

RAJASTHAN ELECTRICITY REGULATORY COMMISSION

Petition No: RERC/1515/19

In the matter of determination of Final Capital Cost and Aggregate Revenue Requirement (ARR) & Tariff for FY 2014-15 to FY 2019-20 for Kalisindh Thermal Power Project (KaTPP) (Unit 1 & 2)

Coram: **Sh. Shreemat Pandey,** **Chairman**
 Sh. S.C. Dinkar, **Member**
 Sh. Prithvi Raj, **Member**

Petitioner: Rajasthan Rajya Vidyut Utpadan Nigam Ltd.

Respondents:

1. Jaipur Vidyut Vitran Nigam Ltd.
2. Ajmer Vidyut Vitran Nigam Ltd.
3. Jodhpur Vidyut Vitran Nigam Ltd.
4. Rajasthan Urja Vikas Nigam Ltd.

Dates of hearing: 16.12.2019 & 03.01.2020

Present:

1. Sh. Ankit Sharma, Authorised rep. for Petitioner
2. Ms. Swapna Seshadri, Advocate for Discoms
3. Ms. Parinitoo Jain, Advocate for RUVNL
4. Sh. G.L. Sharma, Stakeholder

Date of Order:

12.05.2020

ORDER

1.1. Rajasthan Rajya Vidyut Utpadan Nigam Ltd. (in short 'RVUN'), a Generating Company under the provisions of the Electricity Act 2003, has filed a petition for determination of final Capital Cost, Aggregate Revenue Requirement (ARR) and determination of Tariff for KaTPP Units 1 & 2 (2 X 600 MW) for FY 2014-15 to FY 2019-20.

1.2. In exercise of the powers conferred under Sections 62, 64 and other provisions of Electricity Act 2003, read with RERC (Terms and Conditions for Determination of Tariff) Regulations, 2014, RERC (Terms and Conditions for Determination of Tariff) Regulations, 2019 and other enabling Regulations, the Commission, after carefully considering each of the submissions of the Petitioner and suggestions/objections submitted by the Stakeholder, has passed the following Order.

1.3. This order has been structured in following sections as given under:

- (1) Section 1: General
- (2) Section 2: Summary of Tariff determination process.
- (3) Section 3: Summary of objections/comments/suggestions received from Stakeholders and RVUN's response thereon.
- (4) Section 4: Determination of final capital cost for KaTPP Units 1 & 2.
- (5) Section 5: Determination of ARR and Tariff for KaTPP Units 1 & 2 for FY 2014-15 to FY 2019-20.

SECTION 2

Summary of Tariff determination process.

2.1 KaTPP Units 1 & 2 were declared COD on 07.05.2014 and 25.07.2015 respectively.

2.2 RVUN filed Petitions for approval of provisional capital cost, ARR & tariff for Unit 1 (from COD to 31.03.2015) and Unit 2 (from COD to 31.03.2016) on 19.06.2014 and 06.11.2015 respectively. The Commission vide its orders dated 14.05.2015 and 21.01.2016 provisionally approved the capital cost. The Commission vide the said orders also directed RVUN to file the petition for approval of final capital cost and tariff of the entire project, i.e., Unit 1 and Unit 2 based on actual capital cost as on COD of the project.

2.3 RVUN filed the instant Petition on 21.06.2019 for determination of final capital cost and tariff for KaTPP Units 1 & 2 from COD of Unit 1 till FY 2019-20 in accordance with the provisions of the RERC Tariff Regulations, 2014 and RERC Tariff Regulations, 2019.

2.4 As required under Section 64(2) of the Electricity Act, 2003, public notices with salient features of the petition inviting objections/comments/suggestions were published in the following newspapers on the dates mentioned against each:

Table 1: Details of Newspapers

Sr. No.	Name of News Paper	Date of publishing
(i)	Rajasthan Patrika	11.07.2019
(ii)	Rashtrdoot	11.07.2019
(iii)	Times of India	11.07.2019

2.5 The petition was also placed on the websites of the Commission and the Petitioner. The objections/comments/suggestions were received from Shri G. L. Sharma and the DISCOMs.

2.6 The Commission forwarded the objections/ comments/ suggestions of the

stakeholders to RVUN for filing its reply. The Petitioner replied to the objections/comments/ suggestions made by objectors vide its letters dated 05.12.2019 and 01.01.2019.

2.7 The Commission vide letter dated 06.08.2019 and 20.02.2020, communicated some data gaps and deficiencies in the petition. The Petitioner furnished information vide its letter dated 05.12.2019. The Petitioner also furnished additional information vide letter dated 28.01.2020 and 05.03.2020

2.8 The public hearing in the matter was held on 16.12.2019 & 03.01.2020.

2.9 To facilitate reference, an index of the issues and points dealt with are placed at Annexure-1.

SECTION 3

Summary of objections/comments/suggestions received from Stakeholders and RVUN's response thereon.

General

Stakeholder's comments/suggestions

- 3.1. The Petitioner is required to submit the dates of synchronisation of Units 1 & 2 on oil and coal.
- 3.2. The duration between synchronisation on coal and COD of Unit-1 has been 7 months and 20 days, in this regard the Petitioner is required to submit proper justification. Further, if there is such delay in case of Unit-2, the Petitioner should submit proper reasons for the delay.
- 3.3. The Petitioner is required to submit the CA certificates with respect to the expenditure incurred as on COD of Units 1 & 2 respectively.
- 3.4. The stakeholder sought the reasons for delay in filing the Petition for determination of final Capital Cost for the project, when the project achieved the COD on 25.07.2015.
- 3.5. The State Government vide letter dated 25/26.06.2007 accorded approval to revise the unit capacity from 2*500 MW to 2*600 MW, with a condition that there will not be any further infusion of equity. Irrespective of this condition, the Petitioner in its 187th Board Meeting decided to infuse the equity of Rs. 624.60 Crore. In this regard, the Petitioner to submit the approach adopted in enhancing the capacity.
- 3.6. The Petitioner is required to submit the copy of Terms & Conditions for construction work of Kalisindh Dam which was awarded to WRD.

RVUN's Response

- 3.7. The date of synchronization for Units 1 & 2 on oil and coal is as shown in the table below:

Particular	Synchronization on Oil	Synchronization on Coal
Unit-1	30.05.2013	15.09.2013
Unit-2	27.02.2015	27.03.2015

- 3.8. In regards to the duration gap between synchronization on coal and COD of Unit-1 the Petitioner submitted that the 220 kV switchyard was charged on 25.08.2012, the interconnecting transformer was charged on 14.09.2012 and the 400 kV bay 1 and 2 were charged on 14.12.2012 through back charging of 315 MVA Interconnecting transformer (400/220 kV). However, power evacuation could not take place as the 400 kV evacuation lines beyond the take-off tower to the nearest RVPN substation at Batawada (400/765 kV) were not completed.
- 3.9. The power evacuation from the available 220 kV line was possible. However, due to non-viability, it was insisted for stoppage of the Unit-1.
- 3.10. The 400 kV transmission line for evacuation of power was made available by RVPN on 26.03.2014. The full load operation of Unit-1 was achieved on 06.05.2014. Therefore, RVUN requested the Commission to consider it as a delay in COD as the same was beyond the control of the Petitioner. Whereas, for Unit-2, duration of 4 months between synchronization of coal to COD is normal procedural time for testing of the various equipments/systems.
- 3.11. The CA certificates with respect to the expenditure incurred as on COD of Units 1 & 2 has been submitted with the instant petition, i.e., cost stating capital expenditure up to COD of Unit-1 (07.05.2014) and COD of project i.e. 25.07.2015.
- 3.12. The instant petition has been filed for determination of final capital cost based on the statutory auditor certificate for capital expenditure up to COD of the station. Accordingly, the Petitioner has filed the petition for determination of ARR and Tariff for FY 2014-15 to FY 2019-20.
- 3.13. The increase in capacity was accorded by the State Government in accordance to the norms specified by the Central Electricity Authority and Ministry of Power, Government of India for 500 MW as 500+20% MW.
- 3.14. The construction of Kalisindh Dam was a deposit work executed by Water Resources Department, GoR for Kalisindh thermal power project, hence, no such contract was awarded. The DPR as submitted by Water

Resources Department was approved by BoD of the Petitioner.

Capital Cost

Stakeholder's comments/suggestions

3.15. The Petitioner is required to submit the actual capital expenditure incurred up to 25.07.2015 (COD of the Project) duly certified by the statutory auditors.

3.16. As per DPR the project cost was estimated as Rs. 5000 Crore. The State Govt. vide its letter dated 25/26.06.2007 accorded the approval for revising the unit capacity of the project to 2x600 MW and adopting international competitive bidding. The State Govt. vide its letters dated 09.08.2011 and 07.09.2012 has accorded the approval of revised capital cost of Rs. 7723 Crore. The State Govt. vide its letter dated 11.08.2014 has accorded approval of revised capital cost from Rs. 7723 Crore to Rs. 9479.51 Crore. Further BoD of RVUN has approved revised cost as Rs. 9680.03 Crore. In this regard the Petitioner is required to submit the following details:

- i. Reasons for inordinate delay in implementation of the project.
- ii. Adoption of international competitive bidding
- iii. Justify whether RVUN has complied with the Rules & procedures in line with Govt. rules.
- iv. To submit Minutes of each and every Board Meeting from 06.01.2007, along with the detailed Agenda Notes circulated.

3.17. The BOD of the Petitioner at the time of giving approval for Project DPR were aware that the dam on the Kalisindh river was to be constructed for power station and irrigation purpose. Accordingly, the BOD had provided Rs. 50 Crore, the proportionate cost of the dam. Further, the letter dated 29.04.2008 of the State Government is being claimed by the Petitioner as a direction to bear the cost of construction and maintenance of the Kalisindh dam. In this regard, the Petitioner to submit the authority of the State Government to direct the Petitioner to bear the capital cost for construction of the Kalisindh dam and how the BOD could simply accept the unilateral decision of the State Government that the consumers of electricity would bear its cost.

3.18. The stakeholder referred to the Judgment of APTEL dated 26.05.2006 in Appeal No 4,13, 14,23, 25, 26, 35, 36, 54 and 55 of 2006, regarding the cost of Dam allocated to power project.

"76. In view of the aforesaid analysis, we hold and direct that:

- i. Commission is not powerless to issue orders and directions relating to matters having a bearing on and nexus with the determination and fixation of tariff and its directions shall be binding on all persons and authorities including the State Government in this case.*
- ii. The accounts of the Board which reflect the cost of the RSD project allocated to the Board are not binding on the Commission even though the allocation may have been done by the State of Punjab as the allocation is a tariff issue.*
- iii. The allocation of 79.1% of the cost of Ranjit Sagar Dam to the Board is arbitrary and a clear anomaly resulting in undue burden on the Board. Since such fastening of liability is a continuous wrong and affects the tariff, the Commission shall determine the cost of the project by due diligence and fair study of the cost which is to be allocated to the Board.*
- iv. It will be open to the Commission to secure the assistance of experts for determining the cost which is to be allocated to the Board in accordance with law;*
- v. The Board and the State of Punjab shall file all the relevant documents before the Commission for determining the cost chargeable to the power component of the project and if there is a non-compliance, it is open to the Board to draw adverse inference as well.*
- vi. In case the Commission allocates a reduced cost of the RSD project to the Board, consequential effect shall be given to it by the State of Punjab. It shall also be entitled to all consequential reliefs".*

In view of the above, the attempt on the part of the State Government to load its liabilities on the electricity consumers of the State through the Petitioner need to be deprecated.

3.19. The Petitioner is required to submit the list of initial spares of Rs. 169.32 Crore and copy of approval by whole time Directors whereunder they considered as essential requirement of additional spares and copy of the project consultant advising for the requirement of additional spares.

3.20. In 284th BOD Meeting held on 26.12.2018 the project cost was further

revised to Rs. 9680.03 Crore. In this regard the Stakeholder sought the copy of approval accorded by the State Government for this revised project cost.

- 3.21. As per DPR the Commercial operation of the Units 1 & 2 shall be 40 months and 46 months from the date of placement of order for main equipment. As per the purchase order to M/s. BGRESL on dated 13.10.2008, scheduled COD of Unit-1 and Unit-2 was on dated 08.10.2011 and 08.01.2012 respectively. The actual date of COD of Unit-1 was 07.05.2014 and Unit-2 was 25.07.2015. In this regard the Petitioner is required to submit the amount of IDC of units as per scheduled date of COD and IDC as per actual date of COD.
- 3.22. The increase in cost on the account of delay in railway siding clearance shall be recovered from M/s IRCON.
- 3.23. The Petitioner is required to submit the reasons for setting up additional raw water reservoir to meet the 30 days water storage requirement, though the same has been recorded with a gross capacity storage of 10 days as per DPR along with the copy of Contract awarded to M/S Manda Developers Pvt Ltd.
- 3.24. Clause 6 of EPC Order No. 3832 dated 13.10.2008 states that the plant/units shall be guaranteed for trouble free performance for a period of 12 months from the date of final takeover of the units and supported by a bank guarantee. In this regard, there is no justification for the order placed with M/s Lloyd's Register Asia, New Delhi for third party inspection for Rs. 3.00 Crore. The Stakeholder requested the Commission to disallow this expenditure.
- 3.25. The Petitioner should submit date wise equity provided by the state Govt. and the same infused in the project.
- 3.26. Further the Petitioner should also submit date-wise debt amount drawn from the financial institutions and incurred in the project.
- 3.27. The Petitioner is required to submit the actual expenditure incurred by it under each sub-head of overheads (including CSR activities).

3.28. The Stakeholder requested the Commission to determine the final capital cost of the project keeping view of the following:

- i. Increase in IDC to be disallowed due to delay in commissioning considering factors attributable to the generating company, factors beyond the control of generating company and mix of controllable & uncontrollable factors in accordance with the APTEL Judgement against Appeal No. 72 of 2010.
- ii. Delay in Payments
- iii. No justification for increase in cost towards Land and Site development, Access, Temporary construction and Enabling Works, Water Transportation System from the project cost as per DPR.
- iv. Justification stated for increase in Hard Cost of Water storage system is not prudent.
- v. Increase in hard cost under head of railway siding by Rs. 134.65 Crore on account of DPR submitted by M/S IRCON to WCR, which is not submitted by the Petitioner.
- vi. No justification for awarding third party inspection contract of Rs. 3.00 Crore.
- vii. Variation in foreign exchange rate
- viii. Liquidated damages
- ix. Construction of additional township, plant and colony, boundary wall and fencing, fire tender and dozer has already been included in the breakdown of project cost as per the DPR.
- x. Purchase of additional spares is not admissible.
- xi. No additional capitalisation after cut-off date is admissible.

RVUN's Response

3.29. In regards to the revision of capital cost the Petitioner submitted as follows:

- i. Reason for delay in implementation of project has been submitted with the instant petition.
- ii. The Petitioner has submitted notice inviting tender for ICB route for bidding process of 2*600 MW Kalisindh Thermal Power Project and the copy of Price Bid Comparative Statement.

- iii. The Petitioner has compiled with all rules and procedure as per the Government guidelines.
- iv. The relevant Minutes of Board of Director's Meeting of 187th, 235th, 284th, for increase in capital cost has been submitted along with the agenda note of 187th Board Meeting.

3.30. The Petitioner submitted that in accordance with Section 108 of the Electricity Act, 2003 the compliance of the State Government's directions issued vide letter dated 29.04.2008 in the public interest has been made. Further, the Dam is dedicated to the Petitioner's Power Station. Allocation of water to other agencies will share proportionate cost of construction and annual O&M cost, Necessary Clearance for using water will be the responsibility of the user agency. The Petitioner on receipt of proportionate cost of dam, will book it in its books of accounts, to produce before the Commission while filing the true-up petition. In view of the above, the Petitioner requested the Commission to allow the cost of dam as claimed.

3.31. The Petitioner has submitted list of additional BTG spares of Rs. 169.32 Crore, MOM of the Whole Time Directors of the company for approval of purchase of additional spares and the copy of advice of project consultant in this regard.

3.32. The copy of approval accorded by the Energy Department, GoR for revised project cost of Rs. 9680.03 Crore has been submitted.

3.33. The amount of IDC as per scheduled date of COD is Rs. 1264 Crore and IDC as per actual date of COD is Rs. 2748.70 Crore.

3.34. The Environmental/Forest Clearance (EC/FC) for Railway siding was issued on 19.06.2012 by the MoEF, Regional Office, Lucknow. However, clearance by the DFO, Jhalawar was issued on 11.09.2012. In view of the above, the letter referred by stakeholder pertains to pursuance letter of the Petitioner with DFO, Jhalawar.

3.35. Additional raw water reservoir to meet 30 days water storage requirement was decided in meeting with the Energy Minister dated 04.05.2011 because of poor availability of water across the water sources meant for Kalisindh and Chhabra power projects. Therefore, to

mitigate the problem it was decided that storage capacity of water reservoir at Kalisindh and Chhabra power stations should be kept at least to cater one month water requirement and if needed additional reservoir to be constructed. The Copy of Work Order awarded for additional reservoir to M/S Manda Developers has been submitted.

3.36. The Boiler, Turbine and Generator equipments required for the project were imported from Chengdu, China, which were of critical nature. For third party inspection, the Petitioner had placed an order in favour of M/S Lloyd's Register to carry out complete works of stage inspection, final inspection, QA and surveillance of the main plant equipments and associated auxiliaries including steam turbine and generator. Inspection by representative of the Petitioner required huge expenditure and time. Therefore, to perform the above job the Petitioner arranged third party inspecting agency.

3.37. The detail of date wise equity and date wise loan has been submitted.

3.38. The details of actual expenditure incurred under overheads (including CSR activities) has been submitted.

3.39. In regards to the approval of final capital cost the Petitioner submitted as follows:

- i. Reasons for delay in achieving COD and delay in payments has been submitted with the instant petition, which were beyond the control of the Petitioner. Therefore, Petitioner requested the Commission to allow the IDC as claimed.
- ii. Justification for increase in cost towards Land and Site Development, Access, Temporary Construction and Enabling Works, Water Transportation System has been submitted.
- iii. The cost increased against railway siding was due to increase in cost for survey, preparation of DPR, signalling and telecommunication work, overhead electrification work. Switching station for providing supply, increase in length of railway line, field supervision and overhead charges etc. The Copy of DPR of M/S IRCON has been submitted.
- iv. Justification for awarding third party inspection contract has been submitted.

- v. The payments are made as per payment terms of the contract. In view of the above, the Petitioner submitted that no question arises on account of exchange rate difference.
- vi. The total amount of LD for works is Rs. 109.53 Crore and USD 1, 07,47,747, which has been retained from bills of contractor. As the finalization of LD is under arbitration, the Petitioner requested the Commission to not adjust LD from the Capital cost till arbitration is cleared.
- vii. Cost under additional township, plant and colony, boundary wall and fencing, fire tender and dozer were not included in scope of original EPC contract and justification for claiming it now has been submitted.
- viii. The Petitioner submitted that the distance between the boundary wall of township and plant is approx. 30 m. The residential campus is always separated from the plant area for safety and security reasons. The list of additional spares, approval from whole time directors of the company and copy of advice of project consultant towards additional spares has been submitted. Therefore, the Petitioner requested the Commission to allow the capital cost as claimed.
- ix. The Petitioner has claimed additional capitalization after cut-off date with proper justification being submitted with the instant petition. Therefore, the Petitioner requested the Commission to allow the same.

Delay in Commissioning
Stakeholder's comments/suggestions

3.40. The reasons for delay in commissioning as submitted by the Petitioner in its Petition No. 412/14 and in the instant Petition are in variance.

3.41. The Petitioner to submit justification for delay in commissioning of Unit-2.

3.42. The delay in commissioning due to stoppage of work by displaced farmers for seven months is not prudent. The petitioner has not submitted any relevant documents except its own contractor's letter, which shows the stoppage of work for three months.

3.43. The delayed payment to the vendors and contractors and non-realisation of money effecting the cash flow have been rejected towards reason of delay as mentioned by the Commission vide its order

dated 14.05.2015.

- 3.44. The delay in commissioning due to rains is normal factor in that region and can be easily foreseen at the preparation of the DPR. Also, the Petitioner submitted that the 220 kV switchyard was ready for receipt of start-up power in the year 2012, considering the fact that the civil work for the switchyard were to be constructed at the same place where no erection work was done due to heavy rains. Hence, these reasons cannot be said as a cause for delay in commissioning.
- 3.45. The delay in commissioning due to heavy rains in China is not related to the commencement of COD as per schedule as this matter is related between contractor and sub-contractor. The Commission may not consider such matter for allowing delay.
- 3.46. The reason for delay in commissioning due to non-availability of 400kV transmission line for evacuation of power was not stated in the Petition No. 412/14. The reason for not stating this reason for delay in Petition No. 412/14, needs to be submitted by the Petitioner. Further, the Petitioner is required to submit the details of non-availability of 400kV transmission for evacuation of power. Also, the Petitioner contented that the railway siding opening would be possible in March, 2014, in that case the statement made by the Petitioner that the generation of power from Unit-1 could have reached 260 MW in 2013. However, the evacuation facility being not ready is completely baseless. The Commission shall not allow the above reason for delay and increase in IDC.
- 3.47. MOEF clearance is the foremost requirement for setting/construction of this project, the reason for delay in commissioning stated on the account of MOEF clearance cannot be allowed.
- 3.48. The delay in commissioning due to railway siding clearance is not prudent, as this being an issue between the Petitioner and its contractor, over which the Respondents have no control. The Petitioner to submit the date on which they applied for the Environmental/Forest Clearance for the Railway Siding along with the PERT chart on how the time overrun under this head delayed the matter.

3.49. The reason for delay in commissioning due to construction of Kalisindh Dam for 2.6 years is not prudent, as the Petitioner has nothing to do with the construction of Kalisindh dam and it seems to have volunteered itself to pay for the same to the State Government.

RVUN's Response

3.50. The Petitioner submitted that the instant petition has been filed for the determination of final capital cost. The detailed justification for delay in COD has been submitted with the instant petition, which were beyond their control.

3.51. The delay in achieving COD of Unit-2 was on account of the EPC Contractor. Unit-1 of the project observed Boiler Tube Leakage from the date of its COD. Required modifications were carried out in the Boiler of Unit-1. To overcome from similar issue modification were carried out in the Boiler of Unit-2. Further, Cold Reheat Line (CRH) of Unit-1 was completely damaged after COD. Instead of getting new CRH line, it was decided to dismantle CRH line and equipments of Unit-2 for replacement in Unit-1. Accordingly, new equipments and CRH line for Unit-2 were arranged, which caused an overall delay in COD for 6 months.

3.52. The Petitioner submitted that they tried best to get the site vacant from the displaced farmers, However, it was a law and order issue and only district administration could do the needful.

3.53. The delay in COD was due to excessive rain in the region, creating flood like situation and making it difficult to walk, to move inspection vehicles and heavy machineries for construction purpose. The average rainfall of the region is 870.30 mm, whereas per metrological data there was an annual rainfall of 1047.20 mm and 1654.00 mm in the year 2011 and 2013 respectively. From the rain fall data published by Water resources department it was assessed that during the period 21.06.2011 to 14.08.2011, 25.08.2011 to 18.09.2011, 27.06.2013 to 30.09.2013 it was not possible to carry out works which were not covered. However, finishing and erection works were carried out in the covered areas. All the activities related to completion of CHP work were delayed by 4 months

than normalization period.

3.54. The Boiler, Turbine and Generator equipments required for the project were imported from Chengdu, China. During May, 2010 to September 2010, China experienced one of its worst floods and land slide in past one decade. The rainfall recorded during the above period is reported to be in excess of 1000 mm. During this period, the ships engaged for the transportation purpose of heavy equipments to Shanghai port were advised not to sail, impacting supplies out of China. The required equipments for the plant which were planned in shipments and ready for dispatches could not get loaded as per the schedule. Therefore, the Petitioner requested the Commission to consider it as delay in COD, as the same was beyond the control of the Petitioner.

3.55. The details of non-availability of 400kV transmission lines for evacuation of power has been submitted. Further, prior to railway siding opening in March, 2014 the Petitioner had carried out trial run by transporting coal from KTPS, Kota by road and the unit load achieved was to the extent, that it could have evacuated 260 MW.

3.56. The MoEF Gazette Notification dated 14.09.2006 restricts the project authority from taking up of construction activities before the issuance of Environmental clearance. The Petitioner had applied for MoEF clearance on 24.11.2006. The relevant document for the same has been submitted. The EPC works for power plant was awarded to M/S BGR Energy system, Chennai on 13.10.2008. The Environmental clearance was issued on 26.02.2009. Though, EPC works for power plant were awarded in October, 2008 the site could not be mobilized and no construction activities were taken up. In view of the above, the Petitioner requested the Commission to consider it as delay in COD as it was beyond the control of the Petitioner.

3.57. The Zonal Office of WCR, Jabalpur were requested in the month of September, 2007 and vide letter dated 08.05.2008 to carry out the railway siding works of KaTPP. However, it was not accepted by WCR vide letter dated 26.05.2008. Further, in the 161st BOD meeting dated 05.10.2009 the Board accorded its approval to award M/S IRCON for

work of Railway Siding. LOA and Work Order were issued in favour of M/S IRCON on 07.10.2009 and 22.12.2009 respectively. M/S IRCON submitted its feasibility report and DPR to railways on 10.02.2010 and 23.10.2009, which were approved by railways on 23.10.2010 and 18.08.2011 respectively. The application for Forest Clearance for Railway siding were submitted on 28.02.2011 and 23.06.2011.

3.58. The Petitioner submitted that when the power plant was planned in FY 2005-06 water requirement was to be met from the proposed Bhawarsa Dam to be built by the WRD, Government of Rajasthan and accordingly in the DPR Rs. 50 Crore was considered for water storage system. However, proposal of the Dam project was not approved by the Expert Appraisal Committee, MoEF, Government of India, which led to delay in water availability for the power project and therefore, it was decided to construct a smaller dam for an integral part of power project. The acceptance for the same from CWC was issued on 01.10.2010 and final Forest Clearance to start the work was issued by the Regional Office, Department of Environment and Forest, Government of India on 24.02.2012. However, the competition of dedicated Kalisindh Dam was done on 06.06.2014 by WRD, Government of Rajasthan as KaTPP and WRD faced lot of rehabilitation of local people.

Cut-off Date

Stakeholder's comments/suggestions

3.59. The Petitioner to submit the justification and documentary evidence to extend the cut-off date for the capitalization that could not be made within the cut-off date.

3.60. The Petitioner is not liable to pay for the construction of water storage dam. Therefore, the claim against extension of cut-off date under this head is not admissible. Even if the demand of payment being raised late by WRD, it is not a reason beyond the control of the project developer.

3.61. The stakeholder submitted that if the work related to additional water reservoir is completed within the cut-off date, why should there be an extension of cut-off date to make payment against it.

3.62. The Petitioner cannot burden the stakeholder with the CSR expenses. Accordingly, extension of cut-off date against this head is not admissible in accordance to the APTEL Judgement against Appeal No. 174 of 2015.

RVUN's Response

3.63. The justification to extend the cut-off date has been submitted with the instant petition. The details of total expenditure incurred after cut-off date is as below:

Work	Sanctioned Amount (Rs. Crore)	Expenditure Incurred Up to 31.03.2018 (Rs. Crore)	Expenditure Incurred Up to 31.03.2019 (Rs. Crore)	Balance to be incurred (Rs. Crore)
Water Resource Department	766.22	719.87	726.87	39.35
West Central Railway	26.78	26.78	26.78	0
CSR	23.95	19.07	23.54	0.41
Total	816.95	765.72	777.19	39.76

3.64. The work related to construction of Dam is awarded to WRD as deposit work the payment of Rs. 711.37 Crore has been done till 31.03.2017 to WRD. Further payments are to be done as per the demand note raised. Therefore, Petitioner requested the Commission to allow the cost claimed for the dam as per the payment released to WRD, as and when the demand is raised by them.

3.65. The Petitioner submitted that an expenditure of Rs. 63.81 Crore was booked up to the cut-off date, i.e., 31.03.2017. And the balance amount of Rs. 2.42 Crore has to be paid after the cut-off date.

3.66. The payment of Rs. 13.44 Crore has been done till 31.03.2017 to various departments. Further payments are to be done after the approval of CSR committee and receipt of utilization certificate, which is beyond the control of the Petitioner. Therefore, Petitioner requested to allow the extension of cut-off date.

Water Transportation System
Stakeholder's comments/suggestions

3.67. The Petitioner is required to submit the commissioning details for the raw water pipeline from the Dam to power station.

RVUN's Response

3.68. The Petitioner submitted that from intake well situated at Kalisindh Dam, a separate M.S. Pipeline of 1100 mm dia. Approx. 18.314 Km was laid for getting water to the power station. The aforesaid work (with complete intake system) was taken over by the Petitioner on 25.10.2013.

EPC Contract
Stakeholder's comments/suggestions

3.69. The Petitioner is required to submit the following details with regard to EPC Contract:

- i. Copy of EPC Contract and LOI issued in favour of M/S BGRESL.
- ii. Amount of advance payments made to the contractor in terms USD and INR along with the dates.
- iii. Scheduled date delivery of material and actual date of receipt of material at site with respect to 1st and 2nd Contract.
- iv. Penalty charges recovered from the Contractor in case of delay in delivery of material and the penal clause in the contract.
- v. Copy of relevant document prescribing the scheduled dates of delivery and completion of works etc.
- vi. Invoices of offshore supplies along with rate of conversion into INR.
- vii. Reasons for delayed payments beyond agreed period.

RVUN's Response

3.70. The Copy of EPC contract and LOI issued in favour of M/S BGRESL has been submitted.

3.71. The details of advance payment made to the EPC contractor is as shown in the table below:

SR. No.	Order No. 3832,3833, 3834 dated 13.10.2008	Date of Payment	Advance payment made after deducting taxes			
			On Shore (In Rs.)	Off-Shore (in USD)	Rate of Conversion	Off-Shore (in INR)
1	1 st Instalment	09.09.2008	140799500	20250000	44.73	905782500
2	2 nd Instalment	18.08.2009	1648332500	20250000	46.43	940207500
3	3 rd Instalment	17.04.2009	1648332500	20250000	49.77	1007842500

3.72. The Petitioner submitted that the scheduled date of delivery against the Order No. 3832, 3833 were to be supplied before the construction activities scheduled dates. However, equipment and materials were supplied before date of commissioning.

3.73. Against the aforesaid work order if the supply was delayed, appropriate LD has been deducted as per clause of the respective work orders. The total amount of LD for works is Rs. 109.53 Crore and USD 1,07,47,747, which has been retained from bills of contractor.

3.74. The Petitioner further submitted that the LD against EPC contract has been finalised by BOD of the Petitioner. However, the contractor (M/S BGRESL) have not agreed with the same and appealed for arbitration. As the finalization of LD is under arbitration the Petitioner requested the Commission to not adjust LD from the Capital cost till arbitration is cleared.

3.75. The amount paid against each invoice with its date, along with the rate of conversion into INR has been submitted with the reply of data gaps.

Railway Siding

Stakeholder's comments/suggestions

3.76. The Stakeholder sought the complete copy of work order placed with M/s IRCON International Ltd., New Delhi.

RVUN's Response

3.77. The complete copy of work order placed with M/s IRCON International Ltd. New Delhi has been submitted.

Annual Fixed Charges (AFC)

Stakeholder's comments/suggestions

3.78. The depreciation, Interest on term loan shall be allowed based on the approved capital cost by the Commission.

3.79. Interest on working capital and O&M Expenses may be allowed as per the Regulations.

3.80. The Stakeholder sought the basis for claiming the ARR & tariff fee of Rs. 0.60 Crore.

3.81. Insurance charges may be allowed on the basis of documentary evidences.

3.82. Return on Equity may be allowed on the basis of actual equity infused.

3.83. Non-Tariff Income may be allowed as per the RERC Tariff Regulations. Further, the Petitioner should submit an undertaking stating that apart from the amount claimed for FY 2014-15 to FY 2019-20 there is no other Non-Tariff Income.

3.84. Terminal benefits for FY 2019-20 may not be admissible as the same is not the component of Annual fixed charge. Further, in accordance with Regulation 47(7) of RERC Tariff Regulations, 2019, terminal liabilities are provided based on auctorial valuation.

RVUN's Response

3.85. The Petitioner requested the Commission to allow depreciation, Interest on term loan, Interest on Working Capital and O&M Expenses as per RERC Tariff Regulations, 2014 and RERC Tariff Regulations, 2019.

3.86. The Petitioner submitted that the Commission has allowed ARR and Tariff Petition fee of Rs. 0.30 Crore for each financial year from FY 2014-15 to FY 2018-19 as per the earlier Tariff orders. However, with the instant petition

the Petitioner has paid Rs. 0.30 Crore, The total for the same comes out to be Rs. 0.60 Crore. Hence, the Petitioner requested the Commission to allow the same as claimed.

3.87. Insurance Charges has been claimed as per the audited accounts of respective years. The relevant documents for the same has been submitted with the reply of data gaps.

3.88. The Petitioner requested the Commission to allow Return on Equity as claimed in the instant petition for FY 2015-16 to FY 2019-20, considering debt : Equity ratio as per RERC Tariff Regulations, 2014 and RERC Tariff Regulations, 2019.

3.89. Non-Tariff Income has been claimed on actual basis in accordance with the RERC Tariff Regulations.

3.90. The Petitioner has claimed total amount of Rs. 30.10 Crore for KaTPP Units 1 & 2 towards terminal liabilities under Regulation 47(7) of RERC Tariff Regulations, 2019, which states as under:

“Provided that terminal liabilities based on actuarial valuation, over and above the normative O&M Expenses, subject to prudence check shall be allowed through tariff separately”.

The Petitioner submitted that as per actuarial valuation report, the terminal Benefits are as under:

Particulars	As per actuarial valuation report for FY 2017-18 (Rs. Crore)	As per actuarial valuation report for FY 2018-19 (Rs. Crore)	Revised RVUN claim for FY 2019-20 (Rs. Crore)
Pension	106.77	131.53	131.53
Gratuity	13.48	13.34	13.34
Leave Encashment	26.80	30.73	30.73
Total	147.05	175.60	175.60

3.91. The Petitioner submitted that the actuarial valuation for FY 2017-18 has been finalized and the same has been submitted with the reply of data gaps. The terminal benefit comes out to Rs. 147.05, which gets distributed with respect to the ratio of capacity of the plant as under:

Plant Wise Allocation of amount for terminal benefits in FY 2017-18									
Particulars	KTPS Unit No. 1-7	STPS Unit No. 1-6	CTPP Unit No. 1-4	KaTPP Unit No. 1-2	CSCTPP Unit No. 5-6	RGTP Stage I-III	DCCPP	Mahi Hydel	Total
Capacity (MW)	1240	1500	1000	1200	1320	270.50	330	140	7000.50
Plant Wise Allocation of amount for terminal benefit for FY 2017-18 (Rs Crore)	26.05	31.51	21.01	25.21	27.72	5.68	6.93	2.94	147.05

3.92. The Petitioner submitted that the actuarial valuation for FY 2018-19 has been finalized and the same has been submitted with the reply of data gaps. The terminal benefit comes out to Rs. 175.60, which gets distributed with respect to the ratio of capacity of the plant as under:

Plant Wise Allocation of amount for terminal benefits in FY 2018-19									
Particulars	KTPS Unit No. 1-7	STPS Unit No. 1-6	CTPP Unit No. 1-4	KaTPP Unit No. 1-2	CSCTPP Unit No. 5-6	RGTP Stage I-III	DCCPP	Mahi Hydel	Total
Capacity (MW)	1240	1500	1000	1200	1320	270.50	330	140	7000.50
Plant Wise Allocation of amount for terminal benefit for FY 2018-19	31.10	37.63	25.08	30.10	33.11	6.79	8.28	3.51	175.60

3.93. Therefore, on the basis of actuarial valuation of FY 18-19, the estimated terminal benefit for KaTPP, Units 1 & 2 for FY 2019-20 is Rs 30.10 Crore. Hence, the Petitioner requested the Commission to allow the same.

Variable Charges

Stakeholder's comments/suggestions

3.94. The Petitioner sought the following information:

- Computations of SHR.
- Analysis report in respect of coal for GCV.
- Analysis report in respect to GCV of coal as fired.
- Copy of purchase order for supply of coal in respect of each station/unit indicating the rate of fuel supplied.

RVUN's Response

3.95. The Petitioner has computed station heat rate, considering turbine cycle heat rate as 1929.734 kCal/kWh and boiler efficiency as 86.84% as under:

Designed Heat Rate of Unit = turbine cycle heat rate/Boiler efficiency = $1929.734/0.8684 = 2222.17$ kCal/kWh.

As per RERC Tariff Regulations, 2014 and RERC Tariff Regulations, 2019 allowed station heat rate for coal and lignite based thermal power generating stations is = $1.045 \times$ Design Heat Rate (kCal/kWh) and $1.05 \times$ Design Heat Rate (kCal/kWh) respectively.

Therefore, Station Heat Rate for FY 2014-15 to FY 2018-19 = $1.045 \times 2222.17 = 2322.17$ kCal/kWh and Station Heat Rate for FY 2019-20 = $1.05 \times 2222.17 = 2333.28$ kCal/kWh

3.96. The Petitioner has submitted the copy of GCV analysis as received for the month of December 2014, December 2015, December 2016, December 2017, December 2018 and copy of GCV analysis as fired for the month of April 2019.

3.97. The copy of fuel supply agreement for the coal purchased has been submitted with the instant petition.

Others

Stakeholder's comments/suggestions

3.98. The Petitioner is required to submit details of schedule date for completion of works, actual date of completion, period of delay, amount recoverable from contractor as penal charges/liquidated charges and actual amount recovered from the contractor with regard to orders placed by the RVUN.

3.99. The Stakeholder sought justification for electrification outside the colony costing Rs. 3.02 Crore.

3.100. The Petitioner is required to submit the month wise amount of electricity charges paid to JVVNL in the account of construction power.

RVUN's Response

3.101. The details of Scheduled and actual completion date of the requisite orders has been submitted with the instant petition. Further, finalization of Liquidated damages is under process between the Petitioner and EPC contractor.

3.102. The Electrification contract is for laying of 11/0.4 kV network inside

colony area, i.e., outside electrification of the various residential/non-residential buildings.

3.103. The detail of month wise amount of electricity charges paid to JVVNL on account of construction power has been submitted.

Compliance to Directives

Stakeholder's comments/suggestions

3.104. The Petitioner has not complied to the Commission's directives in its order dated 14.05.2015 regarding the following:

- Payment Schedule with phasing agreed as per Contract along with exchange rate for each bill to be raised as per Schedule.
- Date wise Bills/Invoices raised by the EPC Contractor along with exchange rate for each bill.
- Date of payments made by the Petitioner against invoices raised along with exchange rate for each invoice paid by the Petitioner.
- Bifurcation of the impact of FERV and Taxes & Duties on offshore supplies between, within & beyond the scheduled completion date.
- Satisfactory reply of the observations / comments of the stakeholders/objectors.

The Petitioner may submit the compliance to the same.

3.105. The Petitioner has not complied to the Commission's directives in its order dated 14.05.2015 regarding:

- a. Comparison of the total and package wise capital cost with the similar size projects executed by other Generating Companies in the country in support of the capital cost claimed.
- b. Justification for carrying out the work of "Construction of new township" separately from the scope of Balance of plant / EPC contract as against the provision in DPR.

The Petitioner may submit the compliance to the same.

RVUN's Response

3.106. The payment schedule with phasing agreed as per Contract has been submitted. However, the payment terms between the Petitioner and the

EPC contractor were as follows:

"The currency or the currencies in which the payment are made to the contractor under this contract shall be specified in the bid, subject to the general principle that payment will be made in currency or currencies, i.e., (in US Dollar and or Indian Rupees) in which the contract price has been stated in contractor's bid. However, applicable taxes, duties and levies payable in India shall be paid in local currency, i.e., INR".

In view of the above, the Petitioner submitted that no question arises on account of exchange rate difference.

3.107. The details of invoices raised by the EPC Contractor along with exchange rate for each bill and date of payment made by the Petitioner against the invoices raised has been submitted with the reply of data gaps.

3.108. The bifurcation of the impact of Foreign Exchange Rate Variation and Taxes & Duties on offshore supplies within the cut-off date has been submitted with the reply of data gaps.

3.109. The Capital cost package wise details for KaTPP Units 1 & 2 has been submitted with the instant petition and Capital cost package wise comparison with similar size generation projects are not accessible to the Petitioner.

3.110. In regards to the construction of new township, the Petitioner submitted that the same is done for the employee's posted at the power station. As the power plants are located in the remote location and the work at site is of emergent nature, which requires the personnel to be over there round the clock. In the view of above, the construction of new township is an essential requirement near to the plant site.

SECTION 4

Determination of final Capital Cost of KaTPP Units 1 & 2

Background of the Project

- 4.1. RVUN entered into Long Term Power Purchase Agreements (PPA) in respect of existing and future power projects for 25 Years with the three DISCOMs on 23.06.2004, supplementary agreement on 07.06.2007 and 18.05.2010 and further supplementary PPA was signed on 29.06.2015 which includes KaTPP Units 1 & 2.
- 4.2. The proposal for setting up 2 X 500 MW Kalisindh Units 1 & 2 was approved by the Board of Directors (BoD) in its 117th meeting held on dated 06.01.2007. The State Government accorded "Administrative & Financial" approval vide its letter dated 06.06.2007 at an estimated cost of Rs. 4601.00 Crore comprising of equity support of Rs. 920.00 Crore.
- 4.3. The State Government vide its letter dated 25th and 26th of June, 2007 accorded approval for revising the Unit size of Kalisindh Thermal Power Project from 2 X 500 MW to 2 X 600 MW. Further, the Board of Directors in its 187th meeting held on dated 04.05.2011 increased the estimated capital cost from Rs. 4601.00 Crore to Rs. 7723.70 Crore. The Government of Rajasthan vide its letter dated 09.08.2011 and 07.09.2012 accorded approval of enhanced capital cost and additional equity support respectively.
- 4.4. Out of the total project cost of Rs. 7723.70 Crore for Kalisindh Units 1 & 2, equity support from GoR was approved as Rs.1544.60 Crore and balance amount was to be arranged as borrowings from FIs/ Commercial Banks. Power Finance Corporation (PFC) vide its letters dated 31.03.2008 and 14.11.2011 sanctioned term loan of Rs. 3680.00 Core and Rs. 2498.40 Crore respectively, totaling to Rs. 6178.40 Crore.
- 4.5. The Board of Directors of the Petitioner, in its 235th meeting held on dated 27.03.2014 accorded approval for increase in the estimated project cost from Rs. 7723.70 Crore to Rs. 9479.51 Crore. The increase was necessitated mainly due to increase in the cost on account of "Interest During Construction and financing charges" from Rs. 907.00

Crore to Rs. 2502.00 Crore due to delay in completion of the project.

- 4.6. The State Government vide its letter dated 11.08.2014 accorded approval for increase in the estimated project cost from Rs. 7723.70 Crore to Rs. 9479.51 Crore with the condition that the additional equity will be provided by the State Govt. taking into consideration the actual cost of the project to be determined by the RERC.
- 4.7. The project cost was revised to Rs. 9680.03 Crore in the 284th BOD meeting held on 26.12.2018. The State Government vide its letter dated 22.11.2019 accorded approval for increase in estimated project cost from Rs. 9479.51 Crore to Rs. 9680.03 Crore.
- 4.8. The chronology of events is as follows:

Table 2: Chronology of Events

Particulars	Date
Board Approval of setting up 2 X 500 MW KaTPP Units 1 & 2	06.01.2007
State Government's Administrative and Financial Approval for setting up of 2 X 500 MW KaTPP Units 1 & 2	06.06.2007
State Government's Administrative and Financial Approval for revision of capacity from 2 X 500 MW to 2 X 600 MW for KaTPP Units 1 & 2	25/26.06.2007
Power Finance Corporation sanctioned loan of Rs. 3680.00 Crore	31.03.2008
Awarded Letter of Intent to M/S BGRESL (EPC)	09.07.2008
Award of EPC Contract to M/S BGRESL	13.10.2008
Board approval for revised capital cost of Rs. 7723.70 Crore	04.05.2011
State Government approval for enhanced project cost	09.08.2011 & 07.09.2012
Scheduled COD	
KaTPP Unit 1	08-10-2011
Power Finance Corporation sanctioned loan of Rs.2498.40 Cr	14.11.2011
Scheduled COD	
KaTPP Unit 2	08-01-2012
Board approval for revised capital cost of Rs.9479.51 Crore	27.03.2014
Actual COD	
KaTPP Unit 1	07-05-2014
State Government approval for enhanced project cost of Rs. 9479.51 Crore	11.08.2014
Actual COD	
KaTPP Unit 2	25-07-2015
Board approval for revised capital cost of Rs. 9680.03 Crore	26.12.2018
State Government approval for enhanced project cost of Rs. 9680.03 Crore	22.11.2019

4.9. Regulation 16 of the RERC Tariff Regulations, 2014 specifies as under

"16. Capital Cost and capital structure

.....

(3) The capital cost shall be admitted by the Commission after prudence check and shall form the basis for determination of tariff.

Provided that the actual capital expenditure as on COD for the original scope of work based on audited accounts of the company may be considered subject to prudence check by the Commission. If sufficient justification is provided for any escalation in the capital cost beyond the original scope of works, the same may be considered by the Commission during prudence check.

(4) The prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and such other matters as may be considered appropriate by the Commission for determination of tariff. While carrying out the prudence check of the capital cost, the Commission shall look into whether the Generating Company or Licensee has been careful in its judgements and decisions while executing the project or has been careful and vigilant in executing the project.

(5) Where power purchase agreement or transmission or wheeling agreement provides for ceiling of capital cost, the capital cost to be considered shall not exceed such ceiling.

(6) The capital cost may include capitalized initial spares as a percentage of original capital cost up to cut-off date subject to the following ceiling norms:

a) 2.5%, in case of coal based/lignite fired generating stations,

....."

4.10. The instant Petition is for the determination of capital cost and tariff for which the Commission is undertaking prudence check of capital cost. The Hon'ble Appellate Tribunal for Electricity (ATE) in its Judgment dated 27.04.2011 in Appeal No. 72 of 2010 in Para 7.2 of its Judgment has explained the scope of prudence check as under:

"The capital cost has to be determined on the basis of actual expenditure incurred on completion of the project subject to prudence check by the State Commission. The dictionary meanings of the word 'prudent' are "sensible and careful when you make judgments and decisions and avoiding unnecessary risk". The prudence check of the capital cost has to be looked into considering whether the Appellant has been careful in its judgments and decisions while executing the project or has been careful and vigilant in executing the project."

- 4.11. Thus, the scope of prudence check is to examine that whether the petitioner has been careful and vigilant in taking the decisions while executing the project and prudence checking is distinct from according sanction to expenditure. The prudence check of capital cost of the project has been undertaken in the light of the original estimates and the revised estimates approved by RVUN's Board, justification given by RVUN in respect of any change in scope of items of work, reasons for increase in cost as compared to estimated cost, reasons for delay in project, and the findings and directions of the Commission in the approval of provisional capital cost.
- 4.12. The Commission asked RVUN to submit the copy of the latest Lenders Engineer's Report. In reply, RVUN submitted that PFC Ltd. generally doesn't have the policy to provide its Lenders Engineer's report to the borrower, i.e., RVUN. Further, the Commission asked RVUN to submit complete details against the receipt of Rs. 850 Crore through bonds. In reply, RVUN submitted the State Government approval letter for raising of funds of Rs. 1000 Crore in tranches of Rs. 250 Crore or more by issue of bonds for part funding of the project cost of KaTPP Units 1 & 2. RVUN also submitted the Receipt Statement of Bank of Rs. 550 Crore and 300 Crore.
- 4.13. The Commission vide its order dated 14.05.2015 on approval of provisional capital cost had approved the capital cost of Rs. 4502.07 Crore as on COD of Unit 1 and Rs. 8155.26 Crore for the entire project.
- 4.14. The Capital Cost claimed by RVUN is given in the table below:

Table 3: Capital Cost Claimed by RVUN (Rs. Crore)

Particulars	DPR Cost	Revised cost estimates 3 (2018)	Actuals claimed by RVUN as on COD				Additional Capitalization(including additional capitalization up to cut-off date & expenses incurred in FY 2017-18)	Total Capital Cost Claimed
			Unit - 1	Additional Capitalization of Unit - 1 up to COD of station	Unit - 2	Station		
Land and Site Development	12.00	17.41	8.54	0.16	8.70	17.40	0.00	17.40
Access	3.00	5.19	0.61	1.79	2.40	4.80	0.39	5.19
Temporary Construction and Enabling Work	3.00	4.72	2.22	0.14	2.35	4.71	0.01	4.72
Water Storage System	50.00	766.22	308.42	36.89	335.34	680.65	45.47	726.12
Water Transportation System	75.00	85.30	41.75	0.00	41.75	83.50	0.04	83.54
Railway System	75.00	209.65	70.44	29.92	88.81	189.17	11.55	200.72
EPC Contractor (M/s. BGRECL)	3539.00	5292.98	3111.12	13.31	2077.64	5202.07	75.22	5277.29
Other Works and Third Party Inspection	0.00	161.78	42.80	14.70	56.74	114.24	45.62	159.86
Overheads (including CSR activities)	243.20	218.98	64.17	15.15	91.83	171.15	42.79	213.94
Initial Spares	0.00	169.32	0.00	0.00	0.00	0.00	166.22	166.22
Hard Cost	4000.20	6931.55	3650.07	112.06	2705.56	6467.69	387.31	6855.00
IDC	600.80	2748.48	1432.82	-	1315.66	2748.48	-	2748.48
Less: Liquidated Damages	0.00	0.00	0.00	-	0.00	0.00	-	0.00
Capital Cost	4601.00	9680.03	5082.89	-	4021.22	9216.17	-	9603.48

4.15. RVUN has incurred capital expenditure of Rs. 9216.17 Crore as on COD of the station, i.e., 25.07.2015. Further, RVUN has incurred an expenditure of Rs. 355.24 Crore upto cut-off date, i.e., 31.03.2017 and Rs. 32.07 Crore after cut-off date, i.e., during FY 2017-18 and Rs. 76.55 Crore to be incurred in FY 2018-19.

4.16. The Commission vide its order dated 14.05.2015 in the Petition No. 462/14 on approval of provisional capital cost directed as under:

"4.9... The Commission also directs RVUN to get the completed Capital Cost of the entire project audited by the Statutory Auditors after COD of Unit 2 and submit the Statutory Auditor's certificate of actual capital cost based on audited accounts along with the Petition for

determination of the final capital cost and approval of final tariff of the entire project."

4.17. In compliance to the above directive, RVUN submitted the auditor's certificate for the actual cost incurred as on COD and up to 31.03.2018.

4.18. Owing to consolidated funding of capital expenditure for Unit 1 and Unit 2 the Commission approves the capital cost as on COD of project, and thereafter the capital cost as on COD of Unit 1 has been arrived at by considering the proportion of capital cost as on COD of Unit 1 to the capital cost as on COD of project as claimed by RVUN. Further, the Commission has approved the additional capitalization in accordance with the Regulations.

4.19. The package wise prudence check carried out by the Commission is detailed in the paragraphs below:

Land and Site Development **RVUN's submissions**

4.20. The cost for Land and Site Development claimed by RVUN is given in the table below:

Table 4: Cost of Land & Site development claimed by RVUN (Rs. Crore)

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
Acquisition of Land - Deposit Work	12.00	12.71	20.52	18.47	17.41	17.40
M/s GMM Construction - Construction of Boundary Wall		5.18				
M/s Manda Developers - Construction of Barbed Wire Fencing		0.53				
Total	12.00	18.42	20.50	18.47	17.41	17.40

4.21. RVUN submitted the revised project cost estimate under the head of "Land and Site Development" as Rs. 17.41 Crore against the original

estimated cost of Rs. 12.00 Crore.

- 4.22. The actual expenditure incurred upto COD of station is Rs. 17.40 Crore and the total cost claimed is Rs. 17.40 Crore including additional capitalization till FY 2017-18.

Commission's Analysis

- 4.23. The Commission vide its order dated 14.05.2015 in the Petition No. 462/14 on approval of provisional capital cost directed to submit the details as under:

"4.47...

- Total Land area with rate per hectare/bigha considered in the original estimate.*
- The details of the actual land area acquired with rate per hectare/bigha for payment of the land with reasons for variation.*
- Detailed break-up of the expenditure under the head with justification.*
- Details of expenditure for site development other than land."*

- 4.24. In compliance to the same, RVUN submitted the following:

- a. In the original estimate, the total land area considered was 560 hectares including green belt of 33% of the total area.
- b. Actual Land area acquired is 2330.08 bigha with rate per bigha as below:
 - Rs. 69511.85 per bigha (1388.05 bigha Private Land)
 - Rs. 22699.49 per bigha (842.03 bigha Government land)
 - Rs. 246175.54 per bigha (87.19 bigha Private Land)
 - Rs. 22699.49 per bigha (12.01 bigha Government Land)
- c. Break-up of expenditure under the head is as follows:
 - Rs. 12.71 Crore for acquiring land
 - Rs. 4.69 Crore for Site development

- 4.25. The work order for construction of boundary wall on periphery of plant area as well as on township area of at 2 X 600 MW Kalisindh Thermal Power Project, Jhalawar was placed on M/s GMM Construction (P) Ltd.

at the firm price of Rs. 5.18 Crore inclusive of service tax and all other taxes and duties.

4.26. The work order for construction of barbed wire fencing with M.S. Angle posts on plant boundary was placed on M/s Manda Developers and Builders Pvt. Ltd. at the firm price of Rs. 0.53 Crore inclusive of service tax and all other taxes and duties.

4.27. The Commission sought the work order for acquisition of land for the 2 X 600 MW KaTPP Thermal Power Project. In reply of the same, RVUN submitted that no work order was placed, as and when the funds were demanded by Land Acquisition Officers, i.e., SDM, Jhalawar the same were released to them for disbursement to the cultivators. Further, as per the Environment Clearance submitted with the instant petition the requirement of the land is restricted to 350 hectare, whereas the actual land area acquired is 2330.08 bigha. In this regard, the Commission sought justification for acquiring more land than as allowed in the Environment clearance.

4.28. In compliance to the same, RVUN submitted that the total land requirement of 560 Hectare was sought, including 425 hectare for plant area while seeking Environmental Clearance before expert committee of MOEF. RVUN submitted the relevant documents. Whereas, MOEF in its Environment Clearance approved the land for 350 Hectare. RVUN also submitted that apart from the land for main Power Station, extra land for ash Pond and housing facility were also acquired, which is essential for any power project. RVUN submitted the details of actual land acquired as per site requirement as under:

- 1566.10 bigha for Plant Area Including Green Belt
- 410.05 bigha for Outside plant ash dyke
- 253.13 bigha for Colony area and approach road
- 100 bigha for Railway Line

4.29. In light of the above, the Commission finds the actual cost under head of Land and Site Development as on COD claimed by RVUN to be prudent. The Commission sought the details of undischarged liabilities

included in the actual capitalization as on COD of the station. In reply to the same, RVUN submitted that, there was no undischarged liabilities under head of Land and Site Development. The cost approved by the Commission as on COD is as follows:

Table 5: Cost of Land & Site development approved by the Commission (Rs. Crore)

Particulars	Claimed by RVUN up to COD of Station	Approved by the Commission up to COD of Station
Land and Site Development	17.40	17.40

4.30. The Commission has dealt with the additional capitalization separately.

Access

RVUN's submissions

4.31. The cost for Access claimed by RVUN is given in the table below:

Table 6: Cost of Access claimed by RVUN (Rs. Crore)

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
M/S M. C. Sharma Engineering Works - Construction of Boundary wall near rail Line no 4 to 12 at marshalling yard of KaTPP	3.00	0.14	3.00	11.40	5.19	4.80
M/s Master Construction Company - Construction of Main Gate at KaTPP		0.38				
M/S Jhandel Singh Sisodia - Providing GI Barbed wire Fencing with RCC Post along both side of the Road from SH - 19A to main plant gate at KaTPP		0.11				
M/S Bhawariya Construction Company - Construction of Road around		1.28				

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
plant boundary at KaTPP						
M/S Manda Developers and Builders - Remodelling of bitumen Road from Plant main gate to SH - 9A for KaTPP		3.38				
Total	3.00	5.30	3.00	11.40	5.19	4.80

4.32. RVUN submitted the revised project cost estimate under the head of "Access" as Rs. 5.19 Crore against the original estimated cost of Rs. 3.00 Crore.

4.33. The actual expenditure incurred upto COD of station is Rs. 4.80 Crore and the total cost claimed is Rs. 5.19 Crore including additional capitalization till FY 2017-18.

Commission's Analysis

4.34. The Commission vide its order dated 14.05.2015 in the Petition No. 462/14 on approval of provisional capital cost directed to submit "detailed justification for increase in estimated cost".

4.35. In compliance to the same, RVUN, submitted that the cost was increased to Rs. 5.19 Crore as per actual requirement at the site and the rates arrived were on the lowest price bid received in open competitive tendering. Further, RVUN submitted that the work carried out under this head is as below:

- Construction of boundary wall near Rail Line No. 4 to 12 at marshalling yard of KaTPP.
- Construction of main gate at KaTPP.
- Providing GI barbed wire fencing with RCC post along both side of the road.
- Construction of road along plant boundary at KaTPP.

- Remodelling of bitumen Road.

4.36. The Commission vide the data gaps sought the copy of work order for the aforesaid work from the Petitioner. In reply to the above directive, RVUN submitted the copies of work orders and were found to be prudent. However, for the cost claimed against remodeling of bitumen road from plant main gate to State Highway – 9A, i.e., Rs. 2.92 Crore up to COD of the station and Rs. 0.40 Crore up to cut-off date. The Commission observes that this road is not owned by RVUN. On the similar issue, the Commission in its Order dated March 8, 2019 in Petition No, 1334/18 while approving the final Capital Cost of CTPP Stage I, Phase II, Units 3 & 4 has not capitalized the cost towards reconstruction of road not owned by RVUN and has allowed RVUN to recover such cost separately as reimbursement. Following the same approach, the Commission does not find it prudent to capitalize the expenses incurred by RVUN towards re-modelling of road not owned by RVUN. However, the Commission allows the cost of Rs. 3.32 Crore actually incurred on this account to be recovered separately as reimbursement.

4.37. As against the ordering cost of Rs. 5.30 Crore, RVUN has claimed the cost of Rs. 4.80 Crore as on COD of the station and total cost of Rs. 5.19 Crore including additional capitalization. The actual cost as on COD of the station claimed by RVUN is lower than the ordering cost and hence the Commission approves the same. Further, the Commission sought the details of undischarged liabilities included in the actual capitalization as on COD of the station. In reply to the same, RVUN submitted that there were no undischarged liabilities under head of Access. The cost approved by the Commission as on COD is as follows:

Table 7: Cost of Access approved by the Commission (Rs. Crore)

Particulars	Claimed by RVUN up to COD of Station	Approved by the Commission up to COD of Station
Access	4.80	1.88

4.38. The Commission has dealt with the additional capitalization separately.

Temporary Construction and Enabling Works **RVUN's submissions**

4.39. The cost for Temporary Construction and Enabling works claimed by

RVUN is given in the table below:

Table 8: Cost of Temporary Construction and Enabling Works claimed by RVUN (Rs. Crore)

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
M/S M. C. Sharma Engineering Works - Construction of sub-station building in thermal colony at KaTPP	3.00	0.37	6.00	4.75	4.72	4.71
M/S Ishwar Metal Industries - Supply, Erection, Testing and Commissioning of 33 kV single circuit line on lattice tower structure for construction power for KaTPP		2.39				
M/S Wapcos India - Conducting Survey for KaTPP		0.25				
M/S Murari Lal Singhal - Construction of Office Shed and store Shed (6 No) at KaTPP		2.16				
M/S Sun Agri fresh - Development and maintenance of garden and plantation work in township at KaTPP		0.30				
Total	3.00	5.46	6.00	4.75	4.72	4.71

4.40. RVUN submitted the revised project cost estimate under the head of "Temporary Construction and Enabling Works" as Rs. 4.72 Crore against the original estimated cost of Rs. 3.00 Crore.

4.41. The actual expenditure incurred upto COD of station is Rs. 4.71 Crore

and the total cost claimed is Rs. 4.72 Crore including additional capitalization till FY 2017-18.

Commission's Analysis

4.42. The Commission vide its order dated 14.05.2015 in the Petition No. 462/14 on approval of provisional capital cost directed to submit "detailed justification for increase in estimated cost, break-up of the actual cost into cost of works carried out, cost of material and labour if any along with the copy of work order".

4.43. In compliance to the same, RVUN, submitted that the cost was increased to Rs. 5.46 Crore as per actual requirement at the site and the works carried out were not in scope of EPC contractor. Further, RVUN submitted that the work carried out under this head is as below:

- Construction of sub-station building in thermal colony.
- Supply, erection, testing and commissioning of 33 kV single circuit line on lattice tower structures for construction power.
- Conducting survey for KaTPP.
- Construction of office sheds and store sheds (6 Nos).
- Development and maintenance of gardens/parks & plantation work in township.

4.44. RVUN submitted the copies of work orders of the aforesaid works with a complete breakup of the actual cost into cost of works carried out.

4.45. As against the ordering cost of Rs. 5.46 Crore, RVUN has claimed the cost of Rs. 4.71 Crore as on COD of the station and total cost of Rs. 4.72 Crore including additional capitalization. The actual cost as on COD of the station claimed by RVUN is lower than the ordering cost. Based on the details submitted by RVUN, the Commission approves the actual cost as on COD. Further, the Commission sought the details of undischarged liabilities included in the actual capitalization as on COD of the station. In reply to the same, RVUN submitted that there were no undischarged liabilities under head of Temporary Construction and Enabling works. The cost approved by the Commission as on COD is as follows:

Table 9: Cost of Temporary Construction and Enabling Works approved by the Commission (Rs. Crore)

Particulars	Claimed by RVUN upto COD of Station	Approved by the Commission upto COD of Station
Temporary Construction and Enabling Works	4.71	4.71

4.46. The Commission has dealt with the additional capitalization separately.

Water Storage System **RVUN's submissions**

4.47. The cost for Water Storage System claimed by RVUN is given in the table below:

Table 10: Cost of Water Storage System claimed by RVUN (Rs. Crore)

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
Water Resource Department	50.00	766.22	760.00	799.00	766.22	680.65
Total	50.00	766.22	760.00	799.00	766.22	680.65

4.48. RVUN submitted the revised project cost estimate under the head of "Water Storage System" as Rs. 766.22 Crore against the original estimated cost of Rs. 50.00 Crore.

4.49. The actual expenditure incurred upto COD of station is Rs. 680.65 Crore and the total cost claimed is Rs. 726.12 Crore including additional capitalization till FY 2017-18.

Commission's Analysis

4.50. The Commission vide its order dated 14.05.2015 in the Petition No. 462/14 on approval of provisional capital cost directed to submit "detailed justification for increase in estimated cost and the complete details of the amount claimed giving details of the scope of work, items of the work with their rates, along with the copy of the estimate submitted by WRD department and terms and conditions on which the work is being carried out."

4.51. In compliance to the same, RVUN, submitted that initially lesser

capacity dam with 4m high gates was considered. Further, detailed engineering and designing was carried by Central Water Commission (CWC) and work for construction of major dam was executed as per the guidelines and designing of CWC. The Government of Rajasthan decided to include the cost of major dam in the project and assigned the work for construction of dam to Water Resource Department (WRD). Actual cost of dam of Rs. 766.22 Crore was added in the project cost as decided by the Government of Rajasthan. Further, RVUN submitted copy of estimates of WRD Department, items of the work with its rates.

- 4.52. The Commission observed that as per DPR the water requirement is 3300 - 3800 m³/hr. which translates to around 1020 -1175 Mcft per annum. RVUN vide MOM dated 26.05.2007 submitted that the cost for Kalisindh Irrigation project will be paid in the ratio of water utilization, i.e., 12 : 18 for Energy : WRD. Further, RVUN submitted that the full cost of the dam is to be borne in accordance to GoR letter dated 29.04.2008. The Commission in this regard, observed that the section 108 of the Electricity Act, 2003 contemplates a direction to be issued by the State Government in writing to the State Commission. The aforesaid letter of the State Government cannot be a directive in the instant case. Even if, Section 108 directive of the Electricity Act, 2003 is issued to the State Commission, it will not be a binding on the Commission with regards to the tariff fixation.
- 4.53. Further, Commission observed that RVUN, yet again vide letter dated 22.02.2017 to WRD submitted that instead of 1200 Mcft, 850 Mcft is the requirement for project (From July to September the water can be met directly from river Kalisindh Flow) and balance 350 Mcft can be allocated to other facilities with the condition that the user agency agrees to bear proportionate cost of construction of Dam and proportionate O&M cost for the Dam.
- 4.54. The Commission in this regard, vide the additional data gaps directed RVUN to submit justification for claiming the entire dam cost as part of Capital Cost and not claiming the cost of Dam as per the utilized quantum.

4.55. In compliance to the same, RVUN submitted its correspondence with GoR dated 24.06.2008 and MoEF dated 29.04.2008 claiming requirement of water for Kalisindh Power Plant as 1200 Mcft. Further, the cost of dam is being claimed as per the directions of the State Government, considering dedicated use of dam for the project. Subsequently, RVUN submitted that in case of any excess rain during the period and if there is any surplus water available, the same can be allotted to other users. However, such arrangements shall be subject to policy as decided at the level of State Government.

4.56. The Commission taking reference of the APTEL judgement dated 26.05.2006, as quoted by the stakeholder, observed that the Punjab State Electricity Regulatory Commission on the basis of Chatha Committee report (Formed by the State Government) and on the basis of materials available allocated 79.10% of cost of the Dam to the board and 20.90% to the Irrigation vide order dated 13.09.2007.

4.57. Aggrieved by the aforesaid order the appellant has filed an appeal in the APTEL. The relevant extract of the APTEL judgement dated 25.02.2011 is as below:

"14. We have examined the documents which were considered by the State Commission and have noted the following:

- i) In the Project Report of RSD Project, the cost share between Power and Irrigation was allocated in the ratio of 88.60% and 11.40% based on Separate Costs Remaining Benefit Method (SCRB Method).*
- ii) Government of India vide its letter dated 11.04.1967 addressed to all State Governments recommended the "Use of Facilities" Method for allocation of cost. Accordingly, the Government of Punjab revised the cost allocation based on 'Use of Facilities' Method to 79.10% : 20.90%.*
- iii) Central Water Commission vide its letter dated 24.03.1999 has accepted the revised cost allocation of 79.10% and 20.90% between Power and Irrigation (in place of 88.60% and 11.40%).*

15. The scrutiny of above documents indicate that apportionment of cost of RSD Project has not been done arbitrarily and is based on "Use of Facilities" Method as recommended by the Government of India. The apportionment of 79.10% : 20.90% between Power and Irrigation has also been approved by the Central Water Commission, an apex body of the Government of India

on River Valley Projects and the Planning Commission. In view of these facts we uphold the finding of the State Commission regarding apportionment of cost to the Electricity Board."

4.58. The Commission observed that the Hon'ble APTEL approved apportionment methodology based on Use of Facilities Method.

4.59. Considering the similar approach, the Commission based on the latest data available, allocates Cost of Dam to the extent of 70.83%, i.e., 850/1200 Mcft of the total cost claimed for the dam, which is in line with the apportionment methodology based on Use of Facilities Method. The Commission directs RVUN to claim the balance amount of Capital Cost towards the Dam from Government of Rajasthan.

4.60. Further, the Commission sought the details of undischarged liabilities included in the actual capitalization as on COD of the station. In reply to the same, RVUN submitted that there were no undischarged liabilities under head of Water Storage System. The cost approved by the Commission as on COD is as follows:

Table 11: Cost of Water Storage System approved by the Commission (Rs. Crore)

Particulars	Claimed by RVUN up to COD of Station	Approved by the Commission up to COD of Station
Water Storage System	680.65	482.10

4.61. The Commission has dealt with the additional capitalization separately.

Water Transportation System **RVUN's submissions**

4.62. The cost for Water Transportation System claimed by RVUN is given in the table below:

Table 12: Cost of Water Transportation System claimed by RVUN (Rs. Crore)

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
M/s IVRCL - Erection and Commissioning of River Water System, Supply of	75.00	77.85	86.00	86.00	85.30	83.50

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
pipes and pumps, valve, motor including spares for river water system.						
M/s SPML - Design, Engineering, Manufacturing, Assembly, testing at works, Supply Erection Testing & Commissioning of all Electrical System including 33 kV overhead transmission line and C&I system on turnkey basis		7.82				
Total	75.00	85.68	86.00	86.00	85.30	83.50

4.63. RVUN submitted the revised project cost estimate under the head of "Water Transportation System" as Rs. 85.30 Crore against the original estimated cost of Rs. 75.00 Crore.

4.64. The actual expenditure incurred upto COD of station is Rs. 83.50 Crore and the total cost claimed is Rs. 83.54 Crore including additional capitalization till FY 2017-18.

Commission's Analysis

4.65. The Commission vide its order dated 14.05.2015 in the Petition No. 462/14 on approval of provisional capital cost directed to submit "detailed justification for increase in estimated cost."

4.66. In compliance to the same, RVUN, submitted that the cost was increased to Rs. 85.30 Crore as the work order was placed for civil, mechanical, electrical, C&I works of pump house and pipelines.

4.67. The work order for erection, testing and commissioning, all civil,

structural and mechanical works of River Water System package on turnkey basis including operation and maintenance of the existing and the new system for 5 years was placed on M/s IVRCL Infrastructures & Projects Ltd for the contract price of Rs. 27.04 Crore inclusive of all taxes and duties and Rs. 3.08 Crore for O&M. The work order for Design, Engineering, Manufacturing, Procurement and supply of equipments, MS pipes, GRP pipes, pumps, valves, Motor including mandatory spares, tools and tackles for River water system was placed on M/s IVRCL Infrastructures & Projects Ltd for the contract price of Rs. 47.72 Crore inclusive of all taxes and duties.

- 4.68. The work order for Design, Engineering, Manufacturing, Assembly, testing at works, Supply erection Testing and commissioning of all electrical system including 33 kV overhead transmission line and C&I system on turnkey basis for River Water system was placed on M/s SPML Infra Limited for the contract price of Rs. 7.82 Crore inclusive of excise duty, sales tax/VAT, unloading at site, handling, storage, preservation at site, performance guarantee testing including civil and structural works.
- 4.69. Further, the Commission vide the additional data gaps sought the information from RVUN that amount totaling to Rs. 3.08 Crore for O&M of complete water system has been capitalized or not. In this regard, RVUN submitted that the same have not been booked in the capital expenditure.
- 4.70. RVUN has claimed the cost of Rs. 83.50 Crore as on COD of the station and total cost of Rs. 83.54 Crore including additional capitalization. RVUN, vide the additional data gaps submitted the details of payment against each of the aforesaid order and is found to be prudent. Further, the Commission sought the details of undischarged liabilities included in the actual capitalization as on COD of the station. In reply to the same, RVUN submitted that there were no undischarged liabilities under head of Water Transportation system. Based on details provided by RVUN, the Commission approves the actual cost of Water Transportation System. The cost approved by the Commission as on COD is as follows:

Table 13: Cost of Water Transportation System approved by the Commission (Rs. Crore)

Particulars	Claimed by RVUN up to COD of Station	Approved by the Commission up to COD of Station
Water Transportation system	83.50	83.50

4.71. The Commission has dealt with the additional capitalization separately.

Railway Siding **RVUN's submissions**

4.72. The cost for Railway Siding claimed by RVUN is given in the table below:

Table 14: Cost of Railway Siding claimed by RVUN (Rs. Crore)

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
M/s San Engineering - Design , manufacture supply and commissioning of 4 no, 2*600 HP, Twin Power Pack diesel hydraulic shunting locomotives with all accessories, tools & Tackles and mandatory spares	75.00	16.49	228.00	243.69	209.65	189.17
M/s IRCON - Design, Engineering, manufacturing, supply to site, construction, installation, commissioning of Railway siding for KaTPP - Deposit Work		170.64				
M/s Western Central Railway - Railway Siding - Deposit Work		26.78				
Total	75.00	213.91	228.00	243.69	209.65	189.17

- 4.73. RVUN submitted the revised project cost estimate under the head of "Railway Siding" as Rs. 209.65 Crore against the original estimated cost of Rs. 75.00 Crore.
- 4.74. The actual expenditure incurred upto COD of station is Rs. 189.17 Crore and the total cost claimed is Rs. 200.72 Crore including additional capitalization till FY 2017-18.

Commission's Analysis

- 4.75. The Commission vide its order dated 14.05.2015 in the Petition No. 462/14 on approval of provisional capital cost directed to submit detailed justification for increase in revised cost as on actual completed cost of the project along with the basis for awarding the contract in favor of M/s IRCON, competitiveness of the offer and reasonability of the cost claimed in the DPR.
- 4.76. In reply to the same, RVUN submitted the following justification for increase in its cost:
- Increase in cost for survey and cost for preparation of DPR by M/s IRCON with approval of WCR, which was originally not taken into consideration during approval of estimate.
 - Increase in cost of signalling and telecommunication work.
 - Addition of the Cost of Over Head Electrification (OHE) work for railway siding as per supplementary DPR as included by West Central Railway (WCR).
 - Supervision charge, Direction and General charges of OHE work to be paid to the railways and cost of switching station for providing 25 kV supply to private railway siding by the railways.
 - Increase in cost of works carried out by WCR at Jhalawar City Station including provision of additional loop lines, signalling and electrification work.
 - Increase in cost for field supervision and overhead charges.
 - Increase in cost due to 4% of estimated cost as codal charges deposited with WCR.

- Initially the length of railway line was estimated for 5 to 6 km and in actual it increased to 8.4 km.
- Cost for development works for take-off a separate line to KaTPP at Jhalawar City railway station was not assessed initially.

- 4.77. However, RVUN did not submit the basis of awarding the contract to M/s IRCON, competitiveness of the offer and reasonability of the cost claimed in the DPR. Vide the data gaps, the Commission again directed RVUN to submit the same. RVUN did not submit the desired information. Yet again, the Commission directed RVUN vide the additional data gaps to submit the same. RVUN submitted that the zonal office of WCR, Jabalpur was requested to carry out the railway siding works of proposed KaTPP, Jhalawar. However, WCR indicated that due to non-availability of manpower and resources it is not possible for WCR to take up the work and suggested to engage a registered surveyor for the work. RVUN again requested WCR to review the matter and to reconsider for complete survey and construction work to be undertaken as deposit work. It was not accepted and had been suggested to execute the work through RITES or IRCON (PSUs of Railways). Accordingly, RVUN requested M/s IRCON and M/s RITES to furnish their techno-commercial offer and based on the evaluation of the committee constituted for the purpose and with the approval of WTD of RVUN, work was awarded to M/s IRCON as a deposit work.
- 4.78. Vide the additional data gaps, the Commission directed RVUN to submit the supporting documents for its claim of Rs. 160.56 Crore towards M/s IRCON. RVUN submitted the same and were found to be prudent.
- 4.79. The Commission has gone through the submissions of RVUN and is of the view that RVUN had made its efforts to get the work done through Railways. Based on suggestions from WCR, RVUN placed the Order on IRCON (PSU of Railway). Hence, the Commission approves the actual cost.
- 4.80. Further, the Commission sought the details of undischarged liabilities included in the actual capitalization as on COD of the station. In reply

to the same, RVUN submitted that there were no undischarged liabilities under head of Railway Siding. The cost approved by the Commission as on COD is as follows:

Table 15: Cost of Railway Siding approved by the Commission (Rs. Crore)

Particulars	Claimed by RVUN up to COD of Station	Approved by the Commission up to COD of Station
Railway Siding	189.17	189.17

4.81. The Commission has dealt with the additional capitalization separately.

EPC Contract

RVUN's submissions

4.82. The cost for EPC Contract claimed by RVUN is given in the table below:

Table 16: Cost of EPC Contract claimed by RVUN (Rs. Crore)

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
EPC Contractor (M/s. BGRECL)	3539.00	4900.06	5301.00	5391.00	5292.98	5202.07
Total	3539.00	4900.06	5301.00	5391.00	5292.98	5202.07

4.83. RVUN submitted the revised project cost estimate under the head of "EPC Contract" as Rs. 5292.98 Crore against the original estimated cost of Rs. 3539.00 Crore.

4.84. The actual expenditure incurred upto COD of station is Rs. 5202.07 Crore and the total cost claimed is Rs. 5277.29 Crore including additional capitalization till FY 2017-18.

Commission's Analysis

4.85. The Commission vide its order dated 14.05.2015 in the Petition No. 462/14 on approval of provisional capital cost directed to submit the following for determination of actual impact of FERV.

"4.69...

- 1) *Payment Schedule with phasing agreed as per Contract along with exchange rate for each bill to be raised as per Schedule.*

- 2) *Date wise Bills/Invoices raised by the EPC Contractor along with exchange rate for each bill.*
- 3) *Date of payments made by the Petitioner against invoices raised along with exchange rate for each invoice paid by the Petitioner.*
- 4) *Bifurcation of the impact of FERV and Taxes & Duties on offshore supplies between, within & beyond the scheduled completion date.*
- 5) *Satisfactory reply of the observations/comments of the stakeholders/objectors."*

4.86. In compliance to the same, RVUN submitted the following:

- 1) The payments are made as per payment terms, which states that the currency or the currencies in which the payment are made to the contractor under the contract shall be specified in the bid, subject to the general principle that payment will be made in currency or currencies, i.e., US Dollar or Indian Rupees in which the contract price has been stated in contractor's bid. However, applicable taxes, duties and levies payable in India shall be paid in local currency, i.e., INR.
- 2) Date wise Invoices raised by EPC contractor with exchange rate.
- 3) Date of payments made by the Petitioner against invoices raised along with exchange rate for each invoice paid by the Petitioner.
- 4) Consolidated price schedule with price variation and impact of FERV.

4.87. The Commission during the hearing dated 03.01.2020 asked the Petitioner to submit the bifurcation of the impact of FERV and Taxes & Duties on offshore supplies beyond the scheduled completion date.

4.88. In reply to above the Petitioner submitted that in data gap Foreign Exchange Rate Variation (FERV) of Rs 135.55 Cr was erroneously enclosed and the impact of Foreign Exchange Rate Variation (FERV) after scheduled completion date i.e. 08.01.12 is Rs 37.83 CR and there is no any other statutory variation in taxes after schedule completion date.

4.89. The Commission again vide additional data gaps asked the Petitioner to submit justification for not evading the exchange rate variation with

the EPC contractor in case of delay in scheduled COD and also sought firm cost of taxes as per the EPC contract and the Bid Evaluation Report for the EPC Contract.

4.90. RVUN further submitted that the impact of taxes and duties as per the work orders dated 13.10.2008 was Rs. 431.29 Crore on off-shore supplies. Further, RVUN revised the same to Rs. 502.29 Crore as per BOD meeting dated 04.05.2011. However, the actual expenditure up to cut-off date was Rs. 426.04 Crore.

4.91. The Commission observed that the bid of BGR Energy Limited was evaluated without considering any foreign exchange variation. As a result, the total actual cost of EPC Contract has exceeded the firm price quoted by L2 Bidder. The Commission in this regard, directed RVUN vide the additional data gaps to submit the justification for not considering any foreign exchange variation while evaluating the EPC bids and justify as to why the increase in actual EPC cost with respect to firm price quoted by L2 bidder should be allowed as part of Capital Cost and the reasons for not evading the exchange rate variation with the EPC contractor in case of delay in scheduled COD.

4.92. In reply to the same, RVUN submitted this issue of payment of Foreign Currency component of EPC Contract was clarified in replies to pre-bid queries for EPC Contract as follow:

"The currency or the currencies in which the payment are made to the contractor under the contract shall be specified in the bid, subject to the general principle that payment will be made in currency or currencies, i.e., US Dollar or Indian Rupees in which the contract price has been stated in contractor's bid"

4.93. RVUN submitted that the decision on the same was approved by the BOD of RVUN and hence payments were accordingly released by the Petitioner. RVUN also submitted the payment schedule with phasing agreed as per Contract along with exchange rate for each bill to be raised as per Schedule. RVUN further submitted that due to above clarification issued during pre-bid meeting, the impact of foreign exchange rate variation is considered as part of EPC Contract.

- 4.94. It is also submitted by RVUN that the issue of excess payment on account of FERV on off shore supplies was also raised by the AG audit. The matter went upto the Committee of Public Sector Undertaking (PUC) of Rajasthan Vidhansabha which after going through the reply of RVUN and State Government was satisfied with the reply submitted by RVUN. The PUC also directed RVUN that in future it should take the decisions keeping in view of the financial benefit of the Nigam
- 4.95. RVUN has submitted the reasons for foreign currency exchange rate variation as per Contract and has not submitted any specific reasons for not evading the impact of exchange rate variation on EPC Cost due to delay in COD. As discussed earlier, the bid of BGR Energy Limited was evaluated without considering any foreign exchange rate variation. Accordingly, the Commission is of the view that the consumers cannot be burdened with extra cost incurred by RVUN for the offshore supplies executed after the scheduled COD.
- 4.96. Hence, in this regard, the Commission finds it appropriate to consider the offshore portion of EPC Contract for the payment made against the supplies executed after schedule date of the station at exchange rate of Rs. 52.78/USD, i.e., prevailing exchange rate, if the supply would have been executed within the scheduled date of station as submitted by RVUN.
- 4.97. The Statement as submitted by RVUN showing impact of FERV on Offshore supply within and beyond scheduled completion date i.e. 08.01.2012 is as follows:

PARTICULAR	Foreign Currency component (Million USD)	DOLLAR EXCHANGE RATE Rs. /USD	Total Amount in INR (in CR)
Offshore order value	405	39.59	1603.39
Total supply executed	400.6	At Actual USD value	1975.49
Actual supply within schedule date i.e. 08.01.2012	344.4	At Actual USD value	1641.04
Impact of FERV after schedule completion date i.e. 01.01.2012			
If supply executed within schedule date than total payment would be made	56.2	52.78	296.62

PARTICULAR	Foreign Currency component (Million USD)	DOLLAR EXCHANGE RATE Rs. /USD	Total Amount in INR (in CR)
Actual payment made against supply after schedule date	56.2	At Actual USD value	334.45
Impact of FERV within schedule date			334.27
Actual impact of FERV			372.10
Total Impact of FERV after schedule date i.e. 08.01.2012			37.83

4.98. Accordingly, the Commission disallows the FERV impact of Rs. 37.83 Crore after the scheduled COD. This amount of Rs 37.83 Crore has been deducted on a proportionate basis, i.e., before COD and after COD of the station, on the claimed value of EPC contract.

4.99. Further, the Commission sought the details of undischarged liabilities included in the actual capitalization as on COD of the station. In reply to the same, RVUN submitted that there were no undischarged liabilities under head of EPC contract. The cost approved by the Commission as on COD is as follows:

Table 17: : Cost of EPC Contract approved by the Commission (Rs. Crore)

Particulars	Claimed by RVUN up to COD of Station	Approved by the Commission up to COD of Station
EPC Contract	5202.07	5164.78

4.100. The Commission has dealt with the additional capitalization separately.

Other Works and Third Party Inspection **RVUN's submissions**

4.101. The cost for Other Works and Third Party Inspection claimed by RVUN is given in the table below:

Table 18: Cost of Other Works and Third Party Inspection claimed by RVUN (Rs. Crore)

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
M/s Master Construction - Work of Misc. Civil Work (SS Railing, FRP Sheet Sheds	0.00	0.12	169.00	156.00	161.78	114.24

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
etc.) in VIP guest house at KaTPP						
M/S BEML - Design Manufacture, Supply, Delivery, Testing and Commissioning of 4 No BEML Model Bulldozers		6.40				
M/S Ishwar Metal Industries - Outside Electrification of Colony		3.03				
M/s M. C. Sharma Engineering Works - Construction of dormitory and care-taker room in township at KaTPP		0.18				
M/s Wadia Body Builders - Order for Mobile fire tenders (2 No.)		1.35				
M/s Ganesh Construction Company - Construction of Boundary Wall and approach road for 2 No diesel pump installed in plant premise KaTPP		0.31				
M/s Murari Lal Singhal - Construction of Field Hostel		2.64				
M/s Manda Developers and Builders - Additional Water Reservoir		67.31				
M/s Manda Developers and Builders -		82.89				

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
Construction of Township						
Third Party Inspection - Quality Assurance of BTG		3.00				
Total	0.00	167.23	169.00	156.00	161.78	114.24

4.102. RVUN submitted the revised project cost estimate under the head of "Other Works and Third Party Inspection" as Rs. 161.78 Crore.

4.103. The actual expenditure incurred upto COD of station is Rs. 114.24 Crore and the total cost claimed is Rs. 159.86 Crore including additional capitalization till FY 2017-18.

Commission's Analysis

4.104. The Commission vide its order dated 14.05.2015 in the Petition No. 462/14 on approval of provisional capital cost directed to submit "detailed justification for the works under head of Other Works and Third Party Inspection for not being a part of original cost estimates and the rationale behind considering such cost now".

4.105. The Commission further directed the Petitioner to submit the "detailed justification for carrying out the work for Construction of new township separately from the scope of Balance of plant/EPC contract as against the provision in the DPR along with the following details:

- No. of site employees currently working in the plant.*
- No. of dwelling units constructed.*
- The process followed for award of such works.*
- Participating entities in the tendering and basis of awarding the contract to the selected bidder."*

4.106. In reply to the same, RVUN submitted the justification for not estimating the works under the head of "other works and third party inspection" earlier and considering it now as below:

- a. **Construction of plant and colony, boundary wall and fencing:** For safety and security concerns of the power plant, the necessity of the boundary walls was felt and accordingly included in the capital cost.
- b. **Construction of store shed/field hostel:** For storage, safety and security of material and spares, the necessity of store shed was felt and field hostel was required to house the manpower deployed for the construction activities and accordingly included in the capital cost.
- c. **Fire Tender and dozer:** Being an essential requirement of a power plant cost of these equipments were included in the capital cost.
- d. **Additional Raw Water reservoir for 20 days storage:** To increase the storage capacity, additional raw water reservoir of 15.50 Lac cum was proposed to meet the 30 days water storage of the plant. Considering this, the cost of additional raw water reservoir was included in the capital cost.
- e. **Third Party Inspection agency:** Due to critical nature of main plant equipments, associated auxiliaries including steam turbine and generator procured from M/s DEC China contract for stage inspection, final inspection, QA and surveillance was given to M/s Lloyd's Register.

4.107. RVUN submitted the following details with respect to the construction of township:

- a. Presently sanctioned strength of employees of RVUN are 559 excluding CISF, School, Hospital Staff etc.
- b. The No. of dwelling units constructed are 600.
- c. Open Notice Inviting Tenders through wide publicity was followed for award of contract.
- d. Participating Bidders were:
 - M/s IVRCL Infrastructures and projects Ltd., Hyderabad
 - M/s Ramky Infrastructure Ltd., Hyderabad
 - M/s Maytas Infra Ltd., Hyderabad
 - M/s National Building Construction Corporation Ltd., Hyderabad
 - M/s Manda Developers and Builders Pvt Ltd., Bikaner

4.108. Further, the Commission sought justification from RVUN for the necessity of constructing additional raw water reservoir, though the water required for the plant is available from the Kalisindh Dam at an adequate capacity. In this regard, RVUN submitted that water shortage was faced by the Kalisindh Plant during construction period when preference of distribution of water was given to cultivation despite scanty rains in that period. To mitigate the future problem and for ensuring availability of stored water for plant usage it was considered that enough water storage capacity is to be developed within plant boundary itself and water to be transferred from storage across the rivers to such in-house reservoirs. The GoR vide the meeting held on 04.05.2011, directed for enhancing in plant water storage capacity, at least to cater one month water requirement and if needed to construct additional reservoirs within the plant boundary, Similar arrangement of 30 days in-plant water storage has also been taken for other RVUN Power Stations.

4.109. The Commission observed that the work orders for the aforesaid works have been submitted. Further, considering the reasons submitted by RVUN towards the cost of these works, the Commission found the same to be prudent and approves the same. As against the ordering cost of Rs. 167.23 Crore, RVUN has claimed the cost of Rs. 114.24 Crore as on COD of the station and total cost of Rs. 159.86 Crore including additional capitalization. The Commission sought the details of undischarged liabilities included in the actual capitalization as on COD of the station. In reply to the same, RVUN submitted that there were no undischarged liabilities under head of other works and third party inspection. The cost approved by the Commission as on COD is as follows:

Table 19: Cost of other works and Third Party Inspection approved by the Commission (Rs. Cr.)

Particulars	Claimed by RVUN up to COD of Station	Approved by the Commission up to COD of Station
Other Works and Third Party Inspection	114.24	114.24

4.110. The Commission has dealt with the additional capitalization separately.

Overheads (Including CSR Activities)
RVUN's submissions

4.111. The cost for Overheads (Including CSR Activities) claimed by RVUN is given in the table below:

Table 20: Cost of Overheads (Including CSR Activities) claimed by RVUN (Rs. Crore)

Particulars	DPR Cost	Ordering Cost	Revised cost estimates (04.05.2011)	Revised cost estimates (27.03.2014)	Revised cost estimates (26.12.2018)	Actual cost as up to COD of Station (25.07.2015)
Overheads (including CSR activities)	243.20	218.98	243.20	267.20	218.98	171.15
Total	243.20	218.98	243.20	267.20	218.98	171.15

4.112. RVUN submitted the revised project cost estimate under the head of "Overheads (Including CSR Activities)" as Rs. 218.98 Crore against the original estimated cost of Rs. 243.20 Crore.

4.113. The actual expenditure incurred upto COD of station is Rs. 171.15 Crore and the total cost claimed is Rs. 213.94 Crore including additional capitalization till FY 2017-18.

Commission's Analysis

4.114. The Commission vide its order dated 14.05.2015 in the Petition No. 462/14 on approval of provisional capital cost directed "to submit necessary documents to support its claim for allowing such expenses under the capital cost along with the actual expenses incurred by RVUN. RVUN should also submit the copy of policy framed by it in this regard and clarify whether such policy has been framed under any statutory obligation."

4.115. In compliance to the same, RVUN submitted the copy of policy towards CSR activities and submitted that it has been framed in compliance to the Terms and Reference issued by Ministry of Environment and Forests, Government of India for obtaining environment clearance.

4.116. Further, the Commission vide the additional data gaps sought the

detailed break-up of overhead expenses along with the supporting documents. In compliance to the same, RVUN submitted the same and were found to be prudent. The total cost of overhead as a percentage of Hard Cost as on Cut-Off Date works out to 3.35%, which appears to be reasonable as compared to overhead costs in other projects. Hence, the Commission approves the actual Overhead Costs as claimed by RVUN, which is as follows:

Table 21: Cost of Overheads (Including CSR Activities) approved by the Commission (Rs. Crore)

Particulars	Claimed by RVUN up to COD of Station	Approved by the Commission up to COD of Station
Overheads	171.15	171.15

4.117. The Commission has dealt with the additional capitalization separately.

Hard Cost

4.118. Based on the above, the Hard Cost as on COD claimed by RVUN and approved by the Commission is as shown in the table below:

Table 22: Hard Cost as on COD of station approved by the Commission (Rs. Crore)

Particulars	Claimed	Approved
Land and Site Development	17.40	17.40
Access	4.80	1.88
Temporary Construction and Enabling Work	4.71	4.71
Water Storage System	680.65	482.10
Water Transportation System	83.50	83.50
Railway System	189.17	189.17
EPC Contractor (M/s. BGRECL) including Initial Spares to the extent of 5 MUSD + Rs. 20 Crore	5202.07	5164.78
Other Works and Third Party Inspection	114.24	114.24
Overheads (including CSR activities)	171.15	171.15
Total Hard Cost	6467.69	6228.93

Delay in Commissioning of Project and Interest During Construction (IDC) RVUN's submissions

4.119. RVUN submitted that Units 1 & 2 were planned for commissioning in the

11th Plan target. M/s BGRESL was awarded Letter of Intent for EPC Contract on 09.07.2008 and work order was issued on 13.10.2008. The Zero date for the project was on 09.07.2008 with a scheduled completion period of 39 and 42 months for Unit 1 and Unit 2 respectively, from the Zero date of project. Accordingly, scheduled COD of Unit 1 and Unit 2 was 08.10.2011 and 08.01.2012 respectively. Whereas, COD of Units 1 & 2 was achieved on 07.05.2014 and 25.07.2015 respectively due to delay in execution of the project, which in turn increased the IDC. Subsequently, capacity of units was enhanced to 2 X 600 MW, which increased the cost and IDC. Due to enhancement in cost and delay in COD, IDC has increased from Rs. 600.80 Crore (as per DPR) to Rs. 2748.48 Crore.

Commission's Analysis

4.120. The Commission vide its order dated 14.05.2015 in the Petition No. 462/14 on approval of provisional capital cost directed as under:

"4.39..... The Commission directs the Petitioner to submit the following information along with its Petition for approval of final tariff based on actual audited capital cost till COD of Project.

- *Activity wise Original L2 level Schedule agreed with EPC Contractor.*
- *Activity wise Actual L2 level schedule.*
- *Steps taken by the Petitioner to mitigate the delay with supporting documents.*
- *Complete detailed reasons for package wise delay in completion clearly identifying the impact of delay in completion of the project on account of each reason.*
- *Bifurcation of the impact of each reason whether the same is attributable to the contractor or the Petitioner or due to uncontrollable factor. Whether each reason for delay was within or beyond control of the Petitioner with supporting documents.*
- *The Petitioner should also furnish the copies of the correspondence exchanged between the contractor / agency and the Petitioner in support of the reasons for delay."*

4.121. In compliance to this directive, RVUN in its petition, submitted the Activity wise original and actual L2 Level Schedule. RVUN submitted the steps taken to mitigate the delay with supporting documents.

4.122. RVUN did not submit the package wise reasons for delay bifurcating the same into those attributable to the contractor/the Petitioner and replied that the reasons for delay have already been submitted.

4.123. RVUN submitted the impact of each reason for delay as below:

Table 23: Impact of Each Reason for Delay submitted by RVUN

Particulars	Value	Attributable to
Zero Date	09.07.2008	-
Schedule COD of the Station	08.01.2012 (42 months)	-
Actual COD of the Station	25.07.2015 (85 months)	-
Total Delay	43 months	-
Reason for Delay		
Stoppage of preparatory works by displaced farmers	7 months	Government of Rajasthan
Initial delay in construction on account of MoEF Clearance	8 months	Ministry of Environment and Forest
Delay in Railway Siding Clearance and commencement of work at site and its completion	30 months	Government of India
Delay in construction of Kalisindh Dam	31 months	Government of Rajasthan; (Overlapped with delay in Railway Siding)
Delay due to heavy rain s in the region in the years 2011 and 2013	5 months	Natural Calamity
Delay due to heavy flood in China in 2010	4 months	Natural Calamity
Delay due to non-availability of power evacuation facility	6 months	RVPN

4.124. The Commission further asked RVUN to submit the scheduled time and actual time along with the start dates and end dates for the key milestones as per the contract agreements executed for EPC Contract with M/s BGRESL along with the reasons for delay, if any, against each milestone and justify whether such delay is attributable to RVUN or beyond its control. The Petitioner did not submit the desired information and replied the chronology of events which were already submitted with the petition.

4.125. The Commission has perused RVUN's submissions regarding the time overrun for the project. The scheduled and the actual commissioning dates are as follows:

Table 24: Schedule and Actual Commissioning Dates

Particulars	Units	Value
Scheduled COD		
KaTPP Unit 1	Date	08-10-2011
KaTPP Unit 2	Date	08-01-2012
Actual COD		
KaTPP Unit 1	Date	07-05-2014
KaTPP Unit 2	Date	25-07-2015
Time overrun		
KaTPP Unit 1	Months	31
KaTPP Unit 2	Months	43

4.126. Therefore, the time overrun in case of Unit 1 is 31 months and in case of project is 43 months. The reason cited for time overrun in the aforesaid paragraphs are all beyond its control as stated by RVUN.

4.127. RVUN, in its submissions in Petition No. 462/14 for approval of provisional capital cost, submitted the reasons for delay as under:

"4.32....

- *Inordinate delay in payments, leading to delay in supplies by vendors and site works by contractors.*
- *Non-realization of money had affected the cash flow for the projects*
- *Delay in approval of Railway Siding clearance – The environment clearance/forest clearance for Railway Siding was issued on 19.06.2012 by the MoEF, Regional Office, Lucknow. However, subsequent clearance by the DFO, Jhalawar was issued on 11.09.2012 and after that the work on Railway Siding was started on 16.09.2012.*
- *Long spell of rains in the year 2011 and 2012 in the region having black cotton soil, has badly hampered the progress at site. The local soil characteristics further limited the progress of erection work at site during rainfall. Further, during the rainfall, the condition of roads worsened, which made it difficult to deliver material and heavy machinery.*
- *Delay in construction of Kalisindh Dam by Water Resources Department."*

4.128. The Commission observed that the reasons for delay stated by RVUN in Petition No. 462/14 are in variance from the instant petition.

4.129. As regards the controllable or uncontrollable nature of reasons for delay, Hon'ble APTEL in its Judgment dated 27.04.2011 in Appeal No. 72 of 2010 ruled as under:

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

- i) due to factors entirely attributable to the generating company, e.g., imprudence in selecting the contractors/suppliers and in executing contractual agreements including terms and conditions of the contracts, delay in award of contracts, delay in providing inputs like making land available to the contractors, delay in payments to contractors/suppliers as per the terms of contract, mismanagement of finances, slackness in project management like improper co-ordination between the various contractors, etc.*
- ii) due to factors beyond the control of the generating company e.g. delay caused due to force majeure like natural calamity or any other reasons which clearly establish, beyond any doubt, that there has been no imprudence on the part of the generating company in executing the project.*
- iii) situation not covered by (i) & (ii) above.*

In our opinion in the first case the entire cost due to time over run has to be borne by the generating company. However, the Liquidated Damages (LDs) and insurance proceeds on account of delay, if any, received by the generating company could be retained by the generating company. In the second case the generating company could be given benefit of the additional cost incurred due to time over-run. However, the consumers should get full benefit of the LDs recovered from the contractors/ suppliers of the generating company and the insurance proceeds, if any, to reduce the capital cost. In the third case the additional cost due to time overrun including the LDs and insurance proceeds could be shared between the generating company and the consumer. It would also be prudent to consider the delay with respect to some benchmarks rather than depending on the provisions of the contract between the generating company and its contractors/suppliers. If the time schedule is taken as per the terms of the contract, this may result in imprudent time schedule not in accordance with good industry practices."

4.130. In light of the principles laid down by Hon'ble APTEL as reproduced above, the Commission has analyzed the controllable or uncontrollable nature of the reasons for delay submitted by RVUN as discussed in the following paragraphs.

4.131. RVUN submitted that the Schedule date of commissioning of Units 1 & 2

have not been achieved due to various reasons as stated below:

4.132. Stoppage of Preparatory Works by displaced farmers: RVUN submitted that the work was stopped by displaced farmers at the power block area. The farmers sought compensation for their land and didn't vacate the land. The soil investigation was delayed and consequently complete civil engineering and foundation designs were delayed initially for a period of 7 months. The EPC contractor M/s BGRESL vide letter dated 24.10.2008, 31.10.2008, 08.11.2008, 10.11.2008, 15.12.2008, 16.01.2009, 19.01.2009 to the Chief Engineer (TD), RVUN, Jaipur requested to look into the matter for clearance at site to start the work. Vide the data gaps, the Commission directed RVUN to submit the details of action taken to mitigate the problem along with supporting documents to justify the same. In reply to the same, RVUN did not submit the desired information as to how RVUN tried to get the site vacated. Therefore, the Commission does not deem it prudent to accept the delay in stoppage of preparatory works by displaced farmers as an uncontrollable factor.

4.133. Initial delay in construction on account of MOEF clearance: The Commission observed that the application for the environmental clearance was made on 24.11.2006 by the Petitioner and Ministry of Environment & Forest (MoEF) issued the clearance on 24.02.2009. Vide the data gaps, the Commission asked RVUN to submit detailed justification on its claim, that how MoEF linked the Thermal Power Project with the construction of dam on the proposal of Bhawarsa Major Irrigation Project by WRD, because of which, the issuance on Environmental clearance got delayed. In reply to the same, RVUN submitted that while requesting for Environmental clearance, RVUN itself submitted water allocation to the Kalisindh plant is from the Bhawarsa Major Irrigation Project. In the view of above, RVUN submitted that MoEF linked the environmental clearance of the project with the construction of Dam. However, no supporting documents against the same were submitted by RVUN. Also, merely because multiple agencies were involved does not mean it to be prudent for conditioning the time over-run. Therefore, the Commission deems it as partly uncontrollable.

4.134. Delay in Railway Siding Clearance and commencement of work at site

and its completion: RVUN submitted that the Environmental Clearance / Forest Clearance (EC/FC) for Railway Siding was issued on 19.06.2012 by the MoEF, Regional Office, Lucknow. However, subsequent clearance by the DFO, Jhalawar was issued on 11.09.2012. Vide the data gaps, the Commission asked RVUN to submit the date of making the application for the same, along with its copy. In reply, RVUN submitted that the application for forest clearance of Railway Siding was done on 28.02.2011 and 23.06.2011. RVUN, vide the reply of stakeholder on prior sequence of events carried out for getting railway siding clearance submitted that the delay in procedure for selection of contractor for railway siding caused delay in filing of application. RVUN further submitted that notification on opening of Railway siding, i.e., clearance of goods traffic in Railway Section from Ramganjmandi to Jhalawar City was issued on March, 2014 which caused delay in COD of KaTPP Unit 1 by 2.5 years from schedule date of COD. The Commission observes that RVUN requested the zonal office of WCR in the month of September, 2007 to carry out the railway siding works. Thereafter, the next reference is to a meeting of 24.04.2008 wherein, WCR has refused to carry out the work. After requesting WCR once again, the Board of the RVUN on 19.08.2008 decided to get the work executed through M/s RITES or M/s IRCON. The Board has waited till 05.10.2009 to approve award of work to M/s IRCON, which has then taken its own time to prepare feasibility report, getting forest clearance and preparing DPR. Therefore, the Commission deems this event as partly controllable and partly uncontrollable

4.135. Delay in construction of Kalisindh Dam:

RVUN submitted that Construction of Kalisindh Dam was done by WRD, Rajasthan. The acceptance from CWC was issued on 01.10.2010. However, Final Forest Clearance to start the work was issued on 24.02.2012 by the Regional office of Department of Environment & Forest. Vide the data gaps, the Commission asked RVUN to submit the date of making the application for the same, along with the copy of the application and the steps taken to mitigate the problem of rehabilitation of local people and resettlement of Bhawarasi village with supporting documents. In reply

to the same, RVUN submitted that the application for forest clearance of Kalisindh Dam was done on 28.02.2011. Regarding steps taken to mitigate the problem of rehabilitation, RVUN did not submit the desired information. Therefore, the Commission deems it as partly uncontrollable.

4.136. Delay due to heavy rains in the region: It is pertinent to mention that KaTPP site is situated in the heavy rain zone of Rajasthan state. The average rainfall of district Jhalawar is 870.30 mm. Thus, in such high average annual rainfall data Jhalawar area it was challenging to complete the project on time. However, during 2011 & 2013 annual rainfall was 1047.20 mm and 1654.00 mm respectively which was very much higher than the average annual rainfall of Jhalawar region. It is also to mention that this terrain is of red cotton soil territory and the vehicles cannot run in rains/wet land. Thus, due to heavy rains and obstructions in receipt of material, it caused to stop all the construction work activities at KaTPP for entire rainy season of 2011 and 2013. The Commission has analyzed the daily rainfall data for the years from 2011 & 2013. The Commission deems its prudent to consider delay on this account. However, the Commission observed that RVUN submitted that 400 kV line at KaTPP end was charged for evacuation of power on 14.12.2012, which is in contrast as per the delay claimed because of heavy rainfall in year 2011 and 2013. Also, EPC contract was awarded on 13.10.2008. After more than 1 year, RVUN did not submit what were the civil works which got affected due to rain in the year 2011 and 2013. Therefore, the Commission deems the delay on account of this reason as partly controllable and uncontrollable.

4.137. Heavy Flood in China: RVUN submitted that the main plant supplies for the Project were imported from M/s DEC, China, located at the Sichuan Province-Chengdu City. RVUN submitted that from May, 2010 to September, 2010 China has experienced one of its worst floods and deadly land slide in past one decade. The rainfall recorded during the above period is reported to be in excess of 1000mm with heavy continuous rainfall on short duration periods. During this period, Ships normally engaged for the transportation of heavy equipments from Sichuan, Hubei provinces to Shanghai Port for onward export were

advised not to sail, impacting supplies out of China. During this period, supply of Boiler Pressure Parts, Turbine equipments, pumps, PA and FD fans, Coal Mill Systems, Piping and other auxiliary equipments planned in shipments from K23 to K29, which were ready for dispatches could not get loaded as scheduled on to the ships. The Commission is of the view that the delay due to rains in China is a matter between contractor and sub-contractor. Therefore, the Commission deems the delay on this account as controllable.

4.138. Non availability of 400 kV transmission lines for power Evacuation:

RVUN submitted that COD of station was delayed by 6 months due to power evacuation problem at KaTPP. RVUN also submitted the copies of correspondences with RVPN. RVPN was in a process to establish 400/765 kV GSS at Batawada, which were not being utilized to evacuate power from the sub-station, despite the 400 kV line at KaTPP end was charged for evacuation of power. As the power evacuation system was executed by RVPN was made available on 26.03.2014. The Commission deems it prudent to hold that the delay on this account as uncontrollable.

4.139. The Commission also observed that there was no significant progress in the initial years. The debt funding for the project was obtained from PFC vide sanction letter dated 31.03.2008. However, the actual loan drawl commenced only from fourth quarter of FY 2008-09, although the Letter of Intent for main plant package was issued on 09.07.2008 itself.

4.140. Therefore, the reasons for delay are a mix of controllable and uncontrollable factors. In the event of the overlapping period of reasons for delay, the actual delay could not be attributed separately to controllable and uncontrollable factors. The Hon'ble APTEL in its Judgment dated 27.04.2011 in Appeal No. 72 of 2010 ruled as under with regards to sharing of impact on account of time overrun due to mix of controllable and uncontrollable factors:

"7.12 In view of above, we feel that this case falls under category

(iii) described in para 7.4. Accordingly, following the principles of prudence check laid down by us, the cost of time over run has to be shared equally

between the generating company and the consumers. Admittedly, there is no enhancement in cost of the contract price of the equipment as no price variation escalation was permissible to BHEL beyond the schedule date of completion of the Project according to the terms of the agreement. The impact of time over run beyond the contractual schedule is only on IDC and overhead costs. Accordingly, the same have to be shared between the generating company and the consumers. Excess IDC and overhead costs for time overrun from scheduled date of commissioning to actual date of commissioning has to be worked out on pro-rata basis with respect to total actual time taken in commissioning of the unit. 50% of the excess IDC and overhead costs will have to be disallowed. Deduction on account of 50% of the Liquidity Damages received by the Appellant from its suppliers/contractors has also to be allowed from the capital cost, to give due credit for LDs to the consumers. This issue is answered accordingly."

4.141. As discussed above the reasons for delay in Project are partly controllable and partly uncontrollable, however, the exact impact of delay due to controllable and uncontrollable factors is not directly established. Hence, in accordance with the above APTEL judgment, the Commission has decided to allow 50% increase in IDC on account of delay.

4.142. The Commission vide its order dated 14.05.2015 directed RVUN to submit the detailed computations of estimated IDC of Rs. 850 Crore with phasing of expenditure. RVUN has not submitted the same.

4.143. The Commission is of the view that first of all the Base Case IDC needs to be determined to assess the impact of time over-run on IDC, i.e., to determine the difference in IDC had the Project been completed within the stipulated time as per the originally envisaged schedule and the IDC incurred for the actual time taken. While doing so, it is appropriate to consider the Hard Cost up to COD for the computations of the Base Case IDC. Hence the Commission has recomputed the base case IDC considering the approved hard cost as on COD with respect to the IDC claimed by the Petitioner against the hard cost as per the DPR submitted with the instant petition.

4.144. Accordingly, the IDC approved by the Commission is as given in the Table below:

Table 25: IDC Approved by the Commission (Rs. Crore)

Particulars	Claimed	Approved
Actual/Estimated IDC	2748.48	2621.59
Base Case IDC	-	878.24
Excess IDC	-	1743.36
Excess IDC to be allowed	-	871.68
Total IDC to be allowed	2748.48	1749.91

4.145. The difference between actual IDC claimed by RVUN and that computed by the Commission is because of the variance in the actual Hard Cost as on COD claimed by RVUN and the actual Hard Cost as on COD approved by the Commission.

Liquidated Damages **RVUN's submissions**

4.146. RVUN has not submitted the amount of LD in its Petition.

Commission's Analysis

4.147. The Commission vide its order dated 14.05.2015 in the Petition No. 462/14 on approval of provisional capital cost directed to submit the details as under:

"4.93....The Commission directs the Petitioner to get the LD amount finalised with the approval of the competent authority and submit the same along with the Petition for determination of the final capital cost based on the actual audited accounts as on COD of Project".

4.148. Vide the Data gaps too, the Commission asked RVUN to submit the contractor wise liquidated damages levied or likely to be levied and to submit justification for not complying with the aforesaid directions of the Commission.

4.149. In reply to the same, RVUN did not submit justification for not complying with the directions of the Commission. Further, RVUN submitted that the LD against EPC contract has been finalized by BOD of the Petitioner at 10% of contract price of Unit 2, i.e., Rs. 217.37 Crore (131.86 Crore in INR and 16.20 Crore USD @ Rs. 52.78/- per USD) However, the matter is under adjudication and for other contracts too, RVUN submitted that it is under progress to finalize the LD.

4.150. The Commission observed that even after more than 4 years from the

date of COD, RVUN has not finalized the LD amount. In the absence of the same, the Commission at this stage has considered the liquidated damages as submitted by RVUN. The Commission directs RVUN to submit details of the amount of LD determined and recovered from the Contractors in its true up filings, failing which the Commission will consider the maximum LD amount that can be levied as per the Contracts for this project and finalize the Capital Cost accordingly.

4.151. In accordance with the APTEL Judgment, the Commission has reduced the Liquidated Damages from the Capital Cost in the same proportion in which the increase in IDC has been allowed as discussed above i.e., 50%.

4.152. Based on the above, the capital cost as on COD approved by the Commission is given in the Table below:

Table 26: Capital cost as on COD approved by the Commission (Rs. Crore)

Particulars	Claimed	Approved
Hard Cost up to COD	6467.69	6228.93
IDC	2748.48	1749.91
Capital Cost	9216.17	7978.85
Less: LD	0.00	108.69
Capital Cost after deducting LD	9216.17	7870.16

Additional Capitalization **RVUN's submissions**

4.153. The commercial date of operation for KaTPP Units 1 & 2 is 07.05.2014 and 25.07.2015 respectively. As per RERC Tariff Regulations, 2014 cut-off-date of KaTPP Units 1 & 2 is 31.03.2017.

4.154. RVUN submitted that norms of cut-off date as provided in RERC Tariff Regulations, 2014 is more stringent as compared to CERC Tariff Regulations norms. It is practically not possible to book all the expenditure up to 31st March of the year closing after 365 days from the date of commercial operation of the project. RVUN requested the Commission to extend the cut-off date of KaTPP Units 1 & 2 up to 31.03.2020 in place of 31.03.2017 and allow the incurred additional

expenditure.

4.155. Further, RVUN submitted that capital expenditure of Units 1 & 2 could not be made up to 31.03.2017 due to certain reasons which were beyond the control of RVUN. RVUN requested the Commission to extend the cut-off date for capitalization of Units 1 & 2 up to 31.03.2020 as balance works are likely to be completed by that time. The details & reasons of package wise expenditure incurred and expenditure to be incurred after cut-off date is as follows:

Water Storage System

4.156. The total payment of Rs. 710.62 Cr. has been made as on cut-off-date, i.e., 31.03.2017 against WRD demand.

4.157. Further, WRD vide Letter dated 27.09.2017 revised the cost of dam to Rs. 766.22 Crore. Out of the Rs. 55.60 Crore to be paid against the demand of WRD, payment of Rs. 15.50 Crore has been made in FY 2017-18. The balance payment of Rs. 40.10 Crore is further likely to be made in FY 2018-19.

Other Works and Third Party Inspection

4.158. M/s BGRESL constructed the Raw Water Reservoir of 10.0 lac cum capacity, which can cater the water requirement of plant for 16-18 days. Therefore, looking to delay in the construction of gated dam, additional raw water reservoir of 15.5 lac cum was proposed to be constructed to meet the 30 days water storage requirement as per GoR guidelines. Accordingly, a contract was awarded to M/s Manda Developers Builder Pvt. Ltd. (MDBPL) for the construction of Additional Raw Water Reservoir for which the work has already been completed before the Cut-off- Date. An expenditure of Rs. 63.81 Crore was booked against construction of Additional Raw Water Reservoir up to Cut-off-date and balance amount of Rs. 2.42 Crore has to be paid after Cut-off-date. Whereas, Rs. 0.50 Crore has been paid during FY 2017-18 and balance payment of Rs. 1.92 Crore is to be done in FY 2018-19.

Overheads (including CSR works)

4.159. An amount of Rs. 24.00 Crore was allocated under the capital cost of 2 X 600 MW KaTPP Unit at the rate of Rs. 2.00 Lacs per MW as per CSR Policy. The work amounting to Rs. 23.95 Crore was sanctioned by the Committee chaired by the Collector, Jhalawar for various development works in nearby plant affected villages. An amount of Rs. 13.44 Crore was deposited with various departments up to Cut-off-date on providing utilization certificate. The balance amount of Rs 10.51 Crore was to be paid to various departments after providing utilization certificate. An amount of Rs. 5.52 Crore has been paid during FY 2017-18 and the balance payment of Rs. 4.99 Crore is to be done in FY 2018-19 to complete the CSR activities.

Initial Spares

4.160. RVUN awarded order for supply of spares of BTG & their auxiliaries to M/s BGRESL amounting Rs. 166.00 Crore, i.e., excluding taxes. An expenditure of Rs. 155.67 Crore was incurred up to cut-off-date against Rs. 169.32 Crore, i.e., including taxes and balance supply of spares amounting Rs. 13.65 Crore was pending after cut-off-date. Whereas, payment of Rs. 10.55 Crore is done in FY 2017-18 and balance payment of Rs. 3.10 Crore is to be done in FY 2018-19.

4.161. RVUN further submitted that it has no prior experience of construction of 600 MW units and requirement of spares was assessed later after COD when the unit was taken over and operation of the unit was done by RVUN. The time taken to receive the spares from OEM was more because of off-shore supplies. Spares for an amount of Rs.13.65 Crore were received late and reason for delay were beyond the control of RVUN.

Commission's Analysis

4.162. Regulation 17 of the RERC Tariff Regulations, 2014 specifies as under:

"17. Additional capitalization

(1) The following capital expenditure, actually incurred after the date of commercial operation and up to the cut-off date and duly audited,

may be considered by the Commission against the original scope of work, subject to prudence check:

(a) Due to undischarged liabilities;

(b) On works deferred for execution;

(c) To meet award of arbitration or satisfaction of order or decree of a court;

(d) On account of change in law;

(e) On procurement of initial spares included in the original project costs subject to the ceiling norm laid down in regulation 16.

Provided that the details of the work included in the original scope of work along with estimates of expenditure shall be submitted along with the application for provisional tariff:

Provided further that a list of the undischarged liabilities and works deferred for execution shall be submitted along with the application for final tariff after the date of commercial operation of the generating station.

(2) The capital expenditure incurred on the following counts after the cut-off date may, at its discretion, be admitted by the Commission, subject to prudence check:

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

(ii) Change in Law;

(iii) Deferred works relating to ash pond or ash handling system in the original scope of work;

(iv) Any additional works/services, which have become necessary for efficient and successful operation of a generating station or transmission system but not included in the original capital cost....."

4.163. Regulation 2(17) of the RERC Tariff Regulations, 2014 specifies as under:

"cut-off date" means 31st March of the year closing after 365 days from the date of commercial operation of the project, and in case the project is declared under commercial operation in the last quarter of a year, the cut-off date shall be 31st March of the year closing after 730 days from the date of commercial operation:

Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer;"

4.164. The COD of KaTPP Units 1 & 2 was achieved on 25.07.2015. Therefore, in accordance with Regulation 2(17) of the RERC Tariff Regulations, 2014 the cut-off date for the project is 31.03.2017. RVUN has claimed the additional capitalization of Rs 112.06 Crore from COD of Unit 1 to COD of Unit 2, Rs. 355.24 Crore from COD of station to cut-off date and Rs. 32.07 Crore beyond cut-off date as shown in the table below:

Table 27: Additional capitalization claimed by RVUN (Rs. Crore)

Particulars	Claimed up to cut-off date from COD of Unit 1	Claimed after cut-off date
Land and Site Development	0.16	-
Access	2.18	-
Temporary Construction and Enabling Work	0.15	-
Water Storage System	66.86	15.50
Water Transportation System	0.04	-
Railway System	41.47	-
EPC Contractor (M/s. BGRECL)	88.53	-
Other Works and Third Party Inspection	59.82	0.50
Overheads (including CSR activities)	52.42	5.52
Initial Spares	155.67	10.55
Total	467.30	32.07

4.165. In accordance with Regulation 17(1) reproduced above, the Commission deems it fit to approve the additional capitalization claimed up to cut-off date, the same being of the nature of deferred works within the original scope of work. However, the additional capitalization claimed against Water storage system, EPC contract and Construction of roads is approved considering the principles followed while approving the capital cost as on COD.

4.166. RVUN has claimed the additional capitalization of Rs. 32.07 Crore after cut-off date. Regulation 2(17) of the RERC Tariff Regulations, 2014 specifies that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalization could not be made within the cut-off date for reasons beyond the

control of the generator. In the instant case, the reasons submitted by RVUN for delay in additional capitalization cannot be held as beyond the control of RVUN as it was well aware of the provisions of the RERC Tariff Regulations, 2014 and there was ample time of more than 1.5 years between the COD of the project and the cut-off date. Further, some of the contracts are not yet closed and expenditure may be incurred even 2 years beyond the cut-off date. The documentary evidences for the actual expenditure incurred cannot be treated as prudent documentary evidences for treating the additional capitalization after cut-off date as beyond the control of RVUN. In view of the above, the Commission does not deem it prudent to approve the additional capitalization beyond cut-off date claimed by RVUN.

4.167. The additional capitalization approved by the Commission is given in the Table below:

Table 28: Additional Capitalization Approved by the Commission (Rs. Crore)

Particulars	Claimed		Approved	
	Up to cut-off date	After cut-off date	Up to cut-off date	After cut-off date
Land and Site Development	0.16	-	0.16	0.00
Access	2.18	-	0.70	0.00
Temporary Construction and Enabling Work	0.15	-	0.15	0.00
Water Storage System	66.86	15.50	47.36	0.00
Water Transportation System	0.04	-	0.04	0.00
Railway System	41.47	-	41.47	0.00
EPC Contractor (M/s. BGRECL)	88.53	-	87.90	0.00
Other Works and Third Party Inspection	59.82	0.50	59.82	0.00
Overheads (including CSR activities)	52.42	5.52	52.42	0.00
Initial Spares	155.67	10.55	155.67	0.00
Hard Cost	467.30	32.07	445.68	0.00

4.168. Out of total Additional Capitalization of Rs. 445.68 Crore approved from COD of Unit 1 to Cut-off date, the additional capitalization of Rs. 100.11 Crore pertains to Additional Capitalization from COD of Unit 1 to COD of Unit 2, which has already been considered as part of total Capital Cost as on COD of the station. Hence, the additional capitalization approved from COD of the Station up to cut-off date is Rs. 345.57 Crore.

4.169. The summary of Capital Cost approved by the Commission is as shown in the table below:

Table 29: Capital Cost approved by the Commission (Rs. Crore)

Particulars	Claimed	Approved
Hard Cost up to COD (25.07.2015)	6467.69	6228.93
IDC	2748.48	1749.91
Capital Cost as on COD	9216.17	7978.85
Less: LD	0.00	108.69
Capital Cost after deducting LD as on COD	9216.17	7870.16
Additional Capitalization up to cut-off date (excluding additional capitalization of Unit 1 for FY 2014-15)	355.24	345.57
Total Capital Cost up to cut-off date	9571.41	8215.73
Additional Capitalization after cut-off date	32.07	0.00
Final Capital Cost	9603.48	8215.73

4.170. The asset class wise GFA of additional capitalization approved by the Commission is given in the Table below:

Table 30: Asset class wise GFA of additional capitalization for FY 2014-15 & FY 2015-16 (Rs. Crore)

Particulars	FY 2014-15 (Unit 1)		FY 2015-16 (Unit 1)		FY 2015-16 (Unit 2)	
	Claimed	Approved	Claimed	Approved	Claimed	Approved
Land & land rights	0.01	0.01	0.01	0.01	0.05	0.05
Building & Civil works of Power plant	11.14	9.95	15.89	15.46	14.70	14.30
Hydraulic works	56.72	50.67	21.86	21.26	34.25	33.32
Other Civil works	23.17	20.70	0.67	0.65	12.56	12.21
Plant & machinery	19.02	16.99	28.17	27.40	31.22	30.37
Lines and Cable Networks	0.01	0.01	0.02	0.02	0.02	0.02
Vehicles	0.00	0.00	0.00	0.00	0.00	0.00
Furniture & fixtures	0.29	0.26	0.14	0.14	0.52	0.51
Office Equipments	0.00	0.00	0.06	0.06	0.05	0.05
Capital spares	1.70	1.52	91.25	88.76	60.77	59.11
Total	112.06	100.11	158.07	153.77	154.14	149.94

Table 31: Asset class wise GFA of additional capitalization for FY 2016-17 & FY 2017-18 (Rs. Cr)

Particulars	FY 2016-17 (Units – 1 & 2)		FY 2017-18 (Units – 1 & 2)	
	Claimed	Approved	Claimed	Approved
Land & land rights	0.02	0.02	0.02	0.00
Building & Civil works of Power plant	7.66	7.46	0.80	0.00
Hydraulic works	5.52	5.37	16.74	0.00
Other Civil works	0.42	0.41	0.19	0.00
Plant & machinery	7.23	7.04	3.71	0.00
Lines and Cable Networks	0.02	0.02	0.00	0.00
Vehicles	0.00	0.00	0.00	0.00
Furniture & fixtures	0.00	0.00	0.02	0.00
Office Equipments	0.00	0.00	0.02	0.00
Capital spares	22.15	21.55	10.57	0.00
Total	43.03	41.86	32.07	0.00

Table 32: Asset class wise GFA approved by the Commission (Rs. Crore)

Particulars	As on COD of Station (25.07.2015)		Additional Capitalization up to Cut-off Date (Excluding Additional Capitalization of Unit 1 FY 2014-15)		Additional Capitalization after Cut-off Date		Total Capital Cost	
	Claimed	Approved	Claimed	Approved	Claimed	Approved	Claimed	Approved
Land & land rights	21.64	18.48	0.08	0.08	0.02	0.00	21.75	18.56
Building & Civil works of Power plant	1355.27	1157.34	38.25	37.21	0.80	0.00	1394.32	1194.54
Hydraulic works	1204.35	1028.45	61.63	59.95	16.74	0.00	1282.72	1088.40
Other Civil works	296.67	253.34	13.65	13.27	0.19	0.00	310.50	266.61
Plant & machinery	6306.63	5385.55	66.63	64.81	3.71	0.00	6376.97	5450.37
Lines and Cable Networks	7.45	6.36	0.06	0.06	0.00	0.00	7.51	6.42
Vehicles	0.21	0.18	0.00	0.00	0.00	0.00	0.21	0.18
Furniture & fixtures	1.71	1.46	0.66	0.65	0.02	0.00	2.39	2.10
Office Equipments	0.25	0.21	0.11	0.11	0.02	0.00	0.38	0.32
Capital spares	22.01	18.80	174.17	169.42	10.57	0.00	206.74	188.22
Total	9216.17	7870.16	355.24	345.57	32.07	0.00	9603.48	8215.73

.....

SECTION 5

Determination of ARR and Tariff for KaTPP Units 1 & 2 for FY 2014-15 to FY 2019-20

5.1. The Commission has determined the final tariff for KaTPP Units 1 & 2 from COD of Unit 1, i.e., 07.05.2014 to FY 2019-20 considering the capital cost approved in Section 4 of this order. The tariff determination for FY 2014-15 to FY 2018-19 has been done in accordance with the RERC Tariff Regulations, 2014 and the tariff determination for FY 2019-20 has been done in accordance with RERC Tariff Regulations, 2019.

5.2. The Annual Fixed Charges comprise of the following elements:

- (i) Operation and Maintenance (O&M) Expenses
- (ii) Depreciation
- (iii) Interest on Long-Term Loans and Finance Charges
- (iv) Return on Equity
- (v) Interest on Working Capital
- (vi) Insurance Charges
- (vii) Recovery of ARR & Tariff Petition Fee
- (viii) Terminal Benefit
- (ix) Less: Non-tariff Income

5.3. Each of the annual fixed charges elements has been dealt with in the following paragraphs.

Operation and Maintenance (O&M) Expenses **RVUN's Submission**

5.4. RVUN submitted that the Operation & Maintenance Expenses have been computed on the basis of norms prescribed under Regulation 47 of RERC Tariff Regulations, 2014 and RERC Tariff Regulations, 2019.

5.5. The details of the O&M expenses as claimed in petition for FY 2014-15 to FY 2019-20 are as shown in the Table below:

Table 33: O&M expenses claimed by RVUN (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1&2	Units - 1&2	Units - 1&2	Units - 1&2
O&M Expenses	78.31	91.96	63.07	194.68	206.07	218.13	218.16

Commission's Analysis

5.6. The Commission has verified RVUN's computations of normative O&M expenses and found it to be in order as per provisions of RERC Tariff Regulations, 2014 and RERC Tariff Regulations, 2019.

5.7. The O&M expenses approved by the Commission for FY 2014-15 to FY 2019-20 are as shown in the Table below:

Table 34: O&M expenses approved by the Commission (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	78.31	91.96	63.07	194.68	206.07	218.13	218.16
Approved	78.31	91.96	63.07	194.68	206.07	218.13	218.13

Depreciation

RVUN's Submission

5.8. Depreciation has been computed as per Regulation 22 of the RERC Tariff Regulations, 2014 and RERC Tariff Regulations, 2019. Accordingly, the depreciation claimed for FY 2014-15 to FY 2019-20 is given in the table below:

Table 35: Depreciation claimed by RVUN (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Depreciation	228.26	259.88	138.20	470.25	472.14	472.98	472.98

Commission's Analysis

5.9. The approved capital cost has been considered as the value base for the purpose of depreciation. Depreciation has been computed

considering the asset class wise GFA as approved in Section 4, and considering the rates of depreciation as specified in the Regulations. The depreciation approved by the Commission for FY 2014-15 to FY 2019-20 is given in the table below:

Table 36: Depreciation approved by the Commission (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	228.26	259.88	138.20	470.25	472.14	472.98	472.98
Approved	197.04	224.85	116.57	403.47	404.49	404.49	404.49

Interest on Long-Term Loans and Finance Charges **RVUN's Submission**

5.10. RVUN submitted that loan wise interest expenses & finance charges have been worked out and taken as part of fixed cost. The depreciation for the year has been considered as normative repayment for the year. The interest charges on long term loans as submitted by RVUN for FY 2014-15 to FY 2019-20 has been provided in the table below:

Table 37: Interest on long term loan and Finance Charges claimed by RVUN (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	467.64	469.51	267.66	818.19	722.23	623.67	562.69

Commission's Analysis

5.11. Interest on long-term loan has been computed in accordance with the provisions of the Tariff Regulations. The debt portion, i.e., 80% of the approved capital cost has been considered as the outstanding loan balance. The debt portion, i.e., 80% of the approved additional capitalization has been considered as the loan addition during the year. The allowable depreciation for the year has been considered as the normative repayment. The actual interest rates as submitted by RVUN have been considered. RVUN has not claimed any finance charges. The interest on long-term loans approved by the Commission for FY 2014-15 to FY 2019-20 is given in the table below:

Table 38: Interest on long-term loans and finance charges approved by the Commission (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	467.64	469.51	267.66	818.19	722.23	623.67	562.69
Approved	403.77	406.36	225.85	701.98	618.65	533.09	480.95

Return on Equity (RoE)

RVUN's Submission

5.12. RoE has been claimed at the rate of 5.00% for FY 2015-16 in accordance with the directions of the State Government vide letter dated 18.03.2015 and 21.03.2016 and 15.50% for FY 2016-17 to FY 2018-19 in accordance with the aforesaid letter of the State Government and Regulation 20 of the RERC Tariff Regulations, 2014. RoE has been claimed at the rate of 15.00% for FY 2019-20 as per the norms specified in Regulation 20 of the RERC Tariff Regulations, 2019. The RoE claimed by RVUN for FY 2014-15 to FY 2019-20 is given in the table below:

Table 39: Return on Equity Claimed by RVUN (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	0.00	52.74	28.11	296.04	297.21	297.71	288.10

Commission's Analysis

5.13. RoE has been computed in accordance with the provisions of the Tariff Regulations. The equity portion, i.e., 20% of the approved capital cost has been considered as the outstanding equity balance. The equity portion, i.e., 20% of the approved additional capitalization has been considered as the equity addition during the year.

5.14. For FY 2014-15 RVUN has not claimed any RoE. This is in line with the approach adopted for other generating stations of RVUN. Therefore, the Commission has not approved any RoE for FY 2014-15. The GoR in its letter dated 18.03.2015 has allowed rate of RoE as 5.00% in FY 2015-16, 10.00% in FY 2016-17 and 15.50% in FY 2017-18 onwards. However, in its revised letter dated 21.03.2016, the rate of RoE for FY 2016-17 was

revised to 15.50%. Therefore, the Commission has approved RoE for from FY 2015-16 onwards as per the latest order of GoR and in accordance with Regulation 20 of the RERC Tariff Regulations, 2014. The Commission approved RoE at the rate of 15.00% for FY 2019-20 in accordance with Regulation 20 of the RERC Tariff Regulations, 2019.

5.15. RoE approved by the Commission for FY 2014-15 to FY 2019-20 is given in the table below:

Table 40: Return on Equity approved by the Commission (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	0.00	52.74	28.11	296.04	297.21	297.71	288.10
Approved	0.00	45.64	23.72	254.04	254.69	254.69	246.47

Interest on Working Capital (IoWC) **RVUN's Submission**

5.16. The interest on working capital loan for FY 2014-15 to FY 2019-20 has been computed as per the norms specified in Regulation 27 of the RERC Tariff Regulations, 2014 and RERC Tariff Regulations. The rate of interest has been considered as equal to 250 basis points and 300 basis points higher than the average Base Rate of State Bank of India prevalent during first six months of the previous year for FY 2014-15 to FY 2018-19 and FY 2019-20 respectively. Accordingly, IoWC claimed by RVUN for FY 2014-15 to FY 2019-20 is given in the table below:

Table 41: IoWC claimed by RVUN (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	40.64	47.99	31.29	100.24	97.12	94.63	94.09

Commission's Analysis

5.17. The normative working capital requirements have been computed in accordance with the provisions of the Tariff Regulations. The rate of interest on working capital for each year has been considered the

same as approved by the Commission in the provisional tariff determination for RVUN for the FY 2014-15 to FY 2018-19. In accordance with the Regulation 27(2) of the RERC Tariff Regulations, 2019 the rate of interest on working capital is to be computed on normative basis and shall be 300 basis points higher from SBI Base Rate prevalent during first six months of the year previous to the relevant year. Accordingly, for working out interest on working capital for FY 2019-20, weighted rate of interest has been considered as per admissible rates during the previous year. The same works out to 11.25% p.a. which has been used for calculating interest on working capital for FY 2019-20. The IoWC approved by the Commission for FY 2014-15 to FY 2019-20 is as shown in the Table below:

Table 42: IoWC approved for FY 2019-20 (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	40.64	47.99	31.29	100.24	97.12	94.63	94.09
Approved	38.37	46.31	29.02	96.74	93.89	94.65	92.21

Insurance Charges **RVUN's Submission**

5.18. RVUN in its petition has claimed insurance charges for FY 2014-15 to FY 2017-18 based on the actual insurance charges paid. From FY 2018-19 onwards to FY 2019-20 insurance charges has been claimed with an estimates of actual insurance charges paid in the FY 2017-18 with an increment of 5.00% YoY (Year on Year). The details are as shown in the Table below:

Table 43: Insurance Charges claimed by RVUN (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Insurance Charges	0.06	0.11	0.08	5.83	8.98	9.43	9.90

Commission's Analysis

5.19. The Commission directed RVUN to submit the supporting documents for the actual insurance expenses. In reply, RVUN submitted details of

insurance as per audited accounts along with the supporting documents for actual insurance expenses for FY 2014-15 to FY 2017-18. The Commission has considered the insurance expenses as claimed by RVUN. The Commission has approved the insurance charges in this order as claimed by RVUN. The insurance charges as approved by the Commission for FY 2014-15 to FY 2019-20 is as shown in the Table below:

Table 44: Insurance Charges approved by the Commission (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	0.06	0.11	0.08	5.83	8.98	9.43	9.90
Approved	0.06	0.11	0.08	5.83	8.98	9.43	9.90

Recovery of ARR and Tariff Petition Fee **RVUN's Submission**

5.20. RVUN has filed a petition on dated 06.06.2014 for determination of ARR & Tariff for CTPP Unit 3 for FY 2014-15 along with the petition of RVUN other power stations. The Commission has issued the tariff order dated 09.10.2014 on the above said petition for RVUN power stations except CTPP Unit 3 with a view that it shall be dealt separately. RVUN requested the Commission to adjust the fees that were already paid. The Commission vide its letter dated 16.09.2016 has considered to adjust the petition fee paid by RVUN.

5.21. The Commission vide its order dated 10.03.2008 has allowed to pass through the fees levied for filing of ARR & Tariff Petition, as expenses in the ARR. Accordingly, RVUN has claim the fee as under:

Table 45: ARR and Tariff Petition Fee Claimed by RVUN (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	0.60	0.60	0.60	1.20	1.20	1.20	0.00

Commission's Analysis

5.22. The Commission in its order dated 26.09.2018 in Petition No. 1359/18 on

similar issue ruled as under:

"21. The ARR & Tariff Petition Fees is allowable at the rate as specified in RERC (Fees for Petitions) Regulations, 2005. The ARR & Tariff Petition fees was approved in the final true-up for FY 2014-15 to FY 2016-17 as per the provisions of above stated Regulations. The additional expenses on account of ARR & Tariff Petition fees pertaining to previous years are not allowable in the true-up for FY 2014-15 to FY 2016-17."

5.23. In line with the above ruling of the Commission the ARR and Tariff petition Fees has been approved in this order at the rate of Rs. 5000/MW given in the table below:

Table 46: ARR and Tariff Petition Fee approved by the Commission (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	0.60	0.60	0.60	1.20	1.20	1.20	0.00
Approved	0.30	0.30	0.30	0.60	0.60	0.60	0.00

Terminal Benefit **RVUN's Submission**

5.24. RVUN submitted that terminal benefits have been separately allowed over and above the normative O&M expenses in accordance with Regulation 47(7) of the RERC Tariff Regulations, 2019 as specified below:

"Provided that terminal liabilities based on actuarial valuation, over and above the normative O&M Expenses, subject to prudence check shall be allowed through tariff separately."

5.25. RVUN in its petition has claimed terminal benefits for FY 2019-20 based on actuarial valuation for FY 2017-18. The details are as shown below:

Table 47: Terminal Benefits claimed by RVUN (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	0.00	0.00	0.00	0.00	0.00	0.00	25.21

Commission's Analysis

5.26. RVUN in its replies to data gaps has revised the claim to Rs. 30.10 Crore

for FY 2019-20 based on actuarial valuation for FY 2018-19. Accordingly, the total Annual Fixed charges claimed for FY 2019-20 were revised.

5.27. The Commission has provisionally approved the terminal benefits in this order as claimed by RVUN. Any variation shall be adjusted during the truing up exercise for FY 2019-20. The terminal benefits as approved by the Commission are as follows:

Table 48: Terminal Benefits approved for FY 2019-20 (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Revised Claim	0.00	0.00	0.00	0.00	0.00	0.00	30.10
Approved	0.00	0.00	0.00	0.00	0.00	0.00	30.10

Non-Tariff Income **RVUN's Submission**

5.28. RVUN submitted that the main heads of Non-Tariff income are Sale of Scrap, interest on FD/Staff loans, miscellaneous receipts (rebates), etc. The Non-tariff income as proposed by RVUN for FY 2014-15 to FY 2019-20 is as shown in the Table below:

Table 49: Non-tariff income claimed by RVUN (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	0.50	0.36	0.24	1.10	1.30	1.37	1.43

Commission's Analysis

5.29. The Commission has considered the non-tariff income as claimed by RVUN for the purpose of this order. The Commission shall carry out the prudence check of the actual non-tariff income at the time of truing up for the respective years. The non-tariff income approved by the Commission for FY 2014-15 to FY 2019-20 as given in the Table below:

Table 50: Non-tariff income approved by the Commission (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16		FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Unit - 1 (329 Days)	Unit - 1	Unit - 2 (251 Days)	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2	Units - 1 & 2
Claimed	0.50	0.36	0.24	1.10	1.30	1.37	1.43
Approved	0.50	0.36	0.24	1.10	1.30	1.37	1.43

Annual Fixed Charges

5.30. Based on the above analysis, the Annual Fixed Charges approved by the Commission for FY 2014-15 to FY 2019-20 is as shown in the Table below:

Table 51: AFC approved by the Commission for FY 2014-15 to FY 2016-17 (Rs. Crore)

Particulars	FY 2014-15		FY 2015-16				FY 2016-17	
	Unit - 1 (329 Days)		Unit - 1		Unit - 2 (251 Days)		Units - 1 & 2	
	Claimed	Approved	Claimed	Approved	Claimed	Approved	Claimed	Approved
Operation & Maintenance expenses	78.31	78.31	91.96	91.96	63.07	63.07	194.68	194.68
Interest on loan and finance charges	467.64	403.77	469.51	406.36	267.66	225.85	818.19	701.98
Depreciation	228.26	197.04	259.88	224.85	138.20	116.57	470.25	403.47
Interest on working capital	40.64	38.37	47.99	46.31	31.29	29.02	100.24	96.74
Return on Equity	0.00	0.00	52.74	45.64	28.11	23.72	296.04	254.04
Insurance	0.06	0.06	0.11	0.11	0.08	0.08	5.83	5.83
ARR & Tariff Petition fees	0.60	0.30	0.60	0.30	0.60	0.30	1.20	0.60
Terminal Benefit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Less: Non-Tariff Income	0.50	0.50	0.36	0.36	0.24	0.24	1.10	1.10
Annual Fixed Charges	815.02	717.35	922.43	815.18	528.75	458.36	1885.33	1656.24

Table 52: AFC approved by the Commission for FY 2017-18 to FY 2019-20 (Rs. Crore)

Particulars	FY 2017-18		FY 2018-19		FY 2019-20	
	Units - 1 & 2		Units - 1 & 2		Units - 1 & 2	
	Claimed	Approved	Claimed	Approved	Claimed	Approved
Operation & Maintenance expenses	206.07	206.07	218.13	218.13	218.16	218.13
Interest on loan and finance charges	722.23	618.65	623.67	533.09	562.69	480.95
Depreciation	472.14	404.49	472.98	404.49	472.98	404.49
Interest on working capital	97.12	93.89	94.63	94.65	94.09	92.21
Return on Equity	297.21	254.69	297.71	254.69	288.10	246.47
Insurance	8.98	8.98	9.43	9.43	9.90	9.90

Particulars	FY 2017-18		FY 2018-19		FY 2019-20	
	Units - 1 & 2		Units - 1 & 2		Units - 1 & 2	
	Claimed	Approved	Claimed	Approved	Claimed	Approved
ARR & Tariff Petition fees	1.20	0.60	1.20	0.60	0.00	0.00
Terminal Benefit	0.00	0.00	0.00	0.00	30.10	30.10
Less: Non-Tariff Income	1.30	1.30	1.37	1.37	1.43	1.43
Annual Fixed Charges	1803.65	1586.08	1716.37	1513.71	1674.59	1480.82

Energy Charges

RVUN's Submissions

- 5.31. SHR has been considered as 2322.17 kcal/kWh for FY 2014-15 to FY 2018-19 in accordance with Regulation 45(3)(c) of the RERC Tariff Regulations, 2014 and 2333.28 kCal/kWh for FY 2019-20 in accordance with Regulation 45(3)(b) of the RERC Tariff Regulations, 2019.
- 5.32. The PLF has been considered as 83% for Units 1 & 2 and the auxiliary consumption is considered as 5.25% for FY 2014-15 to FY 2019-20.
- 5.33. The coal for Units 1 & 2 is being supplied from 'Parsa' and 'Parsa East & Kanta Basan' coal blocks. Ministry of coal vide letter dated 19.06.2007 and 25.06.2007 has allocated Parsa East & Kanta Basan coal blocks to RVUN under Govt. Company dispensation route for KaTPP Units 1 & 2. RVUN also submitted the coal mining and delivery agreement dated 16.07.2008 and amendment dated 22.09.2010 with Parsa Kente Collieries Limited. RVUN has formed Joint Ventures with Adani Enterprises Ltd. vide Joint Venture Agreements dated 09.12.2011.
- 5.34. The GCV and price of domestic coal, imported coal, HFO & LDO for FY 2014-15 to FY 2018-19 has been taken on annual basis. For FY 2019-20, coal prices have been taken on the basis of actuals for FY 2018-19 and for GCV It is done in accordance with Regulation 51(2) of the RERC Tariff Regulations, 2019.

Commission's Analysis

- 5.35. The Commission has considered the PLF of 83% for Units 1 & 2 in accordance with the provisions of Tariff Regulations.

- 5.36. The Commission with regards to the Station Heat Rate observed that the Design Heat Rate committed by the EPC contractor is 2220.70 kCal/kWh. whereas, RVUN vide the instant petition submitted Design Heat Rate as 2222.17 kCal/kWh. The Commission vide the additional data gaps directed RVUN to submit the justification for the variance. In reply to the same, RVUN submitted that variance is due to conversion of kJ/kWh to kCal/kWh of Design Heat Rate of turbine. The OEM document towards guaranteed design SHR has been submitted by RVUN . Based on the information submitted the commission has considered the Design Heat Rate of 2222.17 kCal/kWh. Accordingly, the Commission approves the SHR of 2322.17 kCal/kWh for FY 2014-15 to FY 2018-19 and 2333.28 kCal/kWh for FY 2019-20 as per the provisions of Regulations.
- 5.37. The normative auxiliary consumption considered by RVUN is in line with the provisions of the Tariff Regulations. The Commission has considered the normative auxiliary consumption as submitted by RVUN for the purpose of this order.
- 5.38. Since, RVUN has submitted that it has entered into a JV Agreement with Adani Enterprises Ltd. regarding Parsa East Kanta Basan Coal mines through the procedure laid down by Govt. of Rajasthan and rates mentioned in these agreements have also been reported to be approved by Govt. of Rajasthan, onus to adhere to laid down procedures and rates are on RVUN. Therefore, RVUN must ensure compliance of the same strictly. The price of coal for KaTPP Units 1 & 2 must be as determined by Govt. approved mechanism.
- 5.39. Vide the additional data gaps, the Commission sought actual landed coal price for FY 2014-15 to FY 2018-19, in accordance with the provisions of Coal Mining and Delivery Agreement, along with the detailed justification of the component wise actual coal price claimed vis-à-vis the provisions of the CDMA and the copies of coal bills for the month of March and September for each year. In compliance to the same, RVUN submitted the landed coal price for FY 2014-15 to FY 2018-19 and sample copies of bills. The Commission has considered the actual coal prices and GCV for FY 2014-15 to FY 2018-19 as submitted

by RVUN, whereas for FY 2019-20 the Commission has considered the same landed price of fuel as considered for FY 2018-19 for computation of energy charges.

5.40. The GCV and Prices of HFO & LDO are considered as submitted by RVUN for the purpose of this order.

5.41. The Energy Charges approved by the Commission for FY 2014-15 to FY 2019-20 is given in the table below:

Table 53: Energy Charges approved by the Commission for FY 2014-15 to FY 2016-17 (Rs. Crore)

Particulars	Units	FY 2014-15		FY 2015-16				FY 2016-17	
		Unit - 1 (329 Days)		Unit - 1		Unit - 2 (251 Days)		Units - 1 & 2	
		Claimed	Approved	Claimed	Approved	Claimed	Approved	Claimed	Approved
Gross Generation	MU	3932.21	3932.21	4374.43	4374.43	2999.95	2999.95	8724.96	8724.96
Auxiliary Consumption	%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%
Net Generation	MU	3725.77	3725.77	4144.77	4144.77	2842.45	2842.45	8266.90	8266.90
Landed Price of Coal	Rs./kg	3.96	3.96	4.08	4.08	4.08	4.08	4.39	4.39
Gross Station Heat Rate	kcal/kWh	2322.17	2322.17	2322.17	2322.17	2322.17	2322.17	2322.17	2322.17
Price of Secondary fuel oil	Rs./ml	0.06	0.06	0.04	0.04	0.04	0.04	0.04	0.04
Secondary fuel oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Gross Calorific Value of Secondary fuel oil	kcal/ml	9.88	9.88	9.88	9.88	9.88	9.88	9.46	9.46
Heat Contribution from Secondary fuel oil	kcal/kWh	4.94	4.94	4.94	4.94	4.94	4.94	4.73	4.73
Heat Contribution from Coal	kcal/kWh	2317.23	2317.23	2317.23	2317.23	2317.23	2317.23	2317.44	2317.44
Gross Calorific Value of Coal	kcal/kg	4397.47	4397.47	4317.06	4317.06	4317.06	4317.06	4251.62	4251.62
Specific coal consumption	kg/kWh	0.53	0.53	0.54	0.54	0.54	0.54	0.55	0.55

Particulars	Units	FY 2014-15		FY 2015-16				FY 2016-17	
		Unit - 1 (329 Days)		Unit - 1		Unit - 2 (251 Days)		Units - 1 & 2	
		Claimed	Approved	Claimed	Approved	Claimed	Approved	Claimed	Approved
Rate of Energy Charge	Rs./kWh	2.24	2.24	2.34	2.34	2.34	2.34	2.54	2.54
Other Charges	Rs. Crore	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Energy Charges	Rs. Crore	833.05	833.05	968.45	968.45	664.15	664.15	2103.88	2103.88
	Rs./kWh	2.24	2.24	2.34	2.34	2.34	2.34	2.54	2.54

Table 54: Energy Charges approved by the Commission for FY 2017-18 to FY 2019-20 (Rs. Crore)

Particulars	Units	FY 2017-18		FY 2018-19		FY 2019-20	
		Units - 1 & 2		Units - 1 & 2		Units - 1 & 2	
		Claimed	Approved	Claimed	Approved	Claimed	Approved
Gross Generation	MU	8724.96	8724.96	8724.96	8724.96	8748.86	8748.86
Auxiliary Consumption	%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%
Net Generation	MU	8266.90	8266.90	8266.90	8266.90	8289.55	8289.55
Landed Price of Coal	Rs./kg	4.44	4.44	4.81	4.81	4.81	4.81
Gross Station Heat Rate	kcal/kWh	2322.17	2322.17	2322.17	2322.17	2333.28	2333.28
Price of Secondary fuel oil	Rs./ml	0.04	0.04	0.05	0.05	0.05	0.05
Secondary fuel oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50	0.50
Gross Calorific Value of Secondary fuel oil	kcal/ml	9.69	9.69	9.51	9.51	9.51	9.51
Heat Contribution from Secondary fuel oil	kcal/kWh	4.85	4.85	4.75	4.75	4.75	4.75
Heat Contribution from Coal	kcal/kWh	2317.32	2317.32	2317.42	2317.41	2328.53	2328.53
Gross Calorific Value of Coal	kcal/kg	4204.08	4204.08	4322.43	4322.43	4322.43	4322.43
Specific coal consumption	kg/kWh	0.55	0.55	0.54	0.54	0.54	0.54
Rate of Energy Charge	Rs./kWh	2.60	2.60	2.75	2.75	2.76	2.76
Other Charges	Rs. Crore	0.00	0.00	0.00	0.00	0.00	0.00
Total Energy Charges	Rs. Crore	2153.29	2153.29	2270.25	2270.24	2287.28	2287.27
	Rs./kWh	2.60	2.60	2.75	2.75	2.76	2.76

5.42. The Commission accordingly approves the final tariff for FY 2014-15 to FY 2019-20 for KaTPP Units 1 & 2 as shown in the Table below:

Table 55: Final Tariff approved by the Commission for FY 2014-15 to FY 2016-17 (Rs. Crore)

Particulars	FY 2014-15		FY 2015-16				FY 2016-17	
	Unit - 1 (329 Days)		Unit - 1		Unit - 2 (251 Days)		Units - 1 & 2	
	Claimed	Approved	Claimed	Approved	Claimed	Approved	Claimed	Approved
AFC (Rs. Crore)	815.02	717.35	922.43	815.18	528.75	458.36	1885.33	1656.24
AFC per Unit (Rs./kWh)	2.19	1.93	2.23	1.97	1.86	1.61	2.28	2.00
Energy Charges (Rs. Crore)	833.05	833.05	968.45	968.45	664.15	664.15	2103.88	2103.88
Energy Charge Rate (Rs./kWh)	2.24	2.24	2.34	2.34	2.34	2.34	2.54	2.54
Total Tariff (Rs./kWh)	4.42	4.16	4.56	4.30	4.20	3.95	4.83	4.55

Table 56: Final Tariff approved by the Commission for FY 2017-18 to FY 2019-20 (Rs. Crore)

Particulars	FY 2017-18		FY 2018-19		FY 2019-20	
	Units - 1 & 2		Units - 1 & 2		Units - 1 & 2	
	Claimed	Approved	Claimed	Approved	Claimed	Approved
AFC (Rs. Crore)	1803.65	1586.08	1716.37	1513.71	1674.59	1480.82
AFC per Unit (Rs./kWh)	2.18	1.92	2.08	1.83	2.02	1.79
Energy Charges (Rs. Crore)	2153.29	2153.29	2270.25	2270.24	2287.28	2287.27
Energy Charge Rate (Rs./kWh)	2.60	2.60	2.75	2.75	2.76	2.76
Total Tariff (Rs./kWh)	4.79	4.52	4.82	4.58	4.78	4.55

5.43. The Commission is not approving any recovery in the difference between the provisional/interim tariff billed and the final tariff determined in this order for FY 2014-15 to FY 2018-19 as these years have already been completed. The Commission directs RVUN to submit the true up Petition for FY 2014-15 to FY 2018-19 for KaTPP Units 1 & 2 within 3 months from the issue of this order and the Commission shall determine the net entitlement after the true up exercise.

- 5.44. The final tariff approved by the Commission for FY 2019-20 shall be effective from 01.04.2019 and shall remain in force till the next order of the Commission.
- 5.45. Copy of this order may be sent to the Petitioner, Respondents, Objectors, CEA and Government of Rajasthan.

(Prithvi Raj)
Member

(S.C. Dinkar)
Member

(Shreemat Pandey)
Chairman

Annexure-1**Index**

Section/ Annexure	Particulars	Page No.
Section 1	General	1-2
Section 2	Summary of Tariff determination process	3-4
Section 3	Summary of objections/comments/suggestions received from Stakeholders and RVUN's response thereon	5-26
Section 4	Determination of final capital cost for KaTPP Units 1 & 2	27-77
Section 5	Determination of ARR and Tariff for KaTPP Units 1 & 2 for FY 2014-15 to FY 2019-20	78-93
Annexure 1	Index	94