms of the provisions of the 2014 Tariff Regulations.

### Energy Charge Rate (ECR)

151. Clause 6(b) of Regulation 30 of the 2014 Tariff Regulations provides as under:

*“6. Energy charge rate (ECR) in Rupees per KWh on ex-power plant basis shall be determined to three decimal place in accordance with the following formula:*

*(b) For gas based and liquid fuel based stations  $ECR = GHR \times LPPF \times 100 / \{CVPF \times (100 - AUX)\}$*

*Where,*

*AUX = Normative auxiliary energy consumption in percentage.*

*CVPF = Weighted Average Gross calorific value of primary fuel as received, in Kcal per kg, per litre or per standard cubic metre, as applicable.*

*ECR = Energy charge rate, in Rupees per KWh sent out.*

*GHR = Gross station heat rate, in KCal per KWh.*

*LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable during the month.”*

152. As stated, the Petitioner has claimed ECR (ex-bus) for 340.403 Paise/kWh for Unit-I, 348.874 Paise/kWh for Unit-I and Unit-II and 380.921 Paise/kWh for all units for the period 2017-18 and 2018-19 based on the weighted average price, GCV of coal (as received basis) & Oil procured and burnt for the preceding three months of COD of each unit of the generating station. ECR has been worked out based on the operational norms specified under the 2014 Tariff Regulations and on ‘as received’ GCV of coal for preceding three months of the COD of the respective units of the generating station as under:

Sr. No.	Unit	2017-18		2018-19	2018-19
		31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
1	<b>Capacity</b>	<b>MW</b>	800	1600	2400
2	Weighted average Gross Station Heat Rate	Kcal/kWh	2210.66	2210.66	2210.66
3	Weighted average Auxiliary Energy Consumption	%	5.75	5.75	5.75
4	Weighted average GCV of oil	Kcal/lit	9231	9556.26	9248.56



5	Weighted average GCV of Coal (as received)	Kcal/kg	3947.87	3500.38	3500.38	3579.51
6	Weighted average price of oil	Rs/KL	44867.58	40183.87	40183.87	46702.62
7	Weighted average price of Coal	Rs/MT	5622.18	5131.40	5131.40	5629.88
8	Rate of Energy Charge ex-bus	Rs/kWh	3.357	3.452	3.452	3.706

153. Accordingly, the energy charges for 2 months on the basis of “as received” GCV of coal for the purpose of interest on working capital has been worked out as under:

(₹ in lakh)

2017-18		2018-19	2018-19
31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
31411.92	64601.69	64601.69	104032.68

### Maintenance Spares

154. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provides for maintenance spares @ 20% of the O&M expenses. As specified under Regulation 29(2) of the 2014 Tariff Regulations, the maintenance spares @20% of the O&M expenses, including water charges claimed and allowed are as under:

(₹ in lakh)

2017-18		2018-19	2018-19
31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
2968.66	5736.66	6059.89	9000.69

### Receivables

155. Receivables equivalent to two months of capacity charge and energy charges has been worked out and allowed as under:

(₹ in lakh)

	2017-18		2018-19	
	31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
Variable Charges - for two months	31411.92	64601.69	64601.69	104032.68
Fixed Charges - for two months	19231.23	31919.95	32851.29	47242.71
<b>Total</b>	<b>50643.15</b>	<b>96521.64</b>	<b>97452.98</b>	<b>151275.39</b>



## O & M Expenses (1 month)

156. Regulation 28(1)(a)(vi) of the 2014 Tariff Regulations provides for O&M expenses for one month for coal-based generating station. Accordingly, one month O&M expenses (annualized) allowed are as under:

(₹ in lakh)

2017-18		2018-19	2018-19
31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
1236.94	2390.27	2524.95	3750.29

## Rate of interest on working capital

157. 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 1<sup>st</sup> 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.”*

158. In terms of the above regulation, bank rate of 12.60% (i.e. SBI base rate of 9.10% as on 1.4.2017 plus 350 bps) and 12.20% (i.e. SBI base rate of 8.70% as on 1.4.2018 plus 350 bps) for the period from COD of Unit-I to COD of the generating station and from COD of the generating station to 31.3.2019 respectively has been considered for the purpose of calculating interest on working capital. Accordingly, interest on working capital has been computed as under:

(₹ in lakh)

	2017-18		2018-19	
	31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
Cost of coal for 30 days towards stock	15381.46	31664.61	31664.61	50962.48
Cost of coal for 30 days towards generation	15381.46	31664.61	31664.61	50962.48
Cost of secondary fuel oil for two months	222.72	398.95	398.95	695.50
Maintenance spares	2968.66	5736.66	6059.89	9000.69
Receivables for two months	50643.15	96521.64	97452.98	151275.39
O&M expenses for one month (annualized)	1236.94	2390.27	2524.95	3750.29



<b>Total Working Capital</b>	<b>85834.39</b>	<b>168376.74</b>	<b>169765.99</b>	<b>266646.82</b>
Rate of interest	12.6000%	12.6000%	12.6000%	12.2000%
<b>Interest on working capital</b>	<b>10815.13</b>	<b>21215.47</b>	<b>21390.51</b>	<b>32530.91</b>

### Annual Fixed Charges

159. Based on the above, the annual fixed charges approved for the generating station for the period 2017-19 is summarized as under:

	(₹ in lakh)			
	2017-18		2018-19	
	31.7.2017 to 30.12.2017	31.12.2017 to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 to 31.3.2019
Depreciation	29556.51	47650.72	49578.75	67817.57
Interest on Loan	26488.27	43412.52	43458.53	58553.78
Return on Equity	33684.19	50557.69	52380.51	79550.57
Interest on Working Capital	10815.13	21215.47	21390.51	32530.91
O&M Expenses	14843.29	28683.29	30299.43	45003.43
<b>Total</b>	<b>115387.40</b>	<b>191519.69</b>	<b>197107.73</b>	<b>283456.26</b>

Note: 1) All figures are on annualized basis. 2) All the figures under each head have been rounded. The figure in total column in each year is also rounded. Because of rounding of each figure the total may not be arithmetic sum of individual items in columns.

### Month to Month Energy Charges

160. 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.

161. The Commission vide order dated 19.2.2016 in Petition No. 33/MP/2014 (TPDDL V NTPC & ors) had directed NTPC to introduce helpdesk to attend to the queries of the beneficiaries with regard to the Energy Charges. Accordingly, contentious issues if any, which arise regarding the Energy Charges, should be sorted out by the Petitioner with the beneficiaries at the Senior Management level

### Application filing fee and Publication Expenses

162. The Petitioner has sought reimbursement of filing fee and also the expenses incurred towards publication of notices for application of tariff for the periods 2014-19. The Petitioner has deposited the filing fees in terms of the provisions of



the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. The Petitioner has also incurred charges towards publication of the tariff petition in newspapers. Accordingly, in terms of Regulation 52 of the 2014 Tariff Regulations, the Petitioner is entitled to recover the filing fees and the expenses incurred on publication of notices directly from the respondents, on pro rata basis, on submission of documentary proof of the same.

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

164. This order disposes of Petition No. 199/GT/2017.

**Sd/-**  
**(I.S.Jha)**  
**Member**

**Sd/-**  
**(Dr. M. K. Iyer)**  
**Member**

**Sd/-**  
**(P.K.Pujari)**  
**Chairperson**

