



## ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION

4<sup>th</sup>Floor, Singareni Bhavan, Red Hills, Hyderabad 500004

THURSDAY, THE 31<sup>st</sup> DAY OF DECEMBER

TWO THOUSAND AND TWENTY

Present

**Justice C.V. Nagarjuna Reddy, Chairman**

**Sri P. Rajagopal Reddy, Member**

**Sri Thakur Rama Singh, Member**

**1. O.P.No. 33 of 2019 in the matter of granting consent to the amended and restated PPA of RTPP-IV**

1. Southern Power Distribution Company of AP Ltd. (APSPDCL)
2. Eastern Power Distribution Company of AP Ltd. (APEPDCL) ... Petitioners

**AND**

Andhra Pradesh Power Generation Corporation Ltd. (APGENCO) ... Respondent

**2. O.P.No. 35 of 2018 (Part) in the matter of determination of Tariff of RTPP-IV for the FY 2018-19 to FY 2023-24**

Andhra Pradesh Power Generation Corporation Ltd. (APGENCO) ... Petitioner

**AND**

1. Southern Power Distribution Company of AP Ltd. (APSPDCL)
2. Eastern Power Distribution Company of AP Ltd. (APEPDCL) ... Respondents

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The Original Petition No. 33 of 2019 had been heard on 20-04-2019, 10-05-2019, 25-05-2019, 22-06-2019, 06-07-2019, 20-07-2019, 03-08-2019, 24-08-2019, 21-09-2019, 28-09-2019, 16-11-2019, 07-12-2019, 31-12-2019, 18-02-2020, 05-06-2020, 08-07-2020, 12-08-2020 and the final web hearing was done on 22-09-2020 in the presence of Sri P. Shiva Rao, learned Standing Counsel for the DISCOMs and Sri K. Gopal Choudary, learned counsel representing APGENCO, whereas the Original Petition No. 35 (Part) of 2018 had been heard on 31-12-2019, 18-02-2020, 05-06-2020, 08-07-2020, 12-08-2020 and the final web hearing was done on 22-09-2020 in the

presence of Sri P. Shiva Rao, learned Standing Counsel for APDISCOMs (APSPDCL and APEPDCL) and Sri K. Gopal Choudary, learned counsel representing APGENCO. After carefully considering the material available on record and after hearing the arguments of the learned counsel for both the parties and the learned objectors, the Commission passed the following:

### **COMMON ORDER**

#### **Background**

1. The four DISCOMS (APCPDCL, APEPDCL, APNPDCL and APSPDCL) of undivided Andhra Pradesh State entered into a PPA (Power Purchase Agreement) with the erstwhile APGENCO on 22-11-2010 for purchase of Power from Stage-IV (1x600 MW coal-based thermal power unit) of RTPP (Rayalaseema Thermal Power Plant) located at Muddanuru in YSR Kadapa district of AP (hereinafter referred to as RTPP-IV). The draft PPA was submitted to APERC of the undivided Andhra Pradesh State on 05-01-2011 for consent.
2. Subsequent to the submission of the draft PPA, Telangana State was carved out of the undivided Andhra Pradesh State w.e.f. 02-06-2014 as per the Andhra Pradesh Reorganisation Act, 2014(Central Act, 6 of 2014). The Commission returned the draft PPA of RTPP-IV to the DISCOMs vide letter dated 23-08-2014 for want of essential information.
3. APGENCO discontinued power supplies to the DISCOMs of Telangana State w.e.f. 11-06-2017 on the directions of the GoAP vide letter dated 05-06-2017 due to non-payment of power supply dues by TSDISCOMs (Distribution Companies of Telangana State). Since then, APGENCO has been supplying 100% of power from its plants to APDISCOMs (APSPDCL and APEPDCL) of the residual State of Andhra Pradesh.
4. The Commercial Operation of RTPP-IV was declared at 00-00 Hrs on 29-03-2018 after a delay of nearly 41 months from the SCOD (Scheduled Commercial Operation Date). In the MYT (Multi-Year Tariff) filings (O.P.No.35 of 2018) for the fourth control period i.e., FY 2019-20 to FY 2023-24, APGENCO claimed tariff for its various power plants including RTPP-IV. However, the Commission did not determine any tariff for RTPP-IV in the order dated 29-04-2019 in the above O.P. in view of the absence of approved PPA. At para 42 of the above MYT Order, the Commission observed as follows;

*“The Commission has not determined the tariff for Dr. NTPS V (800 MW), RTPP IV (600 MW) and Polavaram HES (960 MW) at present as the PPAs for these projects are not yet approved by the Commission. After consent to the PPAs following the prescribed procedure by the Commission and on filing of application by APGENCO, the Commission will determine tariff for these projects following the due procedure.”*

However, pending approval of the PPA and determination of MYT (Multi-Year Tariff) for this project, the Commission has allowed interim tariff at Rs. 4.24/- to this project in its Retail Supply Tariff Orders since the FY 2018-19 as it has been supplying power to APDISCOMs since the date of commissioning.

5. Subsequently, APGENCO submitted the amended and restated PPA of RTPP-IV to APDISCOMs (100% power to APDISCOMs only) on 18-01-2018. APDISCOMs signed the restated and amended PPA on 28-01-2019 and filed a Petition before the Commission on 15-03-2019 for granting consent to the PPA under Section 86(1)(b) of the Electricity Act, 2003 read with Section 21(4) of the Andhra Pradesh Electricity Reform Act, 1998. The Commission took the Petition on record on 22-03-2019 and numbered it as O.P. No. 33 of 2019.
6. The Commission issued a Public Notice on 23-03-2019 on the above O.P. stating that the Public Hearing of the Petition would be taken up at 11.00 AM on 20-04-2019 in the Court Hall of APERC at Hyderabad and that any interested person/organization desirous of being heard in person may appear before the Commission on the said date of Public Hearing. Further, the Commission invited interested persons/ stakeholders to submit their views/objections/suggestions in the matter to the Secretary/APERC on or before 05.00 PM of 15-04-2019 with copies to APEPDCL and APSPDCL.
7. The Public Hearings on O.P.No.33 of 2019 commenced from 20-04-2019. During the Public Hearing of the Petition on 16-11-2019, one of the objectors strongly pleaded that the issue of tariff is substantial even for opposing grant of permission to enter into Power Purchase Agreement between the Distribution Companies and the APGENCO. Therefore, the Commission felt it appropriate to hear both the Original Petitions together i.e., O.P.No. 33 of 2019 (consent to the amended and restated PPA of RTPP-IV) and O.P.No. 35 of 2018(Part) (restricted to the determination of MYT for RTPP-IV). Accordingly, both these Petitions had been heard together since 18-02-2020.

**O.P.NO.33 of 2019 (Consent to the amended and restated PPA of RTPP-IV)**

8. The PPA submitted by APDISCOMs in O.P.No. 33 of 2019 is broadly in conformity with Regulation 1 of 2008 (Terms and conditions for determination of tariff for supply of electricity by a generating company to a distribution licensee and purchase of electricity by distribution licensees). In response to the Public Notice issued by the Commission in the above O.P., several objections/suggestions/views were received from the stakeholders which are elaborated in the following paragraphs.

**9. Objections/suggestions/views and APGENCO's and APDISCOMs' replies(list of objectors is shown vide Annexure-I)**

**A. Delay in signing of the amended and restated PPA**

That the amended and restated PPA is signed between the two APDISCOMs and APGENCO for 100% power instead of 46.11% which the APDISCOMs should get as their share. Though, the GoAP directed the two APDISCOMs to take 100% power from RTPP-IV as long back as 05-06-2017, the DISCOMs and APGENCO took nearly twenty months to sign the amended and restated PPA. The reasons for such avoidable delay are not explained. Meanwhile, APDISCOMs submitted PPAs with some of the private power projects like Vishnu Vidyuth and 41 wind power projects, Simhapuri and proposals to purchase power on short-term basis from projects like Lanco and Spectrum and got the consent of the Hon'ble Commission for the purchases.

**Reply of APDISCOMs:** As per the AP reorganization Act, 2014 (The Twelfth Schedule) (C) (2)), the existing Power Purchase Agreements (PPAs) with the respective DISCOMS shall continue for both the on-going projects and projects under construction. RTPP-IV was under construction as on 02-06-2014. As per the GOAP letter dated 05-06-2017, APGENCO has issued orders to regulate the power supply to TSDISCOMs and APGENCO is supplying 100% of its power to APDISCOMs instead of 46.11% as mentioned in G.O.Ms. No.20 dated 08-05-2014. Accordingly, this Agreement is realigned with the two APDISCOMs. Further, for the projects under construction, both the AP and the Telangana DISCOMs are entering into the PPAs on geographical location basis.

The delay in the execution of the amended PPA occurred due to the delay in arriving at the consensus between the parties to incorporate certain clauses in the amended PPA such as Project Completion Schedule, auxiliary consumption excluding colony consumption, dispatch instructions, operating norms, metering

clauses, etc.

**Reply of APGENCO:** As per the GOAP letter dated 05-06-2017, the power supply to TSDISCOMs was regulated and the same will be restored on payment of power dues. PPAs were not terminated on 05-06-2017. Hence, there is no relation between the Regulation of power supply to TSDISCOMs and entering into PPA with the APDISCOMs for RTPP-IV. Both AP and Telangana DISCOMs are entering into the PPAs for the projects under construction on a geographical location basis. Accordingly, APGENCO entered into the PPA with the APDISCOMs for RTPP-IV. In view of the bifurcation of the state and associated policy decisions, there is a certain delay in entering into the PPA.

**B. Justification for signing the PPA**

That the two APDISCOMs have not made any submissions for justifying the requirement of power from RTPP-IV. The source of allocation and supply of coal to this project, the variable cost as of now and the tariff to be applicable based on the claimed capital cost and variable costs also are not given. The reasons or justification for increasing the capital cost of the project from Rs.3525 Crores as per the original PPA dated 22-11-2010 to the revised capital cost of Rs.4853.38 Crores, i.e., an increase of Rs.1328.38 Crores, do not figure in the submissions of the DISCOMs, to whom contracts were given for execution of the subject unit and the terms and conditions therein, claims for insurance, etc., need to be submitted and examined. The petitioners may be directed to submit the said information and provide copies of the same.

**Reply of APDISCOMs:** The availability of power from the RTPP-IV project was considered under long term studies to meet the baseload requirements of the State. The same was considered by the Commission in the Retail Supply Tariff for the FY 2019-20 since the project was commissioned on 29-03-2018.

**Reply of APGENCO:** The capital cost and tariff will be determined by the Hon'ble APERC after prudent check of the tariff petition to be filed by APGENCO as stated by the Hon'ble APERC on the consent of the RTPP-IV PPA in the MYT for the FY 2019-20 to FY 2023-24 for APGENCO stations.

**C. Delay in the commissioning of the Project**

That there was a delay of about 42 months in declaring the COD of the project. The reasons for such an abnormal delay were not explained. Based on the

revised Capital Cost, the per MW cost works out to about Rs.8 Crores! Due to the delay in the execution of the project by 42 months, Capital Cost increases due to the increase in costs of items like Interest During Construction (IDC), Financing Charges (FC), overheads and price escalations beyond SCOD. As such, those additional expenditures should be disallowed. The very purpose of agreeing to and incorporating scheduled COD in a PPA is to ensure that the project is commissioned accordingly, generates and supplies energy to the DISCOMs. If CODs are delayed, the procurers of supply are deprived of power with attendant problems like imposing power cuts or purchasing additional power from other sources in the market at higher tariffs. The Commission is requested not to permit the escalation of Capital Cost due to the above factors.

**Reply of APDISCOMs:** APERC is conducting the Public hearing for the consent of the PPA only and not on the Tariff petition. As such, the remarks of APDISCOMs are now confined to the PPA only. However, APGENCO is yet to file the Tariff application before APERC. Therefore, APDISCOMs will submit comprehensive remarks on the Capital Cost after filing of the same by APGENCO.

**Reply of APGENCO:** The present Petition is for the approval of the PPA. The capital cost and tariff will be determined by the Hon'ble APERC after prudent check of the tariff petition to be filed by APGENCO as stated by the Hon'ble APERC on the consent of the RTTPP-IV PPA in the MYT for the FY 2019-20 to FY 2023-24 for APGENCO stations.

**D. Incorporation of relevant provisions in the PPA and prudent checks by the Commission**

That the DISCOMs should have signed the amended and restated PPA well in advance before the declaration of commercial operation date (COD) by incorporating the original schedule of COD, conditions for the payment of liquidated damages for the delay in declaring the COD. The procedures adopted for competitive bidding, selection of EPC contractors, the way in which the projects are implemented, how the capital cost is getting increased, sources of allocation of fuels, their costs, mode of transportation, etc., need to be examined and prudent expenditures need to be determined, pointing out unwarranted expenditure and manipulations, if any, in detail in the orders to be issued by the

Commission.

**Reply of APDISCOMs:** This PPA was entered into on 22-11-2010 in the undivided State of Andhra Pradesh and filed before the Hon'ble APERC on 05-01-2011. The PPA was returned to APPCC for want of essential information. Subsequently, in view of the bifurcation of State and associated policy decisions, there was a certain delay in entering into the amended PPA. There is no provision for Liquidated Damages in any of the PPAs of Central and State PSUs.

**Reply of APGENCO:** There is no provision for liquidated damages in the PPAs entered into with the Central and State Public Sector Undertakings. The EPC contracts were awarded duly calling tenders on a competitive basis only.

E. **Withdrawal of DISCOMs from the PPA signed on 22-11-2010**

That having signed the original PPA, are the DISCOMs (of AP and Telangana), being parties to the PPA, entitled not to take power from the project on the ground that they do not require the same without the relevant terms and conditions in the PPA for such action not binding on the DISCOMs concerned? Can parties to the PPA withdraw themselves from the obligations thereunder unilaterally on the ground that consent to the same was not obtained from the appropriate Commission and that the PPA did not come into force? Having signed a PPA with a developer of a power project, and when the implementation of the project was progressing or even completed, are the DISCOMs entitled to withdraw from the agreement unilaterally, because the consent of the appropriate Commission to the PPA was not sought or given till then?

**Reply of APDISCOMs:** Both AP and Telangana DISCOMs are entering into exclusive PPAs with the projects located in their respective States for availing 100% of power from them including those under construction. Accordingly, APDISCOMs have entered into the PPA with APGENCO for RTPP-IV as the project is located in AP State.

**Reply of APGENCO:** Both AP and Telangana are entering into the PPAs for the projects under construction in their respective States. Accordingly, APGENCO has entered into the PPA with APDISCOMS for RTPP-IV.

F. **Refusal of TSDISCOMs to take power from RTPP-IV**

That if TSDISCOMs refused to take their share of power from RTPP- IV as per the original PPA, is it binding on APDISCOMs to take their share of power also?

Simply because TSDISCOMs refused to take power from RTPP-IV, does it automatically increase the demand of APDISCOMs to take the share of TSDISCOMs power also and justify such a decision? Are the other units of RTPP being asked to backdown their generation under merit order dispatch in view of the availability of substantial surplus power to APDISCOMs? If so, will RTPP-IV also be asked to back down? The Commission is requested to direct the DISCOMs to submit the details of backing down and fixed costs paid for the backed down generation during the FY 2017-18, FY 2018-19 and FY 2019-20 to the objector and the Commission.

**Reply of APDISCOMs:** In the undivided AP, all the four DISCOMs (AP & TS DISCOMs) have executed the PPAs for KTPP-II, KTPS-VII, Singareni Collieries Company Ltd. (SCCL) at Jaipur in Mancherial District & RTPP-IV. However, after the bifurcation of the State, TSDISCOMs have entered into the PPAs for the projects under construction in the Telangana region i.e., KTPP-II, KTPS-VII, Singareni Collieries Company Ltd. (SCCL) at Jaipur in Mancherial District. Similarly, APDISCOMs have entered into the PPA for RTPP-IV on a geographical location basis. Hence, there will be a balance between capacities.

Regarding the directives issued by the Hon'ble Commission in Retail Supply Tariff Order for the FY 2018-19, APDISCOMs will submit the consolidated compliance report shortly to the Hon'ble Commission.

**Reply of APGENCO:** As APDISCOMs entered into the PPAs for the projects under construction in the Telangana region also i.e., KTPP-II, KTPS-VII, similarly TSDISCOMs have entered into the PPA for RTPP-IV. Now, the revised PPAs are being entered into on a geographical location basis. Hence, there will be a balance between capacities. Regarding the information sought, the same will be provided.

**G. Backing down of thermal stations**

That clause 2.3.4 of the PPA says: *“For RTPP Stage-IV, gross generation of unit can be backed down up to the minimum technical limit of the unit and the technical minimum limit for the plant shall be 55%. The Unit shall be compensated depending on the average unit loading as per the regulation 6.3 B of CERC regulations (IEGC), 2010.”* NCE generation is resulting in the availability of abnormal surplus power, with the resultant consequences of

backing down the surplus power which cannot be sold but for which fixed charges need to be paid. Technical limitations for backing down thermal stations and must-run status bestowed on NCE units create problems of grid maintenance.

**Reply of APDISCOMs**: The clause was amended as per the suggestion of the SLDC wing in view of the quantum of renewable power in the state.

**Reply of APGENCO**: The fixed charges will be paid based on the availability as provided in APERC Regulation 1 of 2008. The generator has a commitment to its lenders, employees, etc., on a fixed basis and the same cannot be avoided due to non-dispatch of power by the licensees.

H. **Fixed charges for deemed generation**

That no fixed charges should be paid for the deemed generation due to the backing down, in case APDISCOMs do not require power. RTPP-IV should be free to generate and supply power to any others in such an eventuality and fixed costs earned thereon shall be adjusted towards depreciation charges and other applicable items as per the applicable Regulations. The PPA should be amended by incorporating appropriate provisions to this effect. Clause 3.11 of the PPA which says, “*Deemed Generation: Stoppage of generation due to problems in power evacuation for generating stations treated as the deemed generation for the purpose of computation of availability for payment of fixed charges*” should be deleted.

**Reply of APDISCOMs**: The fixed charges will be paid based on the availability as provided in APERC Regulation 1 of 2008.

**Reply of APGENCO**: The fixed charges will be paid based on the availability as provided in APERC Regulation 1 of 2008. The generator has a commitment to its lenders, employees, etc., on a fixed basis and the same cannot be avoided due to non-dispatch of power by the licensees.

I. **Fixed charges during force majeure**

That Article 7 of the amended and restated PPA states “*the generator is entitled to claim only fixed charges and cannot claim any consequent losses during Force Majeure.*” When no party to the PPA is responsible for conditions of force majeure, there is no justification for claiming fixed charges by the generator from the DISCOMs during the period of force majeure. Therefore, the above stipulation to claim fixed charges during the period of force majeure should be deleted from

the PPA.

**Reply of APDISCOMs:** Both parties after deliberations have decided to add the following text in addition to the existing clause stating that *“in case any payments are received from the contractor or coal supplier by way of compensation to APGENCO, and compensation received from Insurance towards Fixed cost component if any, in the event of any Force majeure, then APGENCO shall be liable to pass on such benefit to APDISCOMs.”*

**Reply of APGENCO:** The fixed charges will be paid based on the availability as provided in APERC Regulation 1 of 2008. The generator has a commitment to its lenders, employees, etc., on a fixed basis and the same cannot be avoided due to non-dispatch of power by the licensees.

J. **Disallowance of costs due to the delay in the declaration of COD**

That based on the applicable Regulations, delay in declaration of COD of the project should be determined. After financial closure, increase in Interest During Construction (IDC), Financing Charges (FC) and increase in other costs like overheads and price escalation after scheduled COD are invariably linked with delay in implementation of the project. As such, they should be disallowed.

**Reply of APDISCOMs:** APERC is conducting Public hearing for the consent of PPA only not for the Tariff petition. As such, the remarks of APDISCOMs are now confined to the PPA only. However, APDISCOMs will submit the remarks on claims of IDC & FC by APGENCO once the Tariff application is filed by them.

**Reply of APGENCO:** The present Petition is for the approval of the PPA. The capital cost and tariff will be determined by the Hon'ble APERC after prudent check of the tariff petition to be filed by APGENCO as stated by the Hon'ble APERC on the consent of the RTTPP-IV PPA in the MYT for the FY 2019-20 to FY 2023-24 for APGENCO stations.

K. **Failure of APGENCO and contractors in the declaration of COD**

That the works that were intrinsically inevitable for declaration of COD of the project, if not completed within the scheduled timelines, would lead to delay and escalation of cost. Therefore, for the failure of APGENCO and their contractors in declaring the COD by applicable scheduled dates, whatever additional expenditure, whether in the form of IDC, FC or price escalation, increase in overheads, increase in the cost of BTG contract, increase in the remaining cost

or in any other form that arises as a result of such failure, if claimed to have been incurred by for such works after scheduled CODs, should be disallowed.

**Reply of APDISCOMs:** APERC is conducting Public hearing for the consent of PPA only not for the Tariff petition. As such, the remarks of APDISCOMs are now confined to the PPA only.

**Reply of APGENCO:** The present Petition is for the approval of the PPA. The capital cost and tariff will be determined by the Hon'ble APERC after prudent check of the tariff petition to be filed by APGENCO as stated by the Hon'ble APERC on the consent of the RTTPP-IV PPA in the MYT for the FY 2019-20 to FY 2023-24 for APGENCO stations.

L. **Deduction of liquidated damages from the capital cost**

That the terms and conditions for payment of liquidated damages by APGENCO to APDISCOMs for the delay in declaring the COD in time, need to be taken into account. After determining the period of delay in declaring the COD as per standard practices and Regulations, the Hon'ble Commission has to determine the amount of liquidated damages and reduce the same from the capital cost of the project.

**Reply of APDISCOMs:** There is no provision for Liquidated Damages in any of the PPAs of central and state PSUs. However, APDISCOMs would follow the direction, if any, issued by Hon'ble APERC in this regard.

**Reply of APGENCO:** There is no provision for liquidated damages in the PPAs entered into with the Central and State Public Sector Undertakings. The EPC contracts were awarded duly calling tenders on a competitive basis only.

M. **Insurance claims, penalties from the contractors**

That for the purchase of equipment and execution of the subject project, orders were given to the companies concerned, and agreements were entered into with specific terms and conditions. The reasons for the delays, who is responsible for such delays, provisions for making insurance claims and seeking liquidated damages or penalties from the companies or contractors concerned who were responsible for such delays as per terms and conditions of contracts concerned, need to be examined and determined.

**Reply of APGENCO:** APGENCO will follow all the prescribed procedures in dealing with EPC contractors and terms and conditions will be implemented as

provided in the agreements.

**N. Further capital expenditure after COD**

That Article 10.8 of Regulation No 1 of 2008 says, inter alia, that "the Capital Cost as determined above, shall also include further capital expenditure incurred, if any, up to the first financial year closing one year after the date of commercial operation of the last unit of the project, its stage or the unit, as the case may be, is admitted by the Commission." Further capital expenditure after one financial year from the applicable COD should not be admitted by the Commission.

**Reply of APDISCOMs**: The present Petition is for the approval of PPA. The capital cost and tariff will be determined by the Hon'ble APERC by prudent check after the tariff petition is filed by APGENCO.

**Reply of APGENCO**: The present Petition is for the approval of the PPA. The capital cost and tariff will be determined by the Hon'ble APERC after prudent check of the tariff petition to be filed by APGENCO as stated by the Hon'ble APERC on the consent of the RTTPP-IV PPA in the MYT for the FY 2019-20 to FY 2023-24 for APGENCO stations.

**O. Disallowance of increase in capital cost in accordance with CERC Tariff Regulation**

That CERC, in its tariff Regulations of 2014, has made it clear that "in case the time over-run beyond SCOD is not admissible after due prudence, the increase of capital cost on account of cost variation corresponding to the period of overrun may be excluded from capitalization irrespective of price variation provisions in the contracts with supplier or contractor of the generating company or the transmission licensee." These guiding principles should be followed as a part and parcel of prudence check.

**Reply of APDISCOMs**: The present Petition is for the approval of PPA. The capital cost and tariff will be determined by the Hon'ble APERC by prudent check after the tariff petition is filed by APGENCO.

**Reply of APGENCO**: The present Petition is for the approval of the PPA. The capital cost and tariff will be determined by the Hon'ble APERC after prudent check of the tariff petition to be filed by APGENCO as stated by the Hon'ble APERC on the consent of the RTTPP-IV PPA in the MYT for the FY 2019-20 to FY 2023-24 for APGENCO stations.

**P. Non-availability of fuel**

That Clause 3.11 of the PPA states that “*in case non-availability of fuel, APDISCOMS & APGENCO will decide and finalize in consultation with Coal companies at that time.*” It is a vague and sweeping proposition, without being specific on cost and alternate source of fuel. If the DISCOMs and APGENCO agree to purchase coal from alternate sources at a higher cost, allowing the additional cost as pass-through will overburden the consumers. Therefore, a reasonable upper ceiling on the cost of coal to be purchased from alternate sources, if required, needs to be incorporated in the PPA.

**Reply of APDISCOMs:** Concerning fuel charge, APGENCO stated that in respect of RTPP-IV also, they will follow the orders of APERC which specifies that a variation of 15% can be allowed for the increase in variable cost for the existing stations of APGENCO.

**Reply of APGENCO:** Hon'ble APERC has ordered that a variation of 15% can be allowed for the increase in variable cost for the existing stations of APGENCO. Similarly, APGENCO will follow the orders of Hon'ble APERC for RTPP-IV also.

**Q. Reduction of capital costs by different Regulatory bodies**

That reducing impermissible components of the claimed capital cost of a power project by regulatory bodies is a standard practice. A few examples are given hereunder:

- I. In its order dated 06-05-2015, CERC has reduced the capital cost from Rs. 7774.88 Crores claimed by Indira Gandhi Super Thermal Power Project (three units of 500 MW each of Aravali Power Company Pvt. Ltd. at Jhajjar in Haryana) to Rs.7322 Crores (Rs.4.88 Crores per MW). The actual CODs of the three units of the projects were delayed by a few months.
- II. In its order dated 06-07-2015, CERC has reduced the capital cost from Rs.3852.45 Crores claimed by Koderma Thermal Power Station (unit-I of 500 MW of Damodar Valley Corporation in Jharkhand) to Rs.2327 Crores (Rs.4.65 Crores per MW). COD of the unit was delayed by 37.5 months.
- III. In its order dated 08-02-2016, CERC has reduced the capital cost from Rs.5623.19 Crores claimed by Vallur Thermal Power Project (two units of 500 MW each of NTPC Tamil Nadu Energy Company Ltd. at Vallur) to Rs.5533.48 Crores (Rs.5.53 Crores per MW). CODs of the units were

delayed by 21.63 months and 24.5 months respectively.

IV. Regarding the capital cost and tariff of the 2x600 MW thermal project of Singareni Collieries Company Limited with whom TSDISCOMs had entered into a long-term PPA, TSERC approved a capital cost of Rs.7575.26 Crores against the final capital cost of Rs.8540.22 Crores claimed by the Company, thereby reducing the capital cost to the tune of Rs.964.96 Crores. TSERC, in its order dated 06-12-2016, reduced fixed charges from Rs.2.43 per kWh claimed by SCCL to Rs. 1.74 per kWh for the year 2017-18 and from Rs.2.41 to Rs.1.86 per kWh for the year 2018-19.

V. In its order dated 05-06-2017, relating to the multi-year tariff for the projects of TSGENCO, TSERC has reduced the capital cost from Rs.4645.57 Crores claimed by TSGENCO to Rs.3905.03 Crores for the year 2017-18.

VI. The Hon'ble Commission, in its order dated 02-03-2019, in O.P.No. 47 of 2017 and I.A.No.28 of 2017, approved a capital cost of Rs.6936.01 Crores against Rs.8122.84 Crores claimed by APPDCL for Stage-I of Sri Damodaram Sanjeevaiah Thermal Power Station.

**Reply of APDISCOMs:** The present Petition is for the approval of PPA. The capital cost and tariff will be determined by the Hon'ble APERC by prudent check after the tariff petition is filed by APGENCO.

**Reply of APGENCO:** APGENCO will follow the orders of Hon'ble APERC in case of determination of capital cost and tariff. The present petition is for the consent of the PPA between APGENCO and APDISCOMs.

R. **Adoption of APERC or CERC Regulations whichever are beneficial to the consumers**

That after determining the permissible capital cost of the subject project, the Hon'ble Commission is requested to determine tariff based on its regulations or the latest regulations of CERC, whichever are in the interest of the consumers of power at large.

**Reply of APGENCO:** APGENCO will follow the orders of Hon'ble APERC in case of determination of capital cost and determination of tariff. The present petition is for the consent of PPA between APGENCO and APDISCOMs.

S. **Purchase of power from HNPCL and Simhapuri**

That the need for power from the subject project needs to be examined based on

the factual matrix as of now and in the 4th control period. Since the DISCOMs have been purchasing power from HNPCL, subject to merit order, as per the interim order of APTEL, they cannot avoid taking the availability of energy from HNPCL into account as long as the interim order of APTEL continues to be in force. Such avoidance is not legally tenable. 400 MW of power was intended to be purchased from Simhapuri from 2016-17 onwards. Having signed the PSA, incorporating the changes permitted by the Commission and in line with the guidelines of the Ministry of Power, GoI and as per the directions of the Commission, Simhapuri has to generate and supply power to the DISCOMs from the date of the APERC order.

**Reply of APDISCOMs:** In the case of M/s. HNPCL, though APDISCOMs are purchasing power on an ad-hoc basis under the directions of APTEL, unless a final order is issued, APDISCOMs cannot rely on the generator and consider its availability. However, in the latest resource plan, APDISCOMs have considered its availability.

Concerning procurement of power from Simhapuri, it is to submit that APDISCOMs have not entered into the regular PSA with Simhapuri Energy Limited because of non-receipt of the approval on the amendments from the Hon'ble Commission. Therefore, it is to submit that the availability from Simhapuri was not included in the Tariff fillings for FY 2019-20. Further, it is to submit that APDISCOMs are seeking Hon'ble Commission's approval on the amendments to the draft PSA agreed to by both the parties.

**Reply of APGENCO:** The issue is under the purview of APDISCOMs.

T. **Availability of power from HNPCL and Simhapuri**

That even if the availability of power from HNPCL (1040 MW) and Simhapuri only is taken into account, as per the load forecast of the DISCOMs for the 4th control period, it works out to 9091.52 MU per annum (7288.32 MU+2803.20 MU). Then, the total availability of energy, including from HNPCL and Simhapuri, will be as follows (in MUs):

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Energy availability	82,956	87,089	94,294	91,291	89,295	89,749
Total energy input	60,971	66,313	71,355	76,951	83,152	90,033
Surplus/ (deficit)	21,985	20,776	22,939	14,340	6,143	(284)
<i>Surplus/deficit % on requirement</i>	<i>36.05</i>	<i>31.33</i>	<i>32.14</i>	<i>18.63</i>	<i>7.38</i>	<i>(0.31)</i>

**Reply of APDISCOMs:** APDISCOMs have considered the power availability from this project under long term studies in the Resource Plan and State Electricity Plan and the same was approved by the Hon'ble Commission. Further, as per the filings of APDISCOMs, Hon'ble Commission has considered the availability from this project to the extent of the requirement of power to the State.

**Reply of APGENCO:** The issue is under the purview of APDISCOMs.

**U. PPAs with APGENCO**

That the Commission is requested to consider the following points, among others, while taking a final decision on the subject issue:

- I. Since APGENCO is a public sector utility of GoAP and its projects are being set up with public money and are intended to supply power solely to APDISCOMs, the Hon'ble Commission should direct the DISCOMs to enter into PPAs with APGENCO and submit the same project-wise for its consideration.
- II. The Hon'ble Commission should take up the PPAs between APGENCO and the DISCOMs project-wise, hold a public hearing on each PPA, consider the need for purchasing power from them, their permissible capital cost, the competitiveness of their tariffs, schedules of the declaration of CODs depending on the requirement of periodical addition of installed capacities, etc., by incorporating the same in the long-term load forecast and resource plan.
- III. Since APGENCO is taking up new projects as approved by GoAP, a condition should be incorporated in the PPAs of new projects that the DISCOMs shall take power from these projects to the extent required and subject to merit order dispatch and that for backing down no fixed charges shall be paid by them. APGENCO can sell the balance surplus power in the market or to any other State or consumers, if possible. The fixed charges for backing down shall be

paid by GoAP to APGENCO.

IV. Let it be incorporated in the long-term load forecast, procurement plan, etc., that till the power to be generated at threshold levels of PLF and supplied by the projects of APGENCO, both existing and under execution, the DISCOMs shall not enter into PPAs with private power projects, both conventional and non-conventional.

V. The Commission should not give its consents to PPAs, if any, entered into by APDISCOMs with any private power project/s, both conventional and NCE, till power from the projects of APGENCO is fully utilized by the DISCOMs.

VI. For meeting peak demand, during the day or seasonal, depending on the requirement, the DISCOMs can opt to purchase power through exchanges, or short-term agreements through competitive biddings, as the case may be.

**Reply of APDISCOMs:** APDISCOMs would act upon as directed by the Hon'ble Commission. Further, the availability from RTPP-IV was considered under long term studies in the Resource Plan and State Electricity Plan to meet the baseload requirement of power.

**Reply of APGENCO:** APGENCO will follow the orders of Hon'ble APERC in case of determination of capital cost and determination of tariff. The present petition is for the consent of the PPA between APGENCO and APDISCOMs.

V. **Combined hearing of PPA and tariff Petitions**

That both APSPDCL and APGENCO maintained that the subject petition is for consent for the PPA and that a petition for determination of capital cost of the project and tariff would be submitted later. Without determining the permissible capital cost of the project and tariff, the need for giving consent to the PPA does not arise. Petition seeking the consent of the Hon'ble Commission to the PPA and petition for determination of permissible capital cost and tariff may be taken up together for public hearing and consideration of the Commission. In the past, techno-economic clearance for the project concerned used to be given by the Central Electricity Authority in which permissible capital cost used to be incorporated and the same and levelised tariff used to be incorporated in the PPA to be submitted to the Commission. Subsequently, the responsibility and power of determining the permissible capital cost of the projects were devolved to ERCs.

That the determination of tariff for a power project, without a PPA with a licensee

DISCOM is an infructuous exercise and is not within the jurisdiction of the Commission. The Commission is not empowered to direct the DISCOMs to enter into a PPA with the project concerned. Similarly, considering a PPA, without determining the need for the purchase of power under the same, the permissible capital cost and tariff and its reasonableness and examining other related issues, negates the fundamental prerequisites of the regulatory process. It is for the DISCOMs to establish the need for purchasing that power, not for such developers. Therefore, to take a holistic view, PPA, along with relevant information and data for determination of permissible capital cost and tariff needs to be submitted by the parties to the PPA and considered by the Commission simultaneously after holding public hearings.

**Reply of APDISCOMs:** APDISCOMs are following the procedure as ordered by the Hon'ble Commission.

**Reply of APGENCO:** APGENCO has submitted the application for determination of Capital Cost & Tariff for this project for the years from 2018-19 to 2023-24 along with the other generating stations of APGENCO for the control period 2019-2024 in O.P.No.35 of 2018. However, Hon'ble APERC has deferred the tariff determination for RTPP-IV (600MW) as the PPA for the project is not yet approved by the Commission. After approval of the PPA, and on filing of the application by APGENCO, the Commission will determine the tariff for the project following due procedure as per Para No.42 at Page 37 in its order in O.P.No.35 of 2018.

W. **PPA to be judged from multiple angles**

That without determining the permissible capital cost and tariff, giving orders on the interim tariff to be paid to the projects concerned by the DISCOMs is an unhealthy practice. When the execution of the project is taking a few years, there should not be any difficulty in submitting the petitions for determination of permissible capital cost and tariff based on the estimate and PPA related thereto, once the DISCOMs come to an agreement with the project concerned for purchase of power. A power purchase agreement (PPA) should be judged fundamentally from three angles: (a) need for purchasing power from the project concerned for the period specified to meet demand growth; (b) cost-effectiveness and various options available to get power at the lowest possible or competitive

tariff under given circumstances, various options available for selecting generator/supplier of power and the legality and propriety of the procedure adopted for the same and; (c) propriety and legality of provisions in the PPA and their adverse impact on the tariff to be paid by the consumers.

**Reply of APGENCO:** Government of Andhra Pradesh accorded approval for RTPP-IV on 10-06-2008. Accordingly, PPA was entered into with four APDISCOMs of the undivided state of Andhra Pradesh on 22-11-2010. After the Andhra Pradesh State bifurcation on 02-06-2014, APERC, vide order dated 11-08-2014, returned the PPA of RTPP-IV for want of essential information for the determination of tariff. As per the A.P Reorganization Act, 2014, the power from the projects under construction (in this case RTPP-IV) at the time of bifurcation, shall be shared between the successor states i.e., AP & TS. However, in line with the order of GoAP, Lr.No.1504/Power-III/2015-9, Dt.05-06-2017, APGENCO regulated the power to TSDISCOMs w.e.f. 11-06-2017. Then, there came the need to amend the PPA to limit the sale of power from RTPP-IV to APDISCOMs (APEPDCL & APSPDCL) only. In the meantime, the Commercial Operation Date (COD) of the project was declared on 29-03-2018. Accordingly, the amended and restated PPA was entered into with APDISCOMs on 28-01-2019.

X. **LD (Liquidated Damages)**

That APGENCO and DISCOMs maintained that there is no provision for liquidated damages in the PPAs entered into with the Central and State Public Sector Undertakings. It is a standard practice that such provisions are being incorporated in the PPAs the DISCOMs have been entering into with the private power projects over the years. Such provisions are required to see that the developer of the project concerned completes the project as per the agreed schedule to avoid unnecessary escalation of cost, declare COD, and start generation and supply of power to the DISCOM as per the agreed schedule, thereby avoiding difficulties to both the developer and the DISCOMs. Submission of the PPAs, without the provision for liquidated damages for the delay in the declaration of COD, for the consideration of the Hon'ble Commission after the declaration of the COD by the projects concerned provides an escape route to the latter to avoid payment of liquidated damages. Therefore, it is imperative to incorporate such provisions in the PPAs the DISCOMs enter into with the power

generating units of the Central and State Public Sector Undertakings. We request the Hon'ble Commission to amend or make appropriate Regulations to this effect.

**Reply of APGENCO:** APGENCO, being a state PSU, is entering into the PPAs with APDISCOMs for sale of 100% power. There is no provision for liquidated damages in the PPAs entered into by the State and Central PSUs. As the project is already completed, incorporation of liquidated damages at this stage is not appropriate. As per the Regulations, there is no provision for liquidated damages for delayed completion and the capital cost will be determined after a prudence check. Hon'ble APERC in its order on APGENCO/APPDCL projects followed two methodologies. 1. In the case of RTPP-II, RTPP-III, Dr. NTPS-IV, the Hon'ble APERC admitted full capital cost after adjusting penalties recovered from the EPC contractor and BOP contractor. 2. In the case of SDSTPS-I, the commission determined capital cost on a normative basis and the liquidated damages were retained by APPDCL to compensate for deduction in capital cost to some extent. The capital cost disallowed by Hon'ble APERC is Rs.1790 Crores and liquidated damages levied on EPC contractor is Rs.120 Crores in respect of SDTPS-I.

Y. **Backing down of RTPP-IV due to higher variable costs**

That given the increased availability of surplus power to the DISCOMs due to the entering into long-term PPAs with the wind and solar power units and other private projects, thermal units of APGENCO, including RTPP units, are being backed down because of their higher variable costs. The same fate will befall RTPP-IV as its variable costs are also higher.

**Reply of APGENCO:** APGENCO is taking up the projects with the approval of the Government of Andhra Pradesh and consent of APPCC/ APDISCOMS to meet the growing peak as well as base demands and also to phase out the existing old plants.

Z. **Regulation of power purchase by the Commission**

That the Commission has to regulate the purchase of power by the licensees, i.e., the DISCOMs. Consideration of a PPA, without determining the need for the purchase of power, the permissible capital cost and tariff and its reasonableness and other related issues negate the fundamental prerequisites of the regulatory process. Therefore, to take a holistic view, PPA, along with relevant information and data for determination of permissible capital cost and tariff needs to be

submitted by the parties to the PPA and considered by the Commission simultaneously after holding public hearings.

**Reply of APGENCO:** Not under the purview of APGENCO.

**AA. Delay in the competition of the project, insurance claims, penalties, etc.**

That in the two volumes of tariff filings of APGENCO relating to the control period 2019-2024, along with its old plants to whose PPAs the Hon'ble Commission had given its consent in the past, it had incorporated abstract data relating to RTPP-IV also for determination of tariff. Neither in its replies given to the objections in O.P.No.35 of 2018 nor in the presentation made by it before the Hon'ble Commission on 01-02-2019, APGENCO had given any information and explanation as to why the capital cost of RTPP-IV increased from Rs.3525 Crores as per the original PPA dated 22-11-2010 to the revised capital cost of Rs.4853.38 Crores and the reasons therefor. For determination of permissible capital cost, the following information and data, among others, are necessary, based on which and applicable parameters permitted by the Commission, fixed charges and tariff have to be worked out:

The reasons for the delay of about 42 months in declaring the COD of the subject unit.

**Reply of APDISCOMs:** Under the purview of APGENCO.

**Reply of APGENCO:** The zero date of the project was 10-02-2011. The land acquisition got delayed by 16 months due to procedural delay by Revenue Authorities on account of the disputes by local farmers. The BOP package contractor stopped the works on 01-04-2013 due to financial crisis. Works got delayed by 15 months due to the financial crisis of the original consortium leader M/s Tecpro Systems Ltd. Later the works were commenced by the new leader of the consortium i.e., M/s Vatech Wabag Ltd., during July 2014. Subsequently, the National Company Law Tribunal, New Delhi, Principal Bench passed orders admitting a bankruptcy petition against M/s Tecpro Systems Ltd. APGENCO encashed the bank guarantee of M/s Tecpro worth Rs.126.88 Crores for the delay. Further, delays occurred due to severe rains, delay in land acquisition for CHP area and re-engineering of Coal Handling System (due to change of contractor), etc. New environmental norms also lead to some delay on the part of BTG contractor i.e., BHEL for re-designing of Boiler and ESP. The unit was

synchronised with the grid on 02-07-2017. The COD was declared on 29-03-2018.

Whose failures of commission and omission are responsible for such abnormal delay?

**Reply of APDISCOMs**: Under the purview of APGENCO.

**Reply of APGENCO**: Same reply by APGENCO as above.

The companies to whom APGENCO had given the contracts for execution of the subject unit and the terms and conditions. What were the methodologies or procedures adopted by APGENCO for selecting companies and giving the contracts to them?

**Reply of APDISCOMs**: Under the purview of APGENCO.

**Reply of APGENCO**: The contract of BTG was awarded to M/s BHEL. The contract of BOP was awarded to M/s Tecpro Systems Ltd., leader of a consortium duly calling open tenders on a competitive basis only.

If the contractors were responsible for delay in execution and declaration of COD of the subject unit, as per the terms and conditions of the contract concerned, what are the penalties that should be imposed on and collected from the delinquent contractors by APGENCO?

**Reply of APDISCOMs**: Under the purview of APGENCO.

**Reply of APGENCO**: As per the terms & conditions of the BOP contract, LD is at the rate of 0.5% per week of delay subject to a maximum of 10% of the contract value. The BOP contractor stopped the works on 01-04-2013 due to financial crisis for 15 months. All efforts by the management to make M/s Tecpro resume work went in vain. Finally, on the request of the consortium, the name of the leader of the consortium was changed to M/s Vatech Wabag Ltd. APGENCO encashed the Bank Guarantee of M/s Tecpro worth Rs. 126.88 crores for the delay.

Whether APGENCO had collected such penalties from the delinquent contractors for the delay in the execution and declaration of COD of the plant? If so, the amounts collected by APGENCO.

**Reply of APDISCOMs**: Under the purview of APGENCO.

**Reply of APGENCO**: The BOP package contractor stopped the works on 01-04-2013 due to financial crisis for 15 months. All efforts by the management to make

M/s Tecpro resume work went in vain. Finally, on the request of the consortium, the name of the leader of the consortium was changed to M/s Vatech Wabag Ltd. APGENCO encashed the Bank Guarantee of M/s Tecpro worth Rs. 126.88 crores for the delay.

Whether all works relating to RTPP-IV were completed or any other works need to be completed? Is the projected revised capital cost final or any additional expenditure is to be incurred and added to the latest projected capital cost?

**Reply of APDISCOMs:** Under the purview of APGENCO.

**Reply of APGENCO:** Though the COD was declared, some works envisaged in the DPR are going on and Hon'ble APERC and Hon'ble CERC provide for completion of balance works till the cut-off date.

Had APGENCO made insurance claims, if any, relating to the subject unit? If so, how much and whether such amount was claimed and received.

**Reply of APDISCOMs:** Under the purview of APGENCO.

**Reply to APGENCO:** No.

**BB. Variable Cost**

That in the MYT filings for the control period 2019-24, APGENCO had projected a variable cost of Rs.3.64 per kWh for the subject unit. The following information, among others, need to be submitted and examined to determine the permissibility or otherwise of the projected variable cost of the subject unit:

What is the source of supply of coal to the subject unit, what are the terms and conditions in the fuel supply agreement, if signed, between APGENCO and the coal company concerned?

**Reply of APDISCOMs:** Under the purview of APGENCO.

**Reply of APGENCO:** M/s Mahanadi Coal Limited (MCL) and APGENCO entered into a Fuel Supply Agreement as prescribed by MCL.

What is the present price of coal per MT, the grade of the coal, etc., and the variable charges worked out?

**Reply of APDISCOMs:** Under the purview of APGENCO.

**Reply of APGENCO:** Rs. 1724/- per MT, (Transportation cost Rs. 2630/- per MT), Coal Grade G-12 to G-14.

Who are the transporters of coal with whom APGENCO had contracts for the transportation of coal to the subject unit and what are the terms and conditions

therein? What is the method adopted by APGENCO for the selection of transporters for transportation of the coal?

**Reply of APDISCOMs:** Under the purview of APGENCO.

**Reply of APGENCO:** M/s Sarat Chatterjee Co. VSP Private Limited, Visakhapatnam is the contractor for Transportation of raw coal by RSR (Rail-cum-Sea-cum-Rail) mode including handling charges at both ports. The contract was awarded by calling open tenders.

In view of conflicting submissions made by the DISCOMs and APGENCO earlier on the supply of allocated quantum of coal to the thermal projects of APGENCO, what is the factual position on the supply of allocated coal to the subject unit and the need for importing coal, if any?

**Reply of APDISCOMs:** Under the purview of APGENCO.

**Reply of APGENCO:** RTPP-IV has a firm coal linkage of 2.778 million tonnes per annum for operating at 85% PLF as per the coal consumption norms notified by CEA.

**CC. Filing of Tariff Petition by APGENCO for RTPP-IV**

That in its replies to the objections in the subject petition, APGENCO has replied that "the present petition is for the approval of PPA. The capital cost and tariff will be determined by prudent check by Hon'ble APERC in the MYT 2019-24 of APGENCO on the consent of PPA." In view of the decision announced by the Hon'ble Commission during the public hearing on 16-11-2019 to take up the determination of tariff and consideration of PPA together, when will APGENCO file its tariff petition and all relevant information and data required for considering the same?

**Reply of APDISCOMs:** Under the purview of APGENCO.

**Reply of APGENCO:** The Hon'ble commission has ordered that it will consider RTPP-IV from the common original petition filed by APGENCO for the determination of tariff along with the PPA, which was already submitted for consent.

**DD. Additional views/objections/suggestions**

That the mere inclusion of RTPP-IV in the long-term load forecast and resource plans for the 4th control period, as per the order dated 15-04-2019 issued by the Hon'ble Commission, cannot justify procurement of power from that project since

substantial surplus power is, and will be, available with the DISCOMs, with or even without the inclusion of RTPP-IV. In the said order dated 15-04-2019 on long-term load forecast, etc., for the 4th control period, the Hon'ble Commission has approved the addition of net base-load capacity of 161 MW only, that, too, in the last year of the 4th control period, i.e., 2023-24. This includes 5% spinning reserve also (page 152). In the alternate scenario, the Commission has determined the need for the addition of 831 MW baseload capacity in 2023-24, with no requirement for the addition of OTB capacity (non-conventional energy) at all in the entire 4th control period (page 153). The Hon'ble Commission, in the tariff order for the financial year 2020-21, has determined availability of surplus energy to the tune of 9504.27 MU which includes the availability of 3889.44 MU from RTPP-IV as approved to the extent the latter is going to be backed down. When "procurement of power in excess of the requirement of the DISCOMs from Mis HNPCL (1040 MW) is against the public interest," in the same situation, procurement of power from RTPP-IV cannot be in the public interest. When the DISCOMs had withdrawn PPA with HNPCL on the ground that power from the project was not required, the same ground should apply in the case of RTPP-IV also in view of the availability of substantial surplus power even without taking the generating capacity of the project into account. In view of the availability of substantial surplus power, units of RTPP and other thermal power stations of APGENCO are being backed down already. The variable cost of RTPP-IV at Rs.3.66 per KWh, as indicated in the tariff order for 2020-21 (at page 97), is the highest, and as such, the power station will continue to be the first unit to be backed down. Entering into a long-term PPA with any project, here, RTPP-IV, just to back down the same and pay fixed charges therefor, i.e., for power which is neither generated, nor purchased, nor supplied, nor consumed, is not, and will not be, in the public interest. During the public hearing on the subject issue on 18-02-2020, the Hon'ble Chairman, Justice Sri C.V.Nagarjuna Reddy Garu, has clarified that the Commission has included RTPP-IV in the availability of power for the year 2020-21 and the long-term load forecast, etc., for the 4th control period, considering that public money is invested for setting up the project, that it is intended solely to meet the requirement of the State and that it is difficult for APGENCO to sell the power to others in the market. In principle, these

considerations are justifiable. I request the Hon'ble Commission to consider the following points. Being a State utility of the public sector and solely intended for meeting the requirements of power in Andhra Pradesh, APGENCO should get topmost priority. At the same time, its projects should be established in the most efficient and economical way possible. DISCOMs may enter into PPAs with private power projects, if necessary, as sources to supplement requirements of power to the extent required for a specific period.

When the Hon'ble Commission returned the original PPA on 23-08-2014 "for want of essential information," it does not require nearly 20 months after realigning the project to get 100% capacity to APDISCOMs to submit the "essential information," if not after nearly five years from 23-08-2014. The reasons for the delay in the execution of the amended PPA are delay in "arriving consensuses between the parties to incorporate certain clauses in the Amended PPA such as Project Completion Schedule, Auxiliary consumption excluding colony consumption, dispatch instructions, Operating norms, metering clauses, etc.," APSPDCL has maintained. These are all standard clauses that must have been incorporated in the original PPA as per applicable norms. Even otherwise, it does not require nearly 20 months for coming to consensuses, that, too, after APDISCOMs started availing power from this project after it was commissioned on 29-03-2018. Since relevant clauses were supposed to have been incorporated in the original PPA, due to subsequent developments, the only change that was required to be incorporated was that 100% capacity of the project would be supplied to APDISCOMs only. Regarding the concern that projects of APGENCO cannot sell their power in the market, the unfortunate reality is that going by their backing down and being subjected to merit order dispatch, they are not in a position to sell all the power they can generate to the DISCOMs either.

Among the reasons for the delay of about 42 months in declaring COD of the subject project, APGENCO has mentioned the delay in acquisition of land by 16 months, stoppage of work by 15 months by the BOP contractor (consortium leader Tecpro Systems Limited), delays due to severe rains, re-engineering of coal handling system (due to change of contractor), etc. These reasons do not fall under conditions of force majeure and are not permissible for allowing additional capital cost and interest during construction caused by such delays.

APGENCO has stated that though COD was declared, some works envisaged in the DPR are going on and that APERC and CERC provide for completion of balance works till the cut-off date. Clause 10.8 of Regulation No.1 of 2008 of APERC says: "Capital cost: - Subject to prudence check by the Commission based on information filed by the generating company, licensees, evidence from other Commissions, generating companies, licensees and international experience, etc., the Commission shall determine the Capital Cost of the project. The Capital Cost as determined above shall also include further capital expenditure incurred if any up to the first financial year closing one year after the date of commercial operation of the last unit of the project, its stage or the unit, as the case may be, is admitted by the Commission." Therefore, from the date of scheduled COD as incorporated in the original PPA, further capital expenditure incurred, if any, up to the first financial year closing one year after the date of scheduled COD of the subject project only is permissible to be included in the capital cost of the project to be determined by the Commission. APGENCO has stated that by calling open tenders, Sarat Chatterjee Co. VSP Private Limited, Visakhapatnam, was selected as the contractor for transportation of raw coal by rail-cum-sea-cum-rail mode including handling charges at both ports. I request the Hon'ble Commission to examine the related records and justifiability or otherwise of awarding the contract.

APSPDCL has submitted that there is no provision for liquidated damages in any of the PPAs of Central and State PSUs and that APDISCOMs would follow the direction, if any, issued by APERC in this regard. I request the Hon'ble Commission to issue such a direction by amending relevant regulation or bringing about a new regulation, making it mandatory to incorporate a provision providing for liquidated damages for delay in the execution of any power project, whether in the public or private or joint sector, in the PPA which the distribution licensees, i.e., the DISCOMs enter into.

**O.P.No. 35 of 2018(Part)(Determination of MYT of RTPP-IV for the period from the  
FY 2018-19 to FY 2023-24)**

**APGENCO Filings**

10. In the Petition, APGENCO claimed a Capital Cost of Rs.4,853.38 Crores for the project including the IDC (Interest During Construction) component. As per the Auditor's certificate submitted by APGENCO, the Capital Cost of the project as of 31-03-2018 was Rs.4,398.48 Crores. To meet the Capital Cost of the project, APGENCO availed loans of Rs. 900 Crores (towards equity component) and Rs.3612.8 Crores (towards loan component) from PFC (Power Finance Corporation). The details of Capital Cost furnished by APGENCO are as follows.

**All figures in Rs. Crores.**

Description	As per the Filing	As per Audited Certificate (As of 31.03.2018)	Actually incurred and paid (up to cut-off date)
BTG package including Price Variation, Taxes, Duties and Freight	1694.11	4398.48	1701.63
BOP package including taxes	1256.63		1101.63
Other works including land cost	360.64		274.71
IDC and Financing charges	1542.00		1533.75
Total	4853.38	4398.48	4611.72

## 11. APGENCO claimed the following fixed costs and variable costs in the Petition.

S.No	Description	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
1	ROCE (Rs Crores)	-	647.12	602.61	558.12	513.66	469.22
2	Depreciation (Rs Crores)	-	373.71	373.71	373.71	373.71	373.71
3	O&M expenses (Rs Crores)	-	117.60	125.41	133.74	142.62	152.09
4	Fixed Costs (Rs Crores) (1+2+3)	*353.00	1138.43	1101.73	1065.57	1029.99	995.02
5	Variable Costs (Rs/kWh)	3.64	3.64	3.64	3.64	3.64	3.64

\* For the FY 2018-19, APGENCO claimed fixed charges as a lump sum amount without indicating the individual components of fixed charges.

APGENCO claimed various components of the fixed costs and variable costs in the following manner for the control period from FY 2019-20 to FY 2023-24.

**A. ROCE (Return on Capital Employed)**

APGENCO computed the ROCE by multiplying the (Gross Fixed Assets - Accumulated Depreciation + Working Capital) with WACC (Weighted Average Cost of Capital). APGENCO claimed 11.8% as WACC. For arriving at the WACC, APGENCO split the Capital Cost of the project as debt and equity in the ratio of 70:30 and considered 15.5% as ROE (Return on Equity) and 10.2 % as Cost of Debt. APGENCO's claim of ROCE is as per the formula specified in Regulation 1 of 2008.

## **B. Depreciation**

APGENCO claimed depreciation amounts at the rates prescribed in the MOP (Ministry of Power) notification dated 21-03-1994. The claim is in line with Regulation 1 of 2008.

## **B. O&M (Operation & Maintenance) expenses**

APGENCO has taken the O&M expenses approved by CERC for the 600 MW coal-based thermal units for the FY 2018-19 as a base and escalated the same by 6.64% every year to arrive at the O&M expenses for the FY 2019-20 to FY 2023-24.

## **C. Variable costs**

APGENCO computed the variable cost (Rs./kWh) as per the formula specified in Regulation 1 of 2008. Since no operating norms have been specified in Regulation 1 of 2008 for 600 MW units, APGENCO considered normative values for SHR (Station Heat Rate), Auxiliary Consumption and Specific Oil Consumption as 2425 Kcal/kWh, 6% and 2 ml/kWh respectively. For the landed cost of coal, landed cost of oil, GCV of coal and GCV of oil, APGENCO considered the figures of Rs. 4710/MT, Rs.39500/KL, 3386 Kcal/Kg, 9728 Kcal/litre respectively.

## **12. Objections/Suggestions/Views and APGENCO's replies (list of objectors is shown vide Annexure-II)**

### **A. Capital Cost**

That the Capital Cost claimed by APGENCO is abnormally high when compared to the capital cost of Rs. 3525.00 Crores indicated in the PPA dated 22-11-2010. Also, the Capital Cost is very high when compared to projects of similar capacity established during the relevant period. As per CERC order dated 04-06-2012, the Benchmark Hard Cost for extension type unit of 600 MW capacity with coal as fuel and with Dec 2011 indices as the base year, is Rs.4.47 Crores per MW excluding the financing cost, interest during construction, taxes and duties, right of way charges, cost of R&R, etc. The above Benchmark Hard Cost, after factoring the inflation of 9.09 % (for three years), works out to Rs.4.88 Crores per MW as on SCOD (Scheduled Commercial Operation Date) i.e., 10-10-2014. However, the Hard Cost computed based on the filings of APGENCO is Rs.5.22 Crores per MW which is higher than Rs.4.88 Crores per MW arrived at in the

above manner. Therefore, the claim of APGENCO is excess by Rs.203 Crores ((5.22-4.88) x600). APGENCO claimed that RTPP-IV is a Greenfield project. However, it was mentioned in several documents (Tariff filings, letter dated 20-12-2008 to the Collector/Kadapa district regarding land acquisition, environmental clearance letter dated 21-10-2010 issued by the Ministry of Environment & Forests and the LOI dated 14-10-2010 issued to BHEL) that RTPP-IV is an expansion project.

**Reply of APGENCO:** The Benchmark Hard Cost determined by CERC does not include merry-go-round, railway siding, unloading equipment at jetty, rolling stock, locomotive, transmission line till the STU point, financing cost, interest during construction, taxes, duties, right of way charges, cost of rehabilitation and resettlement. Further, RTPP-IV is not an extension/expansion project as stated by APDISCOMs since the existing facilities at RTPP-I, II & III could not meet the requirements of RTPP-IV. The project requires its own land, cooling towers, DM water plant, coal handling plant and ash handling plant. Therefore, RTPP-IV is a Greenfield project and accordingly the Benchmark Hard Cost of Rs.4.87 Crores per MW as determined by CERC for a Greenfield project applies to it instead of Rs.4.47 Crores per MW stated by APDISCOMs. Further, APDISCOMs' stand in considering 9.09% (for three years) as an escalation factor concerning Benchmark Hard Cost is completely contradictory to the stand taken by them in respect of Damodaram Sanjeevaiah Thermal Power Plant where they considered 5% (per year) as an escalation factor. Therefore, the Benchmark Hard Cost of Rs.4.87 Crores per MW should only be considered which escalated by 5% works out to Rs.5.64 Crores per MW as on SCOD.

**B. IDC (Interest During Construction)**

That the IDC amount indicated in the PPA dated 22-11-2010 was Rs.400 Crores. However, APGENCO claimed an IDC of Rs.1533.75 Crores in the filings i.e., an additional amount of Rs.1133.75 Crores compared to the original IDC of Rs.400 Crores. The excess IDC is due to the abnormal delay in the commissioning of the project. The project was commissioned on 29-03-2018 instead of on 10-10-2014 (SCOD) i.e., after a delay of 41 months. Delay in the acquisition of land and non-performance of the contractors leading to the delay in the commissioning of the project are business risks to be borne by APGENCO. The reasons canvassed by APGENCO for the delay in the commissioning of the project could have been

mitigated by imposing LD (Liquidated Damages) on the contractors. Therefore, the excess IDC amount of Rs.1133.75 Crores should be disallowed by the Commission. In support of their contention to disallow the excess IDC, APDISCOMs quoted/mentioned CERC Tariff Regulations, 2014, APTEL orders dated 27.04.2011, 18.01.2013, 12.07.2018, 15.02.2018 in Appeal Nos. 72 of 2010, 57 of 2012, 175 of 2015 and 85 of 2015 respectively and the Hon'ble Supreme Court judgments dated 08.12.2009, 22.09.2016 in CA Nos.8151 of 2009 and 1652 of 2015 respectively.

**Reply of APGENCO:** The following factors delayed the commissioning of the project and led to the increase in IDC.

I. There was a delay of 16 months in the acquisition of the land required for the project due to the disputes with the local farmers. The site was handed over to the BOP (Balance of Plant) contractor on 14-03-2012. Thus, there was a total delay of 23 months.

II. The BOP contractor, M/s Tecpro Systems Ltd. stopped the works from 01-04-2013 due to the financial crisis. The new leader of the consortium, M/s Vatech Wabag Ltd. resumed the works in July 2014.

III. There was some delay in acquiring the land for CHP (Coal Handling Plant) and re-engineering of the Coal Handling System.

IV. Notification of new environmental norms necessitated re-designing of the equipment by BTG (Boiler, Turbine and Generator) contractor i.e., BHEL.

APGENCO made every effort to commission the project within the scheduled date. Therefore, APGENCO should be allowed full IDC of Rs.1533.75 Crores.

Regarding the treatment of Liquidated Damages, APGENCO replied that APERC followed two methodologies viz a) in the case of RTPP Stage-II, RTPP Stage-III, Dr. NTTPS Stage-IV, the Commission admitted full Capital Cost after adjusting the penalties recovered from EPC and BOP contractors b) in the case of SDSTPS Stage-I, the Commission determined the Capital Cost on normative basis and the liquidated damages were retained by APPDCL to compensate for the deduction in Capital Cost to some extent. Accordingly, the Hon'ble APERC may take an appropriate decision in this regard.

### **C. Taxes and Duties**

That APGENCO claimed an amount of Rs. 163.18 Crores in the Petition towards taxes and duties. The taxes and duties incurred by APGENCO after SCOD should be disallowed by the Commission.

**Reply of APGENCO:** There is no increase in the tax component on account of delay in the COD since mandatory package cost is a fixed one including taxes. Hence, delay in the execution of the project has no impact on taxes and duties. Therefore, taxes and duties claimed by APGENCO in the Petition should be allowed.

### **D. Land**

That APGENCO paid an amount of Rs.11.44 Crores towards the land cost as per the additional information submitted by them. However, APGENCO claimed an amount of Rs.27.44 Crores towards land cost in the Petition. Hence, the Commission is requested to verify the correctness of the claim made by APGENCO.

**Reply of APGENCO:** APGENCO paid Rs.27.44 Crores for land as against a provision of Rs.5.20 Crores in the original PPA dated 22-11-2010. APGENCO has acquired land to an extent of 514 Acres so far and about 107 Acres of land are in the process of alienation & acquisition.

### **E. Depreciation**

That as per the MOP (Ministry of Power) 1994 notification, the rate of depreciation is around 7.84%. Whereas, CERC in its Tariff Regulation for the control period for the FY 2014-2019 provided for a depreciation rate of around 5.28%. Hence, the Commission may compute the Depreciation as was done in respect of SDSTPS Stage-I, (2 x 800 MW) considering the CERC Regulation, since the same avoids frontloading of the tariff.

**Reply of APGENCO:** In the Petition, APGENCO claimed depreciation at MOP notified rates dated 21-03-1994 in line with Clause 12.2 of Regulation 1 of 2008 issued by APERC. The depreciation rates adopted by CERC are the same as those notified in the Companies Act, 2013. APGENCO has changed its company policy and replaced the MOP notified depreciation rates with the rates notified in the Companies Act, 2013. Therefore, the Commission may allow the rates as per the Companies Act. The new rates will benefit the consumers by avoiding the front-loading of the tariff.

**F. O & M expenses**

That the O&M expenses may be determined by the Commission as per CERC Tariff Regulations. As APPDCL is a subsidiary of APGENCO as stated in the SDSTPS Stage-I Petition, the salaries and other incidental expenditure of employees deputed from APGENCO to APPDCL, if any, may be disallowed by the Commission.

**Reply of APGENCO:** APGENCO claimed O&M expenses as per CERC Regulations and the same should be allowed.

**G. Additional information filed by APGENCO on the delay in the execution of the project pursuant to the ROP (Record of Proceedings) dated 18-02-2020 and APDISCOMs response to the additional information filed**  
**Delay due to land acquisition/possession of the site**

The then Hon'ble Chief Minister of AP, Sri Y.S.Rajasekhara Reddy, during the dedication of Unit-3 of RTPP Stage-II on 24-01-2007, had directed APGENCO to establish one unit of 500 MW at Rayalaseema Thermal Power Project. Accordingly, for setting up of (1X500 + 20%) MW Unit, the land on the eastern side of the plant was identified to an extent of 467.17 Acres and requisition was submitted to the RDO/Kadapa to initiate the land acquisition on top priority in June 2007.

In October 2007, the RDO/Kadapa has requested to deposit an amount of Rs. 6.91 Crores towards compensation to initiate the land acquisition. Since finalisation of Power Purchase Agreement with APDISCOMS, allocation of water from the Government, finalisation of Coal linkage, financial closure, etc., were under process, APGENCO could not deposit the amount till 13-07-2009. After finalisation of all the above issues, APGENCO Board accorded approval for depositing the funds with RDO/Kadapa for 467.17 acres and an amount of Rs 5.53 Crores (vide D.D.No.286792, dt.13-07-2009), was deposited with RDO/Kadapa on 15-07-2009.

The Revenue Department initiated the land acquisition process after the deposit of funds with outsourced personnel since the existing staff was overburdened with the then land acquisition works. The process had taken considerable time for getting approval from the Government for each reach before publication. After pursuance by the field officers with revenue authorities, the necessary Draft Notifications and the Draft Declarations were submitted from the District Collector

to the Secretariat. After close pursuance with the Government, the Draft Notifications and the Draft Declarations of 4 reaches were approved. Thereupon, the revenue authorities were pursued to publish the same. After the publication, the RDO/Kadapa had conducted the award inquiry in February 2011 and had discussions with the farmers. After the meetings, elections were declared for MLC, MP& MLA. Due to the election duties for MLC elections (Code in force from 08-02-2011 to 21-03-2011) and bye-elections to Kadapa Parliamentary constituency (Code in force from 30-03-2011 to 16-05-2011), Revenue authorities were otherwise occupied and the land acquisition activities could not be expedited. In the meantime, before elections, MRO/Yerraguntla was transferred and after the elections, the District Collector and the RDO/Kadapa also were transferred. Hence, the land acquisition process was further delayed.

In view of the non-availability of revenue employees, and the works being attended to by outsourced personnel, Land Acquisition for the project could not be completed. Apart from this, due to certain unavoidable issues such as/ disputes with land losers/local farmers, etc., a lot of time was lost for amicable settlement of the issues with farmers, which added to the delay of the project.

Due to the above reasons, considerable time had been taken for the acquisition of land. To save the delay, APGENCO, with the cooperation of the farmers, had gone ahead with the topographical survey and soil investigation works in the project area. These are required for the evaluation of the bearing capacity of the soil and to carry out further engineering. The Contractor with the soil investigation data designed some structures and submitted them for approval of Project Consultants. Permission was also given to the Contractor for mobilization of materials to stack in the Government land (Advance possession was taken). The Possession Certificates were issued by the Revenue Authorities on 16-05-2012, and the site was handed over to the BOP contractor on 17-05-2012.

In the meantime, Purchase Orders were placed in anticipation that the land acquisition will be completed expeditiously. The Letter of Intent (LOI) for BOP works was issued on 30-10-2010 and Purchase Orders for BOP package were placed on 15-12-2010, with zero date as the date of placing the LOI i.e., 30-10-2010. Since the land acquisition could be completed by 16-05-2012, the BOP works were commenced from 17-05-2012 and thus the works got delayed by 18 months 16 days from the date of LOI due to the delay in land acquisition.

### **Response of APDISCOMs**

APGENCO submitted that there is a delay of 15 months in land acquisition process i.e., from Zero date 10-02-2011 to 16-5-2012. In this regard, APDISCOMs submit that the delay of 15 months is nothing but due to bad planning and also not justified, in view of the following:

- I. APGENCO addressed a Letter to the Land acquisition officer and RDO of Kadapa district on 25-08-2007 with a request to invoke the urgency clause for giving advance possession of the land to take up the RTPP Project works. Thereafter, APGENCO has also deposited an amount of Rs. 5.53 Crores to RDO, Kadapa District on 15-07-2009 for Land acquisition.
- II. Accordingly, advance possession of Government lands was taken by APGENCO before obtaining possession certificate of lands from Government and the said fact was stated in the letter dated 31-01-2012 addressed from APGENCO to the land acquisition officer/RDO of Kadapa District. This implies that Advance possession of the land was given well before 31-01-2012,
- III. APGENCO vide letter dated 07-11-2012 issued a notice to the BOP contractor concerning slow progress of works, informing that after a lapse of one year, there is no progress in the submission of drawings either the engineering or the fabrication for structural work. From the said notice also, it can be construed that possession of the land was taken by APGENCO before 07-11 -2011.
- IV. Further, APGENCO vide letter dated 05-08-2013 has addressed the BPO contractor (M/s Tecpro Systems Limited). At Point 1, it was mentioned that CHP area was handed over on 19-03-2011 and also in the letter on 08-11-2013 at Point No.1, it was informed that the request of BOP contractor for time extension for coal handling plant was rejected stating that the firm has commenced the work on 25-10-2011 and taken up only 50% of works and stopped the works in the month of 4/2012 even though the fronts were made available. From this notice, it is implied that the possession of the land was taken by APGENCO before 25-10-2011.

In view of the aforesaid submissions, the delay of 15 months due to the land acquisition problem is factually not correct and thus is not tenable.

### **Delay due to local unrest**

On 19-12-2012 at around 8.30 AM, about 50 numbers of unidentified miscreants of the surrounding villages in the name of land losers suddenly

rushed to the RTPP-IV worksite and stopped the ongoing works by threatening the labour working at the site. The entire labour vacated the worksite and all the works were stopped by the land losers forcibly.

The land losers had pelted stones and damaged glasses. The furniture of the mobile container of M/s Power Mech (Subcontractor of M/s BHEL) and the glasses of the vehicle of M/s Gammon India Ltd were damaged. Afterward, they have ransacked the office of M/s Indu Projects Ltd, the sub-contractor of M/s Tecpro Systems Ltd. They broke the glasses of new office sheds of APGENCO and later they staged a dharna before the office of APGENCO and did not allow the offices of APGENCO to be opened.

First Information Report was filed, with the Station Officer, Kalamalla Police Station on 19-12-2012. Due to this panic situation, labour/ manpower left the site. After the settlement of the issues with the land losers, manpower was re-mobilized and 3 months was lost for remobilization of the manpower and restoration of the works at the site.

#### **Response of APDISCOMs**

APGENCO submitted a copy of the FIR filed on 19-12-2012 due to local unrest at the RTPP-IV site by land losers. Further, APGENCO submitted that a period of 3 months was lost for settlement of the issues with land losers and remobilization of manpower. In this regard, APDISCOMs submit that a meeting was held at the RTPP site on 28-02-2013 only and M/s Tecpro agreed to commence the works from 01-03-2013. Therefore, the delay of 3 months was not justified since APGENCO conducted the meeting at the RTPP site on 28-02-2013, which is two months and ten days after the filing of the FIR. Such holding of meeting two and a half months after the issue has cropped up shows that APGENCO has adopted a casual attitude in resolving the issues that cropped up.

#### **Delay due to the insolvency of the BOP contractor and change of consortium leader**

The BOP consortium leader, M/s Tecpro Systems Ltd. had stopped the works at the site from April 2013 due to financial problems. Due to non-payment of bills by the consortium leader, M/s Tecpro Systems Ltd., the Consortium partners M/s Vatech Wabag Ltd. & M/s Gammon India Ltd., could not make payments to their suppliers. Since then, all supplies and civil works under the

scope of the BOP package were stopped. Hence, the labour deployed, for various works at the site, from different states of the country had left the site. M/s Tecpro Systems Ltd. was addressed through various letters to commence the works and re-mobilize the manpower, but there was no significant improvement in the progress of the works.

Several notices were also issued to M/s Tecpro Systems Ltd. for the restoration of works at the site and it was also informed to furnish the reasons why action may not be initiated against the firm for breach of trust and contract for not adhering to the terms and conditions of the contract. APGENCO Board instructed to change the consortium leader, if necessary, to move forward with the project. After convening several meetings with the high-level officials of the Consortium with the Managing Director, APGENCO, the BOP Consortium partners, finally, came up with a proposal to change the consortium leader from M/s Tecpro Systems Ltd. to M/s Vatech Wabag Ltd. who was one of the consortium partners and requested APGENCO to consider their proposal. Accordingly, the Consortium leader was changed from M/s Tecpro Systems Ltd to M/s Vatech Wabag Ltd on 31-05-2014.

Later, the works were commenced by the new leader of Consortium i.e., M/s Vatech Wabag Ltd., in July 2014, after re-mobilizing the men and material. The civil fronts required for the BTG package could not be handed over in time and hence BTG works got badly delayed. Thus, the project works got delayed for a further period of 15 months from April 2013 to May 2014 due to the financial crisis of the original Consortium leader M/s Tecpro Systems Ltd.

The new Consortium leader M/s Vatech Wabag Ltd. also did not take up the works at the required pace, and consequently, the COD got delayed. Due to the delay in making payments to the Sub-Contractors by the BOP Contractor, M/s Vatech Wabag Ltd, the works got hampered. Several notices were also issued to the BOP contractor to complete the works to achieve the COD at the earliest. Since the BOP works were not moving at the required pace to achieve COD and due to delay in making payments to the Sub-Contractors, APENCO has descope certain Coal Handling Plant works from the BOP scope and placed 02 Nos. separate Purchase Orders on their sub-contractors for coal plant works for feeding coal from Stacker/Reclaimer to bunkers. After completion of these

works, the coal was fed to the bunkers and the COD of the unit could be achieved on 28-03-2018.

**Response of APDISCOMs**

APGENCO submitted that due to the financial crisis of the BOP consortium leader viz., M/s Tecpro systems, there was a delay in handing over of civil fronts for BTG package and there was a delay of 15 months from April 2013 to May 2014 in the execution of the project and further APGENCO submitted that after changing the consortium leader the works were remobilized. In this regard, APDISCOMs submit the following:

- I. APGENCO submitted that the BOP contractor had stopped the works at the site from April 2013 and further stated that the project works got delayed for a period of 15 months from April 2013 to May 2014. At point 11 (II) in the APGENCO's response letter dated 28-01-2020, it was stated that the BOP contractor had stopped the works on 01-04-2013, whereas in the chronological order of events at page No. 616 of the additional information book, it was mentioned that the BOP contractor has stopped works from 01-06-2013. Further, as per the note submitted by APGENCO, the 15 months also includes the delay period of the work fronts required for the BTG package to hand over BTG works. APGENCO, in the chronological events at Page No.616 stated that the delay period as 5 months for work front made available by BOP contractor for BTG works and 13 months for the delay in BOP contractor stopped works up to change of new consortium leader totalling to 18 Months. As stated above, the averments of APGENCO are self-contradictory in nature, are concocted statements without truth, and not tenable.
- II. Even though the present information pertains to the delay period for execution of the project, APGENCO has to submit the copies of PO placed on the BOP contractor on 15-12-2010, the amendment to the purchase order vide letter dated 20-04-2013 and Letter of Intent (LOI) issued to the BOP contractor on 30-10-2010 to ascertain the actual completion period of the project and the actual date of SCOD. The said documents were not furnished by APGENCO. The project completion schedule incorporated in the Amended and Restated PPA dated 28-01-2019 is as per the information furnished by APGENCO only.

- III. As per APGENCO letter dated 23-02-2013 addressed to the BOP contractor about the slow progress of BOP civil works, it was stated that as per clause No.7 of PO, all works should be completed within 30 months of the date of LOI.
- IV. As per the claims of APGENCO, the project execution was delayed due to various reasons such as non-deployment of additional manpower for the progress of works at RTPP-IV, delay in the slow progress of BOP civil works, delay in payments to consortium partners and sub-contractors, delay in restoration of works at RTPP site for completion of the project. APGENCO ought not to have selected such a bad contractor and ought to have verified the track record before awarding the works. APGENCO went on extending the timelines without levying liquidated damages on the BOP contractors viz., M/s Tecpro Systems Ltd., and the new consortium leader (M/s VATech Wabag Ltd.).
- V. APGENCO has submitted that M/s Tecpro Systems Ltd. stopped the works from April 2013 but APGENCO has encashed the performance bank guarantees in January 2015 after a lapse of 21 months from April 2013.
- VI. APGENCO has acceded to the requests of the consortium without levying liquidate damages on the BOP contractor, which resulted in a huge increase in the capital cost (Interest During Construction) in view of the delay of COD of the project beyond SCOD. The increase in capital cost which has cropped up because of the negligence of APGENCO and their contractor should not be passed on to the consumers and the consumers of the State should not be punished for the defaults of APGENCO and its contractor. Therefore, the delay does not deserve to be condoned.
- VII. APGENCO has stated that the BOP contractor (Interim Resolution Professional) has claimed Rs. 1951.595 Crores on 11-12-2017 towards compensation for damages. Aggrieved by the said letter, APGENCO has claimed Rs. 3893 Crores on 06-02-2018 towards total loss to APGENCO for non-performance by the contractor. The claim of APGENCO includes Non-Performing Assets, IDC for the delay period, Loss of generation. In the said letter at point (iii), it was stated as "due to delay in completion of the project, APGENCO has incurred huge amount towards interest during construction which is undoubtedly needed to be recovered from the consortium." In this

context, the respondent APDISCOMs submit that, de hors to the correctness or otherwise of such claim of APGENCO, as per settled law, the consequential increased cost towards Interest during the construction of the project or other component should not be passed onto consumers.

VIII. APGENCO stated that they have to return the BG encashed amount of Rs. 126.88 Crores to the BOP contractor, if the judgment in the High court comes in favour of M/s Tecpro Systems Ltd. Such contingencies, if any, between APGENCO and its contractor need to be borne by APGENCO.

#### **Delay due to Re-Engineering of ESP fields**

The works of the BTG package were awarded to M/s BHEL on a nomination basis and the LOI was placed on M/s BHEL on 14-10-2010. After placing the LOI, Ministry of Environment & Forests (ME&F), GOI issued the Environmental clearance vide letter dated 21-10-2010. The MOE&F clearance/permission was awarded with a condition that the Emission shall be 50 mg/Nm<sup>3</sup>. But, as per the LOI placed on M/s BHEL, the particle emission was 100 mg/Nm<sup>3</sup>. To meet the MOE&F norms, M/s BHEL was addressed to redesign the Electrostatic Precipitators for reducing the particle emission from 100 mg/Nm<sup>3</sup> (earlier design) to 50 mg/Nm<sup>3</sup> and the BTG Contractor, M/s BHEL had to do re-engineering, due to which again certain time was lost. An additional amount of Rs. 14.11 Crores to be incurred for redesigning the ESP fields and connected Ash Handling system to meet the MOE&F norms had to be considered by APGENCO and the Purchase Orders placed on M/s BHEL were amended to that effect on 30-03-2012. Since the re-designing was inevitable, a period of 3 months for re-engineering of ESP fields and the connected Ash Plant equipment was lost, which added to the delay of the project.

#### **Response of APDISCOMs**

APGENCO has submitted that there was a delay of 3 months for re-engineering and drawing finalization for issuing of the amendment to BTG PO dated 31-03-2012 because of new environmental norms. MOEF, GoI while issuing the environmental clearance on 21-10-2010 itself at specific conditions at 4 (A)(xii) informed that particulate emission does not exceed 50 mg/ Nm<sup>3</sup>. The environmental clearance was issued just after 6 days of issuance LOI to M/s BHEL i.e., on 14-10-2010 and before the placing of PO 18-11-2010 to M/s BHEL. But, APGENCO has issued the amendment to BTG PO on 31-03-2012

after a lapse of 15 months from the date of issue of environmental clearance in respect of ESP particulate emission not to exceed 50 mg/ Nm<sup>3</sup>. Hence, the said delay clearly shows that the delay is attributable to APGENCO and does not deserve to be condoned. Further, the delay period has not material impact since the said 3 months delay period is overlapping with the delay in the land acquisition period of 15 months.

**Delay due to heavy rains**

During the execution of the works to achieve the COD, there was a severe rainfall for two months during October & November of 2017. Because of the heavy rains, the approach roads were badly affected due to water clogging and due to the slippery silt on the path, the movement of the vehicle got restricted and the works had to be completely stalled. The labour colony was completely submerged by rainwater and the labour had to be vacated for rehabilitation to a safe place. Hence, all the works at the site got badly affected and the works were almost stalled during the above period, apart from the panic situation. The works could be restored only after the rains stopped and the clogged water receded and due to the situation mentioned, the BOP works got further delayed by 2 months.

**Response of APDISCOMs**

APGENCO submitted that there was a delay of 2 months due to heavy rains during October & November of 2017. As per the India Meteorological Department (IMO) (Ministry of Earth Sciences) Report No. ESSO/IMD/HS/Rainfall Report/01(2018)/24 of Rainfall statistics of India 2017, the rainfall recorded in Kadapa district during October 2017 was 221 mm and during November 2017 was 36.4 mm. As per the said report, there was no heavy rainfall during November month. Therefore, the claim of APGENCO on this aspect is baseless besides being incorrect.

**Levy of Liquidated damages on the BOP contractor**

The BOP contractor and the Consortium leader, M/s Tecpro Systems Ltd. stopped the works from April 2013 and the BOP Consortium partners approached APGENCO with a proposal to change the Consortium leader from M/s Tecpro Systems Ltd to M/s Vatech Wabag Ltd. To take forward the project, APGENCO accepted the proposal for changing the Consortium leader and the Purchase Orders were amended to that effect on 31-05-2014. Even after

changing the Consortium leader, M/s Tecpro Systems Ltd did not resume the works under their scope. In view of the above, APGENCO had to encash the Performance Bank Guarantees of M/s Tecpro Systems Ltd to the tune of Rs. 126.88 Crores in January 2015. The works under the scope of M/s Tecpro Systems Ltd were carried out by the new Consortium leader, M/s. Vatech Wabag Ltd and after completion of the works, the COD of the unit could be achieved on 28-03-2018. As per terms of the contract, Liquidated damages shall be levied for the delay in the execution of the works and the maximum LD that can be levied is 10% of the total contract value of Rs. 1256.61 Crores, which works out to 125.66 Crores. After achieving the COD of the unit, the APGENCO Board has adjusted the BG encashed amount of Rs. 126.88 Cr against the Liquidated damages to be levied on the BOP Contractor for the delay in the completion of the works. The National Company Law Tribunal, New Delhi, Principal Bench passed orders admitting a bankruptcy petition against M/s. Tecpro Systems Ltd, Chennai and appointed an Interim Resolution Professional. Further, the Interim Resolution Professional, vide letter dt.11-12-2017, has claimed Rs. 1951.595 Cr towards compensation for damages and claims. Interim Resolution Professional was addressed vide this office letter, dt.06-02-2018 wherein it was informed that APGENCO is not liable for the damages and compensations was claimed with baseless allegations and it was further informed that M/s.Tecpro Systems Ltd had to pay Rs. 3893.00 Crores towards total loss to APGENCO for non-performance of the Contract. Recently, a Show-cause notice was received from the High court for the state of Telangana on 01-11-2019, for the Arbitration Application No: 81 filed by M/s Tecpro Systems Ltd. APGENCO has appointed Special Counsel for the State of Andhra Pradesh to appear in the court on behalf of APGENCO for defending APGENCO's contention. In the event, the judgment in the High Court comes in favour of M/s Tecpro Systems Ltd, APGENCO will have to return the BG encashed amount of Rs. 126.88 Crores to M/s Tecpro Systems Ltd. Finally, though the works were not moving at the required pace, APGENCO had to go ahead with the same contractor due to the following reasons: i) A re-tendering at that stage would attract price escalation. ii) A lot of time will be lost for re-tendering. In view of the Power demand in the State, losing further time on account of re-tendering could not be considered. With consistent persuasion

and keen monitoring of the works, APGENCO could finally achieve the COD on 28-03-2018.

**Additional submissions by APDISCOMs**

CERC (Terms and conditions of Tariff) Regulations dated 21-02-2014 shall come into force on 01-04-2014 and shall remain in force for a period of five years from 01-04-2014 to 31-3-2019. Considering the COD of the project, the said CERC Regulations apply to the RTPP-IV project.

Hon'ble Appellate Tribunal for Electricity in its judgment dated 27-04-2011 in Appeal No. 72 of 2010 (MSPGCL V MERC & others) has laid down the following principles in respect of prudence check of time overrun and cost overrun of a project:

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

*i) Due to factors entirely attributable to the generating company, e.g., imprudence in selecting the contractors/suppliers and in the execution of 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 the 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 overrun has to be borne by the generating company. However, the Liquidated Damages (LDs) and insurance proceeds on account of the 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 the benefit of the additional cost incurred due to time over-run. However, the consumers should get the 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. "*

Considering CERC Regulations & ATE judgment submitted supra, the attempt made by APGENCO to explain the delay in land acquisition, delay due to contractor inability to complete the works in time and delay for achieving new environmental norms were controllable, hence APGENCO is solely responsible for the increased capital cost. Therefore, the additional capital cost has to be borne by APGENCO and cannot be passed on to the respondent/ consumers of the State of Andhra Pradesh, since the consumer interest is paramount and that the tariff determined should be most economical at the consumer's end as per the basic objective of the Act. The scope of prudence check is to examine whether APGENCO has been careful and vigilant in taking the decisions while executing the project.

As per the additional information furnished by APGENCO, the cost paid towards land acquisition is Rs.5.53 Crores vide letter dated 15-07-2009 and Rs.5.91 Crores vide letter dated 29-02-2012 totalling to Rs.11.44 Crores. But, APGENCO has claimed Rs. 27.44 Crores towards land. Hence, the correctness of the additional amount claimed by the Petitioner towards land is to be verified by the Hon'ble Commission.

RTPP Stage-IV, (1x 600 MW) is an expansion project in addition to the existing units of *Royalaseema* Thermal Power Station located at Kadapa District. The same is clearly evident from the additional information furnished by APGENCO.

- I. Page No. 148: In the plant characteristics at Form-2 at Part-1 in A-19 of tariff filings by APGENCO, the site-specific features of *Royalaseema* Thermal Power Station, Stage-IV, (1x 600 MW) was mentioned as " Expansion in the same power plant area at *Royalaseema*".
- II. Page No.396: In the APGENCO letter dated 20-12-2008 addressed to the District Collector, Kadapa District for land acquisition for RTPP Stage-IV 1x600 MW, it was clearly mentioned that some land has to be acquired for expansion unit.

III. Page No 532: Ministry of Environment & Forests, Government of India in its letter dated 21-10-2010 while issuing Environmental clearance, clearly stated that RTPP Stage-IV proposal as expansion by the addition of 1 x 600 MW (Stage-IV) at Rayalaseema coal-based thermal power plant.

IV. Page No 527: In the LOI issued by APGENCO to M/s BHEL on 14-10-2010 at Point 6. Completion period, it was stated that the completion of trial operations as 42 Months from Zero date. This is in similar lines to the Timelines for completion of the project notified in CERC (Terms and conditions of Tariff) Regulations, 2014 dated 21-02-2014 for unit size 600 MW extension projects only.

For the above reasons and submissions, it is prayed that the Hon'ble Commission may be pleased to reject the claim of APGENCO that the delay is not attributable to it.

**H. Rejoinder filed by APGENCO to the response of the DISCOMs against the additional information filed by APGENCO**

**Delay in land acquisition**

The averments and contentions to the effect that possession of land is seen to have been taken before 25-10-2011/31-01-2012 are incorrect. In and by the revised land acquisition proposal dated 21-08-2010, the CE/O&M/RTPP had requested the land acquisition officer and RDO, Kadapa District to acquire 452.36 acres comprising 266.3 Acres of Patta Land, 104.14 acres of DKT Land and 81.92 acres of Government Land. Apart from this, another request for 143.02 acres of Patta Land was also indented in CE/O&M/RTPP letter dt.08-09-2011 referred in the letter dated 31-01-2012. Advance possession was taken of 81.92 acres of Government land only which was a small portion of the total land required for the project, but the alienation of land was not done. By the letter, dt. 31-01-2012 to the RDO/Kadapa, the CE/O&M/RTPP requested to expedite the issues for, inter alia, (i) handing over of DKT lands in Phase - I to the extent of 104.14 acres at the earliest, and (ii) transfer of Government land of 81.92 acres in the name of APGENCO; and (iii) to invoke urgency clause for giving advance possession of Patta, DKT and Government lands. It is therefore clear that that the land acquisition and/or advance possession of 104.14 acres of DKT Land and 266.3 acres of Patta Land was not completed by 31-01-2012, and that only the advance possession of Government land of 81.92 acres was given without

transferring in the name of APGENCO. Unless the total land for 452.36 acres and 143.02 acres (Revised indented Land) is acquired and taken into possession, the same could not be handed over to the BOP Contractor to start the works. There is nothing in the letter dated 07-11-2012 from which inference could be drawn that possession of the land was taken before 07-11-2011 as contended or otherwise. APGENCO was able to hand over some land available with it only for CHP, FOPH and Marshalling yard to the BOP contractor. The BOP contractor commenced work on 25-10-2011 and undertook 50% of the work and stopped work in April 2012. The letters dated 05-08-2013 and 08-11-2013 are to be seen and understood in this context only and not as contended or otherwise. The balance of the land for the main plant area had not been taken over as already stated supra.

#### **Amended environmental norms**

By the time the MOE&F issued environmental clearance specifying particulate emission is not to exceed 50 mg/NM<sup>3</sup>, APGENCO had already negotiated with BHEL and placed LOI on 14-10-2010 which contemplated particulate emission of 100 mg/NM<sup>3</sup>. The specification had to be revised, and BHEL raised financial implications. The re-engineering of the ESP fields and connected ash plant equipment resulted in a delay of 3 months. Thereafter, following the due internal procedure, the issue was considered and negotiated and an amendment to the Purchase Order was given on 30-03-2012.

#### **Problems created by local farmers and land losers**

The allegation that "GENCO has adopted a casual attitude in resolving the issues that cropped up" is not correct or tenable or warranted. In the occurrence of the attack by the local land losers, the works were stopped by the land losers forcibly, and the BOP contractor, their subcontractors and labour left the work site due to the threats by the agitators. After filing the FIR, the land losers were also called for settlement and it took about 3 months to resolve the issue with them. Simultaneously, several meetings were also conducted with the BOP Contractor to resume work, and after the settlement of the issue with the land losers, the BOP Contractor agreed to commence balance works at the meeting held on 28-02-2013. Thus, 3 months were lost for remobilization of the manpower and restoration of the works at the site due to the attacks made by the land losers.

**Delay due to the insolvency of BOP contractor**

- A. The BOP Contractor handed over the boiler foundations by 04-02-2013, duly backfilling the foundations with excavated soil for commencing the Boiler erection works by M/s. BHEL. Later, the BOP Contractor handed over the 'A&B' pass foundations of ESPs (Electro Static Precipitators) on 04-04-2013 with backfilling of excavated soil to M/s. BHEL for commencing the ESP Erection works. Later the balances C & D paths of the ESPs were slowly completed by the BOP contractor and subsequently the same were also handed over to M/s. BHEL for ESPs erection. Further, the excavation works for TG (Turbine-Generator) Raft foundation was started by the BOP Contractor on 09-04-2013 but stopped from 13-04-2013 onwards without proper reasons even though approved drawing for the same was available. Hence, the contractor was requested to start the excavation works. Since no work fronts were made available by the BOP Contractor after handing over of ESP foundations and only certain petty works were carried out with meagre manpower, it was construed that the works were stopped from April 2013 to May 2014 and the project got delayed for a period of 15 months from April 2013 to May 2014.
- B. The BOP Contractor performed Bhoomi Pooja on 24-05-2012 and committed to complete the boiler foundations in 2 months by 24-07-2012 in the 2nd CCM (Contract Coordination Meeting) held on 24-05-2012. The excavation for Boiler foundations, which was supposed to be completed within 10 days, was started on 28-06-2012 and performed at a very slow pace, and the excavation was stopped on 20-09-2012. The contractor was requested to expedite the works on 21-09-2012. The boiler foundations were to be completed by 30-08-2012, i.e., 02 months from the date of the excavation. But the Contractor completed the concrete works of the foundations by 31-12-2012 and handed over the Boiler foundations with backfilling of the soil on 04-02-2013 with a delay of 5 months (from 30.08.2012 to 04.02.2013) to commence the Boiler erection works. Further, all the BOP Consortium Partners completely stopped all the works from June 2013, due to the financial problems of the consortium leader, M/s Tecpro systems Ltd. and non-payment of bills by the consortium leader to the other consortium partners. The works were stalled till 30-06-2014, i.e., till the new BOP consortium leader started the works after mobilising manpower.

Hence, the delay period was calculated for 13 months from 01-06-2013 to 30-06-2014. In view of the above, in the chronological events on Page 616, it was stated that the delay period as 05 months for work front made available by BOP Contractor for BTG works and 13 months for the delay in BOP Contractor stopped works up to change of new consortium leader, totalling to 18 months.

C. The Purchase Order was placed on the BOP Contractor with a condition that all the works shall be completed within 30 months to enable the BTG Contractor to complete the Trial Operations and achieve COD within 42 months from the zero date of the BTG works, i.e., 10-02-2011. The BOP Contractor, due to their financial problems, did not deploy sufficient manpower due to which the progress of works was badly affected. Further, the payments released by APGENCO to the BOP Consortium Leader was not, in turn, being made to the other consortium partners and the sub-contractors, and consequently, their labour used to leave the worksite, and there was a consequent delay in restoration of works at the site by re-mobilization of labour.

D. APGENCO invited open tenders for pre-qualification for the selection of tenderers for the execution of the BOP package. Eight tenderers purchased the tender specification for pre-qualification and submitted the tenders, and three of them fulfilled the pre-qualification conditions. APGENCO invited Technical & Commercial bids from these three qualified tenderers viz. M/s L&T Ltd., M/s TATA Projects Ltd., M/s Tecpro Systems Ltd. The technical bids submitted by the bidders complied with the technical conditions of APGENCO and hence the price bids were opened. As per the tender evaluation statement, M/s Tecpro Systems Ltd., Chennai stood as the lowest bidder i.e., L 1. Hence, the L1 tenderer, M/s Tecpro Systems Ltd., Chennai was invited for further negotiations on the prices on 23-09-2010. After prolonged negotiations, the tenderer has offered a discount of Rs. 8 Crores. The tenderer's revised offer for BOP works is Rs.1255 Crores and a Letter of Intent was issued on 30-10-2010 to M/s Tecpro Systems Ltd., Chennai for EPC contract of BOP package of RTPP Stage-IV. After awarding the works to M/s. Tecpro Systems Ltd, the contractor stopped the works due to their financial problems from April/June 2013. Hence, the Performance Bank Guarantees of the firm for Rs. 126.88 Cr were encashed for non-performance of the works, duly withdrawing

the advance paid earlier. After changing the Consortium leader, the new Consortium leader M/s. Vatech Wabag Ltd. also did not take up the works at the required pace. Due to the delay in making payments to the Sub-Contractors by the BOP Contractor, M/s. Vatech Wabag Ltd, the works got hampered. Thus, M/s Vatech Wabag Ltd also could not complete the works in time as per the time extension awarded till 30-06-2017. Hence, APGENCO placed direct orders on their sub-contractors, viz., M/s. Rithwik & M/s. Indwell to complete the balance pending works. These orders were placed at the same rates agreed to between the BOP Contractor & and their sub-contractor to facilitate direct payments to the sub-contractors to speed up the works. But, the BOP Contractor, M/s. Vatech Wabag Ltd did not supply the required material required for fabrication in time due to which the works could not be completed in time. Further, due to heavy rains in October & November 2017, the works at the site were stalled for 2 months and hence the works could not be completed by 31-10-2017. After completion of these works, the coal was fed to the bunkers and the COD was achieved on 28-03-2018. Notices were served to the contractor M/s. Tecpro Systems Ltd after the stoppage of works and meetings were convened with the contractor to resume the works.

E. Finally, during a meeting held on 29-03-2014 with BOP consortium, M/s Tecpro Systems Ltd. informed that due to some financial problems, M/s Tecpro Systems is unable to restore the works at RTPP site and has thereby proposed to change consortium leadership from M/s Tecpro to M/s Vatech for taking forward the project. M/s Tecpro Systems Ltd. and their consortium vide their letter dated 04-04-2014, have informed that M/s Vatech Wabag Ltd. shall be the leader of consortium in place of M/s Tecpro Systems Ltd. and furnished amendment to consortium agreement duly signed by all the consortium members. The proposal made by the consortium was accepted by APGENCO and amended Purchase orders to that effect by letter dt.31-05-2014. Even after changing the consortium leader from Tecpro to Vatech, M/s. Tecpro did not resume the works in their scope (Coal Plant, Ash Plant, E-BOP works). Hence, APGENCO encashed the Performance Bank Guarantees of the firm to the tune of Rs.126.88 Crores for non-performance of the firm in January 2015. The terms and conditions of the Purchase Orders placed on the BOP Contractor provide that 10% of the contract price shall be levied towards

liquidated damages. The total contract value is Rs.1256.62 Crores and 10% of the contract value works out to Rs. 125.66 Crores. After the works were resumed by the new BOP Consortium Leader, M/s. Vatech Wabag Ltd after 31-05-2014, the BOP contractor requested APGENCO to return the BG encashed amount of Rs. 126.88 Cr to facilitate funds flow. But the requests made by the BOP Contractor to return the BG encashed amount were not considered and the amount was retained with APGENCO till the COD was achieved. After achieving the COD of the Unit, APGENCO Board adjusted the BG encashed amount towards Liquidated Damages to be levied on the BOP Contractor. The works were completed at the prices quoted in the year 2010 and no price escalation was given to the BOP Contractor, in spite of their repeated requests made for price escalation. It is clear that APGENCO acted promptly and diligently in the unforeseen circumstances that came to pass. The allegations of negligence, defaults on the part of APGENCO are incorrect and unwarranted. If APGENCO had cancelled the POs placed on the Contractor and gone for new tendering, there would have been a risk of price escalation by the new tenderers. Further, the re-tendering process would have taken considerable time causing added expenditure to the project cost. Hence, though the works were delayed by the BOP Contractor, APGENCO had no other option except to complete the works with the original contractor. Further, RTPP-IV was envisaged in the combined State of Andhra Pradesh to cater to the huge demand for power in the State. At that time, the BOP package was given to the contractor through tendering. Due to the failure of the Contractor, APGENCO made all possible efforts to achieve COD at the lowest cost without going for re-tendering. APGENCO is not a profit-seeking commercial organization. APGENCO establishes and operates units efficiently and economically meeting the rising day to day Power demand with a motive to serve the consumers of the State of Andhra Pradesh. If the investment made in the project is not capitalised and appropriate fixed and variable costs are not paid by DISCOMS, APGENCO and the State have to bear huge losses.

- F. The Interim Resolution Professional filed Arbitration Application in the Hon'ble High Court of Telangana in November 2019 purportedly claiming Rs.1951.595 Crores towards compensation for damages and claims. APGENCO appointed the Special Counsel for the State of Andhra Pradesh to appear in the Hon'ble

High Court of Telangana on behalf of APGENCO, and the matter will be contested to the fullest extent possible.

**Delay due to heavy rains**

The contention of the DISCOMs that the facts stated by APGENCO are false with reference to Table 26 of the IMD Rainfall Statistics of India 2017 that there was no heavy rainfall in November ignoring the exceptionally heavy and excess rainfall in October is perverse, mischievous and not bonafide. Tables 13 and 27 of the very same report, suppressed by DISCOMs, would clearly show that there was exceptionally heavy rainfall in September and October 2017 being in excess over normal to the extent of 61 to 71 % above normal. In fact, the rainfall in August and September were also heavy being over 200 mm and over 60% in excess. Due to exceptionally heavy rains of over 200 mm in August and September and severely aggravated by the exceptionally heavy rain of 221 mm in October 2017, approach roads were badly affected from October 2017 due to water logging. Due to the slippery silt on the path, vehicle movement got restricted and had to be completely stopped. The labour colony was completely submerged by rainwater and the labour had to be vacated to a safer place. Hence, all the works at the site got badly affected and the works were almost stalled during the above period, apart from the panic situation. The works could be restored only after the water logging was removed, mud on the road was cleared, and the water stagnation in the labour colony was completely evacuated. The labour could be remobilized only after the situation had come under control, i.e., by the end of November 2017. The site photos during the rains clearly show the situation at the site, roads and labour colony.

**Land Cost**

A total amount of Rs. 27.44 Crores was paid towards land acquisition. The details of the payments made to the Revenue authorities through Demand Drafts and RTGS for land acquired under Phase-I are as detailed below.

- I. An amount of Rs.5.53 Crores was paid on 15-07-2009 as advance to RDO/Kadapa vide DD No.286792, dt.13-07-2009.
- II. An amount of Rs.2.66 Crores was deposited with District Collector/Kadapa through DD Nos.607025 to 607051, dt.22-01-2011.
- III. An amount of Rs.5.91 Crores was paid to RDO/Kadapa vide DD No.609628 dt.25-02 -2012 and DD Nos.609629 to 609687 dt.25-02-2012.

- IV. An amount of Rs.2.24 Crores was deposited with the District Collector/Kadapa vide DD No.625397 dt.15-06-2013, DD No.625418 dt.15-06-2013 & DD No.625419 dt. 25-06-2013.
- V. An amount of Rs.10.9055 Crores was deposited with the District Collector/Kadapa through RTGS on 23-06-2016.
- VI. Payments of Rs.0.1945 were made to the outsourced employees for Land acquisition.

**CERC,2014 Regulations relating to allowing costs due to delay**

Without prejudice to the fact that the CERC, 2014 Regulations are not applicable, it is submitted that the cost over-runs and additional costs on various accounts as in the present case are required to be considered and allowed. The CERC Regulation must be read as a whole and not only on the basis of improperly selected parts. The inclusive and non-limited definition of "controllable" and "uncontrollable" factors do not exclude the consideration of the facts and circumstances of the present case, more particularly when read with the definitions in the Regulations and the other provisions of the Regulations. Even for controllable factors, there is no prohibition from allowing cost over-runs and IDC. The generator is required to give details and the Commission is to consider the matter. If any delay is due to force majeure, which also is defined in an inclusive and non-limited manner but including also events that are beyond the control of the generator, the cost-overruns and IDC are to be allowed. APGENCO has adopted prudent utility practices in selecting contractors and has prudently acted in the best interest of all as shown supra when faced with unforeseen circumstances beyond its control including the acquisition of land by the Government in the exercise of its power of eminent domain and handing over of possession and title, law and order problems arising out of public unrest and agitation concerning land acquisition, unforeseen change of environmental clearance conditions tantamount to change of law, natural factors of exceptionally heavy rains, bankruptcy and non-performance of a contractor, etc. In respect of all cases and reasons, the Hon'ble Commission may examine the facts and circumstances and the prudence of the action taken by APGENCO in those facts and circumstances and allow the additional costs. The reference to the decision of the Tribunal in Appeal No 72/2010 is not appropriate because, in the facts of that case, the delays were considered with reference only to the contractual time

schedule. Even otherwise, the decision of the Hon'ble Tribunal does not prevent the Hon'ble Commission to consider and allow additional expenditure when read with the Relevant regulations to which that case pertains. APGENCO seeks to leave to make appropriate legal submissions on these aspects at the time of the hearing.

**Greenfield status of RTPP-IV**

The contention that the present thermal power station is a Brownfield project and not a Greenfield project in relation to such terms as in the CERC Order L-1/103/CERC/202 dated 04-06-2012 which is a guideline for prudence check on the principle of identifying exceptions and not any Regulation. Even so, the view that the present project is a Brownfield project is wholly misconceived even in terms of that order. Para 12.3 sets out the criteria for distinguishing Brownfield and Greenfield projects. In Brownfield projects, existing facilities of another station such as office, canteen, workshop, guest-house, etc., are used and the existing construction resources such as water, power, fuel, Genset, etc., are utilized, and the available engineering experience at the existing location is utilized. None of these conditions apply to the present thermal power station. It cannot therefore be considered as a Brownfield project. In the present project, totally new facilities such as Service Building with canteen, Pre-Treatment Plant, CW Pump House, Chlorination Building, DM Plant and Neutralization pit, Fuel Oil Pump house, Coal Handling Plant, Separate Gate Complex, Raw Water Reservoir, etc., are established, and all the construction resources such as water, power, fuel, Genset, etc., are newly and separately established, and the engineering facilities and resources have been established anew and separately. All conditions for the Greenfield project are satisfied. The present project is indisputably a Greenfield project in terms of that order.

For all the above reasons, and such other and further reasons and arguments that may be advanced at the time of the hearing, APGENCO submits that the Respondents' objections are without merit and that the tariff may be determined as prayed for.

### **Commission's Analysis and Decision**

13. Having regard to the respective stands of the parties and the objectors, the following common points arise for consideration in these O.Ps.

A. **Point No.1**: Whether the draft PPA deserves to be approved?

B. **Point No.2**: If the answer to Point No.1 is in the affirmative, what should be the appropriate tariff? and

C. **Point No.3**: Are any modifications necessary in the PPA terms?

The Commission will address these points in the following paragraphs.

#### **Point No.1**

14. The objectors contend that there is scope for the availability of energy from HNPCL and Simhapuri on a long-term basis and APDISCOMs are bound to take it and so, even without the consideration of RTPP-IV, the DISCOMs would be facing a surplus energy scenario in the coming years. However, it may be noted in this regard that the surplus energy scenario in the near future should not be a deterrent for procurement of power from projects like RTPP-IV which cater to the requirement of power on a long-term basis. The need for power has to be judged based on the exercises applying the Guidelines for Load Forecasts, Resource Plans and Power Procurement issued by the Commission in December 2006. It is also to be kept in mind that the project was conceived as far back as the year 2007 and the original PPA was entered into in the year 2010 itself. Further, RTPP-IV was already considered as a generation source in the Order on the Load Forecasts and Resource Plans issued by the Commission for the 4<sup>th</sup> and 5<sup>th</sup> Control Periods on 15-04-2019, and that Order has achieved finality. It is to be understood that the capacity of the instant project, has been under consideration before the Commission through public consultation process but was commissioned on 29-03-2018 and thus being the existing source of supply, it was included in the sources of supply considered for the 4th Control Period, as proposed by the DISCOMs, in the Commission's order dated 15-04-2019. Pending the approval of the PPA, APGENCO has been supplying power to the DISCOMs. The parties have thus reached a point of no return. In this situation, it would not be appropriate to decline approval on the sole basis that presently DISCOMs have surplus power. However, at the same time, the Commission would endeavour to fix reasonable tariff. Moreover, in the backdrop of a substantial increase in solar and wind energy, the need for more base load generation from plants like RTPP-IV (particularly keeping

in view the likely retirement of the old APGENCO thermal stations in the near future and uncertainty in the availability of power from HNPCL and Simhapuri on a long term basis) is very much essential to balance the intermittent generation from the solar and wind plants, safeguard the grid and maintain uninterrupted supply to the consumers. RTPP-IV is a State Government-owned unit and a substantial amount of public money was already invested in it which would go waste if the consent to the PPA is denied. Further, to increase the competition and prevent monopolistic trends, there is a need to maintain a mix of public and private generation plants which is possible only if the procurement of power from the units like RTPP-IV is encouraged. Therefore, the Commission is of the view that the PPA deserves approval.

Point No.1 is accordingly answered.

**Point No.2**

15. **Determination of Tariff**

**A. Capital Cost**

The Capital Cost projected by the APGENCO in its filings is Rs. 4853.38 Crores. APDISCOMs contend that the Capital Cost should be limited to Rs.3505.4 Crores (hard cost Rs.2928 Crores at Rs.4.88 Crores per MW as on SCOD + IDC-Rs.400 Crores + taxes and duties- Rs.163.18 Crores + rehabilitation and resettlement-Rs.14.22 Crores). The difference between APGENCO's claim of Capital Cost and that accepted by APDISCOMs' is Rs.1347.98 Crores which arose mainly on account of IDC. Another major contention of APDISCOMs' is that RTPP-IV is an expansion project as mentioned in the various documents submitted by APGENCO. Thus, IDC and Greenfield status of RTPP-IV are two major issues in the matter of determination of Tariff of RTPP-IV. The Commission has dealt with these issues in detail infra.

**Interest during construction (IDC)**

The petitioner APGENCO claimed IDC which covers the entire period of construction including the delayed period. The project was delayed by 41 months. The petitioner has given the following reasons for the delay.

Problems in the acquisition of part of the land, unrest by land losers and default of the BOP (Balance of Plant) contractor and consequent change of the BOP contractor.

The Commission is of the view that it is not necessary to discuss in detail the merits of each of these reasons, since it proposes to follow Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, in the absence of its own Regulations, in terms of Clause 10 of Regulation 1 of 2008. The question however to be considered is which regulation of CERC has to be followed in the present case. Under the proviso to Clause 2 of 2014 Regulations, the said Regulations were made applicable to the project or a part thereof declared under commercial operation before the commencement of the 2014 regulations and whose tariff has not been finally determined by the Commission till that date. Admittedly, the commercial operation of the project under consideration has been declared in the year 2018 and its tariff has not been finally determined. Even the 2019 regulations also made 2014 regulations applicable to a project such as the present one, as it satisfies the twin criteria of the declaration of the unit under commercial operation and non-fixation of tariff therefor before the date of commencement of 2019 Regulations. Accordingly, the Commission has decided to follow 2014 Regulations of the CERC wherever necessary, for determination of tariff.

Regulation 12 deals with the controllable and uncontrollable factors in the matter of cost escalation impacting contract prices, IDC and IEDC of the project. Under clause 1 of the said Regulation, land acquisition issues and delay in the execution of the project on account of the contractor, supplier or agency of the generating company or transmission licensee are included as controllable factors. Force majeure events are treated as uncontrollable factors under clause 2 of Regulation 12. Regulation 11 of the said regulation deals with IDC and IEDC. It provides that in case of delay in achieving SCOD, the generating company shall be required to furnish detailed justification with supporting documents for such delay including prudent phasing of funds. It further provides that on such examination, if the delay is found not attributable to the generating company and if the same is due to uncontrollable factors as specified in Regulation 12, IDC may be allowed after due prudence check. It is therefore clear from these regulations, that prudence check of reasons for the delay is envisaged by the regulations only in respect of uncontrollable factors, implying thereby that no such prudence check could be undertaken with regard to the controllable factors.

The Learned Counsel for APGENCO however placed reliance on the order dated 27.04.2011 in appeal No. 72 of 2011 of the Appellate Tribunal for Electricity

(APTEL) in the matter of Maharashtra State Power Generation Co. Ltd Vs Maharashtra Electricity Regulatory Commission. The APTEL has undertaken the exercise of prudence check while considering various delay factors. A perusal of the said order shows that the APTEL has considered Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations 2009, which were in force at that time and observed that the CERC has not laid down any benchmark norms for prudence check and that its regulations only indicate the area of prudence check including cost overrun and time overrun. The APTEL found fault with the Maharashtra State Commission for not examining the reasons for the delay in commissioning the project and attributed the entire time overrun related cost with respect to the contractual schedule agreed with BHEL to the Generating Company and that this was not prudence check. In the absence of specific regulations, the APTEL has undertaken a prudence check of time overrun related costs.

On a comparison of 2009 Regulations with that of 2014 Regulations, which replaced the former regulations shows that the CERC has dispensed with the concept of prudence check as envisaged in its 2009 Regulations in respect of the controllable factors and confined the same to the uncontrollable factors for considering the inclusion of IDC and IEDC for delays in the tariff. Therefore, in the Commission's view, the APTEL's order in appeal no. 72 of 2010 has no application as the present exercise is undertaken in terms of 2014 regulations, which, as aforesaid, has done away with the concept of prudence check in respect of the controllable factors. As all the above noted reasons pleaded by the petitioner fall within the category of the controllable factors, IDC for the delay period cannot be allowed.

In addition to the reasons mentioned above, the petitioner has also pleaded that the work progress was hampered by two months due to heavy rainfall at the site during October and November 2011. In the response by the DISCOMs, it has been stated that as per the Indian Meteorological Department's report, rainfall in Kadapa District was 221.7 mm in October 2011 and 36.4 mm in November 2011. In its reply, the petitioner stated as under:

*"Due to exceptionally heavy rains of over 200 mm in August and September and severely aggravated by the exceptionally heavy rain of 221 mm in October 2017, approach roads were badly affected from October 2017 due to waterlogging. Due to the slippery silt on the path, vehicle movement got restricted and had to be*

*completely stopped. The labour colony was completely submerged by rainwater and the labour had to be vacated to a safer place. Hence, all the works at site got badly affected and the works were almost stalled during the above period, apart from the panic situation. The works could be restored only after the water clogging was removed, mud on the road was cleared, and the water stagnation in the labour colony was completely evacuated. The labour could be remobilized only after the situation had come under control, i.e., by the end of November 2017. The site photos during the rains clearly show the situation at site, roads and labour colony.”*

A Perusal of the copy of the meteorological report containing district wise monthly rainfall for the year 2017 filed by the DISCOMs shows that the rainfall in Kadapa District was 224.7 mm in August, 181.9 mm in September, 221.7 mm in October and 36.4 mm in November. These statistics clearly establish that the rainfall during the three months of August to October was unusually heavy. We are therefore convinced with the stand of the petitioner that due to heavy rainfall, the worksite got badly affected, stalling the progress of the work for a period of two months. As this constitutes force majeure which is an uncontrollable factor as per the CERC guidelines, we are inclined to allow IDC for a period of two months only. To summarize, the Commission allows IDC for two months only against the claim of IDC for 41 months by APGENCO.

#### **Greenfield status**

The petitioner claimed that the existing stages 1 to 3 could not meet the requirements of the Stage-IV of RTPP and it falls under the category of Greenfield project. In its original petition, the petitioner has claimed the capital costs based on the purported actual cost. In their counter, the respondents have averred that as the project is expansion type, the benchmark hard cost as per December 2011 indices for 1x600MW extension type power plants determined in the CERC order dated 04.06.2012 in case No.L-1/103/CERC/2012 in the matter of Benchmark Capital Cost(Hard cost) for Thermal power Stations with Coal as Fuel, is Rs.4.47Cr/MW. In support of this stand, they relied on Annexure-II of the CERC order dated 04.06.2012 in the matter of “Benchmark Capital cost .....” (Supra). In its rejoinder, the petitioner has stated as under:

*“The averments in paragraph 12 appear to have been made with a view to contend that the present thermal power station is a brown-field project and not a greenfield project in relation to such terms as in the CERC Order L-1/103/CERC/202 dated*

*04.06.2012 which is a guideline for prudence check on the principle of identifying exceptions and not any regulation. Even so, the view that the present project is a brown-field project is wholly misconceived even in terms of that order.*

*Para 12.3 sets out the criteria for distinguishing brown-field and greenfield projects. In Brownfield projects, existing facilities of another station such as office, canteen, workshop, guest-house, etc are used, and existing construction resources such as water, power, fuel, Genset, etc are utilized, and the available engineering experience at existing location is utilized. None of these conditions apply to the present thermal power station. It cannot therefore be considered as a brown-field project.*

*In the present project, totally new facilities such as Service Building with 4 Floors, canteen, Pre-Treatment Plant, CW Pump House, Chlorination Building, DM Plant and Neutralization pit, Fuel Oil Pump house, Coal Handling Plant, Separate Gate Complex, Raw Water Reservoir etc., are established, and all construction resources such as water, power, fuel, Genset etc., are newly and separately established, and the engineering facilities and resources have been established anew and separately. All conditions for the green-field project are satisfied. The present project is indisputably a green-field project in terms of that order.”*

In support of its plea that the unit should be conferred with Greenfield status, the petitioner relied upon order dated 04-06-2012 of the Central Electricity Regulatory Commission in case No.L-1/103/CERC/2012 in the matter of Benchmark Capital Cost (Hard cost) for Thermal Power Stations with Coal as Fuel.

A perusal of the CERC order in Benchmark capital cost..... (supra) shows that it has fixed Benchmark hard cost at Rs.4.87 Cr./MW in case of Greenfield projects and Rs.4.47Cr./MW in case of extension projects which are otherwise called Brownfield projects. In para 12.3 of its order, the CERC has enumerated the distinctive features/differences between the Greenfield project and Brownfield project as under:

*“The difference, as worked out, between the two costs is on account of: (i) Greenfield project requires totally newly established facilities such as office, canteen, workshop, guest house, etc., which is not so in the case of brownfield project. (ii) Greenfield project also requires establishment of construction resources such as water, power, fuel, Genset, etc., while in the case of brownfield project, the existing construction resources are utilized. (iii) In brownfield project, the existing*

*turbine building is extended while in Greenfield project, a new turbine building has to be set. (iv) In brownfield project, the available engineering experience at existing location is utilized thereby reducing the cost while in Greenfield project, these needs to be established anew.”*

As per the above-extracted criteria evolved by the CERC, a project is qualified as a Greenfield project if the cost is incurred in the establishment of facilities falling under sub-paras (i) and (ii) of Para 12.3. From the rejoinder averments, it is evident that the petitioner has not claimed to have established a separate workshop, a separate office and a separate guest house. It has also not claimed to have established construction resources such as water, power, fuel, Gen-set etc., However, it has claimed that it has created facilities such as service building of 4 floors, pre-treatment plant, CW pump house, chlorination building, DM plant and neutralization pit, fuel oil pump house, coal handling plant, separate gate complex etc. In the Commission's view, all these facilities are meant for post-construction operations of the plant and they do not fall under the category of construction resources except the canteen which has been specifically mentioned by the petitioner. Though the petitioner made a vague averment that it has separately established all construction resources such as water, power, fuel and gen-set etc., it has not adduced any evidence in support of its plea. In our opinion, by creating one or two facilities such as canteen, an extension project cannot be treated as a Greenfield project. It is interesting to note that on more than one occasion, the petitioner itself has claimed its status as an extension project. The following are the instances in this regard.

- I. At part-1 and form-2 of the tariff filings by APGENCO in respect of RTPP-IV, the project was mentioned as an expansion in the same power plant area at Rayalaseema.
- II. APGENCO in the letter dated 20.12.2008 to the Collector, Kadapa district mentioned that some land has to be acquired for expansion unit i.e., RTPP-IV.
- III. In the LOI issued to M/s BHEL on 14.10.2010, the period for the completion of trial operations was mentioned as 42 months from zero date. The timeline mentioned above is the same as the timeline specified in the CERC Tariff Regulations, 2014 for completion of expansion units of 600 MW size.

In addition to the above, the Ministry of Environment and Forest, in its letter dated 21.10.2010, while issuing environmental clearance, clearly stated that the petitioner

has proposed the project as an expansion by the addition of setting up of 1x600 MW (Stage- IV) at Rayalaseema Coal Based Thermal Power Plant in Kadapa district vide letter dated 27.08.2010. The MOEF/Government of India granted environmental clearance as an expansion of the existing project by the addition of setting up a 1x600 MW unit.

Based on the above discussion, the Commission is of the view that the project has to be treated as a "Brownfield project/expansion project" and not as a Greenfield project.

In the light of the above findings, we shall now arrive at the Capital Cost of the project. APGENCO has not furnished the details of the actual drawl of loans from PFC during the period from zero date to SCOD. Without these details, it is not possible to compute the IDC from zero date to SCOD + two months (since two months of delay is allowed). Without IDC, the Capital Cost also cannot be computed. Therefore, the Commission has decided to compute the Capital Cost on a normative basis based on CERC benchmark hard cost. In this regard, it may be noted that the Commission adopted the same procedure in respect of SDSTPS Stage-I also while computing the Capital Cost of the project. Accordingly, the benchmark hard cost of Rs.4.47 Crores per MW determined by CERC for 600 MW Brownfield unit as of Dec'2011 has been taken as the base by the Commission. This base cost has been escalated further by 5% per year(the same percentage was adopted in the case of SDSTPS Stage-I) till the SCOD+ two months to arrive at the hard cost as on SCOD+ two months. The hard cost computed in the above manner is Rs.3104.75 Crores. The above hard cost excludes taxes & duties, land, rehabilitation & resettlement, start-up fuel costs of Rs.163.18 Crores, Rs.27.44 Crores, Rs.14.22 Crores, and Rs.12 Crores respectively. After adding the above components to the hard cost, the Capital Cost of the project excluding IDC works out to Rs.3321.59 Crores. For the computation of IDC on a normative basis, the above Capital Cost of Rs.3321.59 Crores has been split as debt and equity in the ratio of 70:30 on a normative basis (Regulation 1 of 2008 issued by APERC permits the splitting of Capital cost as debt and equity in the ratio of 70:30 on normative basis irrespective of the actual debt/equity ratio). After the above split, the loan component on a normative basis works out to Rs.2325.11 Crores. This amount has been spread proportionally across the 44 months on a year-wise basis (as per CERC Tariff Regulations, 2014, the schedule period for completion of Brownfield

coal-based thermal unit of 600 MW capacity is 42 months + 2 months to account for the delay due to rains). Further, the loan spread across each year as above has been assumed to be drawn in the middle of that year. The IDC on a normative basis on the above draws at an interest rate of 12.43% (the weighted average rate of interest at which APGENCO availed loans from PFC) works out to Rs.609.77 Crores. (See Table No. 1 of the Schedule for details). **The total Capital Cost after adding the above IDC is Rs.3931.36 Crores (Rs.3321.59 Crores + Rs.609.77 Crores).** Since the Commission has disallowed the IDC attributable to the abnormal delay in the commissioning of the project, APGENCO is permitted to retain the Liquidated Damages collected from the contractors. **Thus, the Capital Cost arrived at by the Commission is Rs. 3931.36 Crores which shall constitute the basis for the determination of fixed costs.** (See Table No. 2 of the Schedule for details).

#### **B. Depreciation**

In the Petition, APGENCO claimed depreciation amounts at Ministry of Power (MOP) rates in accordance with Clause 12.2(b) of Regulation 1 of 2008 notified by APERC. The MOP rates are higher than the depreciation rates specified in the CERC Tariff Regulations, 2014. During the hearings, APDISCOMs objected to the adoption of MOP rates and requested the Commission to consider CERC rate only for computation of depreciation. APGENCO also agreed to the adoption of the CERC rate. As per Clause 10 of APERC Regulation 1 of 2008, the norms of operation specified in the Regulation shall not preclude the generating company and the distribution licensee from agreeing upon improved norms of operation and in such a case, such improved norms shall be applicable for the determination of tariff. Further, adoption of the CERC rate will avoid front-loading of the tariff which benefits the consumers. Therefore, the Commission has decided to determine the depreciation accordingly.

As per Clause 12.2 of APERC Regulation 1 of 2008, land is not a depreciable asset and shall not be included in the Capital Cost for computation of depreciation. Accordingly, depreciation has been computed by excluding land cost. The following table indicates the depreciation amounts determined by the Commission for various years at a weighted average rate of 5.28%.

**All figures in Rs. Crores**

FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
206.13	206.13	206.13	206.13	206.13	206.13

**C. O&M Expenses**

In the MYT order for FY 2019-24, the Commission has determined the O&M expenses for other APGENCO thermal stations based on the norms specified in the CERC Tariff Regulations, 2019 after factoring in the 20% pay revision commitment of APGENCO employees. The O&M expenses for RTPP-IV computed in the above manner are found to be higher than the O&M expenses claimed by APGENCO for FY 2019-24. Therefore, the Commission has decided to adopt the O&M expenses filed by APGENCO. For the FY 2018-19, APGENCO has not separately claimed O&M expenses in the Petition. Therefore, for this year, it is appropriate to adopt the normative O&M expenses specified in the CERC Regulations, 2014 for 600 MW units for the FY 2018-19. Accordingly, the O&M expenses approved by the Commission are indicated below.

**All figures in Rs. Crores**

FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
110.28	117.60	125.41	133.74	142.62	152.09

**D. ROCE (Return on Capital Employed)**

As per Clause 10.13 of Regulation 1 of 2008, the debt-equity ratio as on the date of commercial operation shall be taken as 70:30 for determination of tariff irrespective of the actual quantum of debt and equity. Accordingly, the Commission split the Capital Cost of Rs.3878.39 Crores determined at Para 10.A. above as debt and equity in the ratio of 70:30.

As per Clauses 12.1 (a) & (b) of Regulation 1 of 2008 issued by APERC, ROCE is computed by multiplying the (Gross Fixed Assets - Accumulated Depreciation + Working Capital) by WACC (Weighted Average Cost of Capital). Gross Fixed Assets in the present case is the Capital Cost determined by the Commission. WACC is the weighted average of return on equity and interest on loan computed in accordance with the formula specified in Clause 12.1 (b) of Regulation 1 of 2008. As per Clause 12.1.b of Regulation 1 of 2008, the Cost of Debt shall be determined at the beginning of the Control Period after considering the Generating Company's proposals, the present cost of debt, market conditions and other relevant factors and return on equity shall be determined at the beginning of the Control Period after considering

CERC norms, Generating Company's proposals, previous years' D/E mix, risks associated with generating business, market conditions and other relevant factors. In the MYT order of APGENCO stations for FY 2019-24, the Commission adopted 15.5% as return on equity and 10.2% as the cost of debt. Therefore, the Commission adopts the same rates for RTPP-IV also. Based on the above figures, the WACC works out to 11.79% which is almost equal to the 11.80% claimed by APGENCO. Therefore, the Commission accepts 11.80% claimed by APGENCO.

As per Clause 12.4 of Regulation 1 of 2008, Working Capital includes the cost of coal & oil for one month at target availability, O&M expenses for one month, Maintenance spares @ 1 percent of the historical cost as per indexation (4%) of O&M norms and Receivables for sale of electricity equivalent to two months of the sum of annual fixed charges and energy charges calculated at target availability. The Commission determined the Working Capital as per the above Clause. The Working Capital amounts for various years are indicated below. (See Table No. 3 of the Schedule for details)

**Working Capital (All figures in Rs. Crores)**

FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
522.69	522.03	521.55	521.27	521.21	521.36

The Commission computed the ROCE in accordance with the formula specified in Regulation 1 of 2008 after determining its constituent components as above i.e., Gross Fixed Asset, Depreciation, Working Capital and WACC. The ROCE amounts are indicated in the following table. (See Table No. 4 of the Schedule for details)

**ROCE (All figures in Rs. Crores)**

FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
501.25	476.85	452.47	428.12	403.79	379.48

**E. Summation of Fixed Costs**

The fixed costs computed by the Commission by summing up the ROCE, O&M expenses and Depreciation and the fixed costs claimed by APGENCO are indicated below.

**(All figures in Rs. Crores)**

Financial year	Claimed by APGENCO (A)	Approved by APERC (B)	Difference (A)-(B)
2018-19	353.00	817.66	-464.66
2019-20	1138.43	800.58	337.85
2020-21	1101.73	784.01	317.72
2021-22	1065.57	767.99	297.58
2022-23	1029.99	752.53	277.46
2023-24	995.02	737.70	257.32
Total	5683.74	4660.47	1023.27

**Note:** The above approved fixed charges are at normative availability and claim should be limited to actual availability.

**F. Variable Costs**

- I. Clause 13.1.a. of Regulation 1 of 2008 specifies the formula for the computation of variable costs (Rs./kWh). The components used in the formula are landed cost of fuel, GCV of fuel, normative values of specific oil consumption, auxiliary consumption and Station Heat Rate. Regulation 1 of 2008 does not specify the normative values for specific oil consumption, auxiliary consumption and Station Heat Rate for 600 MW units. Therefore, the Commission has adopted the norms specified in the CERC Tariff Regulations, 2019 for the 600 MW units in terms of Clause 10 of Regulation 1 of 2008. For the landed cost and GCV of fuel, the Commission considered the values based on the information furnished by APGENCO i.e., the landed price of coal, the price of oil, the GCV of coal and the GCV of oil as Rs.4354/MT, Rs.39500/KL, 3450 Kcal/Kg and 9728 Kcal/L respectively. The variable cost computed as per the above formula works out to Rs.3.21/kWh. (See Table No. 5 of the Schedule for details).
- II. The above cost is indicative only. If there are any variations in the landed cost of fuel or freight charges or GCV of fuel, the variable costs will vary from the indicated value, which shall be paid by the APDISCOMs.
- III. The FCA (Fuel Cost Adjustment) bills shall be paid limited to 15% of the above indicated value. Variation over and above 15% of the indicated value is subject to scrutiny and approval of the Commission.
- IV. APDISCOMs have pointed out that APGENCO is not maintaining coal stocks at generating stations as per norms. As the working capital requirement has been determined in this order by factoring in one month of coal inventory, APGENCO is directed to maintain coal stock accordingly.

V.APGENCO in coordination with the licensees shall optimize the variable cost by following the guidelines issued by the Central Electricity Authority (CEA) vide its letter dated 08-06-2016 on the methodology for flexibility in utilization of domestic coal for reducing the cost of power generation. Any diversion of coal from station to station shall be strictly in accordance with the guidelines communicated by the CEA but not on an unplanned basis which will increase the landed cost of coal. If diversion of coal is done without following the guidelines of CEA, all such cases shall be brought to the notice of the Commission explaining the circumstances, necessity and price implication on variable cost due to such unplanned diversions.

G. Income tax, Incentives and other charges shall be claimed and paid as per Regulation 1 of 2008.

16. APGENCO shall recover the tariff as determined in this order from APDISCOMs in proportion to the power supplied to them.
17. From the above, it is seen that the Capital Cost approved by the Commission for this project is Rs.3931.36 Crores as against the claim of about Rs.4853 Crores made by APGENCO i.e., a reduction of about Rs.922 Crores from the claim. The per MW Capital Cost of the project works out to Rs.6.55 Crores. This cost is below the Rs.6.72 Crores/MW approved by the Commission for SDSTPS stage-I that was commissioned in 2015. The fixed cost of the project for the FY 2020-21 at normative availability factor works out to Rs.1.86/kWh. This project has already been supplying power to the DISCOMs. The variable cost worked out by the Commission for this project is Rs.3.21/kWh. The Commission has endeavoured to reduce these costs to the extent possible by adopting CERC operating norms which are more stringent. Other factors that influence the variable costs like prices of fuel and their GCVs are mostly beyond the control of APGENCO. The variable cost of this project (Rs.3.21/kWh) is less than that of RTPP-I, RTPP-II and RTPP-III projects (Rs.3.36/kWh) approved by this Commission in the MYT order for APGENCO stations for the control period FY 2019-24.
18. Considering various factors discussed above, the Commission is of the view that approval of PPA as per the tariff determined above, is not detrimental to the interests of the consumers. On the contrary, non-approval of PPA is against public interest as huge public money has been invested in the project which will remain a dead asset if PPA is not approved. As discussed above, there is a necessity to use

the project as a base load station for maintaining proper grid balancing and grid integrity due to its reliable nature. Added to this, from the time of commissioning of this project, power is being utilized by the APDISCOMs. The tariff determined is also not far excessive so as to impose a heavy burden on the DISCOMs. Accordingly, the Commission holds that the PPA deserves to be approved as per the tariff determined by the Commission.

Point No. 2 is accordingly answered.

**Point No.3**

19. The Commission examined the draft PPA filed by the DISCOMs and is of the view that certain amendments to the PPA are required to balance the interests of all the stakeholders and also to ensure that the PPA is compliant with the relevant Regulations. The amendments fall into two groups. Group 1 covers the amendments that need to be carried out based on the objections raised during the hearings on certain Articles in the draft PPA. Group 2 covers the amendments that need to be carried out based on the Suo-motu observations of the Commission.
20. The following paragraphs discuss in detail the amendments that need to be carried out under both the groups.

**Group I:**

**A. Article 2.3.4(Backing down limit of unit)**

Clause 2.3.4 of the PPA says: *“For RTPP Stage-IV, gross generation of unit can be backed down up to the minimum technical limit of the unit and the technical minimum limit for the plant shall be 55%. The Unit shall be compensated depending on the average unit loading as per the regulation 6.3 B of CERC regulations (IEGC), 2010.”*

The Commission is of the view that Regulation 6.3.B of CERC Regulation (IEGC), 2010 applies to CGS (Central Generating Station) or ISGS (Inter-State Generating Station) only. Further, neither Regulation 1 of 2008 nor the AP State Grid Code provides for any compensation to the generator based on the average loading of the units.

**Besides absence of a provision in the regulations or Grid Code framed by the Commission for payment of compensation, it is observed that in no other PPA relating to the thermal stations in the State of AP such a clause is incorporated. Therefore, the last sentence of Article 2.3.4 shall be deleted.**

**B. Article 3.11 (Deemed generation)**

The first Para of Article 3.11 of the PPA states as follows:

*“Deemed Generation: Stoppage of generation due to problems in power evacuation for generating stations treated as the deemed generation for the purpose of computation of availability for payment of fixed charges”.*

The problems in power evacuation are not attributable to APGENCO. Hence, denying fixed charges on account of power evacuation problems is not justified.

Therefore, Article 3.11 in the draft PPA is in order.

**C. Article 3.11(Deemed Generation)**

The last para of Article 3.11 of the PPA states that *“in case non-availability of fuel, APDISCOMS & APGENCO will decide and finalize in consultation with Coal companies at that time.”*

Variable (Fuel) charges constitute a significant component of the tariff. Any increase in the cost of fuels like coal will adversely affect the tariff which is ultimately passed on to the consumers.

Therefore, the last Para of Article 3.11 of the PPA shall be substituted as follows;

***“In case of non-availability of fuel leading to procurement of fuel at higher prices, APDISCOMs & APGENCO shall seek the prior approval of the Commission if such procurement cost exceeds 15% over and above the approved variable cost.”***

**D. Article 7 (Force Majeure)**

The last Para of Article 7 of the PPA states as follows;

*“The generator is entitled to claim only fixed charges and cannot claim any consequent losses during Force Majeure period. In case any payments are received from the contractor or coal supplier by way of compensation by APGENCO and compensation received from Insurance towards Fixed cost component if any, in the event of any Force majeure, then APGENCO shall be liable pass on such benefit to APDISCOMs.”*

In O.P.No. 52 of 2019, the Commission approved the following ‘Force Majeure’ clause to be incorporated in the PPA of SDSTPS.

*“The generator is entitled to claim only fixed charges and cannot claim any consequential losses during force majeure. For this purpose, the APPDCL will issue a notice for force majeure to the APDISCOMs for concurrence/acceptance.*

*If the APDISCOMs, based on the circumstances, accept/approve APPDCL's claim of force majeure, APDISCOMs will pay the fixed cost. If it is not approved for valid reasons, the APDISCOMs will not pay the fixed cost; provided that the RoE element of fixed cost will not be paid for any force majeure period. In case any payments are received from the contractor or coal supplier by way of compensation by APPDCL and compensation received from Insurance towards Fixed cost component, if any, in the event of any Force majeure, then APPDCL shall be liable to pass on such benefit to APDISCOMs".*

Therefore, keeping the above in view, the last para of Article 7 shall be substituted with the following para.

*"The generator is entitled to claim only fixed charges and cannot claim any consequential losses during force majeure. For this purpose, the APGENCO will issue a notice for force majeure to the APDISCOMs for concurrence/acceptance. If the APDISCOMs, based on the circumstances, accept/approve APGENCO's claim of force majeure, APDISCOMs will pay the fixed cost. If it is not approved for valid reasons, the APDISCOMs will not pay the fixed cost; provided that the RoE element of fixed cost will not be paid for any force majeure period. In case any payments are received from the contractor or coal supplier by way of compensation by APGENCO and compensation received from Insurance towards Fixed cost component, if any, in the event of any Force majeure, then APGENCO shall be liable to pass on such benefit to APDISCOMs. **If the APGENCO is not in agreement with APDISCOMs' decision on force majeure, it is entitled to raise a dispute before the Commission for adjudication.**"*

## **Group 2**

### **E. Parties to the PPA**

As per the PPA, APGENCO, APEPDCL and APSPDCL are the parties.

A new DISCOM named APCPDCL (Andhra Pradesh Central Power Distribution Company Limited) was carved out of the existing DISCOM, APSPDCL and the same came into existence w.e.f. 01-04-2020 after the Commission issued Distribution License vide Lr.No.E-265/DD-Dist/2019, date: 31-03-2020.

**Therefore, APCPDCL shall also be added as a party to the PPA.**

#### **F. Article 1.5 (Definition of APERC)**

Article 1.5 of the PPA defines APERC as follows:

*“APERC: means the Andhra Pradesh Electricity Regulatory Commission constituted under Andhra Pradesh Electricity Reform Act, 1998.”*

The above definition needs to be amended as the new Electricity Regulatory Commission, APERC was constituted under the Electricity Act, 2003 by the GoAP for the residual State of Andhra Pradesh w.e.f. 01-08-2014 vide G.O.Ms.No.35, Energy (Power.III) Department, Dt.01.08.2014, after carving of separate Telangana State out of the undivided AP State.

**Therefore, the definition of APERC under Article 1.5 shall be amended to reflect the above change, as below:**

*APERC: means the Andhra Pradesh Electricity Regulatory Commission constituted under the Electricity Act, 2003 vide G.O. Ms. No. 35 Energy(Power. III) Department, Dt.01/08/2014, by the residual State of Andhra Pradesh.*

#### **G. Article 3.2.5 (Recovery of Fixed Charges)**

Article 3.2.5.(c) of the PPA states as follows;

*“Target availability of the unit/station for recovery of annual full fixed charges shall be 80%. APGENCO shall receive full Annual Fixed Charges if Availability in the Tariff Year is not less than 80%. If Availability is less than 80%, Annual Fixed Charges shall be allowed on pro-rata basis.”*

Regulation 1 of 2008 notified by APERC does not specify percentage Target Availability for recovery of full fixed charges in respect of 600 MW coal based thermal units. Therefore, the Commission has decided to adopt the Target Availability of 85% specified by CERC for 600 MW coal based thermal units in the CERC Tariff Regulations, 2019 in terms of Clause 10 of Regulation 1 of 2008.

**Therefore, the 80% Target Availability mentioned under Article 3.2.5. (C) Shall be replaced with 85%.**

#### **H. Article 3.5(Norms of Operation)**

Article 3.5 states as follows;

3.5.1. Auxiliary consumption: 6.0 % with Cooling towers.

3.5.2. Gross Station Heat Rate: 2425 Kcal/kWh.

3.5.3. Specific oil consumption: 2.0 ml/kWh.

3.5.4. Windage and Transit losses: The windage and Transit losses of coal shall be 0.8%. The above norms will be considered till the issuance of norms by APERC for 600 MW units.

Regulation 1 of 2008 notified by APERC does not specify any operational norms for 600 MW coal-based thermal units. Therefore, the Commission has decided to adopt the operating norms specified by CERC for 600 MW coal-based thermal units in the CERC Tariff Regulations, 2019 in terms of Clause 10 of Regulation 1 of 2008. As the proposed norms are at variance with the CERC regulations, the former shall be substituted with the norms fixed under the CERC regulations which are as follows:

**3.5.1. Auxiliary consumption: 5.75% % with Cooling towers.**

**3.5.2. Gross Station Heat Rate: 2390 Kcal/kWh.**

**3.5.3. Specific oil consumption: 0.5 ml/kWh.**

**3.5.4. Windage and Transit losses: The windage and Transit losses of coal shall be 0.8%.**

**I. Article 3.6 (Fuel Cost Adjustment)**

Article 3.6 of the PPA states as follows;

*“FCA shall be made at the end of each quarter as illustrated in Annexure-V.”*

Adjustment of Fuel Cost at the end of each quarter instead of at the end of each month distorts the merit order dispatch implemented by APSLDC. Therefore, the FCA bills shall be claimed at the end of each month in line with the practice being followed by CGS and IPPs.

***Accordingly, Article 3.6 shall be amended as “FCA bills shall be claimed at the end of each month as illustrated in Annexure-V.”***

**J. Article 3.7(Incentive)**

Article 3.7.a. of the PPA states that Target Plant Load Factor for incentive shall be 80%.

As per Regulation 1 of 2008, % figures for Target Availability (for claiming full fixed charges) and Target Plant Load Factor (for claiming incentive) are the same. **Accordingly, the Plant Load Factor for claiming the incentive in respect of RTPP-IV should also be the same as the Plant Availability Factor i.e., 85%.**

**K. Annexure-III(Computation of Variable Charges)**

Para 'a' of Annexure-III in the PPA states;

*“Energy charges shall cover fuel costs and shall be worked out on the basis of ex-bus energy sent out corresponding to scheduled generation as per the following formula.*

*Energy charges (Rs)= Rate of Energy charges in Rs/KWh X Ex-bus energy sent out corresponding to scheduled generation for the month in Kwh”*

*“(Q s) n= Normative quantity of secondary fuel oil in ml/KWh as per clause 11.1.4, as the case may be, and*

*AUX n = Normative Auxiliary Energy consumption as percentage of gross generation as per clause 11.1.2, as the case may be.”*

**As Intrastate ABT is not yet implemented in the State, Para 'a' shall be amended to the effect that until the implementation of Intrastate ABT in the State, the energy charges shall be based on the actual energy injected. Further, in the absence of specification of norms for normative secondary fuel oil consumption and normative Auxiliary Energy Consumption for 600 MW units by APERC, “(Q s) n” and “AUX n” shall be as specified by CERC in the CERC Tariff Regulations, 2019 as amended from time to time.**

**L. The percentage share of Capacity in the project for each DISCOM**

In the PPA no mention was made of the percentage share of Capacity in the project for each DISCOM.

**Therefore, an Article shall be included in the PPA indicating the percentage share of Capacity in the project for each DISCOM.**

Point 3 is accordingly answered.

21. In the light of the above discussion, the Commission hereby grants consent to the PPA with the tariff as determined and the conditions as modified above. The DISCOMs are directed to incorporate the changes as directed in the foregoing and submit the amended PPA signed by all the parties within 30 days from the date of this Order for final approval by the Commission.

The OPs accordingly stand disposed off.

**Thakur Rama Singh**  
Member

**Justice C.V. Nagarjuna Reddy**  
Chairman

**P. Rajagopal Reddy**  
Member

**ANNEXURE-I****List of Objectors (O.P.No. 33 of 2019)**

S.No	Objector	Address
1	Sri M. Venugopala Rao	Senior Journalist and Convenor, Centre for Power Studies, H.No.7-1-408 to 413, F-203, Sri Sai Darshan Residency, Balkampet Road, Ameerpet, Hyderabad – 500016.
2	Er. A. Punna Rao, FIE, FIPE	D.No: 59-2-1, 1st Lane, · Ashok Nagar, Vijayawada-520010
3	APGENCO	Respondent

**ANNEXURE-II****List of Objectors (O.P.No.35 of 2018)**

S.No	Objector	Address
1	Sri M. Venugopala Rao	Senior Journalist and Convenor, Centre for Power Studies, H.No.7-1-408 to 413, F-203, Sri Sai Darshan Residency, Balkampet Road, Ameerpet, Hyderabad – 500 016.
2	Sri CH. Subba Rao	Guntupalli, Ibrahimpatnam Mandal, Krishna (Dt)- 521 241
3	Sri Cherukuri Venugopala Rao	Federation of Farmers Association of Andhra Pradesh, H.No.1-191, Railway Wagon Work Shop Road, Guntupalli, Ibrahimpatnam Mandal, Krishna District – 521 241, Andhra Pradesh
4	Sri R. Shiv Kumar	FTAPCCI & AP Spinning Mills Association (AP SMA), Sai Plaza, 1st Floor, 1st Line, Chandramouli Nagar, Guntur – 522 007.
5	Dr K. Babu Rao	H. No 4-1-50/2, road No 3 , Snehapuri Colony , Hyderabad - 500076
6	Sir P Vijay Gopal Reddy	AP Ferro Alloys Producers Association, Flat No.101, Sai Brundavan Apartments, Dwarakapuri Colony, Punjagutta, Hyderabad – 82
7	APISCOMs	Respondents

**SCHEDULE****TABLE-1(IDC Calculations)**

Description	Amounts(Rs. Crores)				
	1st year	2nd Year	3rd year	4th year (8 months)	Total
Loan drawl	664.32	664.32	664.32	332.16	2325.11
Cumulative loan(including interest)	664.32	1369.92	2163.24	2723.00	6920.47
IDC	41.29	128.99	227.60	211.88	609.77

**TABLE-2(Capital Cost Calculations)**

Capital Cost Calculations (Rs.Crores)		
	Description	Amount
1	CERC Benchmark Hard Cost Dec'11	2682.00
2	CERC Hard Cost De'14 (escalation 5%)	3104.75
3	Taxes, R&R, Land, Startup fuel	216.84
4 =(2+3)	Capital Cost excluding IDC	3321.59
5	Normative loan(0.7*3321.59)	2325.11
6	IDC	609.77
7=(6+4)	Capital Cost including IDC	3931.36

**TABLE-3(Working Capital calculations)**

Item	Working Capital (Rs. Crores)					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
One month fuel cost	112.6	112.6	112.6	112.6	112.6	112.6
One month O&M expenses	9.19	9.80	10.45	11.15	11.89	12.67
One percent spares	39.31	40.89	42.52	44.22	45.99	47.83
Two months receivables	361.55	358.70	355.94	353.27	350.70	348.22
Working Capital	522.69	522.03	521.55	521.27	521.21	521.36

**TABLE-4 (ROCE calculations)**

ROCE (Rs. Crores)						
Item	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Capital Cost	3931.36	3931.36	3931.36	3931.36	3931.36	3931.36
Accumulated Depreciation	206.13	412.254	618.381	824.507	1030.63	1236.76
Working Capital	522.69	522.03	521.55	521.27	521.21	521.36
Net asset base	4,247.92	4,041.13	3,834.53	3,628.13	3,421.93	3,215.96
ROCE	501.25	476.85	452.47	428.12	403.79	379.48

**TABLE-5(Variable Cost calculations)**

Variable Cost Calculations						
Item	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Station Heat Rate(Kcal/kWh)	2390	2390	2390	2390	2390	2390
Auxiliary Consumption (%)	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%
Landed Cost of Coal(Rs/Ton)	4354	4354	4354	4354	4354	4354
GCV of Coal(KCAL/Kg)	3450	3450	3450	3450	3450	3450
GCV of oil (Kcal/L)	9728	9728	9728	9728	9728	9728
Price of oil (Rs/kL)	39500	39500	39500	39500	39500	39500
Specific Oil Consumption(ml/kWh)	0.5	0.5	0.5	0.5	0.5	0.5
Variable Cost(Rs./kWh)	3.21	3.21	3.21	3.21	3.21	3.21

