

**Filing of Mid-term review petition
for truing up of generation tariff for
2X600 MW Singareni Thermal
Power Plant for 2019-2022 and for
approval of revised tariff from 1st
April 2022 to 31st March 2024.**



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**BEFORE THE TELANGANA STATE ELECTRICITY
REGULATORY COMMISSION
HYDERABAD**

**CASE NO. OF 2022
(To be filled by the office)**

IN THE MATTER OF:

Filing of Mid-term review petition for truing up of generation tariff for 2X600 MW Singareni Thermal Power Plant for 2019-2022 and for approval of revised tariff from 1st April 2022 to 31st March 2024 in accordance with sections 62, 86.1(a) & 86.1(b) of Electricity Act 2003 read with regulation 3.8.2, 3.12, 27 and other applicable regulations of Telangana State Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) regulations 2019.

AND IN THE MATTER OF:

The Singareni Collieries Company- Limited (SCCL): Kothagudem Collieries, Bhadradri Kothagudem Dist, Telangana State - 507101; Represented by its authorized representative i.e., **Director (Finance), SCCL.**

PETITIONER

AND

1. Southern Power Distribution Company of Telangana Limited (TSSPDCL):
Corporate Office: # 6-1-50, Mint Compound, Hyderabad, Telangana-500 063.
2. Northern Power Distribution Company of Telangana Limited (TSNPDCL): H.No:
2-5-31/2, corporate Office, Vidyut Bhavan, Nakkalagutta, Hanamkonda,
Warangal, Telangana- 506001.

RESPONDENTS


**N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.**

N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.
KOTHAGUDEM - 507 101

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N. BALRAM, I.R.S
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.
KOTHAGUDEM - 507 101.

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Through


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

✓
Shri N. Balram
Director (Finance)
The Singareni Collieries Company Limited
Kothagudem Collieries
Bhadradi Kothagudem Dist,
Telangana State - 507101.

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540 EAST 57TH STREET
CHICAGO, ILL. 60637

(Form I)
(See clause 13 and 14)
General Heading for Proceedings
BEFORE THE TELANGANA STATE ELECTRICITY
REGULATORY COMMISSION
HYDERABAD
CASE NO. OF 2022
(To be filled by the office)

IN THE MATTER OF:

Filing of Mid-term review petition for truing up of generation tariff for 2X600 MW Singareni Thermal Power Plant for 2019-2022 and for approval of revised tariff from 1st April 2022 to 31st March 2024 in accordance with sections 62, 86.1(a) & 86.1(b) of Electricity Act 2003 read with regulation 3.8.2, 3.12, 27 and other applicable regulations of Telangana State Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) regulations 2019.

The Singareni Collieries Company Limited (SCCL): Kothagudem Collieries, Bhadradri Kothagudem Dist, Telangana State - 507101; Represented by its authorized representative i.e., Director Finance, SCCL.

PETITIONER

AND

1. Southern Power Distribution Company of Telangana Limited (TSSPDCL):
Corporate Office: # 6-1-50, Mint Compound, Hyderabad, Telangana-500 063.
2. Northern Power Distribution Company of Telangana Limited (TSNPDCL): H.No:
2-5-31/2, corporate Office, Vidyut Bhavan, Nakkalagutta, Hanamkonda,
Warangal, Telangana- 506001

RESPONDENTS

Place: Hyderabad

Date: 28.11.2022


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

(Form II)
(See clause 14 and 15)
General Heading for Proceedings
BEFORE THE TELANGANA STATE ELECTRICITY
REGULATORY COMMISSION
HYDERABAD
CASE NO. OF 2022
(To be filled by the office)

IN THE MATTER OF:

Filing of Mid-term review petition for truing up of generation tariff for 2X600 MW Singareni Thermal Power Plant for 2019-2022 and for approval of revised tariff from 1st April 2022 to 31st March 2024 in accordance with sections 62, 86.1(a) & 86.1(b) of Electricity Act 2003 read with regulation 3.8.2, 3.12, 27 and other applicable regulations of Telangana State Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) regulations 2019.

AND IN THE MATTER OF:

The Singareni Collieries Company Limited (SCCL): Kothagudem Collieries, Bhadradri Kothagudem Dist, Telangana State - 507101; Represented by its authorized representative i.e., Director Finance, SCCL.

PETITIONER

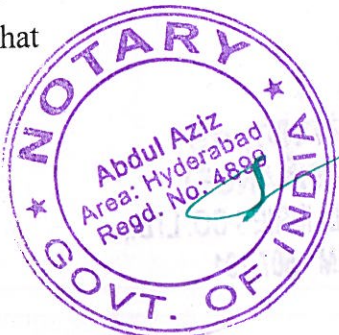
AND

1. Southern Power Distribution Company of Telangana Limited (TSSPDCL):
Corporate Office: # 6-1-50, Mint Compound, Hyderabad, Telangana-500 063.
2. Northern Power Distribution Company of Telangana Limited (TSNPDCL): H.No:
2-5-31/2, corporate Office, Vidyut Bhavan, Nakkalagutta, Hanamkonda,
Warangal, Telangana- 506001.

RESPONDENTS

Affidavit verifying the Petition

I, Shri N. Balram, son of N. Hunya aged 42 years residing at Bungalow no: S-4, Bungalows area, Lakshmidivipally, Kothagudem – 507101 do solemnly affirm and say that




N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

1. I am the Director Finance of the Singareni Collieries Company Limited (SCCL), the petitioner in the above matter and am duly authorized by the said petitioner to make this affidavit.
2. I have read and understood the contents of the accompanying filings of the proposals for Mid-term review petition for truing up of tariff for 2 x 600 MW Singareni Thermal Power Plant for 2019-2022, and for approval of revised tariff from 1st April 2022 to 31st March 2024 of 2 x 600 MW Singareni Thermal Power Project in Jaipur, Mancherial, now filed by Petitioner before this Hon'ble Commission. The statements made in paragraphs of the petition accompanying affidavit now shown to me are true to my knowledge and are derived from official records made available to me and are based on information and advice received which I believe to be true and true.

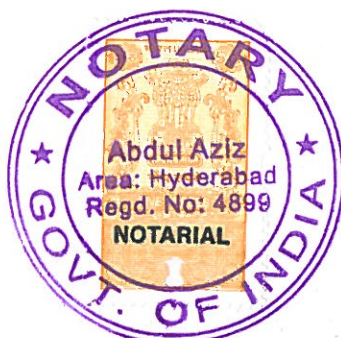
I Solemnly affirm at Hyderabad on 28th day of November, 2022 that the contents of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed there from.

Place: Hyderabad
Date: 28.11.2022

(Shri N. Balram)

N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

ATTESTED



28 NOV 2022

ATTESTED

ABDUL AZIZ, B.A.L, LL.M
ADVOCATE-NOTARY
Appointed by the Govt. of India
Begumpet, Hyderabad, T.S
Ph: 9652395028

NOTARY
ATTESTED

THE NATIONAL ARCHIVES
COLLECTIONS DEVELOPMENT
AND ACQUISITION DIVISION
1000 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, D.C. 20540

**Filing of Mid-term review petition
for truing up of generation tariff for
2X600 MW Singareni Thermal
Power Plant for 2019-2022 and for
approval of revised tariff from 1st
April 2022 to 31st March 2024.**

VOLUME-A



The petitioner respectfully submits the following:

1. Facts of the Case:

This petition is filed for approval of truing up of tariff for 2X600 MW Singareni Thermal Power Plant for 2019-2022 and for revised tariff from 1st April 2022 to 31st March 2024 .

The details of Petitioner are respectfully submitted as under:

- I. Name and Address of Applicant: **The Singareni Collieries Company Limited (SCCL), Kothagudem Collieries, Bhadradri Kothagudem Dist, Telangana State - 507101**
- II. Primary Business of the Applicant: **Coal Mining**
- III. Details of Distribution Licensee purchasing power:
 - a. **Southern Power Distribution Company of Telangana Limited (TSSPDCL): Corporate Office: # 6-1-50, Mint Compound, Hyderabad, Telangana- 500063.**
 - b. **Northern Power Distribution Company of Telangana Limited (TSNPDCL): H.No: 2-5-31/2, Corporate Office, Vidyut Bhavan, Nakkalgutta, Hanamkonda, Warangal, Telangana- 506001.**
- IV. Details of Generating Company: **The Singareni Collieries Company Limited (SCCL): Kothagudem Collieries, Bhadradri Kothagudem Dist, Telangana State - 507101.**
- V. Name and Location of the Generating station for which Aggregate Revenue Requirement and tariff to be determined, is as follows:
 - a. Name/Location of Generating Station: **Singareni Thermal Power Project (STPP), Pegadapalli (V), Jaipur Mandal, Mancherial District, Telangana**
 - b. Total existing unit wise installed capacity in MW: **Unit-I: 600 MW, Unit-II: 600 MW**
 - c. Nature of Generation plant: **Thermal**
 - d. Type of primary and secondary fuel:
 - i. Primary Fuel: **Coal**
 - ii. Secondary Fuel: **Light Diesel Oil/Heavy Fuel Oil**
 - e. Commercial operation of units:
 - i. Unit-I: **25.09.2016**


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

(Faint mirrored stamp of N. Balram, Director (Finance), The Singareni Collieries Co. Ltd., Kothagudem - 507 101)

ii. Unit-II: **02.12.2016**

- f. Proposed capital cost: **As per details attached.**
- g. Details of project loans: **As per Details of Project Specific Loans attached.**
- h. Year-wise Interest during Construction: As per attached form.

2. Grounds of the case:

This petition is filed in accordance with sections 62, 86.1(a) & 86.1(b) of Electricity Act 2003 read with regulation 3.8.2, 3.12, 27 and other applicable regulations provided in Telangana State Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) regulations 2019. Clause 3.8.2 and 3.12 provides the principle of mid-term review whereas Clause 27 provides the timelines for submission of the petition.

While filing the present Aggregate Revenue Requirement /tariff proposals, The Singareni Collieries Company Limited has endeavored to comply with the various applicable legal and regulatory directions of this Hon`ble Commission including the directions contained in the Conduct of Business regulation 2015 and the Regulations 1 of 2019 (Terms and Conditions of generation Tariff regulation 2019) issued by Hon`ble TSERC.

Based on the information available, the applicant has made bona-fide efforts to comply with the directions of the Hon`ble Commission and discharge its obligations to the best of its abilities. However, should any further material become available in the near future, the Applicant reserves the right to file such additional information and consequently amend/revise the application.

3. The Background of the petition:

The Singareni Collieries Company Limited (SCCL) is a coal mining company incorporated under the companies Act 1956. The company is owned by the Government of Telangana with 51.096% Shareholding. The other Shareholders of the company are Government of India (48.902%) and Private shareholders (0.002%).

SCCL has entered in the business of power generation by setting up a 2X600 MW Coal based Thermal Power Plant, namely Singareni Thermal Power Plant(STPP) in Jaipur of Mancherial District. The units of STPP achieved COD during financial year 2016-17 in the dates as mentioned below.


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101

COD Unit-I: 25.09.2016

COD Unit-II: 02.12.2016

SCCL had entered into a Power Purchase Agreement (PPA) with two Distribution companies of Telangana for the power generated from STPP which will be sold to them at a tariff decided by Hon'ble Telangana State Electricity Regulatory Commission (TSERC). The PPA shall remain valid for a period of 25 years from the COD of the last unit (unit-II). The copy of PPA is attached as **Annexure-A**.

TSERC vide its tariff order dated 28.08.2020 trued up the capital cost and annual fixed charges for 2 x 600 MW STPP up to 31.03.2019 and determined the tariff for STPP during MYT period of FY 2019-24. The order copy is attached as **Annexure-B**. The Hon'ble commission also directed STPP to file midterm review petition within 30.11.2022. The relevant portion is quoted below:

“5.2.7.....In accordance with Clause 27 of the Regulation No.1 of 2019, SCCL is required to file the Mid-Term Review Petition by 30.11.2022.....”

Accordingly, STPP is herein submitting the Mid-term review petition.

4. Enabling Regulations:

SCCL has applied for midterm review of its generation tariff for the MYT period 2019-24 in this petition which is within the jurisdiction of Hon'ble TSERC. As per section 62, Appropriate commission can determine the tariff for supply of electricity by a generating company to a distribution licensee. Further the Hon'ble state electricity regulatory commission shall determine tariff for generation and sale of electricity within the state as per section 86.1(a) & 86.1(b)

The Hon'ble TSERC has issued Telangana State Electricity Regulatory Commission (Terms and Conditions of generation tariff) regulations 2019 (Regulation 1 of 2019) (attached as **Annexure-C**) for determination of generator tariff in the control period of 2019-24.

In view of above, the Hon'ble commission is required to approve the midterm review petition of STPP during 2019-24 as per TSERC regulation 3.8.2, 3.12, 27 and other applicable regulation provided in Telangana State Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) regulations 2019.


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

5. Revision of Capital cost due to Discharge of Liability:

STPP submitted audited statement of actual capital cost and liability upto 31.03.2019 in the last truing up petition for tariff period 2016-19. The relevant copy of the audited statements is placed in **Annexure-D**. The Hon'ble Commission approved the capital cost for BTG & BOP after deducting the undischarged liability. The computational breakup of allowed capital cost upto 31.03.2019 in respect of BTG & BOP packages are given below:

Particulars	Capital cost (A) Upto 31.03.2019	Undischarged liability in capital cost (B)	Allowed capital cost by TSERC (C=A-B) Upto 31.03.2019	References of tariff order dtd.28.08.2020
BTG	4849.48	33.96	4815.52	Page no.46, Table-13
BOP	1007.27	85.26	922.01	Page no.48, Table-14

It is to submit that during the FY 2019-20 the undischarged liabilities for BTG & BOP were fully discharged and accordingly, the discharged liability portion is required to be allowed in the capital cost in the relevant year. The discharge of liability is given below:

Discharge of liability:

Particulars	FY 2019-20
BTG	33.96
BOP	85.26
Total	119.22

A copy of audited statement showing year wise the capital expenditures & the liabilities for STPP during FY 2019-22 are attached in **Annexure-E**. The Annual accounts of SCCL for FY 2019-22 is also attached in **Annexure-F** in book form.

The discharged liability may now be allowed as per the clause 7.19.1.(j) which provides that any liability for works is required to be admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments.

In the MYT petition the Hon'ble commission has not included any additional capitalization. However, the commission stated that it would consider the impact of additional capitalization during the mid-term review. The relevant portion of the order dated 28.8.2020 is reproduced below:


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDAM . 507 404

“5.4.40 In accordance with Clause 7.19.4 of the Regulation No.1 of 2019, the Commission shall consider the impact of additional capitalisation on tariff during Mid-Term Review or tariff determination for the next Control Period as the case may be.”

Accordingly, the discharged liability within the limit of actual approved capital cost is required to be considered for determination of capital cost during MYT period.

6. Revision of Capital due to Spill over works beyond 31.03.2019:

The total capital expenditure for spill over items was submitted before the Hon’ble Commission during truing up of the previous period (Ref: Annexure-D). The spillover amount was Rs.199.78 crore which was not considered either by STPP or the TSERC for tariff computation in MYT for FY 2019-20 to FY 2023-24. The Commission has recorded the relevant facts for spill over items in para 5.4.17 of its order dtd.28.08.2020. The para 5.4.17 is quoted below:

“5.4.17. Clause 3.10.2 of the Regulation No.1 of 2019 stipulates that the Capital Investment Plan shall show, separately, ongoing projects that will spill over the Control Period and new projects that will commence in the Control Period but may be completed within or beyond it. SCCL submitted the details of spill over of ongoing works from the previous Control Period from FY 2016-17 to FY 2018-19 to the current Control Period from FY 2019-20 to FY 2023-24. However, SCCL has not considered the additional capitalisation pertaining to this spill over items in its tariff computations for the Control Period from FY 2019-20 to FY 2023-24.”

It is to submit that the year wise details of spill over expenditures in FY 2019-22 is available now and submitted in this petition for considering the same in capital cost. The year wise summary of spill over expenditure is given below:

Summary of spill over expenditure:

Actual expenditure			Projected spill over expenditure
FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-24
76.51	32.85	24.19	66.22

(In Rs. Crores)

In the MYT petition, the Hon’ble commission has not included any additional capitalization. However, the commission stated that it would consider the impact of additional capitalization


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

during the mid-term review. The relevant portion of the order dated 28.8.2020 is reproduced below:

“5.4.40 In accordance with Clause 7.19.4 of the Regulation No.1 of 2019, the Commission shall consider the impact of additional capitalisation on tariff during Mid-Term Review or tariff determination for the next Control Period as the case may be.”

Accordingly, the spillover expenditures is required to be considered for determination of capital cost/tariff during MYT period.

7. Emergency work in respect of railway siding works:

STPP submitted proposal for over head electrification works (OHE) and signaling and telecommunication works for railway siding in capital investment plan for FY 2019-24.

The scope of these works were included in the detailed project report (DPR). However, these works were delayed due to land acquisition issues and lack of available fund which cropped up due to non-payment of power bills by the Discoms.

The Hon’ble Commission in its order dated 28.08.2020 did not approve the same. The relevant portion from the order is reproduced below:

“5.4.35 The Commission has gone through the details of railway works and justification submitted by SCCL for the same. In accordance with Clause 7.19.1 of the Regulation No.1 of 2019 the capital investment for railway works is not allowable as the same is after cut-off date. The consumers cannot be unduly burdened for the acts of omission on part of the Petitioner. In view of the above, the Commission does not find it prudent to exercise the power of relaxation of Clause 7.19.1 for allowing capital investment for railway works.”

It is to kindly submit that Hon’ble Commission has provided regulation 7.8 of TS 01 of 2019 for allowing capital expenditure for emergency work which was not approved in the capital investment plan.

At present, railway locos are running with diesel engines which are going to be obsolete in near future and therefore railway electrification is the need of the hour. The conversion of diesel system to electrical system is likely to result in reduction of coal transport charges. SCCL has started the work of over head electrification of STPP siding by taking Board


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,

approval and entering into Memorandum of Understanding (MoU) with South Central Railway for the work. An amount of RS.23.82 crores was paid to South Central Railway for the aforesaid work which will be executed as deposit work. The relevant documents are attached in **Annexure-G**.

As per as the railway signaling system is concerned, currently it is being managed manually. STPP is also using railway lines for evacuation of ash from SILO. The cement companies such as ACC, Ultra-tech, Calburgi are sending their own BCCW (Bulk carrier of cement wagon) rakes. As a result STPPs railway siding is used for both the coal and ash rakes. This contributes to increase in loco traffic which could only be safely managed with signaling and telecommunication system replacing the present manual signaling system. Accordingly, signaling and telecommunication work is also required to be taken up in this tariff period of 2019-24.

The work for railway electrification and signaling & telecommunication system are now mandatory requirements which are to be completed at the earliest as per the directives of the railway authorities to ensure standard safety and operating procedures. Further, the union cabinet has also accorded sanction for railway electrification for balance un-electrified routes of Indian Railway. Letter by Union cabinet in this matter is attached as **Annexure-H**. It is prayed before the Hon'ble Commission to allow these expenditures as per clause 7.8 of TS 01 of 2019.

It is to submit that the Hon'ble Commission in the same order dated 28.08.2020 in the truing up order noted SCCL has not submitted the details of CCDAC grant and as such could not allow the trued up expenditure for railway siding amounting Rs.322.57 crore. SCCL is submitting the sanctioned amount, approved amount and released amount of CCDAC as below:

- 1. Amount sanctioned by CCDAC: Rs. 19600.000 Lakhs.
- 2. Amount approved by CCDAC so far: Rs. 16422.75689 Lakhs.
- 3. Balance amount to be approved: Rs. 3177.24311 Lakhs.
- 4. Amount released by CCDAC so far: Rs. 12119.74231 Lakhs.

Supporting document substantiating the above is enclosed as **Annexure-I**. The CCDAC grant details are available now and submitted herein.


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

The Hon'ble Commission is further requested to true up the railway siding expenditures upto 31.03.2019 as per its own observation in order dated 19.06.2017. The relevant portion is reproduced below:

“3.8.7 After perusal of the submission in this regard, the Commission finds it prudent to approve the cost of Railway Siding as Rs.80 Crore in FY 2018-19, as submitted by SCCL during the Public Hearing. The Commission shall take an appropriate view on allowing shortfall, if any, in funds from the Coal Controller on this account from that envisaged in this Order during the truing up of additional capitalisation.”

8. Computation of return on equity:

Regulation 11 of Terms & condition of generation tariff regulation 2019 provides the base rate for computation of return on equity as 15.5% for thermal generating station. It is to submit that the base rate of ROE is required to be grossed up with the effective tax rate as per regulation 11.3 of TSERC tariff regulation 2019.

The year wise details of effective tax rates for STPP on stand alone basis are given below:

FY	Income tax rate
2019-20	17.472%
2020-21	25.168%
2021-22	25.168%

It is to submit that STPP has considered 30% of the capital cost as equity as specified in regulation 9 of MYT tariff regulation 2019-24. The return on equity is computed by applying base rate of return as 15.5% and using effective tax rates for respective years.

9. Computation of interest on loan.

The total loan requirement of the project have been made through loans taken in two different tranches, the loan-I of Rs.3980 crore was taken from Power Finance Corporation (PFC) and loan-II for Rs.1320 crore was taken from PFC-REC consortium. The loan-II of Rs.1320 crore was equally contributed by PFC & REC on similar terms and conditions of the loan-I.

N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
WOTHAGINDEM - 507 101.

1st Loan refinancing

The 1st loan refinancing took place in tariff period 2016-2019. The terms & conditions of sanction for this loan (loan no.31B01001) provides for rate of interest applicable on this loan. The relevant portion from the loan document dated 04.04.2011 is quoted below:

“2.1. further SCCL is being offered a special interest rate of 0.5% below the presently applicable rate for category A+ State Sector Borrower for Generation Scheme”

The document dated 04.04.2011 and other letters of interest rate negotiations are attached as **Annexure-J.**

However, after negotiations, PFC agreed to increase the discount from a spread of 50 basis point to 190 basis point initially and finally after lot of persuasions, PFC increased the discount further to a spread of 215 basis point from the interest rate applicable for A+ category borrower.

The initial discount of 50 basis point increased to a discount of 215 basis point after prolonged and the stressful negotiation activities.

The base rate will always track the market rate at any point of time and any increase or decrease in market interest rate will be reflected duly in the base rate. However, the interest benefit rate of 1.65% will be independent from any up or down movement of the market. Hence, SCCL prayed TSERC for considering this as restructuring of loan.

However, the Hon’ble TSERC has not allowed the restructuring of loan during truing up exercise for FY 2016-19.

2nd Loan refinancing

This 2nd loan refinancing took place in tariff period 2019-2024. The TS regulation 1 of 2019 specifically allows for refinancing of loan as long as it results in net savings as per its regulation no.12.6.

SCCL under took another loan refinancing during FY 2020-21. The loan amounts and applicable interest rates before and after the refinancing is indicated in the following table:

N. BALRAM, IRS
N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

Restructuring Date:15.10.2020

Before Restructuring			Restructuring Cost (Cr)	After Restructuring		
Financing Institute	Loan Closing amount Crs	Interest rate (%)		Financing Institute	Loan Opening amount Crs	Interest rate (%)
PFC-1	2891.5	10.37	77.84	SBI	2891.5	7.29
PFC-2	470.736	9.99		ICICI	981.731	6.72
REC	510.995	9.42				
Total	3873.23	10.20		Total	3873.23	7.15

This loan restructuring dated 15.10.2020 has resulted in instantaneous reduction of interest to the tune of 3.05% with an associated restructuring cost of Rs.77.84 Crore.

The TSERC terms and condition of tariff regulation 2019 provides that the generating entity must make every effort to refinance the loan as long as it results in net savings on interest and in that event, refinancing charges shall be borne by beneficiary whereas the net savings shall be shared to the beneficiary.

Accordingly, the Hon'ble commission is prayed to consider the above loan refinancing as per regulation 12.6 of TSERC regulation 01 of 2019. The documents related to refinancing cost and net gains are attached in **Annexure-K**.

Once this loan restructuring for MYT period of 2019-22 is allowed and restructuring benefit and cost is passed on as per the regulation, the interest on loan for remaining time period shall be subjected to final true up at the end of current tariff period.

10. Claim for depreciation:

It is to submit that the depreciation is claimed in accordance with regulation 10 of TSERC generation tariff regulation 2019-24.

The depreciation for different assets for each financial year was computed based on straight-line method of depreciation computation and considering the rates of depreciation specified in CERC terms & conditions of tariff regulation 2014 which is specified in clause 10.6 of TSERC terms and condition of tariff regulation 2019.


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

It is stated that the balance depreciable value as on 1st April, 2019 was computed by deducting the cumulative depreciation claimed upto 31st March, 2019 in terms of the truing up order of this Hon'ble commission.

11. Interest on working capital:

The Interest on working capital for STPP has been worked out in accordance with regulation 13.1 to 13.4 of multi-year generation tariff regulation for 2019-24.

The coal & oil component of working capital have been computed based on 30 days coal stock for non-pit head stations corresponding to target availability and cost of coal for 30 days of generation corresponding to target availability and cost of secondary fuel for 2 months of generation.

The maintenance spares @20% of O&M expenses, two (2) month's receivables and one (1) month's O&M expenses have been added with the above to arrive at gross working capital. Net working capital has been worked out by subtracting one (1) month's payable for coal & oil computed at target availability from gross working capital.

12. Operating and Maintenance (O&M) Expenses:

Telangana State Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations, 2019 (In short TSERC Tariff regulation) defines the O&M Expenditure as follows:

2.59. "Operation and Maintenance expense" (or "O&M expense") in respect of a Generating Entity means the expenditure incurred on operation and maintenance of the Generating Station or Unit of a Generating Entity, or part thereof, and includes the expenditure on manpower, repairs, spares, consumables, insurance and overheads, but excludes fuel expenses and water charges and shall be as determined in clause 19 of this Regulation.

Regulation 19 of TSERC regulation 2019 provides for segregation of yearly O&M expenditure in three subheads, namely Repair and Maintenance Costs (R&M), Employee Cost (EMP) & Administrative and General Cost (A&G). STPP now submits the actual audited O&M cost for 2019-2022 segregated in R&M cost, Employee Cost and Administrative and general expenditure in **Annexure-L**.


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

Operation and Maintenance expense as defined in regulation 2.59 excludes water charges. Further the fees paid for tariff determination and audit fees are to be claimed separately as per regulation 19.6. Accordingly, water Charges, tariff filing fees and audit fees of STPP is claimed separately in **Annexure-M** and these expenditures are not included in O&M expenditure.

It is to submit that the clause 3.12 defines the details of Mid-term review. The Hon'ble Commission by the application of clause 3.12 need to review MYT tariff order of STPP issued on 28.08.2020. The power of review can be explained by the following legal principle held in case of Inderchand Jain vs Motilal, (2009) 14 SCC 663 as reproduced below:

“The power of review can also be exercised by the court in the event discovery of new and important matter or evidence takes place which despite exercise of due diligence was not within the knowledge of the applicant or could not be produced by him at the time when order was made.”

The tariff of a generation project is a continuous process. The Hon'ble TSERC in Mid-term review also need to consider new and important facts which are not available at the time of passing the preceding MYT tariff order of STPP. **As a result, the present mid-term review petition has wider scope compared to an application of mere truing up of operational and financial performances.**

In terms of clause 3.12.3, the Hon'ble Commission in this Mid-term review need to consider the approved forecast of annual revenue requirement vis-à-vis actual operational and financial performance, which are now submitted and upon the completion of such review, the Hon'ble Commission shall consider variations or expected variations for variables specified in clause 6.7 & 6.8 to controllable or uncontrollable factors.

The clause 3.12.3 is reproduced below:

“3.12.3. Upon completion of the review under clause 3.12.2 herein, the Commission shall attribute any variations or expected variations in performance, for variables specified under clause 6.7 & clause 6.8, to factors within the control of the Petitioner (controllable factors) or to factors beyond its control (uncontrollable factors).”

It is to submit that the clause 3.12.3 clearly says that the terms of clauses of 6.7 & 6.8 are to be effected. The relevant portion is given below:

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DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

“6.6. Uncontrollable factors

The “uncontrollable factors” shall comprise the following factors, which were beyond the control of, and could not be mitigated by the Petitioner, as determined by the Commission:

.....”

“6.7. Controllable factors

Variations or expected variations in the performance of the Petitioner, which may be attributed by the Commission to controllable factors include, but are not limited to the following:

.....”

It is also may be noted that clause 6.8 provides for mechanism for pass through of gains or losses on account of uncontrollable and controllable factors respectively. The relevant portion is reproduced below:

“6.8. Mechanism for pass-through of gains or losses on account of uncontrollable factors.....”


Therefore, to overcome the ministerial error in 3.12.3, the clauses of 6.7 & 6.8 as used in clause 3.12.3 is required to be read as clauses 6.6 & 6.7 respectively.

The Hon’ble Commission has also provided liberty to the petitioner vide clause 3.12.5 to apply before it for inclusion of any such variable, the variation of which occurred due to uncontrollable factors.

“3.12.5. Where the Petitioner believes, for any variable not specified under clause 6.7, that there is a material variation or expected variation in performance for any Year on account of uncontrollable factors, it may apply to the Commission for inclusion of such variable.”

It is also to submit that the clause 6.7 as mentioned above is required to be read as clause 6.6 due to repetition of same ministerial error as occurred in clause 3.12.3. So, the regulation 3.12.5 provides that the petitioner may approach before the commission for inclusion of some variable towards uncontrollable variable factors, if it is not already included as uncontrollable variable. STPP now submits few items of O&M expenditure as uncontrollable factor under regulation 3.12.5.

It is to state that Hon’ble Appellate Tribunal for Electricity has held that O&M expenses cannot be painted in one stroke as controllable in its various judgments.


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

In this regard the order of Appellate Tribunal in Appeal no.256 of 2016 may kindly be referred to. The relevant portion of the judgment is reproduced below:

“8. Our Findings: -

8.1..... Further, there is merit in the argument of the Appellant that O&M expenses were approved based on the past trend as per the provisions of the Statutory Regulations and therefore, there is all the more reason to exercise the discretionary power vested with the Commission to deal with the exceptional expenses incurred by the Utility by analyzing the reason”.

Accordingly, STPP is submitting herein the following list of O&M items the variation of which are beyond the control of the STPP.

- I. Expenditure for safety & security.
- II. The expenditures on Annual Coal Mill overhauling which were not there during the base period.
- III. Additional consumption of Capital Spare due to non-allowance of Initial Spares at the time of truing up.

I. Expenditure for safety & security: The deployment of CISF in the Singareni Thermal Power Plant (STPP) started after the COD of both the units and the total deployment of CISF could be completed only in the FY 2021-22. The year wise numbers of CISF personnel present in STPP at the end of each financial year are given below:

CISF manpower deployment at STPP				
Particulars	FY			
	2018-19	2019-20	2020-21	2021-22
No of CISF persons deployed	138	149	221	250

It is clear from the above, the deployment of CISF in the base year was only partial. As such, only 55% of its full capacity manpower was available and deployed in the base year of FY 2018-19.


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.
KOTHAGUDEM - 507 101.

N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.
KOTHAGUDEM - 507 101.

The CISF personnel receive salary and other facilities as decided by the Central Government from time to time. The expenditure for CISF based on Central Government pay structure is required to be reimbursed by STPP which is booked under the revenue expenditure.

The deployment of CISF was made based on the recommendation of high-level committees on completion of safety review exercise. As per the safety report, the STPP falls under the high security zone which is categorized as "Hyper sensitive zone" by Ministry of Home affairs. Accordingly, the required numbers of CISF of various ranks have been recommended by the authority for posting in STPP.

This expenditure for CISF is an uncontrollable expenditure as the deployment of CISF was made by the government orders in view of safety and security concerns of the plant and law order situation in the nearby area. The Ministry of Home affairs categorized the Mancherial District as one of the "Most effected LWE Districts". The related document is attached in **Annexure-N**.

The present CERC tariff regulation 2019 has a similar provision for expenditure beyond the original scope of capital expenditure in Clause 26(1)(d). In addition, CERC will also allows expenditure for the Security Expenses and Capital Spares over and above the normative O&M expenditure allowed as per clause 35(1)(6) of CERC regulation 2019-24.

The TSERC tariff regulation 2019 allows any expenses to be incurred on account of need for higher security and safety of the Station/Unit as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security as per regulation 7.19.1 (f). TSERC regulation also provides regulation 3.12.5 for inclusion of expenditures as uncontrollable with justification.

Accordingly, the expenditure for CISF may be treated separately as uncontrollable item in O&M by the Hon'ble commission. SCCL is applying for inclusion of CISF expenditure as per the clause 3.12.5 as uncontrollable expenditure.

The following additional expenditure for CISF during FY 2019-22 is required to be allowed by the Hon'ble Commission in this Midterm review petition


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

Rs.Crores

Additional expenditure for CISF						
Particulars	FY					
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Estimated Safety and security expenditure (CISF) allowed in tariff order dated 28.08.2020 by TSERC	5.47	8.39	11.75	13.69	14.39	15.30
Safety and security expenditure (CISF) being additional expenditure for safety and security incurred over and above CISF expenditure included in the base expenditure	0.00	0.00	0.00	0.67	14.62	20
Total CISF expenditure	5.47	8.39	11.75	14.36	29.01	35.30

II. The expenditures on Annual Coal Mill overhauling which were not there during the base period:- The additional Operation and Maintenance expenditures incurred for Coal Mill Overhauling was not there in initial years. At the time of COD, the initial / mandatory spares were purchased with the supply of main equipment and these spares were consumed in the first two and half years for annual mill overhauling. Therefore the impact on O&M expenditure due to annual Mill overhauling during 2016-17 to 2018-19 were almost nil. This expenditure towards O&M drastically increased beyond 2018-19 after stored initial spare for coal mill were consumed in toto. The following table provides year wise expenditure on annual mill overhauling from FY 2016-17 to FY 2021-22.

Rs.Crores

Mills overhauling expenditure from COD						
Particulars	FY					
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Mills overhauling expenditure	0.00	0.00	0.17	3.78	7.22	7.83

Further a detailed list of year wise items required for Mill Annual overhauling is given at **Annexure-O.**

Since this event was unforeseen and it has cropped up, which was beyond the control of petitioner, the same may be treated as uncontrollable O&M expenditure as per regulation.

N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

As this item was not included in the O&M expenditure of base year the Hon'ble commission is requested to include Mill Annual overhauling as uncontrollable expenditure in this midterm review.

III. Additional consumption of Capital Spare since not addressed during MYT tariff:

Capital spares and initial spare are similar from the regulatory point of view except the fact that the time of purchase of capital spare can be beyond the COD/Cut off date. The relevant regulations from CERC terms and condition of tariff regulation 2019 is quoted below to illustrate this point:

"24. Additional Capitalization within the original scope and upto the cut-off date

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

(a)

(b)

*(c) Procurement of **initial capital spares** within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations."*

*"23. **Initial Spares:** Initial spares shall be capitalised as a percentage of the Plant and Machinery cost, subject to following ceiling norms:*

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

"35. Operation and Maintenance Expenses:

(1) Thermal Generating Station: Normative Operation and Maintenance expenses of thermal generating stations shall be as follows:

.....

*(6) The Water Charges, Security Expenses and **Capital Spares** for thermal generating stations shall be allowed separately after prudence check:"*


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

It can be said from the above that initial capital spares or capital spares are having similar accounting attributes, i.e., these are high value items having life more than one year and these spares are essentially required to run the plant successfully maintaining normative level of operation.

Similar phrase of "Initial Capital Spare" is also used in TSERC tariff regulation 2019. The relevant portion is reproduced below:

" 7.19.1.The capital expenditure actually incurred or projected to be incurred, on the following counts within the Original Scope Of Work, after the COD and up to the Cut-Off Date, may be admitted by the Commission subject to Prudence Check. Any additional capitalization after COD needs prior approval of the

Commission:-

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

(b)

(c) Procurement of initial capital spares within the Original Scope of Work in accordance with clause 7.12 of these Regulations;


....."

In can be seen from the above that both the CERC and TSERC have contemplated the requirement of initial capital spare for successful running of the Plant. Both CERC & TSERC allows capitalization of cost of such Initial Capital Spare at the time of commercialization.

Further, Hon'ble CERC allows capital spare expenditure separately whereas Hon'ble TSERC did not allow this directly, instead it gave liberty to the petitioner vide clause 3.12.5 to apply before it for including this as uncontrollable factor for determination of O&M Expenditure. This makes clear the inclusion of Capital Spare as uncontrollable variable in O&M expenditure under section 3.12.5.

Further, in STPP's case the problem of capital spare became severe due to the following reasons:

a) **Under capitalization of initial spares:** The capital expenditure approved on account of initial spare for STPP was only 2.5% of Plant and machinery included in approved Gross


N. BALAKRISHNA, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

Fixed asset instead of current 4% of Plant and Machinery cost. This has impacted **Rs. 100.96 Crore under capitalization in the head of initial spare for STPP.**

The relevant portion from the order dated 19.06.2017 is reproduced below:

“3.17 INITIAL SPARES

Commission’s Analysis and Ruling

3.17.1 Regulation 13 of the CERC (Terms and Conditions of Tariff) Regulations, 2014 specifies the ceiling norm of initial spares as 4.0% of the cost of Plant and Machinery. In reply to a specific query of the Commission, SCCL submitted the total amount of spares included in the capital cost as Rs. 168.40 Crore. The Commission observes that the spares of Rs. 168.40 Crore amounts to 2.50% of the GFA of Rs. 6730.42 Crore under the asset class Plant & Machinery. Hence, the total spares are well within the ceiling limit”

Further, STPP filed for capital expenditure of Rs. 301 crore in O&M modules in capital investment plan for 2019-2024. However, the Hon’ble commission did not allow any of the O&M modules in its tariff order dated 28.08.2020. As most of initial spares were consumed in last tariff period of 2016-19, significant quantity of capital spares had been purchased in MYT 2019-2024 for running the plant at normative availability.

- b) The requirement of Spares became more as the plant grew older:** The new plant when subjected to cyclical stress and extreme thermal conditions for longer times will gradually experience more wear and tear. Some machine parts are also liable to failure. Such sequence of events took place in STPP. The rate of failure of equipment increased with the increase in plant age. Capital spares were purchased and put in service in place of failed equipment.
- c) This expenditure for capital spare was not properly captured in O&M expenditure of base year:** Most of this expenditure did not impact O&M expenditure in the previous control period as most of these spares whenever required could be consumed from the stock of available initial spare which was capital items as per books of accounts.

A year-wise audited statement of Capital Spare consumed for the FY 2019-22 is placed as **Annexure-P**. The different regulations and APTEL order related to this claim of O&M expenditure is placed as **Annexure-Q**.


N. BALRAM,IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

N. BALRAM,IRS
 DIRECTOR (FINANCE)
 THE SINGARENI COLLIERIES CO. LTD.
 KOTHAGUDEM - 507 101

Hon'ble commission is requested to include capital spare expenditure as uncontrollable expenditure in this midterm review.

Therefore, the Hon'ble commission is required to allow additional O&M cost based on the above justifications to meet the end of justice.

The O&M Expenditure claimed in this midterm review for the FY 2019-24 is as given below:

Particulars	Form reference	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
O&M Expenditure(Rs.Cr)	FORM 16	227.65	249.95	281.76	300.80	315.84

13. Energy Charges:

The energy charges have been computed based on regulation 21 of generation tariff regulation 2019-24.

14. Incentive:

It is to submit that PLF incentive the generating station shall be payable at the rate specified in CERC regulations 2014 as applicable during control period. CERC tariff regulation for 2014 allowed the rates of incentive @50paise /kWh. The regulations of Hon'ble TSERC in this regard states that CERC regulations shall apply.

It is stated that the STPP has worked out the quantum of incentive by considering the actual ex-bus generation up to 31.03.2022.

15. Additional auxiliary energy consumption for FGD system:

The Hon'ble commission directed SCCL to submit the proposal for additional auxiliary energy consumption due to installation of FGD system during mid-term review.

FGD project was divided in to 2 contracts and orders were placed on 28.12.2021 on M/s PES Engineering Pvt Ltd. The work for FGD commenced on 28.12.2021. Auxiliary power consumption for the FGD project at STPP as per DPR is upto 1.5%.

16. Statutory fees

It is to submit that the expenditures on account of license fee, fee for determination of tariff and audit fee is required to be allowed under aggregate revenue requirement based on actual as per regulation 19.6 of TSERC tariff regulation 2019.


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

17. Email id for communication:

SCCL : ed_stpp@scclmines.com
denm@scclmines.com
singarenirnc@gmail.com

18. Summary of claim:

The net additional claim of annual fixed charges over and above the approved charges in MYT 2019-24 after adjusting for gain/loss sharing with the beneficiary is arrived below in this Mid-term review petition as per the TSERC regulation 1 of 2019:

(In Crores)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Total Claim	93.54	208.99	141.30	160.96	178.17
Net Ex bus generation (MU)	8671.23	6895.33	8807.57	8421.43	8444.50
Average cost of electricity in Rs/Kwh	0.11	0.30	0.16	0.19	0.21

A copy of tariff filing forms will be enclosed as **Annexure-R**.

19. Authorization for filing on the petition: The Director (Finance) of SCCL has been authorized to sign on the petition / documents to be filed before the Hon'ble TSERC. Copy of the authorization is enclosed as **Annexure-S**.

20. Jurisdiction: The determination of tariff in Multi-Year tariff petition is within the Jurisdiction of TSERC. As per section 62, Appropriate commission can determine the tariff for supply of electricity by a generating company to a distribution licensee. Further, the state electricity regulatory commission shall determine the tariff for generation within the state as per section 86.1(a) & 86.1(b) read with clause 38 of TSERC (conduct of business) regulations 2015.

21. Limitation: The determination of tariff is a continuous process and the provisions of limitation Act does not apply to the issues to be decided as part of regulatory process such as determination of tariff etc.


N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.,
KOTHAGUDEM - 507 101.

22. Court Fee: The present petition is filed for Mid-term review during 2019-24. Hence a fee of Rs 25,000/- (Rs Twenty five thousand) is paid as per regulation 4(5)(a) of regulation 2 of 2016 (levy of fees for various services rendered by the commission). A copy of the banker's cheque for paying the requisite court fee is attached as **Annexure-T**.

23. Declaration: This subject matter of this petition has not been raised by the petitioner before any other competent forum and that no other competent forum is currently seized of the matter or has passed any order in relation thereto.

24. Prayer before Hon'ble Commission

SCCL prays the Hon'ble Commission that it may be pleased to:

- a) Consider the submissions made by SCCL in this Mid-term review petition.
- b) Approve the revised Aggregate Revenue Requirement and tariff during 2019-22 along with interest as per clause 7.15 of TS regulation 1 of 2019 and to revise the tariff for 2022-2024 in respect of 2X600 MW Singareni Thermal Power Plant (STPP).
- c) Pass such further Orders, as the Hon'ble Commission may deem fit and appropriate in circumstances of the case.

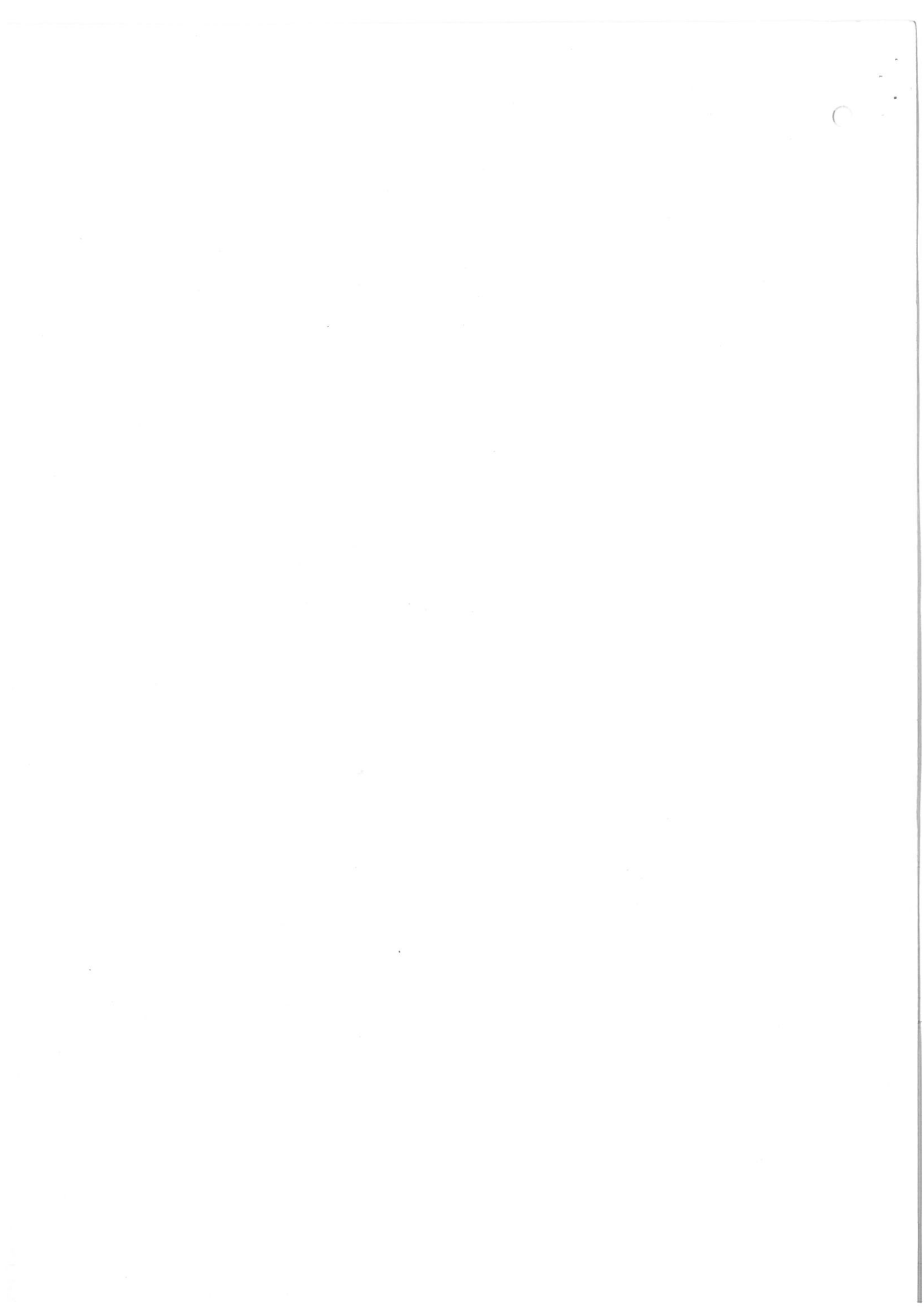

(Shri N. Balram)

Place : Hyderabad

Date : 28.11.2022

N. BALRAM, IRS
DIRECTOR (FINANCE)
THE SINGARENI COLLIERIES CO. LTD.
KOTHAGUDEM - 507 101.

Annexure-A : A copy of Power Purchase Agreement (PPA)



POWER PURCHASE AGREEMENT

BETWEEN

THE SINGARENI COLLIERIES COMPANY LIMITED

AND

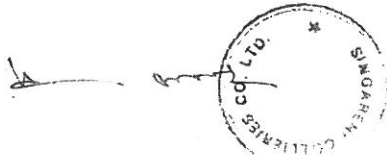
TELANGANA STATE SOUTHERN POWER DISTRIBUTION COMPANY LIMITED

TELANGANA STATE NORTHERN POWER DISTRIBUTION COMPANY LIMITED

FOR SALE OF POWER FROM

SINGARENI THERMAL POWER PROJECT (2X600 MW) (STAGE-I)

Dated 18th day of January 2016



25

एक सौ रुपये

Rs. 100

रु. 100



सत्यमेव जयते

ONE HUNDRED RUPEES

भारत INDIA
INDIA NON JUDICIAL

తెలంగాణ తెలంగాణ TELANGANA

11 JAN 2016

Mohammed Wasifuddin
GT04751

202, Date: 11-01-2016, Rs.100/-

To: Ch Prabhakar S/o. Sambaiah, R/o. Hyd.

Whom: The Singareni Collieries Company Limited, R/o. Hyd.

MOHAMMED WASIFUDDIN
Licenced Stamp Vendor
Lic No. 16-07-088/2012/ R.No.16-07-034
H. No. 5-7-14, Nampally, Hyd-01, T.S
P. No. 9346156131

POWER PURCHASE AGREEMENT

BETWEEN

THE SINGARENI COLLIERIES COMPANY LIMITED

AND

TELANGANA STATE SOUTHERN POWER DISTRIBUTION COMPANY LIMITED

TELANGANA STATE NORTHERN POWER DISTRIBUTION COMPANY LIMITED

FOR SALE OF POWER

FROM

SINGARENI THERMAL POWER PROJECT (2X600 MW) (STAGE-I)

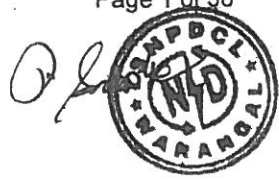
Dated 18th day of January 2016

THIS POWER PURCHASE AGREEMENT, hereinafter called "Agreement", entered into at Hyderabad on this 18th day of January, Two Thousand and Sixteen.

Between

1. Telangana State Southern Power Distribution Company Limited constituted on 02-06-2014 under AP Reorganization Act 2014 and the sub-section (6) of section 23 of Andhra Pradesh Electricity Reform Act, 1998 (Act, 30 of 1998) and having its registered office at 6-1-50, Corporate Office, Mint Compound,

[Signature]
SINGARENI COLLIERIES CO. LTD.




0V 2015

Hyderabad-500 063 (hereinafter referred to as "TSSPDCL"); Telangana State Northern Power Distribution Company Limited, constituted on 02-06-2014 under AP Reorganisation Act 2014 the sub-section (6) of section 23 of Andhra Pradesh Electricity Reform Act, 1998 (Act, 30 of 1998) and having its registered office at H.No.2-5-31/2, Corporate Office, Vidyut Bhavan, Nakkalagutta, Hanamkonda, Warangal - 506001 (hereinafter referred to as "TSNPDCL"); (hereinafter each of TSSPDCL and TSNPDCL are, as the context may require, individually referred to as "TSDISCOMS" and collectively referred to as the "TSDISCOMS" which expression shall, unless it be repugnant to the context or meaning thereof include its successors and assigns), as parties of the first part, and


- 2. THE SINGARENI COLLIERIES COMPANY LIMITED, constituted under the Companies Act 1956 having its registered office at Kothagudem, Khammam District (hereinafter called "SCCL") which expression shall, unless repugnant to the context or meaning thereof include its successors and assigns), as party of the second part entered on 18.01.2016 and will be submitted to TSERC for approval.

WHEREAS the erstwhile Govt. of Andhra Pradesh had accorded approval to SCCL for setting up of Singareni Thermal Power Project (2 x 600 MW) Stage-I at Pegadapalli village, Jaipur Mandal, Adilabad District, Telangana State, hereinafter referred to as "Singareni Thermal Power Project (2 x 600 MW) Stage-I", and generally referred to as "PROJECT" whereas SCCL is a Public Sector Company owned by the Government of Telangana and Government of India in the ratio 51:49 and will be executing the Project and to be owned & operated by SCCL.

AND WHEREAS TSDISCOMS are desirous of purchasing the capacity of 1200 MW from Singareni Thermal Power Project (2 x 600 MW) Stage-I and SCCL is willing to sell the same to TSDISCOMS on mutually agreed terms and conditions.

for am...





P. S...


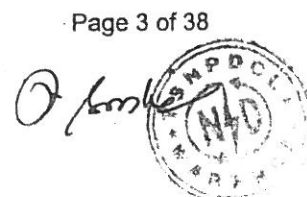
AND WHEREAS SCCL is setting up Singareni Thermal Power Project (2 x 600 MW) Stage-I at Pegadapalli village, Jaipur Mandal, Adilabad District, Telangana State, hereinafter referred to as "Singareni Thermal Power Project (2 x 600 MW) Stage-I", and generally referred to as "PROJECT" to be owned and operated by SCCL.

The terms and conditions of the Power Purchase Agreement are as per prevailing TSERC regulations and any changes in TSERC regulations that may occur in future shall be applicable for all operating norms or any other parameters.

Now therefore, in consideration of the premises and mutual agreements, covenants and conditions set forth herein, it is hereby agreed between the Parties as follows:

A handwritten signature in black ink is written over a circular stamp. The stamp contains the text "SINGARENI COLLIERIES CO. LTD." around the perimeter.

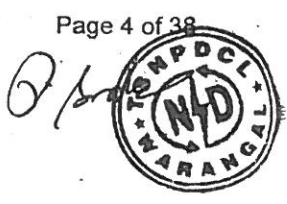
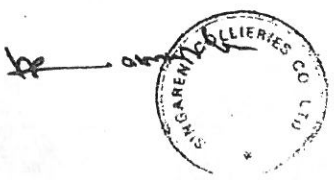
A circular stamp with the text "Southern Power Distribution Company of Telangana Ltd. Hyderabad-62" around the perimeter. A handwritten signature is written across the center of the stamp.

Page 3 of 38
A handwritten signature in black ink is written over a circular stamp. The stamp contains the text "SPPDCL" around the perimeter.

Article 1: INTERPRETATION AND DEFINITIONS

The words or expressions used in this agreement but not defined hereunder shall have the same meaning assigned to them by the Electricity Act 2003 as amended from time to time, the Rules framed there under and Regulations issued by TSERC from time to time.

- 1.1 'Act' means the electricity Act, 2003
- 1.2 **Agreement to Hypothecate cum Deed of Hypothecation** - shall have the meaning as ascribed in Annexure V.
- 1.3 **Availability** - 'Availability' as defined in the TSERC (Terms and Conditions of Tariff) Regulations as amended or replaced from time to time
- 1.4 **Acceptance Test for establishing the Capacity of the Unit** - Acceptance test for establishing the Capacity of the Unit shall be performed in the presence of SCCL and TSDISCOMS representatives and on satisfying the capacity of the Unit, the capital cost of the project shall be arrived at on pro-rata basis against the rated capacity.
- 1.5 'Additional Capitalization' means the capital expenditure actually incurred after date of commercial operation of the station and admitted by the Commission after prudence check.
- 1.6 **Approved Capital Cost:** to be taken into account at any time for the purposes of the Tariff means, the amount of Capital Cost of the Project shall be the aggregate of the following sub-items.
 - 1.6.1 The Completed Cost approved by TSERC up to COD.
 - 1.6.2 Any additional Project costs incurred for execution of the Project by SCCL and approved by the TSERC to be included in the final Capital Cost.
 - 1.6.3 Cost of initial spares subject to limitation of 2.5% of the Original Project cost.
 - 1.6.4 Any additional works / services that became necessary for efficient and successful operation of the generating station, but not included in the original project cost as per TSERC regulations applicable from time to time.

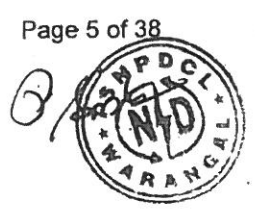


- 1.7 **Authority:** means the Central Electricity Authority referred to in Electricity (Supply) Act, 1948 or any successor entity entrusted with its functions and capacities.
- 1.8 **Auxiliary Consumption:** Auxiliary consumption means the energy consumed by SCCL for operating the unit and facilities in the power plant. The difference between generation and net energy export (Ex-Bus) which is measured for billing purposes by means of the existing meters at SCCL generator terminals as well as outgoing feeders from the station bus is Auxiliary Consumption.
- 1.9 **Availability Computation:** It is in relation to a Thermal Generating station for any period means the average of the daily average declared capacity for all the days during that period expressed as a percentage of the installed capacity of the Generating stations minus the normative auxiliary consumption in MW, as specified in this regulation and shall be computed in accordance with the following formula.

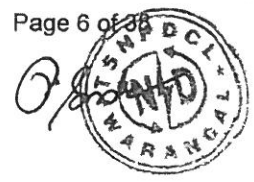
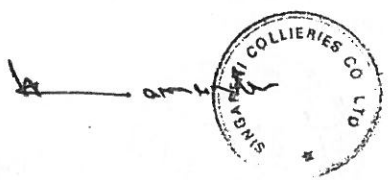
$$\text{Availability} = 10000 \times \frac{\sum_{i=1}^N \text{DC}_i}{\{N \times \text{IC} \times (100 - \text{AUX}_n)\}} \%$$

Where DC_i = Average Declared Capacity for the ith day of the period in MW
 N = No. of Days during the period
 IC = Installed Capacity of the generating station in MW
 AUX_n = normative auxiliary consumption as percentage of gross generation.

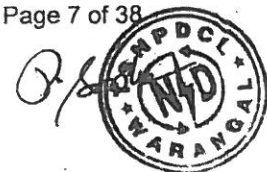
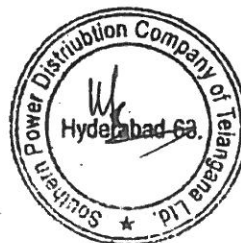
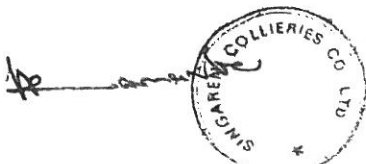
- 1.10 **Billing Centre** - The office as intimated by SCCL to the TSSPDCL and TSNPDCL from where the bills will be raised on them.
- 1.11 **Billing Date:** The Billing Date shall be 5 (five) days after the Meter Reading Date in each Calendar month.
- 1.12 **Billing Month:** The Billing Month means Metering Date of calendar month to the Metering Date of the next calendar month.
- 1.13 **Bus Bars / Ex Bus:** Bus bars of the station to which outgoing feeders are connected.
- 1.14 **Business Day:** It shall be construed as a reference to a day (other than Sunday) on which banks are generally open for business in Hyderabad.



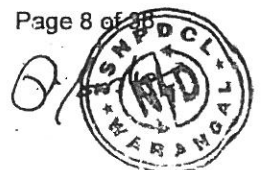
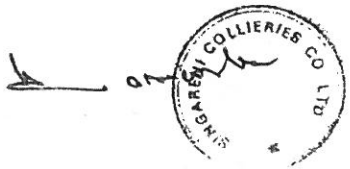
- 1.15 **Capacity Charges:** Capacity Charges (or) Fixed Charges as determined by TSERC and shall be paid in proportion to the Contracted Capacity from time to time
- 1.16 **Capital cost:** - Capital cost of project or its units or stages as the case may be, means the capital expenditure thereof as admitted by the Commission for determination of tariff.
- 1.17 **Charges for Supply of Electricity:** Mean and include all charges including the Tariff to be paid by the TSSPDCL and TSNPDCL in respect of supply of electricity to them from the Project in accordance with the provisions of this Agreement
- 1.18 **COD of the Project:** means the Commercial Operation Date of both the Units.
- 1.19 **Commercial Operation Date or COD:** means in relation to each unit of the thermal generating station, the date declared by the generating company after demonstrating the maximum continuous rating (MCR) or the installing capacity (IC) through a successful trial run after notice to the beneficiaries, from 00:00 hour of which scheduling process as per the Electricity Grid Code (IEGC) is fully implemented, and in relation to the generating station as a whole, the date of commercial operation of the last unit of the generating station.
- 1.20 **Contracted Capacity:** Capacity contracted (2x600 MW) by TSSPDCL and TSNPDCL under this Agreement
- 1.21 **Cut-off date:** Means 31st March of the year closing after two years of the year of commercial operation of the project, and in case the project is declared under commercial operation in the last quarter of the year , the cut-off date shall be 31st march of the year closing after three years of the year of commercial operation.
- 1.22 **Date of Effectiveness of Agreement:** Date of signing of this agreement including payment security as envisaged in Annexure V.
- 1.23 **Debt:** means the amount of any loans, debentures or other similar obligations, contracted or raised and received by SCCL for the Project, but only to the extent that the proceeds of such capital contribution are exclusively utilized on the Capital Cost of the Project.
- 1.24 **Debt Repayment:** means, in relation to a specified period, the amount of Debt 70% of the capital cost which SCCL is due to repay in such period, in Indian Rupees in which the Debt is incurred.



- 1.25 **Declared Capacity (DC):** means the capability of the generating station to deliver ex-bus Electricity in MW declared by such generating station in relation to any period of the day or Whole of the day, duly taking into account the availability of fuel.
- 1.26 **Depreciation:** means the sum of the amounts of depreciation on buildings, equipment and other capital facilities of the Project on the date hereof, and in respect of any asset, shall be allowed upto 90% of the approved Capital Cost and shall cease so soon as its net book value equals the residual value i.e., 10 percent of its original cost as included in the Capital Cost.
- 1.27 **Designated Officer:** The Designated Officer in TSSPDCL and TSNPDCL shall be of the rank of a Financial Advisor & Chief Controller of Account (FA & CCA) and GM (F&A) or any other Officer designated by TSSPDCL and TSNPDCL for matters relating to Billing and Payment.
- 1.28 **Dispatch Instructions:** Dispatch Instruction shall be as mentioned in the Grid Code as per clause 1.24
- 1.29 **Duration of Agreement:** Duration of Agreement shall be 25 years from date of C.O.D of the Project.
- 1.30 **Due Date of Payment:** In case of a regular Monthly Bill due date of payment shall be within 60 (Sixty) days from the Billing Date and in case of a Supplementary Bill it shall be within 60 (Sixty) days from the presentation of the Supplementary Bill to the Designated Officer of TSSPDCL and TSNPDCL.
- 1.31 **Energy Certification Committee (ECC):** shall be the Body of the Designated Officers constituted at the headquarters by both the Parties to certify each Billing Month the Net Energy Sale by one Party to the other based the Monthly Meter Readings jointly recorded at the power house.
- 1.32 **Equity:** means the actual equity (including internal accruals) limited to 30 percent of Approved Capital Cost of the Project in Rupees and is used for the purposes of computation of ROE in fixed charges during the period of the Agreement.
- 1.33 **Escrow Agreement:** Shall have the meaning as ascribed in Annexure V.
- 1.34 **Grid Code:** Grid Code means the Code of Technical Interface (Grid Code) 2001 Revision 1, June 2001 as approved by APERC vide Proceedings No. APERC / Dir-Engg / Grid- Code/20 dated 26-05-2001 and adopted by TSERC Lr.No.TSERC No. L-01/DD LAW-1 Dt. 24-11-2014 as Regulation No.1 of 2014.



- 1.35 **Gross Calorific Value (GCV):** Gross Calorific Value means, in respect of coal and secondary fuel, heat produced in Kcal by complete combustion of one kilogram of solid fuel or one litre of liquid fuel, as the case may be.
- 1.36 **Income Tax:** Taxes on Income actually payable and paid shall be limited to Tax on Return on the Equity component of the RoCE, and exclusive of tax on profit, if any, in excess of such return, penalties, interest on delayed payment of tax etc., and duly adjusted for any refund etc. received for previous periods.
- 1.37 **Infirm power:** means electricity injected in to grid prior to the commercial operation of a unit or block of generating station.
- 1.38 **Installed Capacity:** means the summation of the name plate capacities of all the units of generating station or the capacity of the generating station (reckoned at the generator terminals) as approved by the commission from time to time.
- 1.39 **Installed Capacity Test:** In relation to any Generating Unit means any capacity test of such Generating Unit to be carried out pursuant to Annexure-II (Commissioning and Testing).
- 1.40 **Interconnection point:** Interconnection point means the point at the outlet side of HV feeder (including the feeders between the generating stations) breaker where the power plant and the grid are connected in the power plant switchyard.
- 1.41 **Interest on Working Capital:** The Interest on Working Capital shall be as per the TSERC Norms.
- 1.42 **Licensee:** Means a person, granted a licensee under section 14 of the Electricity Act, 2003.
- 1.43 **Maximum continuous rating:** It is in relation to unit of the thermal power generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer at rated parameters, and in relation to a unit or block of a combined cycle thermal power generating station means the maximum continuous output at generator terminals, guaranteed by the manufacturer with steam injection and corrected to .50Hz grid frequency and specified site conditions.

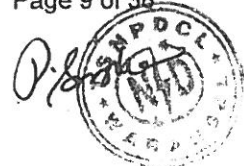


- 1.44 **Meter:** 'Meter' means a device suitable for measuring, indicating and recording consumption of electricity or any other quantity related with electrical system and shall include, wherever applicable, other equipment such as Current Transformer (CT), Voltage Transformer (VT) or Capacitor Voltage Transformer (CVT) necessary for such purpose;
- 1.45 **Metering Date:** Metering Date for the first calendar month will be Date of COD of each unit. Subsequent Metering Date will mean midday (12:00 hours) of the last day of each calendar month. However, the Metering Date of the Financial Year ends at 24:00 Hrs on 31st march of Subsequent year and so on.
- 1.46 **Monthly Bill:** Monthly Bill will have the meaning ascribed to it under Article 6 for Thermal Energy supplied under this Agreement.
- 1.47 **Net Electrical Energy:** It is the energy, supplied from SINGARENI THERMAL POWER PROJECT 2 x 600 MW Stage-I measured in kWh, at the point of interconnection in accordance with the provisions of Article 7.
- 1.48 **Plant Load Factor (PLF):**The Plant Load Factor in a Tariff Year expressed in percentage is:

$$PLF = \frac{\text{Total net Electrical Energy measured at Interconnection Point} \times 100}{(\text{Installed Capacity of Thermal Power Station in MW}) \times (8760) \times (100 - A)}$$

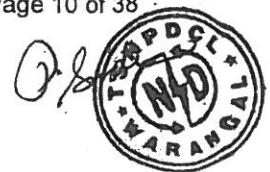
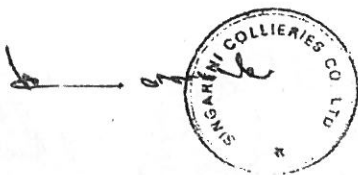
Whereas A is the auxiliary consumption expressed in percentage of the thermal Power station.

- 1.49 **Project:** means the coal based Thermal Power Station namely Singareni Thermal Power Project (STPP) 2 x 600 MW Stage-I established at Pegadapalli Village, Jaipur Mandal, Adilabad District, Telangana State, India, having a design rated capacity of 2 x 600 MW and all facilities and related assets required for the efficient, economic and safe operation of the Power Station including, without limitation, any railway yard & equipment, coal handling and ash disposal facilities and sampling and testing facilities and infrastructure features where so ever situated.
- 1.50 **Prudent Utility Practices:** Prudent Utility Practices means the practices, methods, techniques, and standards that are generally accepted nationally and internationally from time to time and commonly used in the national and international electric utility industry for the operation and maintenance of equipment of the size and having the other characteristics of a Power Station in a safe, prudent and reliable manner consistent with the parameters for such operation and maintenance set forth in this Agreement, which practices, methods,



techniques and standards shall be adjusted as necessary to take account of the requirements of Law, physical conditions at the site on which a Power Station is located and operation and maintenance guidelines of the manufacturers of plant and equipment incorporated in the Power Station which SCCL is required to follow in order to maintain in effect any warranties, guarantees or insurance policies relating thereto.

- 1.51 **Station Heat Rate:** Station Heat Rate means the quantum in Kilo Calories of input heat energy required by a Thermal Power Station to generate one Electrical Energy Unit at the Generator terminals, as per TSERC Regulations.
- 1.52 **Supplementary Bill:** Supplementary Bill will have the meaning ascribed to it in Article 6.
- 1.53 **Tariff Year:** Tariff Year shall be the financial year.
- 1.54 **TSERC:** means the Telangana State Electricity Regulatory Commission constituted under the Andhra Pradesh Reorganisation Act, 2014.



Article 2: ALLOCATION, TRANSMISSION & WHEELING OF POWER

2.1 Installed Capacity:

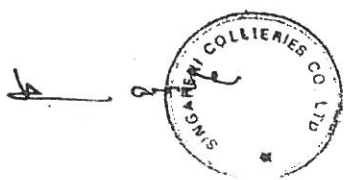
- 2.1.1 The Installed Capacity of Singareni Thermal Power Project Stage -1 is 1200 MW (2x600 MW).
- 2.1.2 The Project is being developed for the sale of 1200 MW power to TSSPDCL and TSNPDCL, excluding Auxiliary Consumption.

2.2 Allocation of Capacity

- 2.2.1 The Project is being developed for the sale of power to TSSPDCL and TSNPDCL in proportion of sharing as approved by Government of Telangana.
- 2.2.2 The allocation made from the Project by Government of Telangana or any other competent authority in favour of TSSPDCL and TSNPDCL shall be contracted capacity subject to signing of the agreement, opening of LC and providing appropriate payment security mechanism as provided at annexure V in this agreement. TSSPDCL and TSNPDCL shall draw electricity against the above contracted capacity limited to the amount of LC opened and maintained by it. SCCL shall intimate SLDC from time to time regarding the quantum of capacity TSSPDCL and TSNPDCL are eligible to draw

2.3 Transmission / Wheeling of Electricity

- 2.3.1 Sale of electricity shall be at the bus bars of the Project and it shall be the obligation and responsibility of TSSPDCL and TSNPDCL in coordination with TSTRANSCO to make the required arrangement for evacuation of electricity from such delivery points of the SCCL



Article 3: SALE AND PURCHASE OF AVAILABLE ELECTRICAL CAPACITY AND ENERGY

3.1 Power Supplies by SCCL

3.1.1 Scheduling: It is understood and agreed by and between the parties that SCCL shall operate the project as a base load station as per the manufacturers' guidelines, applicable grid operating standards, directions of the TSERC and relevant statutory provisions, as applicable from time to time. Methodology of generation scheduling shall be as per IEGC and TSERC appropriate regulations.

All charges / fees related to scheduling and despatch of electricity shall be borne by TSSPDCL and TSNPDCL.


SCCL shall make declaration of the capacity at the busbars of the station after taking into account the capability of the station to deliver Ex-Bus which shall be considered while calculating Declared Capacity (DC)

3.1.2 Declared Capacity : Declared Capacity or 'DC' means the capability of the station to deliver Ex-Bus electricity in MW declared by the station in relation to any period of the day or whole of the day, duly taking into account the availability of Coal as per the procedure laid down in IEGC


Notwithstanding the following, Station shall be deemed as available to the extent of DC declared by the station for any time period:

- (a) Failure on account of TSSPDCL and TSNPDCL to transmit and wheel electricity from the Ex-Bus of the station in coordination with TSTRANSCO
- (b) Any other reason not attributable to SCCL restricting scheduling and despatch of capacity at the Ex-Bus of the station

3.2 Sale and Purchase of Infirm Power: After Synchronization and prior to the COD of any Generating Unit, SCCL will sell and TSSPDCL and TSNPDCL will purchase all infirm power generated by that Generating Unit in proportion to the allocation made. TSSPDCL & TSNPDCL will reimburse SCCL the actual cost of all Coal & Secondary Fuel consumed for such generation.

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3.3 **Sale and Purchase of Declared Capacity and Net Electrical Energy:** From and after the Commercial Operation Date of the 1st Unit, subject to the provisions of this Agreement, SCCL shall sell, and TSSPDCL and TSNPDCL shall purchase, the entire Declared Capacity and all Net Electrical energy generated by the Unit / Project from the (2x600 MW) Power Project for the consideration set forth in this agreement.

The obligation of SCCL to sell capacity to the TSDISCOMs under this PPA shall, in each Settlement Period, be 80% of the declared capacity of the Unit / Project or to be revised as per TSERC tariff Regulations issued from time to time.

- (a) SCCL shall always inform, along with the Availability Declaration, the capacity committed to TSDISCOMs for each Settlement period.
- (b) **Net Electrical Energy:** Means the Energy Units actually delivered to TSSPDCL and TSNPDCL (TSDISCOMs) by SCCL pursuant to sale to TSDISCOMs of the capacity under Article 3 of this PPA, as computed at the Inter Connection Point, which point shall be the only point at which such Net Electrical Energy shall be computed under this Agreement.

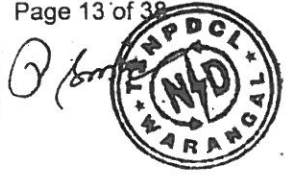
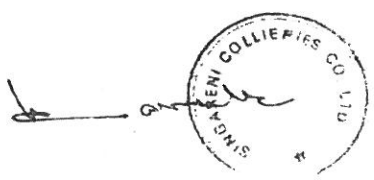
3.3.1 **Power Supplies by TSDISCOMS:**

Upon SCCL's request, TSDISCOMS shall provide electrical energy to SCCL for construction, start-up and maintenance, and also for commissioning of the Project. TSDISCOMS shall furnish a bill to SCCL for such power at a price equal to TSDISCOMS's published tariff for construction power during the construction and start-up period up to the COD of the Project.

After COD of the Project, Tariff Bills presented by SCCL to TSDISCOMS shall be on a net energy basis taking into account the power supplied by TSDISCOMS to the Project.

3.4 **Dispatch Instructions (DI):**

3.4.1 At 10.00 hours every day, SCCL shall DIRECTLY provide Capacity Notice to the SLDC, denoting the Unit-wise Hourly MW Availability (00.00 - 24.00 hours) on day ahead basis. TSDISCOMS shall in turn intimate the same day by 16.00 hours the Generation Schedule to SCCL for the following day with respect to all the Units of the Project that have declared Capacity Notice.



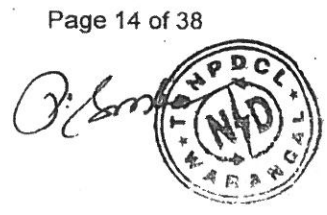
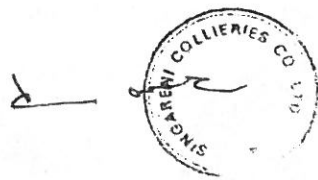
3.4.2 SCCL shall follow the SLDC's directives, to back down, increase or resume generation, decrease generation at times on a day, provided that such directives are consistent with the technical limits of the facility, Prudent Utility Practices or in accordance with discharge functions of SLDC. Number of Dispatch Instructions per day shall not exceed two. The duration of back down and quantum of energy backed down each day shall be reconciled and certified by both SCCL (at Station level) and SLDC on monthly basis.

3.4.3 Nothing contained in this Agreement shall be construed to require SCCL to operate the facility, at any time, including emergency, inconsistent with Prudent Utility Practices and the Technical Limits in any manner.

3.4.4 Backing down limits of units:

For Singareni thermal Power Project, TSDISCOMs capacity shall not be backed down more than the limit of 35.00% of 1200 MW capacity allocated to TSDISCOMs.

In absence of any dispatch instructions from TSTRANSCO, the Units will operate according to the day ahead capacity notice furnished by SCCL.



Article 4: GENERATION TARIFF

4.1 Terms and Conditions

4.1.1 The tariff for the electricity supplied from the Project would be as determined under the tariff regulations of TSERC and tariff order thereof from time to time

4.1.2 Tariff for sale of electricity from the Project would be based on prevailing TSERC Regulations time to time.

4.2 **Capacity Charges (Fixed Charges):** SCCL shall claim the Annual Fixed Charges as approved by TSERC for each Tariff Year. The Annual Fixed Charges shall be computed as per TSERC norms and regulations and shall comprise of the following

- a) Return on capital employed (RoCE)
- b) Depreciation
- c) O&M expenses
- d) Taxes on Income as per actuals

4.2.1 **Capital Cost:** The capital cost of the Project shall be taken as Rs.8250.00 crores (provisional) as per Annexure-I.

4.2.2 **The Operation & Maintenance Charges:** The Operation & Maintenance and Insurance Expenses (O&M) for 600 MW sets would be as per the latest norms or regulations issued by TSERC.

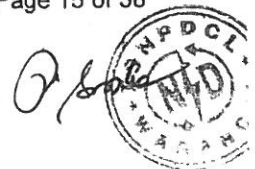
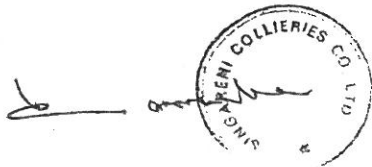
4.2.3 **Interest on Working Capital:** Interest on Working Capital shall be calculated as per TSERC norms / regulations from time to time.

4.2.4 **Debt-Equity ratio:** 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.

4.2.5 Recovery of Fixed Charges:

(a) Annual Fixed Charges shall be computed for 100% after the Unit is declared for commercial operation date.

(b) When the actual Capital Cost of project is finalized, the amount of any over payment or under payment relative to the Approved Capital Cost shall be refunded or paid (as the case may be) in twelve equal payments at the time of the payment of the next twelve monthly bills for Tariff payments after such finalization.



- (c) Target availability of the unit for recovery of full fixed charges shall be 80%.
- (d) One-twelfth of the full "Annual Fixed Charges", computed pursuant to this Article 4 shall be claimed through the "Monthly Bill", on every Recovery month of a Financial Year.

SCCL shall receive full Annual Fixed Charges if Availability in the Tariff Period or Tariff Year is not less than 80%. If Availability is less than 80%, Fixed Charges shall be allowed on pro-rata basis.

4.2.6 **Deemed Generation:** Stoppage of generation due to problems in Power evacuation for Generating stations shall be treated as Deemed Generation for the purpose of computation of availability for payment of fixed charges. In case of shortage of fuel, TSSPDCL, TSNPDCL and SCCL will decide and finalise in consultation with Coal Companies at that time.

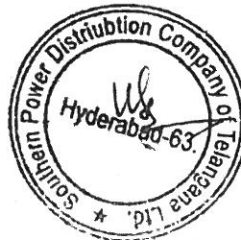
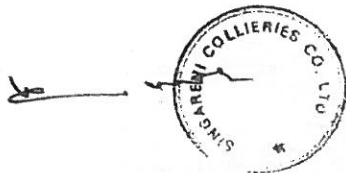
4.3 **Variable Charge:** For any Billing Month, the Variable Charge component of the Tariff (comprising cost of Coal and Secondary Fuel Oil) shall be determined as per annexure-III

Variable Charges consists of cost of coal & oil. Landed cost of coal and oil shall include Transit and handling charges, royalty on coal, taxes, duties as applicable. Transportation cost by rail/road or any other means and energy charges shall be arrived after considering transit & Windage losses as given in Annexure-IV. Variable charges shall be paid based on the computation as per Annexure-III. Variations, if any, in delivered cost of coal & oil consequent to raising of initial bill shall be adjusted. For claiming such revision, SCCL will raise supplementary Bills.

4.4 **Operating parameters:** The values of Operating parameters like Station Heat Rate, Auxiliary power consumption and specific consumption of secondary fuel oil for the duration of the PPA shall be as per prevailing TSERC Regulations from time to time.

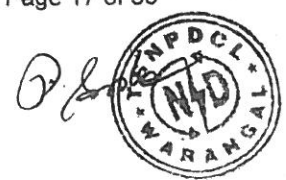
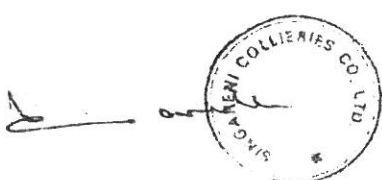
4.5 **Incentive:**

- (a) Target plant load factor for incentive shall be 80%.
- (b) Incentive shall be payable at a flat rate of 25 paisa/kwh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to target Plant Load Factor.



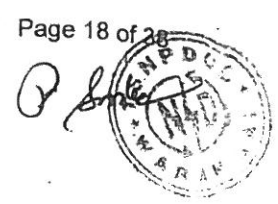
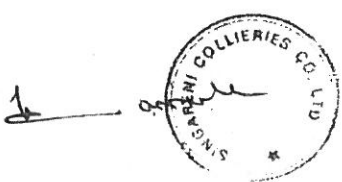
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- 4.6 **General:** Any changes in TSERC regulations that may occur in future shall be applicable for all operating norms or any other parameters. For anything not covered in this agreement, TSERC regulations will be applicable.
- 4.7 **Commercial Operation Date or COD:** COD in relation to a generating unit means, the date declared by the generating company after demonstrating the maximum continuous rating (MCR) or the installing capacity (IC) through a successful trial run after notice to the beneficiaries, and in relation to the generating station means, the date of commercial operation of the last unit.



Article 5: TAXES, LEVIES, DUTIES, ROYALTY, CESS ETC

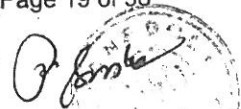
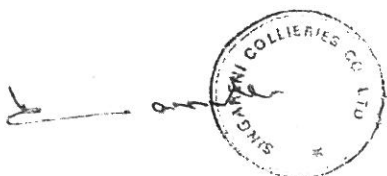
- 5.1 Levies, Taxes, Duties, Cess: The above Tariff is exclusive of any statutory taxes, levies, duties, cess or any other kind of imposition (s) whatsoever imposed/charged by any Government (Central/State) and/ or any other local bodies/authorities on generation of electricity including auxiliary consumption or any other type of consumption including water, transmission, environment protection, sale or on supply of power/ energy and / or in respect of any of its installations associated with Generating Stations and/or on Transmission System.
- 5.2 The total amount of such levies/taxes/ duties/ cess etc. payable by SCCL to the authorities concerned in any month on account of the said levies/taxes/duties/cess etc. as referred to above shall be borne and additionally paid by TSSPDCL and TSNPDCL to SCCL.
- 5.3 Incidence of income tax liability on project income limited to the extent of RoE as per the provisions of the Income Tax Act applicable from time to time shall be recovered from TSSPDCL and TSNPDCL duly certified by Statutory Auditors of SCCL.
- 5.4 **Income Tax:** Incidence of tax liability on SCCL as per Income Tax Act in force from time to time shall be payable in addition to the amount as per the Tariff Bill by TSSPDCL and TSNPDCL duly certified by the Auditors of SCCL. However the tax payable on project income exceeding the Return on Equity will not be charged to TSSPDCL and TSNPDCL. If any advance income tax is payable by SCCL in any month, SCCL shall submit a bill to TSSPDCL and TSNPDCL supported by a certificate of its chartered accountant at least 20 (twenty) days before the due date of such payment. TSSPDCL and TSNPDCL shall pay to SCCL an amount equal to such advance tax within ten (10) days from the receipt of such Bill. After the tax assessment is completed for any year, if any, balance tax amount is payable by SCCL, TSSPDCL and TSNPDCL shall pay such balance tax within 15 days of demand by SCCL. In case the tax authority refunds any amounts to SCCL including interest thereon, SCCL shall promptly make an appropriate refund to TSSPDCL and TSNPDCL.
- 5.5 Income Tax applicable for the sale of power under this agreement shall be governed by the applicable TSERC regulations and the parties agree to abide by and comply such regulations.



Article 6: BILLING AND PAYMENT

6.1 Billing:

- 6.1.1 All charges for supply of Electricity under this Agreement shall be billed by SCCL as determined time to time by the TSERC and/ or any other Competent Authority and the same shall be paid by TSSPDCL and TSNPDCL in accordance with the following provisions:
- 6.1.2 SCCL shall present the bills for electricity supplied to TSSPDCL and TSNPDCL from the Project for the previous month based on Energy Account issued by Telangana State Load Dispatch Centre or any other Competent Authority as per TSERC regulations applicable from time to time.
- 6.1.3 Billing Centre of SCCL shall carry out billing and associated functions. SCCL would submit the bills to the officer to be nominated by TSSPDCL and TSNPDCL
- 6.1.4 The Monthly Bill for the Project shall include the Charges for Supply of Electricity under this Agreement, taxes, duties, cess etc including additional bills for the past period (s) on account of orders of TESERC/ Appellate Tribunal for Electricity/ Other Courts/ Other Competent Authority (ies). If for certain reasons some of the charges which otherwise are in accordance with this Agreement, cannot be included in the main Monthly Bills, such charges shall be billed as soon as possible through Supplementary Bill(s).
- 6.1.5 TSSPDCL and TSNPDCL shall arrange payment of such Monthly Bill (s) / Supplementary Bill (s) promptly through irrevocable Letter of Credit at the designated account of SCCL or through RTGS. The date of transfer of payment to SCCL account shall be considered as the date of payment for computation of rebate or late payment of surcharge in respect of such payment. The bill (s) of SCCL shall be paid in full subject to the condition that -
- i. there is no apparent arithmetical error in the bill (s)
 - ii. the bill (s) is /are claimed as per the notified / agreed tariff
 - iii. they are in accordance with energy accounts issued by Telangana State Load Dispatch Centre or any other Competent Authority as per TSERC regulations applicable from time to time.



6.1.6 All payments made by TSSPDCL and TSNPDCL shall be appropriated by SCCL for amounts due from TSSPDCL and TSNPDCL in the following order of priority:

- i. towards Late Payment Surcharge, payable if any
- ii. towards earlier unpaid bill (s) if any; and
- iii. towards the statutory dues like, other tax, royalty etc in the current bill (s).

6.1.7 In case TSSPDCL and / or TSNPDCL dispute any amount, even then, it shall pay 95% of the disputed amount forthwith and file a written objection with SCCL within 30 days of presentation of the bill, giving following particulars:

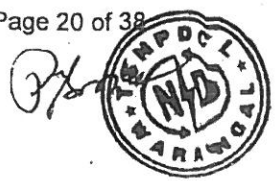
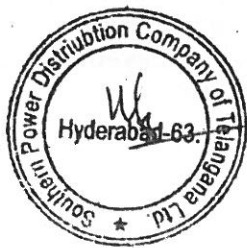
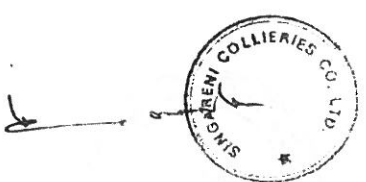
- i. Item disputed, with full details / data and reasons of dispute
- ii. Amount disputed against each item

Provided that non acceptance of tariffs determined / approved by TSERC shall not be a valid ground for dispute

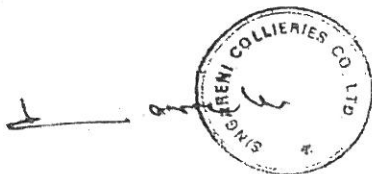
6.1.8 The amount of excess / shortfall with respect to the said 95% payment based on finally determined amount in line with Article 6 shall be paid / adjusted with the applicable interest @ 15% per annum from the date on which the amount in dispute was payable / refundable

6.1.9 **Monthly Bill:** On or before each Billing Date, SCCL shall submit to TSSPDCL and TSNPDCL a Monthly Bill based on (a) meter reading (taken pursuant to Article 7) that has either been signed by both Parties or certified by SCCL with respect to TSSPDCL and TSNPDCLs' refusal to sign within five days of the Metering Date and (b) the Tariff, which will set out the monthly Fixed Charges and the monthly Variable Charges with respect to the Project covered under this Agreement.

6.1.10 Each Monthly Bill for a Billing Month shall be payable by TSSPDCL and/or TSNPDCL in accordance with this Agreement on or before the Due Date of Payment., which will be the date 30 days from the date of presentation of the Tariff Bill to the Designated Officer of TSSPDCL and TSNPDCL.

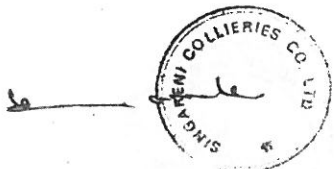


- 6.2 **Supplementary Bills:** Any amount due to SCCL by TSSPDCL and/ or TSNPDCL under this Agreement other than amounts set out in a monthly Tariff Bill shall be payable within thirty (30) days after presentation of Supplementary Bill(s) by SCCL to TSSPDCL and /or TSNPDCL. This will include, but not be limited to the following:
- i. Claims for Income Tax.
 - ii. Claims for increased costs, if any
 - iii. Statutory Duties, Taxes, Cess, Levies, fee, Royalty, etc.
 - iv. Monthly Tariff Adjustments
 - v. Water charges, NALA charges, etc.
 - vi. Any claims of Central/State/Local authorities/Bodies, etc.
 - vii. Any other claim admissible under this Agreement.
- 6.3 **Payment mechanism:** The bills shall be presented to the Designated Officer of TSSPDCL and TSNPDCL for payments. Payments by TSSPDCL and TSNPDCL for such bills raised by SCCL shall be made within 60 days through revolving Letter of Credit (LC) or through RTGS. LC is to be opened in favour of SCCL to cover one month receivables valid for the term of the PPA. All LC charges shall be to TSSPDCL and TSNPDCL account. Escrow to cover one month receivables valid for the tenure of the PPA as per the procedure indicated in the Annexure-V.
- 6.3.1 **Rebate on payment through LC:** For payment of bills through a letter of credit or through RTGS on presentation, the SCCL and TSSPDCL and TSNPDCL agreed to a maximum rebate of 2 percent of the bill amount. If the payments are made within one week of presentation of the bill, the SCCL and TSSPDCL and TSNPDCL agreed to a maximum rebate of 1.25 percent of the bill amount as per TSERC regulations applicable from time to time.
- 6.3.2 **Surcharge Due on Late Payment:** In case the payment by TSSPDCL and TSNPDCL is delayed beyond a period of 60 days from the date of billing, late payment surcharge at the rate of 1.25% per month or part thereof shall be levied by SCCL to TSSPDCL and TSNPDCL
- 6.3.3 **Rebate and Late payment surcharge shall be as per terms and conditions of tariff issued by TSERC as applicable from time to time. No rebate shall be payable on the bills raised on account of taxes, duties, royalty/ cess etc**



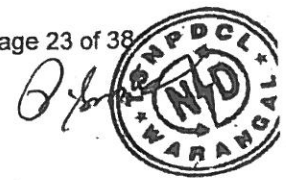
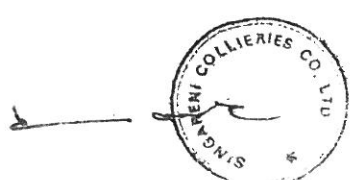
Article 7: METERING

- 7.1 The interface meters, viz. Main and Standby meters, of 0.25 accuracy class shall be installed and maintained by SCCL in coordination with TSTRANSCO, TSDISCOMS as per Central Electricity Authority (Installation and operation of meters) Regulations 2006 as amended from time to time (or) as notified by TSERC and Check meter of 0.25 accuracy class shall be installed and maintained by TSDISCOMS. Cost of the main meter, standby meter and charge for all types of testing and calibration will be borne by SCCL and those of check meter by TSSPDCL and TSNPDCL.
- 7.2 The main and check meters shall be installed on outgoing feeders and the Standby meters on HV side of Generator Transformers and Station Auxiliary Transformers.
- 7.3 The interface meters and the associated CTs and VTs/CVTs shall be got tested for FACTORY ACCEPTANCE TESTS as per relevant IS/IEC and for ACCURACY at an NABL accredited laboratory in presence of representatives of TSTRANSCO and TS DISCOMS for ensuring their healthiness and accuracy respectively.
- 7.4 The interface meters shall be tested at the time of installation at site for accuracy using standard reference meter of better accuracy class than the meter under test.
- 7.5 All the interface meters shall be sealed by SCCL and TS DISCOMS. Whenever seals have to be removed for any reason, advance notice shall be given to other party for witnessing the removal of seals and resealing. The breaking and resealing of the meters shall be recorded by the party, who carried out the work, in the meter register, mentioning the date of removal and resealing, serial numbers of the broken and new seals and the reason for removal of seals.
- 7.6 Half yearly Checks: All the interface meters shall be checked for accuracy half yearly by TS DISCOMS and shall be treated as working satisfactorily so long as the errors are within the limits prescribed for meters of the specific class. SCCL shall extend required coordination and attend for the check test.
- 7.7 Yearly Test for Accuracy: SCCL shall get the main and stand by interface meters tested at an NABL accredited laboratory once in every year in the presence of representatives of both TSTRANSCO and TS DISCOMS. TSDISCOMS shall get the check interface meters tested at an



NABL accredited laboratory once in every year in the presence of representatives of both TSTRANSCO and SCCL.

- 7.8 SCCL shall install AMR modules for the interface meters to enable online transmission of meters' data to TSTRANSCO/TSDISCOMS.
- 7.9 SCCL shall provide Data Acquisition System ("DAS") facility compatible with TSLDC's Supervisory Control and Data Acquisition ("SCADA") system in consultation with TSLDC for transfer of real time data to SLDC as per IEGC 2010.
- 7.10 Monthly meter readings of main, check and standby meters shall be jointly taken (and a joint acknowledgement thereof signed) by the authorised representatives of SCCL, TSTRANSCO, and TSDISCOMS at an agreed time on each Metering Date and also the load survey data shall be downloaded through MRI. Whenever difference between the readings of main meter and check meter for any month is more than the limit specified in CEA metering regulations 2006, as amended from time to time, corrective measures shall be taken as mentioned therein. Whenever difference between the readings of main meter and standby meters for any month is more than 1.2%, procedure prescribed as in case of main & check meters shall be followed.
- 7.11 Readings of the main meter shall form the basis of billing. In case of failure of main meter or if the error of main meter is beyond the permissible limits, billing for the month shall be done on the basis of the readings of check meter and the main meter shall be replaced immediately. In case of failure of both main meter and check meter billing for the month shall be done based on the readings of standby meters and the main and check meters shall be replaced immediately.

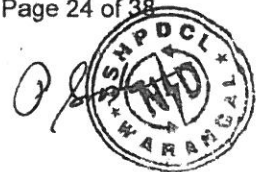
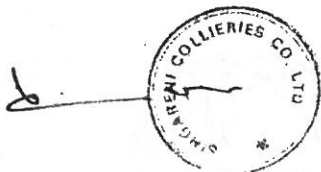


Article 8: CHANGE IN LAW

8.1 Change in law: In the event of any new law, regulation or tax or in the event of any change, amendment, modification or repeal of any law, regulation or tax (including without limitation, any withholding taxes, cess, duties, environmental taxes, sales taxes, property taxes, import fees or assessments) of any Government Authority after the date of effectiveness of this agreement, detrimentally or beneficially affects SCCL, then SCCL shall send a notice in writing to TSSPDCL and TSNPDCL regarding such an event and both parties shall meet and endeavour to agree to an amendment to this agreement to pass on the impact of such an event to TSSPDCL and TSNPDCL, which shall be settled through supplementary invoice. If within 90(ninety) days after such notification, the parties are unable to reach agreement on such amendment, or in the event that an agreement to amend has been reached but no amendment has been executed within 30 (thirty) days after reaching of such agreement to amend, either party shall have the right to commence the dispute resolution procedures set forth in Article 12 to determine the appropriate amendment to this agreement.

Article 9: IMPLEMENTATION OF THE AGREEMENT

9.1 All discretions to be exercised and directions, approvals, consents and notices to be given and actions to be taken under these provisions unless otherwise expressly provided herein, shall be exercised and given by the signatories to this Agreement or by the authorized representative(s) that each Party may nominate in this behalf and notify in writing to the other Party by Registered Post with Acknowledgement due. Any other nomination of authorized representative (s) shall be informed likewise in writing to / by TSSPDCL and TSNPDCL within one month of signing of the Agreement. Notwithstanding any nomination, the Chairman & Managing Director / SCCL or his authorized representatives at its Registered Office shall be authorized to act for and on behalf of SCCL.



Article 10: DURATION OF THE AGREEMENT

10.1 The Agreement shall come into effect for all purposes and intent from the date of signing of the Agreement.

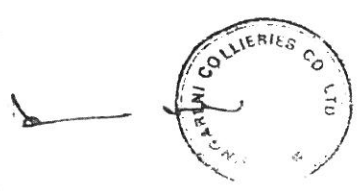
Subject to the establishment and continuance of payment security as envisaged under Annexure V to the satisfaction of SCCL, Agreement shall remain operative up to completion of twenty five (25) years from the date of commercial operation of last unit of the Project, unless it is specifically extended on mutually agreed terms.

This Agreement may be extended, renewed, amended or replaced by another Agreement, on or before the expiry of this agreement, on such terms and for such further period of time as the Parties may mutually agree subject to prior consent of Telangana State Electricity Regulatory Commission (TSERC).

Article 11: FORCE MAJEURE

11.1 No party shall be liable for any claim for any loss or damage whatsoever arising out of failure to carry out the terms of the Agreement to the extent that such a failure is due to force majeure events such as war, rebellion, mutiny, civil commotion, riot, strike, lock-out, forces of nature, accident, act of God and any other reason beyond the control of concerned party. But any party claiming the benefit of this clause shall reasonably satisfy the other party of the existence of such an event and give written notice within a reasonable time to the other party to this effect. Generation/drawal of power shall be started as soon as practicable by the parties concerned after such eventuality has come to an end or ceased to exist.

The Generator is entitled to claim only fixed charges and cannot claim any consequent losses during Force Majeure Period



Article 12: ARBITRATION

12.1 All differences or disputes between the parties arising out of or in connection with this Agreement shall be endeavoured to be settled amicably through negotiation between the Chief Executives of the respective parties within 90 days, failing which shall be settled through arbitration as provided herein.

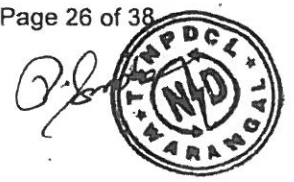
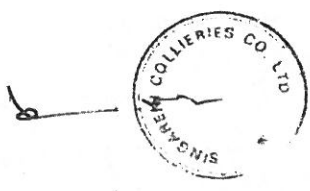
In the event of any such differences or disputes between the parties, any party may by a written notice of 30 days to the other party request Telangana State Electricity Regulatory commission (TSERC) to settle such disputes. The same shall be dealt as per the provisions of Electricity Act 2003. The place of Arbitration shall be at Hyderabad.

Article 13: GENERAL

13.1 Agreement final and complete: This Agreement contains the full and complete understanding between the parties and supersedes all prior arrangements and understandings whether written or oral appertaining to the subject matter of this Agreement and may not be varied except by an instrument in writing signed by all of the parties to this Agreement. No representations or promises not expressly contained in this Agreement have any effect of modifying this Agreement.

13.2 Waiver: If any provision of this Agreement shall be adjudged by a court to be unlawful void or unenforceable such provision shall to the extent required be severed from this Agreement and rendered ineffective as far as possible without modifying the remaining provisions of this Agreement and shall not in any way affect any other circumstances or the validity or enforcement of this Agreement.

No failure or delay on the part of the parties to this Agreement relating to the exercise of any right power privilege or remedy provided under this Agreement shall operate as a waiver of such right power privilege or remedy or as a waiver of any preceding or succeeding breach by the other party to this Agreement nor shall any single or partial exercise of any right power privilege or remedy preclude any other or further exercise of such or any other right power privilege or remedy provided in this Agreement all of which are several and cumulative and are not



exclusive of each other or of any other rights or remedies otherwise available to a party at law or in equity.

13.3 **Circumstances not covered in this Agreement:** The parties acknowledge and accept that it has not been possible to envisage all the circumstances that may arise in the course of the dealings between the parties and therefore it has not been possible to provide for all such eventualities. In the course of the implementation of the Agreement the parties may be faced with matters which have not been expressly dealt with in this Agreement.

The parties shall discuss and find an appropriate solution to such matters amicably and parties shall act on best endeavour basis keeping in view the interest of both the parties. If the parties are unable to arrive at a settlement, the matter shall be referred to arbitration in accordance with Article 12 and the decision of the arbitrator(s) shall be final and binding on the parties.

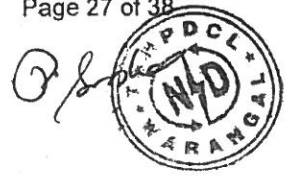
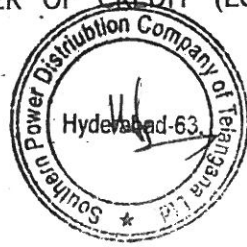
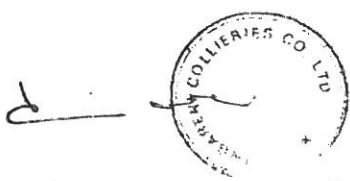
ARTICLE 14: NOTICE

14.1 All notices required or referred to under this Agreement shall be in writing and signed by the respective authorized signatories of the Parties mentioned herein above, unless otherwise notified. Each such notice shall be deemed to have been duly given to the other Party if delivered or served by Registered Post/Speed Post or by any other mode with an acknowledgement in terms of Article 9.

ARTICLE 15: ASSIGNMENT

15.1 In case the functions of TSSPDCL and TSNPDCL are reorganized and /or this Agreement is assigned to other organization (s) / agency (ies), party or wholly, the Agreement shall be binding mutatis mutandis upon the successor Distribution / Trading Organisation (s) / agency (ies) / entities and shall continue to remain valid with respect to the obligations of the successor organization (s) / agency (ies) is / are owned or controlled by the Government of Telangana.

15.2 In the event the functions of TSSPDCL and TSNPDCL are reorganized and / or privatized or this Agreement is assigned to Private Organisation (s) / agency (ies), partly or wholly, TSSPDCL and TSNPDCL shall ensure that the agreements namely 'Escrow Agreement' and 'Agreement to Hypothecate Cum Deed of Hypothecation' as mentioned at Annexure V under ESTABLISHMENT OF LETTER OF CREDIT (LC) AND PAYMENT



SECURITY MECHANISM are signed by the assignee before assignment of this Agreement.

- 15.3 Only such of the successor entities who fulfill the above requirements and execute the requisite documents as above shall be termed as the permitted assigns
- 15.4 In other cases, SCCL shall have the right to terminate this Agreement. In the event of termination of this Agreement, TSSPDCL and TSNPDCL shall be liable and continue to pay the Capacity Charges each month till firm arrangement for sale of TSSPDCL's and /or TSNPDCL'S share with alternate customers substituting the TSSPDCL and TSNPDCL is tied up.
- 15.5 For the purpose of obtaining financing for the Project, SCCL may assign or create security over its rights and interests under or pursuant to this Agreement to any one or all the lenders of this Project.

IN WITNESS WHEREOF THE PARTIES HAVE SIGNED THIS AGREEMENT ON THE DAY, MONTH AND YEAR FIRST WRITTEN ABOVE.

For and on behalf of
THE SINGARENI COLLIERIES COMPANY
LIMITED

For and on behalf of
TSDISCOMS

[Signature]
DIRECTOR (E&M)
 The Singareni Collieries Co. Ltd.,
 (A Government Company)
 KOTHAGUDEM - 507 101 (A.P.)

[Signature]
(K. S. ABABA)
 Chief General Manager (Commercial)
 1. TSSPDCL, Corporate Office,
 6-1-50, Mint Compound, Hyderabad-63.
 TSSPDCL

[Signature]
 18/11/2016
P. SANDHYA RANI,
 Chief General Manager
 IPC & RAC TSNPDCL,
 Warangal.

In the presence of

In the presence of

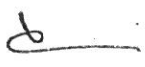

1. *[Signature]*
[Signature]

1. *[Signature]*
 18/11/16
 JMD (Fin. Comm. & Vig.)
 TSDISCOM, Mint Compound,
 HYDERABAD - 500 005





ANNEXURE-1

SINGARENI THERMAL POWER PROJECT (2X600MW)		
DETAILS OF PROJECT COST		
Sl.No	Description	Rs. Crores
1	Total BTG Package	3681.22
2	Total Cost of BoP	916.01
3	Total Cost of SCCL Scope Works	1002.48
4	Erection, Testing and Commissioning including insurance	
4.1	BTG	439.74
4.2	BoP	154.00
5	Taxes, Duties, Freight & Insurance	860.05
6	Contingencies	38.00
7	Establishment Costs	55.00
8	Consultancy & Engineering	127.00
9	Start up Fuel	40.00
10	Operator training	1.50
11	Financing Expenses	10.00
12	Interest During Construction	925.00
	Total Cost	8250.00

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ANNEXURE-II

COMMISSIONING & TESTING

1. Commissioning and Testing

1.1 Guidelines

The commissioning of the Project will require satisfactory performance of a number of tests prescribed to demonstrate conformance with regulatory requirements.

An Installed Capacity Test shall be carried out during the Reliability Run as defined in the "Tests on Completion" in the EPC Contract entered into, or to be entered into, by SCCL for the purposes of the Project.

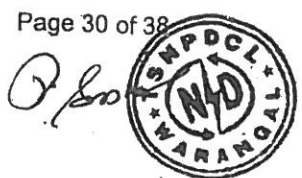
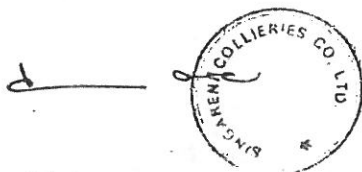
SCCL shall give TSSPDCL and TSNPDCL at least fifteen (15) days prior written notice of the date on which the Installed Capacity Test will commence.

SCCL, TSSPDCL and TSNPDCL shall designate representatives to witness and observe the test. The Generating Unit shall be operated within the manufacturer's specified limits and in accordance with Prudent Utility Practices for the duration of the test.

1.2 Test Conditions - General Considerations

The Installed Capacity Test shall be designed and carried out in accordance with standard ASME PTC 6 - Turbo-Generators.

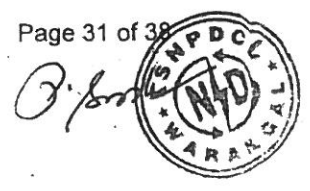
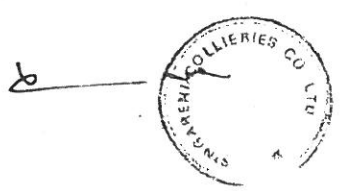
- (i) The Installed Capacity Test will be run under any and all ambient conditions (temperature, humidity etc) that may exist during the time of the Installed Capacity Test, and no corrections in final generator gross output will be allowed as a result of prevailing ambient conditions.
- (ii) The fuel will be within the range of the fuel specification in the Coal Supply Agreement (CSA). In addition, the ability of the Power Station to meet rated capacity with fuel of the lowest quality permitted under the CSA will be demonstrated.
- (iii) Correction curves will be used if Grid operation during the Installed Capacity Test exceeds the Grid Technical Limits.



- (iv) The Installed Capacity Test shall be deemed to have demonstrated the gross generation capacity of the Generating Unit under all design conditions and therefore no adjustments shall be made on account of fuel quality or ambient conditions.
- (v) Electrical system Characteristics Test shall demonstrate the Project's ability to operate within the limits of the electrical system characteristics. Electrical system characteristics compliance shall be deemed to be achieved in case of:
 - (a) Voltage provided the Project operates within the nominal voltage levels of the Grid for the duration of the Installed Capacity Test. If during the test, voltage tests cannot be performed due to Grid constraints, data supplied from tests of the generator step-up transformers and generator supplied by the manufacturers shall be used to establish the ability of the Project to operate within the specified voltage limits.
 - (b) Grid frequency provided the Project operates within the nominal frequency levels for the duration of the Installed Capacity Test.
 - (c) Power factor, provided the Project operates within the power factor range for the duration of the Installed Capacity Test. If, during the Installed Capacity Test, power factor tests cannot be performed due to Grid constraints, data supplied from tests of the generators and the generator step-up transformers supplied by the manufacturers shall be used to establish the ability of the Project to operate within the specified voltage limits.

Electrical output shall be measured at the generator terminals using test class instruments with an overall measurement uncertainty of $\pm 0.5\%$ (utilizing meters of class 0.2S accuracy) as per ASME PTC 19.1. The metering system shall be capable of measuring instantaneous output (MW), hourly average power (MW) and the integrated energy over the relevant test period (MWh).

The generating Unit shall not be treated as passing its Installed Capacity Test unless it has demonstrated an Installed Capacity of at least equal to 540 MW.



1.3 Installed Capacity Test

For each generating Unit, Installed Capacity Test shall be carried out at maximum continuous rating over a continuous period of seventy-two (72) hours for determination of installed capacity of the unit. Provided that if any Generating Unit's Installed Capacity is determined to be higher than 600 MW, including if any permitted retest shall result in such Generating Unit's Installed Capacity being higher than 600 MW, then the Installed Capacity of such Generating Unit shall be limited to 600 MW and shall apply for the purpose of calculation of PLF.

A Generating Unit shall not be rejected by TSSPDCL on the grounds of the installed Capacity test being demonstrated, at less than 540 MW inspite of the best efforts made by SCCL.

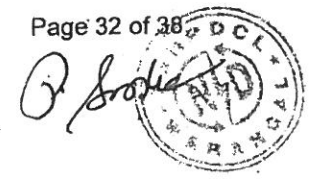
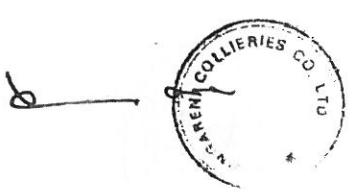
1.4 Test Results

1.4.1 Within five (5) Days after the conclusion of the Installed Capacity Test SCCL shall submit a written report to TSSPDCL and TSNPDCL which shall contain:

- (i) details of the results of the tests including sufficient data to demonstrate that all requirements of the Installed Capacity Test and the Electrical System Test have been met;
- (ii) if a Generating Unit has passed the Installed Capacity Test for the purposes of COD, the date and time for commencement of Commercial Operation for each of such Generating Units for the purposes of this Agreement.

1.4.2 If TSSPDCL and / or TSNPDCL dispute any or all of the results contained in the report provided by SCCL pursuant to paragraph 1.4.1 above then TSSPDCL and / or TSNPDCL shall initiate the Informal Dispute and Arbitration detailed in Article 12 of this Agreement.

1.4.3 Energy generated during testing and commissioning: At all times after the Scheduled Date of Synchronisation of each Generating Unit, TSSPDCL and TSNPDCL shall accept all electrical output produced by such Generating Unit during start-up, commissioning and testing performed pursuant to Article 3 of this Agreement.



ANNEXURE - III

COMPUTATION OF VARIABLE CHARGES

Variable Charge = $V_c * E$

$$V_c = \frac{100 \{ P_p \times (Q_p)n + P_s \times (Q_s)n \}}{(100 - (AUXn))}$$

Where,

- Pp = Landed cost of primary fuel namely coal or lignite or gas or liquid fuel in Rs/Kg or Rs/cubic-metre (m³) or Rs./litre, as the case may be
- (Qp)n = Quantity of primary fuel required for generation of one kWh of electricity at generator terminals in Kg or litre or m³, as the case may be, and shall be computed on the basis of normative Gross Station Heat Rate (less heat contributed by secondary fuel oil for coal/lignite based generating stations) and gross calorific value of coal/lignite or gas or liquid fuel as fired.
- Ps = Landed cost of Secondary fuel oil in Rs./ml
- (Qs)n = Normative Quantity of Secondary fuel oil in ml/kWh as per TSERC norms, and
- AUXn = Normative Auxiliary Energy Consumption as percentage of gross generation

The monthly Variable Charge to be shown in the Monthly Thermal energy Bill will be the aggregate of the Variable Charge calculated for each of the Thermal Power Stations, i.e.,

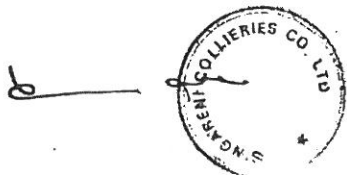
Monthly Variable Charge in Thermal Tariff Bill

= $V_c * E$

Where

V_c = Variable Charge per unit calculated pursuant to this article.

E = Net Electrical Energy in kWh delivered at the Interconnecting point.



ANNEXURE-IV

COMPUTATION OF DELIVERED COST OF COAL - THERMAL PLANTS

- 1. **Weight of Coal:** In terms of the then APERC's Order dt. 24.03.03 (Para 122), the cost of coal lost in transit, windage & shrinkage etc., needs to be factored into the Variable charge since SCCL has little control over such loss. Thus the weight of coal received for each Thermal Power Station for the purpose of calculating Weighted Average Delivered Cost of Coal will be the actual weight of coal received at the Thermal Power Station, i.e., it will be the weight of coal supplied by the supplier reduced by the quantity lost in transit, windage & shrinkage, etc. This loss shall however be limited to 0.2% or actual whichever is less.

- 2. **Cost of Coal:** Total Cost of Coal* delivered at each Thermal Power Station shall constitute the price paid to the coal supplier, all incidental duties and taxes paid to the State or Central Government and cost of optimal transportation.
 * Cost of coal means at which Coal is transported and priced for respective grades as per SCCL's Coal Marketing Department.

- 3. **Weighted Average Delivered Cost of Coal:**
 The cost of coal for the computation of Variable Charges will be the weighted average delivered cost of coal. For the purpose of the weighted average, cost of coal received will be the total cost of coal calculated as per clause 2 above divided by the quantity of coal delivered at the Thermal Power Station (in Rs. Per metric tonne), as per Clause 1 above.

Example:

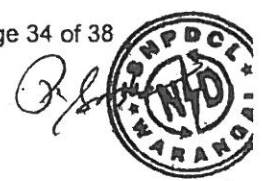
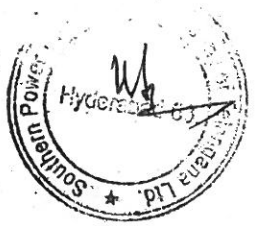
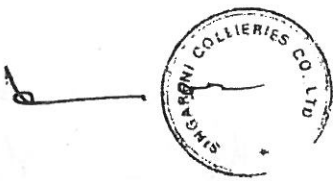
Opening Stock at KTPS = 100 metric tonne

Opening Weighted average cost of coal=Rs.920 per metric tonne

Let quantity of Coal supplied by Mahanadi Coal Fields Ltd to KTPS = 100 metric tonnes

Cost of Coal:

- Basic Cost = Rs. 70,000
- Royalty = Rs. 500
- CST = Rs.280
- Freight = Rs. 23,000



Total Cost = Rs. 93780

Coal Lost in Transit, Windage & Shrinkage = 0.8 metric tonne

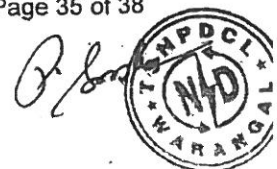
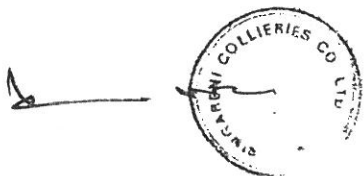
Coal delivered at KTPS = 99.2 metric tonne

Closing Weighted Average cost of coal

= [Cost of Coal received + (Op Stock * Op Weighted Average Cost/Tonne)] / [Op Stock + Coal delivered #]

= Rs. 93,780 + (Rs. 920 * 100) / [100 + 99.2] = Rs. 933 per metric tonne.

The cost to be taken for the purpose of Variable Cost is Rs. 933 per Tonne
#considering transit loss, windage & shrinkage etc.



ANNEXURE-VESTABLISHMENT OF LETTER OF CREDIT (LC) AND PAYMENT SECURITY MECHANISM

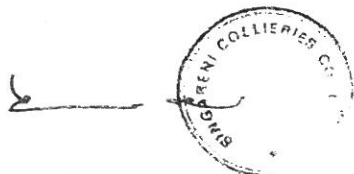
- 1.0 TSSPDCL and TSNPDCL shall establish an irrevocable revolving letters of Credit (LC) in favour of SCCL with any public sector / scheduled commercial bank (as per list supported by SCCL) at least one month prior to the commencement of electricity supply from the first unit of the Project
- 2.0 The LC shall cover 105% of the month's estimated billing in respect of electricity supplied from the Project to TSSPDCL and TSNPDCL.
- 3.0 The amount of LC shall be reviewed on half yearly basis on 1st April and 1st October in each financial year on the basis of the average of billing of previous 12 months
- 4.0 The LCs shall be established for a minimum period of one year. TSSPDCL and TSNPDCL shall ensure that a valid LC is made available at all times during the entire/extended validity of this agreement. New LCs shall be furnished / existing LCs reinstated not later than 30 days prior to the expiry of existing LCs
- 5.0 LC shall specify the manner and dates when bill (s) can be presented to Bank by SCCL. The bills so presented by SCCL to the bank shall be promptly paid on their presentation. The LC charges shall be borne by TSSPDCL and TSNPDCL respectively for their LCs
- 6.0 All costs relating to opening and maintenance and negotiation of LC shall be borne by TSSPDCL and TSNPDCL, respectively
- 7.0 In case of drawal of the LC amount by SCCL in accordance with the terms of this Article, the amount of LC shall be reinstated automatically not later than 7 days from such drawal. TSSPDCL and TSNPDCL shall arrange to furnish to SCCL a certificate to this effect from Bank (s) providing LC. In the event LC is not reinstated within 7 days, regulation of power supply to the extent of 2.5% of the Contracted Capacity will start with immediate effect from 00 hrs on 8th day. SCCL will have right to divert 2.5% of the contracted capacity to Third Party (ies) and or reduce the schedule of TSSPDCL and / or TSNPDCL by the same quantum whoever fails.



Provided that TSSPDCL and / or TSNPDCL shall continue to be liable to pay the Capacity Charges in proportion to its contracted capacity during the period of regulation / diversion of capacity or till the capacity is re-allocated to other Bulk Power Customer (s) / Third Party (ies).

8.0 In addition to above, TSSPDCL and TSNPDCL hereby agrees separately to provide an alternative payment security arrangement in the form of Escrow Arrangement as a back up to the Letters of Credit. Under this arrangement an Escrow Account in favour of SCCL shall be established through which the receivables of TSSPDCL and TSNPDCL shall be routed as per the terms of Escrow Agreement. TSSPDCL and TSNPDCL hereby agrees that SCCL will have first charge on Receivable of TSSPDCL and TSNPDCL. However, such first charge shall be on the amounts, in excess of amounts, which have already been charged or agreed to be charged prior to the date of execution of this Agreement and as listed in the schedule enclosed with this Agreement. TSSPDCL and TSNPDCL agreed to enter into a separate 'Agreement to Hypothecate Cum Deed of Hypothecation' whereby, TSSPDCL and TSNPDCL shall hypothecate Receivables to the extent required for Payment of dues of SCCL by TSSPDCL and TSNPDCL including under this Agreement by creation of first charge in favour of SCCL. These Receivable shall be routed through Escrow Account for payment to SCCL in case of default in payments by TSSPDCL and / or TSNPDCL. "Receivables" for this purpose shall mean all of the present and future payments, receipts, obligations, monies, claims, bills and any other property whatsoever which may from time to time be derived from or accrue or be offered or due to the TSSPDCL and TSNPDCL in respect of the sale by the TSSPDCL and / or TSNPDCL to the consumers of electric capacity, energy and /or services or for any other reason whatsoever and all proceeds thereof.

9.0 The Escrow Agreement and Agreement to Hypothecate Cum Deed of Hypothecation shall be established by TSSPDCL and TSNPDCL to the satisfaction of SCCL within 60 days of entering into this Agreement. In the event, TSSPDCL and TSNPDCL does not sign the 'Escrow Agreement' and 'Agreement to Hypothecate Cum Deed of Hypothecation' within the said period or TSSPDCL and TSNPDCL creating any superior charge in favour of any other party on its Receivable, SCCL shall have the right to reallocate contracted capacity of TSSPDCL and/or TSNPDCL to Third Party (ies). In case of termination of this Agreement or reallocation of capacity due to reasons stated above, TSSPDCL and TSNPDCL shall be liable to pay capacity charges for such capacity till the capacity is reallocated.



TSSPDCL, TSNPDCL and SCCL agree that this Agreement shall deemed to have created a legally binding first charge on TSSPDCL'S and TSNPDCL'S Receivables in favour of SCCL. Accordingly, TSSPDCL and TSNPDCL shall not create any encumbrance, charge and lien or otherwise execute any instrument which in any way affects the first charge over the Receivables. While creating any subsequent charge on its Receivables or agreeing to provide Escrow cover or any other form or payment security to any other entities like electricity supplier(s), banks, financial institutions etc. during the interim period till signing of Escrow Agreement with SCCL, TSSPDCL and TSNPDCL shall duly inform such electricity supplier (s), banks, financial institutions etc of the legally binding first charge on TSSPDCL'S and TSNPDCL'S Receivables in favour of SCCL and the first charge of SCCL shall be in preference to any other charge that TSSPDCL and TSNPDCL may create in favour of any other party.

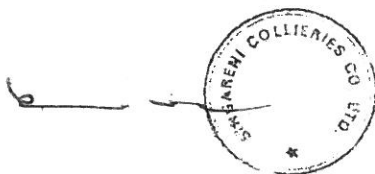
TSSPDCL and TSNPDCL agree to ensure that the successor entities of TSSPDCL and TSNPDCL are duly notified of the above arrangement with SCCL and shall be bound by the terms of this Agreement as if they are parties of this Agreement.

10.0 Notwithstanding the obligations of TSSPDCL and TSNPDCL to pay all the dues as per this Agreement, in the event of non-payment of bills within a period of 60 days from date of billing or default in opening of LC of requisite amount in favour of SCCL by TSSPDCL and TSNPDCL separately, SCCL shall be entitled to regulate / divert the contracted capacity of TSSPDCL and / or TSNPDCL to any other Bulk Power Customer (s) / Third Party (ies) as per the provisions of generic procedure for regulation of power supply issued by TSERC.

In case of default in payment of bills.beyond a period of 90 days of billing by TSSPDCL or TSNPDCL, SCCL shall have the right to re-allocate TSSPDCL'S or TSNPDCL'S power to other Bulk Power Customers (s).

It is clarified that the above arrangement shall not be construed as relieving TSSPDCL and TSNPDCL of any of its obligations to SCCL including obligation of payment of Capacity Charges

For the removal of any doubt it is clarified that in case of default, TSSPDCL and TSNPDCL shall continue to be liable to pay the Capacity Charges in proportion to their contracted Capacity during the period of regulation / diversion of capacity or till the capacity is re-allocated to other Bulk Power Customer (s) / Third-Party (ies)



**Annexure-B : A copy of TSERC Tariff order
dtd.28.08.2020.**



Telangana State Electricity Regulatory Commission
5th Floor, Singareni Bhavan, Red Hills, Lakdi-ka-Pul, Hyderabad 500004

ORDER

ON

TRUE-UP FOR FY 2016-17 TO FY 2018-19

AND

**BUSINESS PLAN,
CAPITAL INVESTMENT PLAN &
MULTI YEAR TARIFF
FOR FY 2019-20 TO FY 2023-24**

FOR

SINGARENI THERMAL POWER PROJECT (2x600 MW)

OF

THE SINGARENI COLLIERIES COMPANY LIMITED

28.08.2020

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LIST OF ABBREVIATIONS

A&G	Administrative and General
AAD	Advance Against Depreciation
AFC	Annual Fixed Charges
APTEL	Appellate Tribunal for Electricity
ARR	Aggregate Revenue Requirement
BFP	Boiler Feed Pump
BHEL	Bharat Heavy Electricals Ltd.
BMCR	Boiler maximum continuous rating
BoP	Balance of Plant
BTG	Boiler, Turbine and Generator
CCDAC	Coal Conservation & Development Advisory Committee
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CFB	Circulating Fluidised Bed
CFL	Compact Fluorescent Lamps
CIL	Coal India Limited
CIP	Capital Investment Plan
CISF	Central Industrial Security Force
CPCB	Central Pollution Control Board
COD	Commercial Operation Date
CPI	Consumer Price Index
CSR	Corporate Social Responsibility
DC	Designated Consumer
DMFT	District Mineral Foundation Trust
DPR	Detailed Project Report
EA 2003	Electricity Act, 2003
EPC	Engineering, Procurement and Construction
EPCA	Environment Pollution Control Authority
ERP	Enterprise Resource Planning
ESP	Electrostatic Precipitator
FGD	Flue Gas Desulphurisation
FSA	Fuel Supply Agreement
FY	Financial Year
GCV	Gross Calorific Value
GFA	Gross Fixed Assets
GoTS	Government of Telangana State
GSHR	Gross Station Heat Rate
GST	Goods and Services Tax
HPSV	High-Pressure Sodium Vapour Lamps
ICB	International Competitive Bidding
IDC	Interest During Construction
IDCT	Induced Draft Cooling Tower
Ind AS	Indian Accounting Standard
IoWC	Interest on Working Capital
IT	Information Technology
kcal	kilo calories
kg	Kilogram
KTPP	Kakatiya Thermal Power Plant
kWh	Kilo Watt hour
MAT	Minimum Alternative Tax
MCLR	Marginal Cost of Funds based Lending Rate
MGR	Merry-Go-Round
MMT	Million Metric Tonne
MoC	Ministry of Coal
MoEF&CC	Ministry of Environment, Forest & Climate Change

TSERC

MoP	Ministry of Power
MoU	Memorandum of Understanding
MU	Million Units
MW	Mega Watt
MYT	Multi Year Tariff
NAPAF	Normative Annual Plant Availability Factor
NAPLF	Normative Annual Plant Load Factor
NH	National Highway
NHAI	National Highways Authority of India
NIT	Notice Inviting Tender
NOx	Nitrogen oxides
NTPC	National Thermal Power Corporation Limited
O&M	Operations and Maintenance
O.P.	Original Petition
OEM	Original Equipment Manufacturer
OFC	Optical Fibre Communication
PAF	Plant Availability Factor
PAT	Perform, Achieve and Trade
PFC	Power Finance Corporation
PLF	Plant Load Factor
PPA	Power Purchase Agreement
PSC	Pre-Stressed Concrete
PVC	Price Variation Clause
R&M	Repairs & Maintenance
RCC	Reinforced Cement Concrete
RCE	Revised Capital Expenditure
RDO	Revenue Division Officer
REC	Rural Electrification Corporation
RITES	Rail India Technical and Economic Service
RoE	Return on Equity
Rs.	Rupees
RUB	Railway Under Bridge
S&T	Signalling and Telecommunication
SBI	State Bank of India
SCCL	Singareni Collieries Company Ltd.
SLC	Standing Linkage Committee
SLDC	State Load Despatch Centre
SMET	State Mineral Exploration Trust
SPCB	State Pollution Control Board
SOx	Sulphur Oxides
SPCB	State Pollution Control Board
TNSEB	Tamil Nadu State Electricity Board
TSERC	Telangana State Electricity Regulatory Commission
TSGENCO	Telangana State Power Generation Corporation Ltd.
TSMDC	Telangana State Mineral Development Corporation
TSNPDC	Northern Power Distribution Company of Telangana Ltd.
TSPCC	Telangana State Power Coordination Committee
TSSPDCL	Southern Power Distribution Company of Telangana Ltd.
TSTRANSCO	Transmission Corporation of Telangana Ltd.
UDL	Undischarged Liability
WPI	Wholesale Price Index

**TELANGANA STATE ELECTRICITY REGULATORY COMMISSION
HYDERABAD**

**O.P.Nos.4 and 5 of 2019, 8 and 9 of 2020 &
I.A.No.2 of 2020 in O.P.No.5 of 2019**

Present

**Sri T.Sriranga Rao, Chairman
Sri M.D.Manohar Raju, Member (Technical)
Sri Bandaru Krishnaiah, Member (Finance)**

Dated: 28.08.2020

Between:

The Singareni Collieries Company Limited

... Petitioner

And

1. Southern Power Distribution Company of Telangana Limited

2. Northern Power Distribution Company of Telangana Limited

... Respondents

The Singareni Collieries Company Limited (SCCL) filed the Petitions u/s 62 and 86 (1) (a) of the Electricity Act, 2003 and under the provisions of the "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" Regulation No.1 of 2008, adopted by Telangana State Electricity Regulatory Commission (hereinafter referred to as "TSERC" or "Commission") vide its Regulation No.1 of 2014 and the "Terms and Conditions of Generation Tariff" Regulation No.1 of 2019 for approval of true-up for FY 2016-17 to FY 2018-19, and Business Plan, Capital Investment Plan and Aggregate Revenue Requirement and Multi Year Tariff (MYT) each Financial Year within the Control Period comprising five years from 01.04.2019 to 31.03.2024 (FY 2019-20 to FY 2023-24) for its 2x600 MW Thermal Power Project (TPP).

The Commission, in exercise of its powers under the Electricity Act, 2003, Regulation No.1 of 2008, adopted by TSERC vide its Regulation No.1 of 2014, Regulation No.1 of 2019, and after considering Petitioner's submissions, suggestions and objections of the other stakeholders, responses of Petitioner, issues that are raised during the Public Hearing and all other relevant material, passed the following common Order.

**COMMON ORDER
CHAPTER 1
INTRODUCTION**

1.1 BACKGROUND

- 1.1.1 Telangana State Electricity Regulatory Commission (herein referred to as TSERC or the Commission) was constituted by the Government of Telangana State (GoTS) in terms of the provisions of Schedule XII (C) (3) of the A. P. Reorganisation Act of 2014, read with Section 82 of the Electricity Act, 2003 (Act) vide G.O.Ms.No.3, Energy (Budget) Department, dated 26.07.2014.
- 1.1.2 This Commission having been established u/s 82(1) of the Act had notified TSERC (Adoption) Regulation No.1 of 2014 on 10.12.2014, accordingly all the Regulations framed by the erstwhile APERC shall continue to apply for the State of Telangana including the (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) Regulation, 2008 (Regulation No.1 of 2008) and its subsequent amendments thereto. Subsequently, the Commission had notified TSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2019 which came into force from the date of its publication in Telangana Gazette i.e., on 01.02.2019.
- 1.1.3 SCCL is a coal mining company incorporated under the Companies Act, 1956 and owned by GoTS, with 51.096% shareholding. The other shareholders of the company are Government of India (GoI) and private shareholders in the ratio of 48.902% and 0.002% respectively. SCCL has established a 2x600 MW coal based TPP (hereinafter referred to as "the project") at Jaipur in Mancherla District. SCCL entered into a Power Purchase Agreement (PPA) dated 18.01.2016 with the Southern Power Distribution Company of Telangana Ltd. (TSSPDCL) and Northern Power Distribution Company of Telangana Ltd. (TSNPDC) (hereinafter referred to as "DISCOMs") for sale of power from the project for a period of 25 years from the Commercial Operation Date (COD) of last Unit (Unit 2) at the tariff determined by the Commission under Section 62 of the Electricity Act, 2003. Units 1&2 achieved COD on 25.09.2016 and 02.12.2016 respectively.
- 1.1.4 The Commission, in its Order dated 19.06.2017 in O.P.No.9 of 2016

(hereinafter referred to as "Tariff Order") approved the capital cost and generation tariff for the project for FY 2016-17 to FY 2018-19 in accordance with the Regulation No.1 of 2008 adopting the Central Electricity Regulatory Commission (CERC) (Terms and Conditions of Tariff) Regulations, 2014.

- 1.1.5 Aggrieved by the Commission's Order dated 19.06.2017, SCCL filed an Appeal before the Hon'ble Appellate Tribunal for Electricity (APTEL) (Appeal No.312 of 2017) on certain issues and the Appeal is sub-judice.
- 1.1.6 SCCL filed a Petition on 10.07.2018 for approval of true-up for FY 2016-17 and FY 2017-18 and revised additional capitalisation and tariff for FY 2018-19. The said Petition was returned vide letter dated 31.07.2018. Pursuant to the Judgment of Hon'ble APTEL dated 28.09.2018 in DFR No.3035 of 2018 & I.A.No.1127 of 2018, the Petition was again filed on 05.10.2018. Subsequently, the Petitioner filed the additional submissions on 04.12.2019 requesting the Commission to consider the same for true-up for FY 2016-17 to FY 2018-19.
- 1.1.7 Regulation No.1 of 2019 stipulate the terms and conditions of generation tariff for the Control Period from FY 2019-20 to FY 2023-24. The Petitions for approval of Business Plan, Capital Investment Plan and MYT for the Control Period from FY 2019-20 to FY 2023-24 were filed on 30.03.2019 respectively.

1.2 ADMISSION OF PETITIONS AND REGULATORY PROCESS

- 1.2.1 The Petitions for approval of true-up for FY 2016-17 to FY 2018-19, Business Plan, Capital Investment Plan and MYT for FY 2019-20 to FY 2023-24 were scrutinised and found to be generally in order as required under the TSERC (Conduct of Business) Regulations, 2015 (Regulation No.2 of 2015). The Commission admitted the filings and the same were taken on record by assigning the following Original Petition (O. P.) numbers:
- O.P.No.4 of 2019 – True-up for FY 2016-17 to FY 2018-19
 - O.P.No.5 of 2019 – MYT for FY 2019-20 to FY 2023-24
 - O.P.No.8 of 2020 – Business Plan for FY 2019-20 to FY 2023-24
 - O.P.No.9 of 2020 – Capital Investment Plan for FY 2019-20 to FY 2023-24
- 1.2.2 SCCL filed I.A.No.2 of 2020 in O.P.No.5 of 2019 with the following prayers:

“SCCL prays to the Hon’ble Commission that it may be pleased to grant the following as interim arrangement:

a) Allow to raise energy bills based on average annual fixed charges as claimed before it for the control period 2019-24, pending determination of ARR and tariff for 2019-24.

b) Provide in-principle approval for urgent capital investment needs as detailed in the application.

c) Pass such further orders, as the hon’ble commission may deem it appropriate and proper in circumstances of the case.”

1.2.3 The Commission vide its Order dated 08.02.2020 in the above stated IA ruled as under:

15. Therefore, the Commission deems it fit to accord in-principle approval for undertaking the above stated works for complying with the revised emission norms. It is made amply clear that this in-principle approval should not be construed as the final approval of the Commission on the technology or the capital expenditure or the impact of the same on the tariff proposed by the applicant / petitioner. The Commission shall carry out the due diligence of the same and would take a view in the final order to be issued in the original petition.

16. For the reasons stated and the detailed discussion rendered above, we deem it fit to allow this application and direct the respondents to pay the tariff as applicable for FY 2018-19 for the energy supplied by the applicant / petitioner from 01.04.2019 till the disposal of the main petition.”

1.2.4 The Petitioner, as directed by the Commission, published for information of all stakeholders a notice in two (2) English newspapers, two (2) Telugu newspapers and one (1) Urdu newspaper on 25.02.2020.

1.2.5 Overview of Stakeholders' Consultation Process:

1.2.5.1 The filings have been made available by the Petitioner along with supporting material to the public at large including all stakeholders. The filings and supporting material were also hosted on the websites of the Commission as well as the Petitioner.

1.2.5.2 It was also notified in the public notice (Annexure-1) that, objections/ suggestions on the filings may be filed before the Commission by 12.03.2020 which was later extended upto 18.04.2020. In response to the public notice, objections/ suggestions/ comments were received from three (3) stakeholders (Annexure-2) by the Commission in writing no further objections/suggestions were received during the Public Hearing. The additional objections/ suggestions submitted pursuant to the Commission's directions during the Public Hearing have also been considered by the Commission. The list of

persons who attended the Public Hearing on 23.07.2020 is enclosed at Annexure-3.

1.2.5.3 The Petitioner was directed to give the reply to the stakeholders in writing by 19.05.2020 by sending the same to the respective stakeholder with a copy to the Commission. The replies were also posted on the website of the Commission.

1.2.5.4 The Public Hearing was initially scheduled to be held on 18.03.2020 which was postponed to 08.04.2020. However, due to the situation arising out of pandemic COVID-19, the Hearing could not be taken up on 08.04.2020. Although the imposition of lockdown by the Government has eased but advisory has been issued for not conducting any public meeting resulting in large gathering. Therefore, the Commission, vide the Public Notice dated 17.07.2020, scheduled the Hearing by video conference on 23.07.2020. The Commission has conducted the virtual Public Hearing on 23.07.2020 in the attendance of the Petitioner, the Respondents and the other interested stakeholders. During the Public Hearing, the Petitioner made a brief submission on its filings and then the Commission heard the Respondents and other stakeholders desiring to be heard. At the end, the Petitioner responded on the issues raised by the objectors and on directions of the Commission, filed a written submission regarding the same.

1.3 DATAGAPS AND PETITIONER'S RESPONSES

1.3.1 During scrutiny, the filings of the Petitioner was found to be deficient in certain aspects and therefore, additional information was sought. The Commission has considered the original filings and additional information submitted by the Petitioner.

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CHAPTER 2 SUMMARY OF FILINGS

2.1 PETITIONER'S SUBMISSIONS

2.1.1 The Petitioner has made the following submissions in their original filings and the additional submissions:

- True-up for FY 2016-17 to FY 2018-19
- Business Plan for FY 2019-20 to FY 2023-24
- MYT for FY 2019-20 to FY 2023-24

2.1.2 The summary of each of the submissions is detailed below:

2.2 TRUE-UP FOR FY 2016-17 TO FY 2018-19

2.2.1 The capital cost claimed by SCCL for true-up for FY 2016-17 to FY 2018-19 is as shown in the Table below:

Table 1: Capital cost claimed by SCCL for FY 2016-17 to FY 2018-19

(Rs. Crore)

Particulars	Legend	As on COD of Unit 2	From COD Unit 2 to 31.03.2017	FY 2017-18	FY 2018-19
Opening capital cost (gross)		7558.63			
Less: undischarged liability		448.54			
Opening capital cost (net)	A	7110.09	7114.82	7210.44	7611.94
Additional capitalisation	B	0.00	72.53	191.20	757.86
Liability discharged	C	4.73	23.09	210.30	91.20
Closing capital cost	E=A+B+C	7114.82	7210.44	7611.94	8461.00

2.2.2 The AFC claimed by SCCL for true-up for FY 2016-17 to FY 2018-19 is as shown in the Table below:

Table 2: AFC claimed by SCCL for FY 2016-17 to FY 2018-19

(Rs. Crore)

Particulars	From COD of Unit 1 till COD of Unit 2	From COD of Unit 2 till 31.03.2017	FY 2017-18	FY 2018-19
Return on Equity	40.92	139.21	438.11	475.08
Interest on Loan	56.26	169.75	490.99	487.24
Depreciation	35.89	122.11	383.35	413.74
Interest on Working Capital	10.26	35.39	108.75	110.68
O&M expenses	18.19	64.19	207.60	220.56
Annual Fixed Charges	161.53	530.64	1628.80	1707.30

2.3 BUSINESS PLAN FOR FY 2019-20 TO FY 2023-24

2.3.1 SCCL submitted the Business Plan constituting the following:

- i. Generation Planning and forecasts

- ii. Capital Investment Plan
- iii. Future performance targets
- iv. Proposed efficiency improvement measures
- v. Compliance status of environmental norms
- vi. Saving in operating costs
- vii. Financial statements for the Control Period duration
- viii. Other new measures for generation business

2.3.2 The norms of operation proposed for the Control Period from FY 2019-20 to FY 2023-24 are as under:

Table 3: Norms of operation proposed by SCCL for Control Period from FY 2019-20 to FY 2023-24

Parameter	Unit	Proposed
Normative Annual Plant Availability Factor (NAPAF)	%	80%
Normative Annual PLF	%	80%
Auxiliary Consumption	%	7.00%; Additional 1.5% for FGD from FY 2021-22 onwards
Gross Station Heat Rate	kcal/kWh	2400
Secondary Fuel Oil Consumption	ml/kWh	2.00
Transit Loss	%	0.80%

2.3.3 The generation forecast for the Control Period from FY 2019-20 to FY 2023-24 is as under:

Table 4: Generation forecast submitted by SCCL

Financial Year	Gross Generation	Auxiliary Consumption	Net Generation
	MU	%	MU
2019-20	9601.78	7.00%	8929.65
2020-21	9575.54	7.00%	8905.26
2021-22	9575.54	7.33%	8873.45
2022-23	9575.54	8.50%	8761.62
2023-24	9601.78	8.50%	8785.63

2.3.4 SCCL submitted the month wise generation forecast for each year of the Control Period from FY 2019-20 to FY 2023-24.

2.3.5 The summary of Capital Investment Plan and capitalisation plan proposed for the Control Period from FY 2019-20 to FY 2023-24 is as under:

Table 5: Capital Investment Plan and capitalisation plan submitted by SCCL

(Rs. Crore)

Particulars	Capital Investment	Capitalisation					Total
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	

Particulars	Capital Investment	Capitalisation					Total
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	
FGD system	645.32	0.00	0.00	0.00	645.32	0.00	645.32
In-furnace modifications for NOx compliance	38.00	0.00	0.00	19.00	19.00	0.00	38.00
O&M modules	301.18	0.00	153.10	82.96	65.12	0.00	301.18
Railway works	284.04	0.00	42.94	161.50	79.60	0.00	284.04
Erection works in main plant	55.89	0.00	26.91	20.98	8.00	0.00	55.89
Township civil works	24.15	0.00	7.81	10.20	6.14	0.00	24.15
Total	1348.57	0.00	230.75	294.64	823.18	0.00	1348.57

2.4 MYT FOR FY 2019-20 TO FY 2023-24

2.4.1 The AFC claimed by SCCL for the Control Period from FY 2019-20 to FY 2023-24 is as shown in the Table below:

Table 6: AFC claimed by SCCL for FY 2019-20 to FY 2023-24

(Rs. Crore)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Depreciation	437.35	443.02	456.87	486.19	507.48
Advance Against Depreciation	0.00	0.00	0.00	12.84	0.00
Interest on Loan	484.39	447.73	420.59	412.40	391.11
Interest on Working Capital	96.92	103.86	112.23	123.21	135.06
Interest on Working Capital for FGD system	0.00	0.00	0.40	0.40	0.40
O&M expenses	229.01	242.51	256.37	277.84	291.40
O&M expenses for FGD system	0.00	0.00	12.91	12.91	12.91
O&M expenses for NOx mitigation system	0.00	0.38	0.76	0.76	0.76
Return on Equity	501.51	508.35	523.92	557.05	581.45
Less: Non-tariff income	0.37	0.37	0.37	0.37	0.37
Annual Fixed Charges	1748.82	1745.49	1783.69	1883.22	1920.19

2.4.2 The ECR claimed by SCCL for the Control Period from FY 2019-20 to FY 2023-24 is as shown in the Table below:

Table 7: ECR claimed by SCCL for FY 2019-20 to FY 2023-24

Particulars	Unit	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Auxiliary Consumption	%	7.00%	7.00%	7.00%	7.33%	8.50%
Gross Station Heat Rate	kcal/kWh	2400.00	2400.00	2400.00	2400.00	2400.00
Secondary Fuel oil consumption	ml/kWh	2.00	2.00	2.00	2.00	2.00
Calorific Value of Secondary Fuel	kcal/ml	9.99	9.99	9.99	9.99	9.99
Landed Price of Secondary Fuel	Rs./ml	0.05	0.06	0.07	0.08	0.09
Wt. Avg. Gross Calorific Value of Coal	kcal/kg	3866.17	3866.17	3866.17	3866.17	3866.17
Landed Price of Coal	Rs./kg	4.18	4.64	5.15	5.72	6.35
Specific Coal Consumption	kg/kWh	0.62	0.62	0.62	0.62	0.62
ECR	Rs./kWh	2.884	3.205	3.563	3.975	4.476

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CHAPTER 3

ISSUES RAISED BY STAKEHOLDERS, RESPONSES OF PETITIONER AND COMMISSION'S VIEWS

3.1 OBJECTIONS/SUGGESTIONS/COMMENTS MADE ON FILINGS

3.1.1 Three (3) stakeholders have filed objections/ suggestions/ comments on the Petitions for approval of true-up for FY 2016-17 to FY 2018-19, Business Plan, Capital Investment Plan and MYT for FY 2019-20 to FY 2023-24. The Petitioner has filed replies on the objections/ suggestions/ comments received from the stakeholders. For the sake of clarity, the objections/suggestions/ comments raised by the stakeholders and responses of the Petitioner have been consolidated and summarised issue-wise. The Commission has concluded all the objections/ suggestions/ comments of the stakeholders made in writing and the responses to them by the Petitioner.

3.2 CAPITAL COST

Stakeholders' submissions

- 3.2.1 The Commission, in the Tariff Order had approved the capital cost for the project. SCCL has filed an Appeal before the Hon'ble APTEL against the Commission's Tariff Order wherein it had prayed for set aside of the Order. SCCL has claimed the capital cost of Rs.8780.00 Crore as against the approved cost of Rs.7575.26 Crore. SCCL has claimed the disallowed capital cost in its true-up claims making the Tariff Order infructuous. As there is no stay on the Commission's Tariff Order, the true-up has to be based on the Commission's Tariff Order and the final capital cost cannot be higher than the total cost of Rs.7575.26 Crore approved by the Commission.
- 3.2.2 The developers of the generating stations have to develop their projects as per the terms and conditions of the PPAs executed with the Distribution Licensees and Regulations of the Commission. The power purchase by the DISCOMs is governed by the approved PPAs executed with the generators. After the approval of capital cost of a generating station for a Control Period by the Commission, the revision of the same does not arise. The generation business is not a licensed activity like the distribution business. Unlike the true-up allowed for the DISCOMs on account of uncontrollable factors, any

additional expenditure incurred for reasons other than the terms and conditions of the PPA has to be treated as business risk. It is for this reason that the generators are allowed higher rate of RoE.

- 3.2.3 The capital cost including additional capitalisation has to be allowed in accordance with the provisions of the Regulations. The reasons for delay in project execution do not fall under the ambit of force majeure. The additional capitalisation beyond one year from COD of Unit 2 is not allowable. Notwithstanding the audited accounts, the Commission has to decide on the permissible capital cost based on prudence check of actual capital cost. The additional capitalisation projected for the Control Period from FY 2019-20 to FY 2023-24 imposes avoidable burden on the DISCOMs without any accountability on part of SCCL. The regulatory provisions of allowing capital investment plan and business plan would entail condoning the delay in project execution due to the failures of commission and omission. The Commission may not allow the capital investment plan and business plan for the Control Period from FY 2019-20 to FY 2023-24 by taking deviation from the Regulations and recording the reasons for the same in writing. The Regulations may be amended by deleting the provisions regarding the Business Plan and Capital Investment Plan.
- 3.2.4 The Commission had approved the BTG cost of Rs.4463.44 Crore after deducting the undischarged liabilities from the total cost of Rs.4878 Crore. As against the same, SCCL has claimed the BTG cost of Rs.4849.48 Crore claiming the discharge of liabilities which need to be examined.
- 3.2.5 The Commission has approved the total cost of railway siding as Rs.80 Crore. The Commission noted that the railway siding works have been undertaken on nomination basis and ruled that any shortfall in funds from the Coal Controller shall be dealt with in true-up of additional capitalisation. SCCL has claimed the railway siding cost of Rs.322.57 Crore and stated that the grants to the tune of Rs.162.22 Crore has to be received from Coal Conservation & Development Advisory Committee (CCDAC). The amount of grants has to be deducted from railway siding cost claimed by SCCL.
- 3.2.6 SCCL has claimed the establishment cost of Rs.106.53 Crore whereas the

- same has been claimed as Rs.70 Crore in O.P.No.9 of 2016. The revised claim of SCCL need to be examined.
- 3.2.7 SCCL has not deducted the liquidated damages amounting to Rs.27.73 Crore and penalty amounting to Rs.0.94 Crore levied on M/s BHEL. These amounts have to be deducted from the capital cost. The failure of SCCL to recover the liquidated damages cannot be a valid ground for not considering the same in the approval of capital cost.
- 3.2.8 SCCL has claimed the hard cost of Rs.7315.88 Crore as against the approved cost of Rs.6691.63 Crore.
- 3.2.9 SCCL has claimed the Interest During Construction (IDC) of Rs.1266.34 Crore as against Rs.883.63 Crore approved by the Commission. The IDC has to be considered as Rs.883.63 Crore as approved by the Commission.
- 3.2.10 The Commission had ruled that the finance charges cannot be considered as part of capital cost and hence the same principle has to be applied for the Control Period from FY 2019-20 to FY 2023-24.
- 3.2.11 SCCL has claimed Corporate Social Responsibility (CSR) expenditure of Rs.30 Crore for the Control Period from FY 2019-20 to FY 2023-24. This expenditure is not allowable as the CSR expenditure has to be met from the profits. The stakeholder has referred to Hon'ble APTEL's judgment dated 02.06.2016 in Appeal No.174 of 2015 in this regard.
- 3.2.12 SCCL has proposed to set up the FGD at a cost of Rs.645.32 Crore which works out to Rs.0.54 Crore per MW. NTPC has awarded for four power plants with aggregate capacity of 4460 MW for supply and installation of FGD system to GE Power at a cost of Rs.1783 Crore which is equivalent to Rs.0.40 Crore per MW. Sembcorp Energy has also initiated bidding for setting up of FGD system worth Rs.1000 Crore for its power plants with a total capacity of 2640 MW which is equivalent to Rs.0.38 Crore per MW. in view of the same, the FGD cost may be limited to Rs.450 Crore for SCCL.
- 3.2.13 The capital investment for complying with the Ministry of Environment, Forest & Climate Change (MoEF&CC) notification dated 07.12.2015 was not claimed in O.P.No.9 of 2016. The Commission in its Order dated 08.02.2020 accorded

in-principle approval for the works required for complying with the revised emission norms. As the capital expenditure claimed is after the cut-off date and beyond the original scope of work, the Commission's in-principle approval may be revisited. Further, the Hon'ble Supreme Court in its Order dated 05.08.2019 in W.P.(Civil) No.13029/1985 agreed to the principle of consensus reached between Environment Pollution Control Authority (EPCA), Ministry of Power (MoP), Central Electricity Authority (CEA), M/s NTPC Ltd., MoEF&CC to review the NOx emission norm from 300 mg/Nm³ to 450 mg/Nm³ for coal based TPPs. As the NOx emission levels are within the limit of 450 mg/Nm³, the Commission may consider this relaxation and the capital investment may be reduced accordingly.

- 3.2.14 As per the environmental clearance dated 27.12.2010, the project was required to comply with the stipulated specific and general conditions/directions, inter alia, to make specific provision of space for installation of FGD equipment in future. The environmental clearance mandated for allocation of separate funds for implementation of environmental protection measures, and such funds, which shall be part of project cost, shall not be diverted for other purposes apart from reporting the year-wise expenditure to MoEF. Non-inclusion of the capital expenditure towards FGD in the original capital cost estimates amounts to violation of the stipulation in the environmental clearance.
- 3.2.15 The project was to be equipped with continuous online monitoring equipment for monitoring the pollutant levels of SOx, NOx, Particulate Matter (PM) and mercury. The status of compliance to the environmental clearance conditions was to be uploaded on the website of MoEF periodically, and to be sent to Regional Office of MoEF, the respective zonal office of Central Pollution Control Board (CPCB), and State Pollution Control Board (SPCB).
- 3.2.16 MoP, in its letter no. 23/22/2018-R&R dated 30.05.2018 clarified that MoEF&CC's notification requiring compliance to Environment Protection Amendment Rules, 2015 dated 07.12.2015 is of the nature of Change in Law event except for TPPs where such requirement of pollution control system was mandated under the environmental clearance or envisaged otherwise before the notification of amendment rules. In view of the same, since FGD

installation was envisaged in the environmental clearance granted for the project, the claim for approval of capital investment for FGD system is not allowable. In a similar case of M/s Talwandi Sabo Power Limited (TSPL) whose environmental clearance is identical to that of Singareni TPP, the Punjab State Electricity Regulatory Commission (PSERC) in its Order dated 21.12.2018 disallowed TSPL's claim for capital expenditure towards FGD under Change in Law. The Judgment of Hon'ble APTEL dated 21.01.2013 in Appeal No.105 of 2011 may also be referred in this regard wherein the Hon'ble APTEL upheld the disallowance of the generator's claim to install FGD under Change in Law, after examining the Environmental Clearance for the project.

- 3.2.17 As per Article 8 of the PPA, the notice of Change in Law was to be issued to the DISCOMs and both the parties shall meet and endeavour to agree to an amendment to the PPA to pass on the impact of such an event. The DISCOMs have not received any such Change in Law notice claiming the capital expenditure towards FGD based on revised emission norms.
- 3.2.18 The environmental clearance mandated that the sulphur and ash content in coal shall not exceed 0.5% and 34% respectively at any given time and in case of variation in coal quality at any point of time, fresh reference was to be made to MoEF for amendments to the environmental clearance condition. If the sulphur content in coal is less than the prescribed limit, SO_x emissions would be greatly reduced and the capital investment towards SO_x mitigation measures would also reduce. The proposed design of FGD indicates that the sulphur content in coal would be as high as 0.69%, which is higher than the stipulation in the environmental clearance. The impact of violation of the stipulation of sulphur content in coal may not be passed on the DISCOMs.
- 3.2.19 The capital investment for the works which beyond the original scope of work and after the cut-off date may not be allowed as per the provisions of the Regulation No.1 of 2019. The proposed capital investment plan may be disallowed as the same lacks merit.

Petitioner's replies

- 3.2.20 SCCL has not claimed the disallowed capital cost, which has been challenged

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in the Appeal before the Hon'ble APTEL, in its true-up claims. The Commission had adopted the CERC (Terms and Conditions of Tariff) Regulations, 2014 for tariff determination for FY 2016-17 to FY 2018-19. The Commission had approved the capital cost based on the provisional additional capitalisation submitted by SCCL. The audited additional capitalisation till FY 2018-19 has been submitted for true-up in accordance with the Regulations. Further, the undischarged liabilities which had not been considered by the Commission in the Tariff Order have been claimed for true-up on discharge of liabilities. In the Tariff Order, the Commission had ruled that the undischarged liabilities would be considered in tariff determination for the next Control Period i.e., from FY 2019-20 to FY 2023-24.

3.2.21 The PPA is generally executed much earlier to COD of the project and the project cost at that time would only be an estimate based on the awarded contracts. The closure of contracts requires adequate time even after cut-off date. The PPA provides for a general clause for determination of final capital cost by the Commission after prudence check. The CERC (Terms and Conditions of Tariff) Regulations, 2014 provide for additional capitalisation before and after cut-off date. The Regulation No.1 of 2019 was issued by the Commission after due regulatory process by taking into consideration the stakeholders' submissions including that of SCCL. The capital investment plan has been submitted in accordance with Clause 7 of the Regulation No.1 of 2019 along with detailed reasoning including priority of the schemes, cost benefit analysis and financing plan and the same may be allowed after prudence check. The generation tariff for the Control Period from FY 2019-20 to FY 2023-24 may be determined in accordance with the provisions of the Regulation No.1 of 2019.

3.2.22 The stakeholder's contention that the railway siding works were awarded on nomination basis is incorrect. All the railway siding works, except the project management consultancy, were awarded through competitive bidding. The railway siding works awarded through competitive bidding are as follows:

- i. Earth work formation 0 km to 8.5 km.
- ii. Earth work formation 8.5 km to 21.175 km.
- iii. Construction of major bridge on Rasulpalli vagu.

- iv. 9 nos. Road Under Bridges (RUBs)
- v. Supply and stacking of ballast
- vi. Supply and stacking of Pre-Stressed Concrete (PSC) sleepers
- vii. Supply of payment way materials, track lining etc.

3.2.23 The expenditure incurred towards railway siding works upto 31.03.2019 is Rs.322.56 Crore as against the estimated cost of Rs.276 Crore i.e., increase by Rs.57.43 Crore. This increase has been due to the following reasons:

- In compliance to the revised guidelines from Indian Railways, the top width of the embankment was increased from 6.85 m to 7.85 m and the bottom width was increased from 9.25 m to 10.25 m. Rock requiring blasting had increased due to these changes.
- Further, the tracks in the yards are spaced at 12 m (instead of 6 m) and the requirement of earth work quantities have increased due to this change.
- National Highways Authority of India (NHAI) had insisted for construction of RUBs on National Highway (NH) 63 with 2m x 24.20m span whereas the RUBs were originally planned to be constructed with 2m x 18.30m span.
- One additional bridge of 2m x 12.20m span was included during tendering stage for movement of dumpers at SRP-OCP.
- Railways had revised the depth of piles from 12m to 25m for the bridge on Rasulpalli vagu.
- Implementation of Goods and Services Tax (GST) w.e.f. 01.07.2017, revised royalty charges, District Mineral Foundation Trust (DMFT), State Mineral Exploration Trust (SMET), PVC etc.

3.2.24 The grant received from CCDAC is to the tune of Rs.84.19 Crore as against the claim of Rs.162.22 Crore till 31.03.2019. In accordance with Regulation 9.6(d) of the CERC (Terms and Conditions of Tariff) Regulations, 2014, the amount of grant received can only be deducted from capital cost.

3.2.25 Out of the total expenditure of Rs.322.57 Crore incurred upto 31.03.2019, the CCDAC grant is to the extent of Rs.162.22 Crore. Therefore, the cost excluding CCDAC grant works out to Rs.160.35 Crore as against the Rs.80 Crore approved by the Commission. The Commission, in the Tariff Order observed that the expenditure of railway siding shall be considered during true-up. Thus, the additional expenditure of Rs.80.35 Crore has to be considered in true-up for FY 2016-17 to FY 2018-19.

3.2.26 The project management consultancy for tendering and execution of railway siding works has been awarded to M/s RITES Ltd. on nomination basis. The

agreement in this respect was made on similar lines of the Memorandum of Understanding (MoU) entered by M/s Coal India Limited (CIL) and M/s RITES Ltd. for railway siding works. M/s RITES Ltd has charged 0.02% lower fees to SCCL in comparison to that charged to M/s CIL.

- 3.2.27 In O.P.No.9 of 2016, the establishment cost and contingencies had been claimed as Rs.70 Crore and Rs.47.52 Crore respectively. These have been revised to establishment cost and contingencies of Rs.94 Crore and Rs.5 Crore respectively based on the fact that several revenue nature expenditures related to establishments were met from contingency. As against the same, the establishment cost has been claimed as Rs.106.53 Crore.
- 3.2.28 The Commission had not condoned the delay on account of certain reasons like non-availability of sand, state bifurcation movement, delay in construction of water pipeline. In particular, the delay in various contracts was due to the non-availability of sand for construction activities. The construction work had initially suffered due to closure of government leased sand quarries. Subsequently, after opening of Telangana State Mineral Development Corporation (TSMDC), sand was issued through a cumbersome and time-consuming process. Further, delay occurred due shortage of labour on account of grounding of several government projects. The Commission has the powers to reconsider these issues and approve IDC.
- 3.2.29 The Commission had disallowed IDC to the tune of Rs.380.71 Crore and therefore, the liquidated damages, if imposed on the contractors have to be set off against the disallowance in IDC as per the Hon'ble APTEL's judgment in Appeal No.72 of 2010.
- 3.2.30 As per circular no. 35/2014 of Ministry of Corporate Affairs, GoI, financing charges constitute a part of additional capitalisation only if there is delay in commencement of commercial production after the plant is otherwise ready. Accordingly, the financing charges related to additional capitalisation are to be considered as per the relevant accounting standard. The additional capitalisation towards works proposed to be capitalised during the Control Period from FY 2019-20 to FY 2023-24 include corresponding IDC and financing charges as per the accounting standards.

- 3.2.31 SCCL has proposed the capital investment plan amounting to Rs.301.18 Crore towards procurement of O&M module. Most of the items proposed under the O&M module have to be procured for complying with CEA advisory dated 07.02.2020.
- 3.2.32 The Commission, in the Tariff Order, had approved the mandatory capital expenditure under MoEF clearance of Rs.9.45 Crore upto COD of Unit 2 and Rs.12.65 Crore under additional capitalisation, the same being pursuant to the Environmental Clearance issued for the project. This expenditure is mandated to be incurred irrespective of the profits earned. However, based on the experience of CSR activities undertaken in 34 villages around the project, the CSR expenditure was increased to Rs.6 Crore per annum totalling to Rs.30 Crore for the Control Period from FY 2019-20 to FY 2023-24. The Hon'ble APTEL's judgment referred to by the stakeholder is not applicable as regulatory return earned by the utility in that case was more than sufficient to consider CSR expenditure from the profits claimed. Therefore, the claim of CSR expenditure may be approved.
- 3.2.33 SCCL has claimed the capital investment plan amounting to Rs.1195.57 Crore which was subsequently revised to Rs.1348.57 Crore on addition of 2 nos. wagon tippers. Out of the total investment plan of Rs.1348.57 Crore, the expenditure of Rs.1230.10 Crore is towards the top priority items shown in the Table below:

Table 8: Top priority items in the proposed capital investment plan for FY 2019-20 to FY 2023-24

Sl. No.	Particulars	Estimated capital expenditure (Rs. Crore)	Provisions in Regulation No.1 of 2019	Remarks
1	FGD system	645.32	7.19.1(l) and 7.19.1(e)	In-principle approval given vide Order dtd. 08.02.2020
2	In-furnace modifications for NOx mitigation	38		
3	O&M modules	301.18	7.19.1(c) and 7.19.1(k)	Proposed in line with CEA advisory
4	OHE works	45	7.19.1(e)	Proposed as per the mandate of Ministry of Railways
5	S&T works including civil works	47.6		
6	2 Nos. wagon tippers and laying track lines including	153	7.19.1(h)	Unloading facility for unloading BOXN wagons required which are used by Indian Railways for

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Sl. No.	Particulars	Estimated capital expenditure (Rs. Crore)	Provisions in Regulation No.1 of 2019	Remarks
	consultancy service to NTPC			long distance coal transportation
	Total	1230.1		

3.2.34 The FGD cost, excluding GST and IDC, as per the DPR works out to Rs.492 Crore which is equivalent to Rs.0.41 Crore per MW and is comparable to the citations of the stakeholder.

3.2.35 Pursuant to the MoEF&CC notification dated 07.12.2015, the following events unfolded:

- The Central Pollution Control Board (CPCB) had issued directions on 11.12.2017 to TPPs to ensure compliance as per revised plan submitted by MoP.
- In view of technical challenges in implementing new technologies like FGD, revised dates for compliance of new emission standards was prepared by CEA which was forwarded to MoEF&CC on 13.10.2017.

3.2.36 The developers could not decide on the required technology or estimate the expenditure required for compliance to revised emission norms without CEA's advisory. The CEA had issued the technical specification for erection/retro fitting of FGD system in December 2017 and modified the same in October 2018. Therefore, the stakeholder's contention regarding the non-inclusion of the capital expenditure for complying with revised emission norms in O.P.No.9 of 2016 lacks merit. The stakeholders cannot attempt to reopen the concluded issue of in-principle approval accorded by the Commission in its Order dated 08.02.2020. The award of work under open enquiry is in process for installation of FGD and action has also been initiated for installation of low NOx burner in response to the show cause notice of CPCB. Therefore, the stakeholder's contention lacks merit and deserves to be rejected. CPCB is imposing penalty of Rs.18 lakh per month per unit for non-compliance and the same may be required to be borne by the beneficiaries if the capital investment for complying with revised emission norms is not approved.

3.2.37 The design value of NOx emission for the project is 750 mg/Nm³. On perusal of the Supreme Court's Order referred by the stakeholder, it is observed that the stated minutes envisage achievement of NOx emission norm of 450 mg/Nm³ by way of combustion modification. The capital expenditure proposed

by SCCL is for combustion modification only and is supported by the quotation from M/s BHEL. The proposal for increasing the NO_x emission norm from 300 mg/Nm³ to 450 mg/Nm³ was to be presented to MoEF&CC and MoP for final decision and finality has not been achieved on the subject proposal. The NO_x emission level varies based on operational conditions of the units (load and mill combination). As the design value is 750 mg/Nm³, there is good amount of risk involved in achieving the level of 450 mg/Nm³ due to different load and mill combinations. Accordingly, the investment for NO_x mitigation is a must to control the NO_x emission within the stipulated limit.

3.2.38 As per Article 10 of the PPA, the duration of agreement is 25 years and this has to be construed from COD of last unit or beyond 25 years if mutually agreed. The stakeholder has cited the stipulation in the environmental clearance regarding the provision for installation of FGD for future use. The installation of FGD was not mandatory at that time but the subsequent amendments made it mandatory. As the duration of the PPA can be 25 years or beyond 25 years and FGD has to be installed in future, which can also be within 25 years or beyond 25 years. Therefore, the usage of the word 'future' in the environmental clearance is not definitive, vague, uncertain and unclear. It only hints about a legislative change that may happen with absolutely no clue about the time when such change will occur. Therefore, there was the probability that FGD could have been installed in future but ascertaining the timing of such event was not feasible. The interpretation of provision given by the stakeholder as provision of space and establishment that this provision relates to a liability of uncertain timing or amount is refuted.

3.2.39 The environmental clearance stipulates earmarking funds for environmental impact measures and such fund has to be used only for environmental protection measures under implementation. A provision which is an uncertain expenditure cannot be a part of the fund as (i) an uncertain liability cannot be measured with reasonable reliability, (ii) the fund specifically requires item wise break-up, (iii) the fund was to be used to projects under implementation and (iv) the fund never envisaged future implementation of environmental measures. A separate fund to the tune of Rs.442. 30 Crore was allocated for environmental measures in the DPR which included electrostatic precipitators,

greenbelt development, dry ash disposal system, bottom ash disposal system, effluent treatment plant etc. Such fund did not include the expenditure required for complying with the revised emission norms. The cost of FGD could not be ascertained at the time of DPR preparation and hence the funds could not be set aside.

3.2.40 The environmental conditions as per the environmental clearance are being aptly fulfilled by the project.

3.2.41 MoP's letter dated 30.05.2018 was issued to CERC in exercise of the powers conferred u/s 107 of the Electricity Act, 2003. CERC shall be guided by the Central Government directions issued u/s 107 and such directions can be binding upon them when the matter involves public interest. The said letter has consequence upon SERC and is irrelevant.

3.2.42 The stakeholder's reference to the case laws is not relevant to the present case as the tariff in that case was determined based on competitive bidding u/s 63 of the Electricity Act, 2003. The tariffs in such cases were discovered based on bids submitted and a future enhancement of tariff in those cases is not permissible if not covered by Change in Law events in the bidding guidelines. The Distribution Licensees in those cases were not concerned to any additional investments made by the generators. The Petition in one of that case was filed u/s 86(1)(b) which empowers SERC to regulate the power purchase process which is different from tariff determination u/s 86(1)(a). Section 86(1)(b) does not empower SERC to determine/re-determine tariff. When the Statute/Regulation notified by the SERC provides adequate provision for adjudication/determination of issues, there is no burden of law to the regulator to look beyond its own Regulation even for any reference. The Judgments of Hon'ble APTEL in Appeal Nos. 93 of 2017 and 125 of 2017 dated 29.01.2020 and 09.05.2019 respectively relating to Section 62 of the Electricity Act, 2003 are relevant to the present case. The Regulation No.1 of 2019 has provisions related to environmental compliance. Therefore, the contention of the stakeholder is misconceived and not required to be considered by the Commission.

3.2.43 The tariff for the electricity supplied from the project shall be determined by

the Commission. Accordingly, SCCL has filed the business plan, capital investment plan and MYT for the Control Period from FY 2019-20 to FY 2023-24 before the Commission and the copies of the same have been emailed to the Respondents. Hence, the contention of no information to the beneficiaries lacks merit. SCCL is not in a position to decide whether the new environmental norms are to be considered as Change in Law event as provided in the PPA or not.

- 3.2.44 The stakeholder has quoted the sulphur content in worst coal as indicated in the DPR prepared for FGD and contended that such data is in violation of stipulation of MoEF. In the earlier pollution control regime, SO_x control was planned to be achieved at chimney outlet by ensuring sulphur content in input coal to be less than 0.5%. With the SO₂ emission norm of 200 mg/Nm³ in the Notification dated 07.12.2015, MoEF has shifted the SO_x control philosophy from input based (indirect control) to output based (direct control) making the sulphur content regulation in the input coal superfluous and non-essential environmental condition. The sulphur content in coal not exceeding 0.5% could become a necessary condition had SCCL not been obligated to control SO₂ emission at chimney outlet within 200 mg/Nm³ in the Notification dated 07.12.2015. The specifications and detailed design of FGD system will be finalised as per the standard technical specifications of CEA and in line with the similar system adopted by NTPC Limited in its plants with similar configuration. Therefore, the contention of the stakeholder is misconceived.
- 3.2.45 Most of the items proposed to be procured under the head of O&M module are in fulfilment of the CEA advisory dated 07.02.2020. Further, as per the Judgments of Hon'ble APTEL in Appeal Nos. 93 of 2017 and 125 of 2017 dated 29.01.2020 and 09.05.2019 respectively the requirement of O&M modules fall under Change in Law.
- 3.2.46 Clause 7.19 of the Regulation No.1 of 2019 do not limit the additional capitalisation beyond the cut-off date and the contention of the stakeholders is incorrect. Further, most of the items claimed in the capital investment plan are due to effect of change of law, contemplated under Article 8.1 of the PPA and became mandatory by the government authorities. The Judgment of Hon'ble APTEL in Appeal No.93 and 125 of 2017 may be referred to in this regard.

Commission's View

- 3.2.47 The Commission in the Tariff Order had approved the final capital cost as on COD of the project and the provisional additional capitalisation upto FY 2018-19. SCCL claimed the audited additional capitalisation in its true-up claim for the Control Period from FY 2016-17 to FY 2018-19. The Commission has approved the additional capitalisation for the Control Period from FY 2016-17 to FY 2018-19 as detailed in Chapter 4.
- 3.2.48 The Commission has approved the Capital Investment Plan for the Control Period from FY 2019-20 to FY 2023-24 in accordance with the provisions of the Regulation No.1 of 2019 as detailed in Chapter 5.

3.3 ANNUAL FIXED CHARGES (AFC)**Stakeholders' submissions**

- 3.3.1 In light of the pending Appeal before the Hon'ble APTEL, the approval of true-up for FY 2016-17 to FY 2018-19 and MYT for FY 2019-20 to FY 2023-24 based on the capital cost claimed by SCCL does not arise.
- 3.3.2 The total Annual Fixed Charges (AFC) claimed by SCCL for the Control Period from FY 2016-17 to FY 2018-19 is higher than the AFC approved by the Commission by Rs.445.85 Crore. This is on account of higher loan and equity amounts considered by SCCL corresponding to higher capital cost claim. The interest rate considered by SCCL is also higher than that approved by the Commission.
- 3.3.3 SCCL submitted that 1/3rd of the savings accrued on account of reduction in interest rates on long-term loans would be retained by it. As the consumers have borne the interest on loans availed by SCCL, the impact of reduction in interest rates has to be allowed as pass through to the consumers to reduce the tariff burden. The sharing as proposed by SCCL is not allowable as the Commission had disallowed the same in tariff determination.
- 3.3.4 The provisions of the Regulations regarding the interest rates are not in line with the current market trends. The interest rates for long-term loans and working capital have to be considered in light of the reducing interest rates and not as claimed by SCCL. SCCL has to be directed to re-negotiate with the lending agencies and to swap the loan amounts, if possible, to avail the

benefit of lower interest rates. The rate of interest may be limited to 9%.

- 3.3.5 SCCL has claimed Advance Against Depreciation (AAD) for meeting the loan repayment obligation stating that the benefit of reduced interest on loan would accrue to the end consumers. On the contrary, AAD leads to front loading of tariff. Depreciation has to be allowed considering the rates specified in the Tariff Regulations and AAD may not be allowed.
- 3.3.6 SCCL has claimed Return on Equity (RoE) considering the base rate of 15.5% and effective tax rate of 21.55%. In view of the reducing interest rates, reduction in the rate of RoE may be considered as the taxes are being allowed as pass through. The rate of RoE of 15.5% was adopted at a time when the interest rate was 12%. As the rate of RoE is pegged at 2% higher than interest rate and the interest rate has reduced below 9%, the rate of RoE may be considered as 12%.
- 3.3.7 As regards income tax rate for the Control Period from FY 2016-17 to FY 2018-19, SCCL submitted as under:
- There had been net book loss for FY 2016-17 at company level and hence no Minimum Alternate Tax (MAT) was paid. However, due to clubbing of businesses of power generation and coal mining, it has to be construed that SCCL had MAT liability on the profits from power generation business, which was adjusted against the loss from coal mining business.
 - The MAT paid for FY 2017-18 was Rs.424.21 Crore. However, MAT computed on standalone book profits of Rs.580.15 Crore from power generation business works out to Rs.123.81 Crore considering the MAT rate of 21.34%.
 - The MAT paid for FY 2018-19 was Rs.628.28 Crore. However, MAT computed on standalone book profits of Rs.700.73 Crore from power generation business works out to Rs.151.01 Crore considering the MAT rate of 21.55%.
- 3.3.8 As the separate auditing for power generation business was not carried out, the book profits from power generation business as claimed by SCCL need to be verified. Further, the profits for power generation business has to be computed considering the true-up claims approved by the Commission. The excess MAT, deemed to have been paid by SCCL, if arises, based on true-up claims approved by the Commission, is to be refunded by SCCL. If there are no profits for power generation business based on the true-up claims approved by the Commission, allowing MAT does not arise. Permissible MAT

may be considered on the basis of actual profits accrued as per the tariff determined by the Commission.

- 3.3.9 In addition to the employee expenses, SCCL has claimed the contractual expenses to the tune of Rs.39.92 Crore, Rs.108.43 Crore, and Rs.105.07 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively without providing any justification. Hence, these expenses have to be disallowed.
- 3.3.10 As per the DPR for Flue Gas Desulphurisation (FGD) system, the by-product gypsum would be produced at the rate of 1000-1100 tons per day which can be used by cement manufacturers. Revenue from sale of gypsum has to be passed on to the DISCOMs as capital investment as well as additional auxiliary consumption have been claimed for FGD system.

Petitioner's replies

- 3.3.11 The true-up for the Control period from FY 2016-17 to FY 2018-19 has to be carried out in accordance with Regulation 8 of the CERC (Terms and Conditions of Tariff) Regulations, 2014. The Hon'ble APTEL in its Order dated 28.09.2018 directed the Commission to hear the true-up Petition of SCCL as per the procedure contemplated. Pendency of an Appeal against the Order dated 19.06.2017 cannot be a ground for not undertaking true-up. In a similar case, the Tariff Order of the Uttarakhand Electricity Regulatory Commission (UERC) (in the case of M/s Him Urja Pvt. Ltd.) was modified during the pendency of an Appeal against the same Order before the Hon'ble APTEL and that decision of UERC was not interfered by the Hon'ble APTEL.
- 3.3.12 The AFC for the Control Period from FY 2016-17 to FY 2018-19 has been claimed considering the audited capital cost. The interest rate claimed by SCCL is based on actuals and after considering the sharing of savings in accordance with Regulation 26.7 of the CERC (Terms and Conditions of Tariff) Regulations, 2014.
- 3.3.13 SCCL requested its lenders namely M/s Power Finance Corporation (PFC) and M/s Rural Electrification Corporation (REC) for reduction of interest rates on long-term loans. The interest rates reduced from 11.69% to 9.91%, 9.38% and 9.14% for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. The sharing of savings on account of the same have been considered in

accordance with Regulation 26.7 of the CERC (Terms and Conditions of Tariff) Regulations, 2014. The rates of interest on long-term loan and working capital have been considered as 10.2% and 10.05% respectively for the Control Period from FY 2019-20 to FY 2023-24. The stakeholder's contention that the sharing of savings in interest cost ought to be disallowed as the same had not been allowed in the tariff order is incorrect as the tariff Petition was filed by SCCL in accordance with the Regulation No.1 of 2008 but the Commission had adopted CERC (Terms and Conditions of Tariff) Regulations, 2014 for tariff determination and hence, it was impossible for SCCL to invoke the provisions in the CERC (Terms and Conditions of Tariff) Regulations, 2014 regarding loan restructuring. As such the same is omission and hence ought to be allowed in true-up.

- 3.3.14 The project financing was decided based on the provisions of the Regulation No.1 of 2008 which stipulate that the depreciation shall be based on straight line method over the useful life of the asset and at the rates specified in the MoP notification dated 21.03.1994 and on repayment of the entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset. Accordingly, the loan agreements were executed and the loan payback periods modelled for utilising such depreciation. On adoption of CERC (Terms and Conditions of Tariff) Regulations, 2014 by the Commission for tariff determination, the depreciation has reduced and became insufficient for loan repayment due to which the shortfall in loan repayment has to be met from the internal resources on which no return is allowed. AAD for meeting the loan repayment obligation would benefit the end consumers by way of reduced interest on loan.
- 3.3.15 The CERC (Terms and Conditions of Tariff) Regulations, 2014 and the Regulation No.1 of 2019 specify the base rate of RoE as 15.5%.
- 3.3.16 The stated amounts of Rs.580.15 Crore and Rs.700.73 Crore for FY 2017-18 and FY 2018-19 respectively are the book profits for the purpose of MAT under Section 115JB and include late payment surcharge. The MAT payments can be verified from the audited accounts of SCCL. The billing for the Control Period from FY 2016-17 to FY 2018-19 was done as per the Tariff Order dated 19.06.2017. Therefore, the stakeholder's contention to compute

the profits based on true-up claims approved by the Commission is incorrect.

3.3.17 The difference in book profits under Section 115JB and Profit Before Tax (PBT) for the project in FY 2018-19 is on account of non-payment of dues by the DISCOMs and consequent late payment surcharge billed in accordance with Clause 16 of the Regulation No.1 of 2008. As against the total billed amount of Rs.8285.64 Crore upto 31.03.2019, the DISCOMs paid the amount of Rs.4933.18 Crore and the dues amount to Rs.3352.47 Crore. These dues are without any adjustment for late payment surcharge.

3.3.18 The details of contractual expenses are as under:

Table 9: Details of contractual expenses submitted by SCCL

Financial Year	Hiring of HEMM, weigh bridges & others	O&M expenses	Others	(Rs. Crore)
				Total
2016-17	3.95	32.52	3.45	39.92
2017-18	9.10	83.88	15.45	108.43
2018-19	6.12	86.43	12.52	105.07

3.3.19 The revenue from sale of gypsum may be considered in the true-up for the Control Period from FY 2019-20 to FY 2023-24 based on the net revenue earned after installation of FGD system.

Commission's View

3.3.20 The Commission has carried out the true-up for the Control Period from FY 2016-17 to FY 2018-19 in accordance with the provisions of the CERC (Terms and Conditions of Tariff) Regulations, 2014 as detailed in Chapter 4. The Commission has approved the AFC for the Control Period from FY 2019-20 to FY 2023-24 in accordance with the provisions of the Regulation No.1 of 2019 as detailed in Chapter 6.

3.4 NORMS OF OPERATION

Stakeholders' submissions

3.4.1 The operational parameters approved by the Commission are generally relaxed norms. Considering operational parameters on higher side as opposed to the lower of actual and norms results in accrual of profits to the generator at the cost of the consumers. Comparison of the approved norms for the project with norms of other generating stations has no relevance as the

fuel procurement, of specific quality and price, has to be undertaken for achieving the approved norms for the project.

- 3.4.2 SCCL has compared its operational norms with the generating station of Telangana State Power Generation Corporation Ltd. (TSGENCO) disregarding the economies of scale achieved by it in setting up of 2x600 MW units, such as sharing of identical BTG spares, sharing of common infrastructure facilities for raw water intake pump house, Boiler Feed Pumps (BFPs), common conveyor system, common ash disposal, common auxiliaries etc. The gains accrued to the project under the controllable parameters such as revenue from sale of fly ash is not passed on to the DISCOMs but the operational norms have been claimed on inferior side. The norms of operation should be allowed in accordance with the specified norms. The additional auxiliary consumption for FGD system may be allowed after commissioning, duly considering CEA guidelines.
- 3.4.3 SCCL has claimed the Plant Load Factor (PLF) of 91.06% and 81.94% for FY 2017-18 and FY 2018-19 respectively. The stakeholder sought the reasons for variations in PLF. SCCL has considered the PLF of 80%, that specified for Kakatiya TPP (KTPP) Stage II, as against the normative PLF of 85% for the Control Period from FY 2019-20 to FY 2023-24. The claim of incentive for higher PLF for the Control Period from FY 2019-20 to FY 2023-24 indicates that the project can achieve the normative PLF of 85%. SCCL has also considered the other operational parameters inferior to the specified norms.
- 3.4.4 SCCL submitted that the project has been considered as non-pit head generating station for the Control Period from FY 2019-20 to FY 2023-24. The project can be considered as non-pit head generating station if the coal is procured from the mine allocated in Odisha. If the coal allocation from SCCL mines is approved, the project has to be considered as pit head generating station. The project cannot be presumed to be a non-pit head generating station for the entire Control Period.

Petitioner's replies

- 3.4.5 The all India average PLF of thermal power stations was 60.72% and 61.07% for FY 2017-18 and FY 2018-19 respectively. In this context, the stakeholder's

contention that the approved operational parameters are relaxed norms is diverting. SCCL has made detailed submissions regarding its claim of norms of operation for the Control Period from FY 2019-20 to FY 2023-24 on similar lines of KTPP Stage II.

3.4.6 Section 61(e) of the Act provides that the Appropriate Commission shall adhere to the principle of rewarding efficiency in performance while specifying the terms and conditions of tariff. This implies that the Regulations have to be specified such that the efficient one amongst the generating units of similar configuration gets rewarded and not penalised with stringent operating norms. The Regulations should specify uniform norms for all the generating units of 600 MW size and cannot be project specific. The draft Regulations issued by the Commission specified uniform norms for KTPP Stage II and Singareni TPP and therefore no comments were submitted by SCCL on the norms of operation. However, the final Regulations specified different norms for KTPP Stage II and Singareni TPP. Further, the norms of operation differ from one Control Period to the other as witnessed in the CERC (Terms and Conditions of Tariff) Regulations, 2014 and the CERC (Terms and Conditions of Tariff) Regulations, 2019. The Commission may look into this issue and approve the norms of operation. The additional auxiliary consumption for FGD system has been claimed based on the DPR.

3.4.7 The stakeholder's contention that the norms of operation will vary depending on the economies of scale is misplaced. The common infrastructure facilities had already been considered in the approval of norms of operation. The Commission had approved the normative Station Heat Rate (SHR) in accordance with the provisions of the CERC (Terms and Conditions of Tariff) Regulations, 2014 considering the design parameters such as boiler efficiency and turbine heat rate. Further, Singareni TPP is a greenfield project whereas KTPP Stage II is an extension unit wherein the opportunity to optimise O&M exists due to economies of scale. The revenue from sale of fly ash shall be guided by MoEF's notification no. S.O.2804(E) which states as under:

"(6) The amount collected from sale of fly ash and fly ash based products by coal and/or lignite based thermal power stations or their subsidiary or sister concern unit, as applicable should be kept in a separate account head and shall be utilized only for development of infrastructure or facilities, promotion

and facilitation activities for use of fly ash until 100 percent fly ash utilisation level is achieved; thereafter as long as 100% fly ash utilization levels are maintained, the thermal power station would be free to utilize the amount collected for other development programmes also and in case, there is a reduction in the fly ash utilization levels in the subsequent year(s), the use of financial return fly ash shall get restricted to development of infrastructure or facilities and promotion or facilitation activities fly ash utilization until 100 percent fly ash utilization level is again achieved and maintained.”

- 3.4.8 The incentive for higher PLF has been claimed with the projection that the PLF could be achieved higher than the normative PLF based on past experience and after factoring in annual overhauling in alternate years and forced outages.
- 3.4.9 Coal was supplied from SCCL mines on best effort basis through Bridge Linkage route. Almost 20-25% of the annual coal requirement was met from various mines which are not linked through Merry-Go-Round (MGR) system. As per the definition of non-pit head generating station under Clause 8(b) of the Environment (Protection) Rules, 1986, the project has to be treated as non-pit head generating station.

Commission's View

- 3.4.10 The Commission has approved the norms of operation for the Control Period from FY 2019-20 to FY 2023-23 in accordance with the provisions of the Regulation No.1 of 2019 as detailed in Chapter 5.

3.5 ENERGY CHARGES

Stakeholders' submissions

- 3.5.1 SCCL has claimed the energy charge rate of Rs.1.84/kWh as against Rs.1.69/kWh approved by the Commission. This increase is on account of lower GCV of coal and higher coal price claimed by SCCL than that approved by the Commission. SCCL has claimed the GCV of 3895.18 kcal/kg as against 4130 kcal/kg approved by the Commission. SCCL has claimed the coal price of Rs.2.90/kg as against Rs.2.84/kg approved by the Commission. Further, SCCL has claimed the specific coal consumption of 0.59 kg/kWh as against 0.56 kg/kWh approved by the Commission which indicates lower efficiency of the plant. The electricity consumers should not be burdened with higher energy charges as the same are on account of inferior quality coal and

- inefficiency in operations.
- 3.5.2 The coal price has been projected to increase from Rs.3494.72/MT in FY 2019-20 to Rs.4580.87/MT in FY 2023-24. If the project is allocated coal from SCCL mines, the coal price would be lower than the Bridge Linkage coal. Projecting the annual increase in coal price for the Control Period from FY 2019-20 to FY 2023-24 is arbitrary and not allowable.
- 3.5.3 Naini coal block was allocated for the project on 13.08.2015 and was expected to commence production in December 2020. SCCL submitted that the production from Naini coal block would be achieved by the year 2023 and the existing Bridge Linkage has been extended till then. Therefore, the delay on account of coal materialisation from allocated Naini coal block would continue to burden in the form of premium coal price. This burden should not be passed on to the DISCOMs.
- 3.5.4 The policy guidelines for grant of Bridge Linkage mandated the coal suppliers to supply 75% of Agreed Requirement of coal wherein Agreed Requirement is calculated at 90% of normative requirement of the project at 85% PLF. This means that the Bridge Linkage allocation would be 57.375% of the requirement of the project at notified price. The balance coal requirement is deemed to have been procured through e-auction at premium price of 20% over and above the notified price applicable for non-power sector. The procurement at premium price can be avoided by expediting the production from Naini coal block.
- 3.5.5 The Commission, in the Tariff Order, directed SCCL to actively pursue the issue of coal allocation with the Ministry of Coal (MoC) so that the cumbersome task of coal transportation from Odisha and associated losses in quantity and GCV could be mitigated by procuring coal from its own mines closer to the project. The current status of the compliance to the Commission's direction has not been submitted. The inaction of Government of India (GoI) in allocation of coal from the coal mines of SCCL, although SCCL had expressed its capability and readiness to supply coal to the project, is imposing avoidable additional burden in the form of higher prices for Bridge Linkage coal and coal transportation costs.

- 3.5.6 SCCL submitted that the energy bills for the Control Period from FY 2019-20 to FY 2023-24 shall be raised considering the actual fuel prices and GCV. As per the provisions of the Regulation No.1 of 2019, the GCV of coal has to be considered on 'as received' basis and not 'as fired' basis claimed by SCCL. Clause 21.6.1 of the Regulation No.1 of 2019 stipulates the GCV of coal to be considered on 'as received' basis. The variation in GCV allowed in Clause 21.10 is because the actual GCV will not be known at the time of billing. By claiming GCV on 'as fired' basis, SCCL is resorting to pick and choose the regulatory provisions. The difference in GCV from 'as billed' to 'as received' is approximately 1000 kcal/kg due to which the energy charges have increased in FY 2018-19. The variations in coal price should be adjusted subject to the terms and conditions of the PPA.
- 3.5.7 SCCL has claimed the incentive for higher PLF for the Control Period from FY 2019-20 to FY 2023-24 as per the provisions of the CERC (Terms and Conditions of Tariff) Regulations, 2019 and not as per Regulation No.1 of 2019. The same may be disallowed.

Petitioner's replies

- 3.5.8 The energy charges during the Control Period from FY 2016-17 to FY 2018-19 were billed considering the norms of operation approved by the Commission and the actual fuel prices and GCV in accordance with Regulation 30.6 of the CERC (Terms and Conditions of Tariff) Regulations, 2014. The coal quality variations occur normally in a TPP due to which the boilers are designed to handle such variations. The boilers of the project have been designed to handle the coal having GCV in the range of 3786 kcal/kg to 4529 kcal/kg. The specific coal consumption is derived based on the GCV of coal and it is incorrect to state that the Commission had approved the same as 0.56 kg/kWh as the specific coal consumption varies with the GCV of coal received.
- 3.5.9 Naini coal block is expected to commence production in the later part of the year 2020 and the production level is expected to reach peak rated capacity by the year 2023 considering the technical and managerial issues. The total coal requirement for the project cannot be met from Naini coal block before

the year 2023 and therefore, tapering linkage has been approved for meeting the coal requirement. The progress of development of Naini coal block is being continuously monitored by SCCL's top management and the coal production would be further expedited.

- 3.5.10 SCCL has been exploring the swapping of Naini coal block with a utility in Odisha which has coal allocation in Telangana but it could not materialise. SCCL has also been working on an alternate plan to transport coal from Naini coal block which could lead to reduction in base coal price but increase in transportation cost. The South-Central Railway authorities had advised to undertake the works of two nos. wagon tipplers at the railway siding for seamless supply of coal from Naini coal block to the project. This additional scope was not envisaged in the DPR and hence submitted in the capital investment plan for Commission's approval.
- 3.5.11 The reallocation of Naini coal block with a nearby coal mine of SCCL on permanent basis is not feasible until specific directions are issued by the Government in this regard. The projections of energy charges for the Control Period from FY 2019-20 to FY 2023-24 have been submitted considering the past trends of actual fuel prices and GCV. However, the energy charges shall be billed in accordance with the provisions of the Regulation No.1 of 2019 considering the approved norms of operation and actual fuel prices and GCV.
- 3.5.12 Some ambiguity persists in the Regulation No.1 of 2019 regarding the GCV of coal to be considered for computation of energy charges due to incompatibility between Clauses 21.6, 21.7 and 21.10. The State Electricity Regulatory Commissions (SERCs) are guided by the principles and methodologies of CERC in specifying the Regulations as per Section 61(a) of the Electricity Act, 2003. CERC (Terms and Conditions of Tariff) Regulations, 2014 specify that the energy charge shall be computed based on as received GCV of coal less 85 kcal/kg. CEA had suggested the margin of 85-100 kcal/kg for pit head generating stations and 105-120 kcal/kg for non-pit head generating stations as loss in GCV measured at wagon top at unloading point till the firing point in the boiler. The Tariff Regulations of other SERCs such as Maharashtra ERC, Gujarat ERC and Odisha ERC specify energy charge computation on similar lines of CERC (Terms and Conditions of Tariff) Regulations, 2019 or on the

basis of as fired GCV of coal. As per Clause 21.7 of the Regulation No.1 of 2019, the fuel details have to be provided to the beneficiaries as per Form-15 prescribed by CERC for thermal generating stations. Usage of Form-15 of the CERC (Terms and Conditions of Tariff) Regulations, 2019 is possible only if billing is made on 'as fired' basis. Further, the PPA provides for GCV to be considered on 'as fired' basis and hence the DISCOMs are precluded from denying this aspect.

- 3.5.13 SCCL requested the Commission to allow the energy billing either based on as fired GCV or to allow sufficient margin from as received GCV to compensate for GCV loss due to storage at the generating station.

Commission's View

- 3.5.14 The Commission has approved the Energy Charge Rate (ECR) for the Control Period from FY 2019-20 to FY 2023-23 in accordance with the provisions of the Regulation No.1 of 2019 as detailed in Chapter 6.

3.6 GENERATION TARIFF

Stakeholders' submissions

- 3.6.1 SCCL has claimed the generation tariff of Rs.4.91/kWh, Rs.5.23/kWh, Rs.5.63/kWh, Rs.6.17/kWh and Rs.6.72/kWh for FY 2019-20, FY 2020-21, FY 2021-22, FY 2022-23 and FY 2023-24 respectively. The claimed generation tariffs are higher in comparison to the tariff of Rs.3.49/kWh approved for FY 2018-19.

Petitioner's replies

- 3.6.2 The approved generation tariff of Rs.3.49/kWh for FY 2018-19 quoted by the stakeholder has no basis. The generation tariff approved by the Commission comprise of AFC and norms of operation for billing of energy charges on monthly basis. The average per unit tariff for FY 2018-19 was Rs.4.08/kWh. The projected generation tariff is comparable to the other generating stations in the State.

Commission's View

- 3.6.3 The Commission has taken note of stakeholders' submissions and Petitioner's replies.

3.7 BILLING DISPUTES

Stakeholders' submissions

- 3.7.1 SCCL submitted that the DISCOMs have disallowed the energy bills to the tune of Rs.121.43 Crore for FY 2018-19 without considering additional coal price as per the provisions of the Bridge Linkage MoU and the auditor certified coal cost. As per the MoU, coal supplies upto 75% of the agreed quantity would be charged at 20% over the notified basic price for power sector for all coal grades while for coal supplies beyond 75% of the agreed quantity, the price charged would be 20% over and above the notified basic price for non-power sector. Achieving higher PLF by using premium priced coal is unjustified. Moreover, the premium charged by CIL is 10% over and above the notified price applicable for power sector whereas the premium charged by SCCL is 20% over and above the notified price applicable for non-power sector. The Commission may disallow the impact of this irrational coal pricing.
- 3.7.2 SCCL submitted that it had supplied energy in excess of scheduled energy during FY 2017-18 and requested the Commission to allow the energy bills to the tune of Rs.17.75 Crore, which was disallowed by the DISCOMs. The claim in respect of excess energy injected is not in consonance with the Tariff Regulations and is a violation of Grid Code as the excess energy injected into the grid without complying to the schedules of State Load Despatch Centre (SLDC) would give rise to threat to grid security. Therefore, the same is not permissible. KTPP has not injected unscheduled energy and hence the comparison made by SCCL is not plausible. There had been several instances wherein SCCL has injected more than the schedule in non-compliance of SLDC directions as evident from the correspondences from SLDC. The achievement of PLF of more than 85% during the previous year's confirm that the directions of SLDC had been violated and over injection has been done into the grid. Due to such over injection by SCCL, the other generators had to be backed down with fixed cost obligation. Such violations of SLDC directions by multiple generators endanger grid safety and hence, need to be penalised. As per Article 6.1.2 of the PPA, the energy bills shall be raised as per SLDC schedule.
- 3.7.3 SCCL has claimed the PLF of 91.09% for FY 2017-18 by considering the

unscheduled energy injected into the grid and claimed the incentive of Rs.29.11 Crore for higher PLF. The PLF for FY 2017-18 works out to 90.79% without considering the unscheduled energy injected into the grid. Incentive is not allowable for the unscheduled energy injected. The Commission may disallow the incentive claimed by SCCL.

- 3.7.4 SCCL submitted that the water charges amounting to Rs.3.63 Crore and other local taxes, license fee etc. amounting to Rs.4.79 Crore for the period from 01.12.2016 to 31.08.2018 have not been paid by the DISCOMs and requested the Commission to allow the same. The DISCOMs paid the monthly energy bills including the supplementary bills towards taxes & duties as per the Tariff Regulations. SCCL may be directed to reconcile the sums received by it.

Petitioner's replies

- 3.7.5 The stakeholder's contention that achieving higher PLF using premium priced coal is unjustified has no legal basis. The Tariff Regulations neither prohibits achieving higher PLF using Bridge Linkage coal nor puts a bar on paying coal price as per the MoU with the coal supplier.
- 3.7.6 The delay in materialising coal supply from Naini coal block was discussed in the Standing Linkage Committee (SLC) under MoC and the committee, after considering the representation made by SCCL, had recommended extension of Bridge Linkage upto the year 2023 in the form of tapering linkage in synchronisation with the production from Naini coal block. The delay is attributable to uncontrollable factors due to which the extension of Bridge Linkage was granted.
- 3.7.7 The stakeholder has compared the pricing principles for Bridge Linkage coal followed by SCCL and CIL however, it is inappropriate to contend this issue before the Commission as coal pricing is dealt by MoC and not the Commission. The operating areas of SCCL and CIL are not comparable. The annual production target level of CIL is 710 MMT for the year 2020 whereas the target is 67.5 MMT for SCCL which is equivalent to 1/11th of CIL's target. The ratio of open cast to underground mines, number of employees per ton of coal production, over burden ratio etc. varies significantly between CIL and

SCCL. Therefore, the cost structure of coal produced by CIL and SCCL are different and comparison between the two is inappropriate.

- 3.7.8 The MoU entered between the coal mining and power generation businesses of SCCL satisfies the condition for arm's length transaction which provides that the parties have to act independently without being influenced by other. The MoU under which the coal is supplied to the project contains the same provisions of coal pricing of the MoU entered into with M/s NTPC Ltd. The copy of MoU entered into with M/s NTPC has been submitted in support to the same. The coal pricing methodology is not advantageous or disadvantageous for the project when compared to other TPPs being supplied coal from SCCL mines. The increase in coal cost as certified by the statutory auditor is admissible for the computation of energy charges as per Regulation 30(6) of the CERC (Terms and Conditions of Tariff) Regulations, 2014. The Commission may allow the additional coal bills raised in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2014.
- 3.7.9 SCCL has submitted the justification for claiming the bills on actual meter readings as under:
- Scheduling is a day ahead exercise and actual generation cannot exactly match with the schedule on real time basis due to variation in connected load, frequency and coal quantity.
 - The commercial mechanism has been developed in the country to deal with these variations in scheduled generation and actual generation. However, such a mechanism is not prevalent in Telangana State.
 - As per the Article 6 and Article 7 of the PPA, the readings of main meter shall form the basis of billing and the monthly bills were raised by SCCL in accordance with the same.
- 3.7.10 The stakeholder submitted that the excess energy injected into the grid is not in consonance with CERC Regulations and is a violation of Grid Code. When the CERC Regulations on Deviation Settlement Mechanism and related matters recognise such deviations and also provides commercial mechanism to deal with such deviations, it cannot be said that the deviations are in violation of Grid Code. As per CERC's Deviation Settlement Mechanism, the over injection or under injection shall be within the limit of 12% of scheduled injection or 150 MW whichever is lower. During FY 2018-19, the actual generation is 8208.21 MU as against the scheduled generation of 8113.45

MU and the deviation amounts to 94.76 MU i.e., 1.16% which is within the permissible limits. As per the study conducted to understand the implication of such over injection on the payment liability of Telangana State at regional level, the pay outgo for Telangana State in Southern Regional Power Committee (SRPC) would have increased by Rs.31.88 Crore in the absence of over injection by SCCL. As against the same, the claim of Rs.17.75 Crore is reasonable. Therefore, the Commission may allow the energy charges based on actual energy.

- 3.7.11 The monthly billing is done as per the JMRs at the end of the month in accordance with Clause 7.11 of the PPA. The Telangana State Power Coordination Committee (TSPCC) chose to admit the bills based on scheduled generation instead of actual generation which is in deviation from the billing methodology followed for other intra-State generators. The copy of bill raised by TSGENCO has been submitted in support of the same.
- 3.7.12 The generation, although beyond schedule, has been supplied under the agreement with the DISCOMs and such energy was sold to the consumers of the State. Therefore, as per Section 70 of the Indian Contract Act, when such quantum of power not prohibited by law has been supplied not for gratis, the recipient is bound to pay the consideration. This principle has been laid down by the Constitution Bench of Supreme Court of India in a case between State of West Bengal vs B.K. Mondlal reported at 1962 AIR (SC) 779. The same is law of the land and is binding on all including the DISCOMs. The claim of the DISCOMs that the energy injected beyond schedule is not entitled for consideration is contrary to law. Invariably, there would be variation between scheduled generation and actual generation and actual generation is entitled to be considered. Although the SLDC had issued the notice for over injection, considering the marginal deviation of schedule, SLDC did not choose to initiate any proceedings for the over injection as contemplated in Section 33 read with Section 143 of the Electricity Act, 2003. Therefore, the contention of the stakeholder is untenable.
- 3.7.13 The Commission, in the Tariff Order, had approved the target PLF for incentive as 85% and allowed the incentive to be billed in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2014. The incentive for

higher PLF is allowable in accordance with the PPA as well as the Regulations. The incentive for FY 2017-18 had been claimed considering the actual generation in place of scheduled generation as specified in the CERC (Terms and Conditions of Tariff) Regulations, 2014 as the Telangana State does not have balancing and settlement code for intra-State generators and the energy bills for state generators were allowed on actual energy injected into the grid as per Joint Meter Readings (JMRs). The Commission may allow the incentive claimed for FY 2017-18.

- 3.7.14 The DISCOMs submitted that the claims of taxes and duties were paid however, item wise acceptance of bills as per the PPA has not been confirmed. The taxes, duties and statutory charges are payable by the DISCOMs as per Article 5 of the PPA and the CERC (Terms and Conditions of Tariff) Regulations, 2014 and the Commission's Order dated 19.06.2017 does not restrict the reimbursement of the same by the DISCOMs.

Commission's View

- 3.7.15 The Commission has taken note of the stakeholders' submissions and the Petitioner's replies on billing disputes. The Commission's ruling on the billing disputes is detailed in Chapter 4.

Contd...

CHAPTER 4 ANALYSIS AND CONCLUSION ON TRUE-UP FOR FY 2016-17 TO FY 2018-19

4.1 REGULATORY PROVISIONS

4.1.1 The Commission in the Tariff Order had adopted the CERC (Terms and Conditions of Tariff) Regulations, 2014 for tariff determination for FY 2016-17 to FY 2018-19. This approach of the Commission was challenged by SCCL in its Appeal No.312 of 2017 filed before the Hon'ble APTEL and the Appeal is sub-judice. SCCL filed the true-up for FY 2016-17 to FY 2018-19 considering the provisions of the CERC (Terms and Conditions of Tariff) Regulations, 2014 and also prayed for tariff determination as per Regulation No.1 of 2008. The Commission does not accept SCCL's prayer for consideration of Regulation No.1 of 2008 for FY 2016-17 to FY 2018-19 due to the Appeal pending before the Hon'ble APTEL. The Commission has carried out the true-up for FY 2016-17 to FY 2018-19 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2014. The same shall be subject to the outcome of the Appeal No.312 of 2017 pending before the Hon'ble APTEL.

4.1.2 As regards true-up, Regulation 8 of the CERC (Terms and Conditions of Tariff) Regulations, 2014 stipulates as under:

"8. Truing up

(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional expenditure incurred up to 31.3.2019, as admitted by the Commission after prudence check at the time of truing up:

....."

4.1.3 The true-up carried out by the Commission is detailed in the following paragraphs.

4.2 BACKGROUND

4.2.1 SCCL's Board, vide its minutes of meeting held on 19.07.2010 agreed in principle to the DPR of 2x600 MW coal based TPP at a capital cost of Rs.5527 Crore. The Government of undivided Andhra Pradesh, vide its letter dated 03.09.2010 had accorded the approval for setting up of 2x600 MW TPP in Jaipur Mandal in Mancherial (erstwhile Adilabad) District by SCCL with a capital cost of Rs.5527 Crore (updated to Rs.5685 Crore). SCCL's Board, in

its minutes of meeting held on 30.07.2013 had considered the revised cost estimates of Rs.7573.51 Crore and recommended for sanction of the Government. GoTS, vide its letter dated 25.04.2015 accorded the approval for the revised cost estimates of Rs.7573.51 Crore duly revising the earlier approval for Rs.5685 Crore. Units 1&2 achieved COD on 25.09.2016 and 02.12.2016 respectively thereby the project achieved COD on 02.12.2016. SCCL's Board, in its minutes of meeting held on 27.05.2017 accorded approval for the revised cost estimate of Rs.8584 Crore for obtaining sanction of GoTS. GoTS, vide its letter dated 23.09.2017 accorded approval for the revised cost estimate of Rs.8584 Crore duly revising the earlier approval for Rs.7573.51 Crore.

4.3 CAPITAL COST APPROVED IN ORDER DATED 19.06.2017 IN O.P.No.9 OF 2016

4.3.1 The capital cost approved by the Commission in the Tariff Order is as shown in the Table below:

Table 10: Capital cost approved in the Tariff Order

(Rs. Crore)

Sl. No.	Particulars	Capital cost as on COD	Additional capitalisation (provisional)			Capital cost upto FY 2018-19
			FY 2016-17	FY 2017-18	FY 2018-19	
1	Land and Site Development	61.73	7.44	0.00	15.83	85.00
2	BTG	4366.98	27.72	0.00	68.74	4463.44
3	BoP	835.71	30.32	0.00	142.72	1008.75
4	External Water Supply System					
	1 TMC from River Godavari	83.48	2.52	0.00	0.00	86.00
	2 TMC from River Pranahita	0.00	0.00	0.00	320.00	320.00
5	Raw Water Reservoir	43.17	5.05	0.00	18.78	67.00
6	Railway Siding	0.00	0.00	0.00	80.00	80.00
7	Other Works undertaken by SCCL					
	Additional 400 kV Bays	0.00	28.69	0.00	0.00	28.69
	Plant Roads & Culverts	11.44	0.27	0.00	8.29	20.00
	Coal transport roads	42.61	1.50	0.00	12.37	56.48
	Boundary Walls	16.94	0.25	0.00	0.00	17.19
	Gate complex, Security etc.	0.23	0.20	0.00	4.97	5.40
	Township	52.18	13.54	0.00	14.28	80.00
	Environmental Impact measures	0.79	0.18	0.00	4.03	5.00
	Mandatory capital expenditure under MoEF clearance	9.45	0.60	0.00	12.05	22.10
	Weigh Bridge, Fire	0.42	0.00	0.00	1.58	2.00

Sl. No.	Particulars	Capital cost as on COD	Additional capitalisation (provisional)			Capital cost upto FY 2018-19
			FY 2016-17	FY 2017-18	FY 2018-19	
	Tender etc.					
	Furniture & office automation	2.37	0.00	0.00	2.63	5.00
	Miscellaneous expenditure	3.48	0.33	0.00	1.19	5.00
	Sub-total (7)	139.91	45.56	0.00	61.39	246.86
8	Overheads	291.10	6.24	0.00	37.23	334.57
	Total Hard Cost	5822.08	124.85	0.00	744.69	6691.62
9	IDC	883.63	0.00	0.00	0.00	883.63
10	Total Capital Cost	6705.71	124.85	0.00	744.69	7575.25

- 4.3.2 The above approved capital cost is excluding the undischarged liabilities as on COD amounting to Rs.443.81 Crore. As regards the same, the Commission in the Tariff Order ruled as under:

“3.4.18 On account of the above, the Commission, in this Order, has not considered the cost pertaining to discharge of liabilities pending as on COD. The Commission shall consider the same after finalization of the liability, in the approval of generation tariff for the next Control Period after prudence check of the information submitted by the Petitioner.....”

“3.5.7 On account of the above, the Commission, in this Order, has not considered the cost pertaining to discharge of pending liabilities as on COD. The Commission shall consider the same after finalization of the liability, in the approval of generation tariff for the next Control Period after prudence check of the information submitted by the Petitioner.....”

4.4 CAPITAL COST AS ON COD OF THE PROJECT

- 4.4.1 The Commission in the Tariff Order had approved the capital cost as on COD of the project at Rs.6705.71 Crore. As against the same, SCCL claimed the capital cost of Rs.7114.82 Crore in its true-up claim. The Commission's approach on approval of capital cost has been challenged by SCCL in its Appeal No.312 of 2017 before the Hon'ble APTEL the Appeal is sub-judice. Therefore, the Commission does not find it prudent to revise the approved capital cost of Rs.6705.71 Crore as on COD of the project. The same shall be subject to the outcome of the Appeal No.312 of 2017 pending before the Hon'ble APTEL.

4.5 ADDITIONAL CAPITALISATION FOR FY 2016-17 TO FY 2018-19

- 4.5.1 The Commission in the Tariff Order approved the provisional additional capitalisation for FY 2016-17 to FY 2018-19. The relevant extract of the Commission's Order is reproduced below:

“3.15.2 The Commission observes that the additional capitalisation claimed by SCCL is towards deferred works within the original scope of work. The approach adopted by the Commission in approving the additional capitalisation is as under:

(i) The Commission has approved the package wise additional capitalisation based on the claim of SCCL subject to the total cost for the respective package is within the approved cost, provisionally.

(ii) The Commission has approved the overheads in the additional capitalisation limiting the same to 5% of the approved additional capitalisation for the respective years.

(iii) As discussed in the preceding paragraph, the Commission has not considered the finance charges in the additional capitalisation.”

4.5.2 The Commission’s approach on approval of (provisional) additional capitalisation for FY 2016-17 to FY 2018-19 has been challenged by SCCL in its Appeal No.312 of 2017 before the Hon’ble APTEL and the Appeal is sub-judice. As there is no stay on the Commission’s Order, the Commission deems it prudent to approve the additional capitalisation for FY 2016-17 to FY 2018-19 based on the audited figures submitted by SCCL in the instant Petition and in line with the principles adopted in the Tariff Order. The same shall be subject to the outcome of the Appeal No.312 of 2017 pending before the Hon’ble APTEL. Although the Commission had not approved the additional capitalisation for FY 2017-18 in the Tariff Order, as some part of additional capitalisation approved for FY 2018-19 has been actually incurred in FY 2017-18, the Commission deems it fit to approve the additional capitalisation for FY 2017-18 on true-up based on prudence check of SCCL’s claims.

4.5.3 SCCL claimed the audited additional capitalisation, including discharge of liabilities as on COD of the project, as shown in the Table below:

Table 11: Additional capitalisation claimed for FY 2016-17 to FY 2018-19
(Rs. Crore)

Sl. No.	Particulars	Additional Capitalisation					
		FY 2016-17		FY 2017-18		FY 2018-19	
		Approved in Tariff Order	Claimed for true-up	Approved in Tariff Order	Claimed for true-up	Approved in Tariff Order	Claimed for true-up
1	Land and Site Development	7.44	1.38	0.00	0.17	15.83	13.27
2	BTG	27.72	-11.23	0.00	237.09	68.74	222.68
3	BoP	30.32	37.09	0.00	73.50	142.72	-24.29
4	External Water Supply System						
	1 TMC from River Godavari	2.52	0.48	0.00	0.22	0.00	0.04
	2 TMC from River Pranahita	0.00	0.00	0.00	0.00	320.00	319.35

Sl. No.	Particulars	Additional Capitalisation					
		FY 2016-17		FY 2017-18		FY 2018-19	
		Approved in Tariff Order	Claimed for true-up	Approved in Tariff Order	Claimed for true-up	Approved in Tariff Order	Claimed for true-up
5	Raw Water Reservoir	5.05	2.90	0.00	5.41	18.78	3.09
6	Railway Siding	0.00	0.00	0.00	0.00	80.00	322.57
7	Other Works undertaken by SCCL						
	Additional 400 kV Bays	28.69	0.00	0.00	28.70	0.00	2.04
	Plant Roads & Culverts	0.27	0.31	0.00	0.59	8.29	0.35
	Coal transport roads	1.50	3.11	0.00	-1.09	12.37	-0.68
	Boundary Walls	0.25	0.25	0.00	0.00	0.00	0.00
	Gate complex, Security etc.	0.20	0.37	0.00	0.85	4.97	0.07
	Township	13.54	11.32	0.00	26.80	14.28	19.23
	Environmental Impact measures	0.18	-0.01	0.00	0.09	4.03	0.38
	Mandatory capital expenditure under MoEF clearance	0.60	0.60	0.00	0.68	12.05	3.11
	Weigh Bridge, Fire Tender etc.	0.00	0.03	0.00	0.00	1.58	1.04
	Furniture & office automation	0.00	-0.19	0.00	0.54	2.63	2.06
	Miscellaneous expenditure	0.33	0.51	0.00	0.51	1.19	2.81
	Sub-total (7)	45.56	16.30	0.00	57.67	61.39	30.41
8	Overheads	6.24	31.59	0.00	5.86	37.23	-0.37
	Total Hard Cost	124.85	78.51	0.00	379.92	744.69	886.75
9	Interest During Construction & financing charges		17.14	0.00	21.55	0.00	-37.69
10	Total Capital Cost	124.85	95.65	0.00	401.47	744.69	849.06

4.5.4 SCCL's claim of additional capitalisation and the Commission's approval is detailed in the following paragraphs.

4.6 LAND AND SITE DEVELOPMENT

Petitioner's submission

4.6.1 SCCL claimed the additional capitalisation of Rs.1.38 Crore, Rs.0.17 Crore and Rs.13.27 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively towards land and site development.

Commission's View

4.6.2 The Commission, in the Tariff Order, had approved the total cost of land and site development at Rs.85.00 Crore and the cost upto project COD at 61.73 Crore. As against the approved additional capitalisation of Rs.7.44 Crore and Rs.15.83 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.1.38 Crore, Rs.0.17 Crore and Rs.13.27 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. SCCL claimed the land and site development cost of Rs.76.55 Crore upto FY 2018-

19 as against the approved total cost of Rs.85.00 Crore. As the claimed cost is lower than the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards land and site development.

- 4.6.3 The cost of land and site development claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 12: Land and site development cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	85.00	-	-
Cost upto project COD (A)	61.73	61.73	61.73
Additional capitalisation			
FY 2016-17	7.44	1.38	1.38
FY 2017-18	0.00	0.17	0.17
FY 2018-19	15.83	13.27	13.27
Total additional capitalisation (B)	23.27	14.82	14.82
Total cost upto FY 2018-19 (A+B)	85.00	76.55	76.55

4.7 BOILER, TURBINE AND GENERATOR (BTG)

Petitioner's submission

- 4.7.1 SCCL claimed the additional capitalisation of Rs.-11.23 Crore, Rs.237.09 Crore and Rs.222.68 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively towards BTG.

Commission's View

- 4.7.2 The Commission, in the Tariff Order dated 19.06.2017, had approved the total cost of BTG at Rs.4463.44 Crore and the cost upto project COD at Rs.4366.98 Crore. This approved cost was after deducting the undischarged liabilities to the tune of Rs.414.56 Crore as on project COD. As against the approved additional capitalisation of Rs.27.72 Crore and Rs.68.74 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.-11.23 Crore, Rs.237.09 Crore and Rs.222.68 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. The claimed additional capitalisation of inclusive of liabilities as on COD discharged to the tune of Rs.-1.83 Crore, Rs.237.09 Crore and Rs.145.34 Crore in FY 2016-17, FY 2017-18 and FY 2018-19 respectively.

- 4.7.3 The Commission, in the Tariff Order, directed SCCL as under:
- “3.4.16 the Commission directs SCCL to submit the compilation of all the price variation bills along with its Petition for approval of generation tariff for the next Control Period.”*
- “3.4.18 the Commission directs SCCL to submit the Performance Guarantee Test Reports after completion of the same along with the amount of Liquidated Damages, if levied any, along with its Tariff Petition for the next Control Period.”*
- 4.7.4 SCCL submitted the compilation of price variation bills, the copies of Performance Guarantee Test Reports and acceptance letters of NTPC and SCCL for the same.
- 4.7.5 The Commission in the Tariff Order had approved the price variation of Rs.706 Crore towards BTG package. In the instant Petition, SCCL submitted the price variation of Rs.780.28 Crore towards BTG package. SCCL submitted that the price variation amounting to Rs.706 Crore is exclusive of taxes & duties and the amount of Rs.780.28 Crore is inclusive of taxes and duties. SCCL submitted that the price variation is applicable on supplies and civil works with a maximum limit of 20% and there is no limit on erection and structural works. The Commission has taken note of SCCL's submissions.
- 4.7.6 SCCL submitted that the liquidated damages imposed for BTG contract is Rs.27.73 Crore (excluding taxes and duties) which translates to Rs.32.72 Crore including taxes and duties. The stakeholders submitted that the liquidated damages should be deducted from the capital cost to which SCCL replied that the liquidated damages have to be set off against the disallowance of IDC. The Commission, in its Order dated 19.06.2017 in O.P.No.9 of 2016 had disallowed IDC to the tune of Rs.323.12 Crore corresponding to the delay that was not condoned. As the Commission had disallowed IDC for delay if SCCL levies liquidated damages over and above the amount of IDC disallowed by the Commission, such excess amount shall be deducted from the capital cost.
- 4.7.7 SCCL claimed the BTG cost of Rs.4815.52 Crore upto FY 2018-19 as against the approved total cost of Rs.4878.00 Crore (including undischarged liabilities). As the claimed cost is lower than the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards BTG.

- 4.7.8 The BTG cost claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 13: BTG cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	4878.00	-	-
Less: Undischarged liabilities	414.56	-	-
Cost excluding undischarged liabilities	4463.44	-	-
Cost upto project COD (A)	4366.98	4366.98	4366.98
Additional capitalisation			
FY 2016-17	27.72	-11.23	-11.23
FY 2017-18	0.00	237.09	237.09
FY 2018-19	68.74	222.68	222.68
Total additional capitalisation (B)	96.46	448.54	448.54
Total cost upto FY 2018-19 (A+B)	4463.44	4815.52	4815.52

4.8 BALANCE OF PLANT (BoP)

Petitioner's submission

- 4.8.1 SCCL claimed the additional capitalisation of Rs.37.09 Crore, Rs.73.50 Crore and Rs.-24.29 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively towards BoP.

Commission's View

- 4.8.2 The Commission, in the Tariff Order, had approved the total cost of BoP at Rs.1008.75 Crore and the cost upto project COD at Rs.835.71 Crore. This approved cost was after deducting the undischarged liabilities to the tune of Rs.29.25 Crore as on project COD. As against the approved additional capitalisation of Rs.30.32 Crore and Rs.142.72 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.37.09 Crore, Rs.73.50 Crore and Rs.(-)24.29 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. The claimed additional capitalisation of inclusive of liabilities as on COD discharged to the tune of Rs.24.95 Crore, Rs.(-)26.82 Crore and Rs.(-)54.14 Crore in FY 2016-17, FY 2017-18 and FY 2018-19 respectively.

- 4.8.3 The Commission, in the Tariff Order, directed SCCL as under:

“3.5.5 the Commission directs SCCL to submit the compilation of all the price variation bills along with its Petition for approval of generation tariff for the next Control Period.”

“3.5.7 the Commission directs SCCL to submit the Performance Guarantee Test Reports after completion of the same along with the amount of Liquidated Damages, if any levied, along with its Tariff Petition for the next Control Period.”

- 4.8.4 SCCL submitted the compilation of price variation bills, the copies of Performance Guarantee Test Reports.
- 4.8.5 The Commission in the Tariff Order had approved the price variation of Rs.65 Crore towards BoP package. In the instant Petition, SCCL submitted the price variation of Rs.60.36 Crore. SCCL submitted that the price variation amounting to Rs.65 Crore was an estimated amount and the amount of Rs.60.36 Crore is based on actuals. SCCL submitted that the amount of Rs.2.5 Crore is to be paid post FY 2018-19. The Commission has taken note of SCCL's submissions.
- 4.8.6 SCCL submitted that the liquidated damages imposed for BoP contract is Rs.97.30 Crore (excluding taxes and duties) and Rs.114.81 Crore including taxes and duties. SCCL further submitted that the BoP contractor had registered disagreement to imposition of liquidated damages and the matter is sub-judice before the Arbitration Tribunal. The stakeholders submitted that the liquidated damages should be deducted from the capital cost to which SCCL replied that the liquidated damages have to be set off against the disallowance of IDC. The Commission, in its Order dated 19.06.2017 in O.P.No.9 of 2016 had disallowed IDC to the tune of Rs.323.12 Crore corresponding to the delay that was not condoned. As the Commission had disallowed IDC for delay if SCCL levies liquidated damages over and above the amount of IDC disallowed by the Commission, such excess amount shall be deducted from the capital cost.
- 4.8.7 SCCL claimed the BoP cost of Rs.922.01 Crore upto FY 2018-19 as against the approved total cost of Rs.1038.00 Crore (including undischarged liabilities). As the claimed cost is lower than the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards BoP.
- 4.8.8 The BoP cost claimed by SCCL and approved by the Commission upto FY

2018-19 is as shown in the Table below:

Table 14: BoP cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	1038.00	-	-
Less: Undischarged liabilities	29.25	-	-
Cost excluding undischarged liabilities	1008.75	-	-
Cost upto project COD (A)	835.71	835.71	835.71
Additional capitalisation			
FY 2016-17	30.32	37.09	37.09
FY 2017-18	0.00	73.50	73.50
FY 2018-19	142.72	-24.29	-24.29
Total additional capitalisation (B)	173.04	86.30	86.30
Total cost upto FY 2018-19 (A+B)	1008.75	922.01	922.01

4.9 EXTERNAL WATER SUPPLY SYSTEM

Petitioner's submission

- 4.9.1 SCCL claimed the additional capitalisation of Rs.0.48 Crore, Rs.0.22 Crore and Rs.319.39 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively towards external water supply system.

Commission's View

- 4.9.2 The Commission, in the Tariff Order, had approved the total cost of external water supply system at Rs.406.00 Crore and the cost upto project COD at 83.48 Crore. As against the approved additional capitalisation of Rs.2.52 Crore and Rs.320.00 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.0.48 Crore, Rs.0.22 Crore and Rs.319.39 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. SCCL claimed the external water supply system cost of Rs.403.57 Crore upto FY 2018-19 as against the approved total cost of Rs.406.00 Crore. As the claimed cost is lower than the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards external water supply system.
- 4.9.3 The cost of external water supply system claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 15: External water supply system cost upto FY 2018-19*(Rs. Crore)*

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	406.00	-	-
Cost upto project COD (A)	83.48	83.48	83.48
Additional capitalisation			
FY 2016-17	2.52	0.48	0.48
FY 2017-18	0.00	0.22	0.22
FY 2018-19	320.00	319.39	319.39
Total additional capitalisation (B)	322.52	320.09	320.09
Total cost upto FY 2018-19 (A+B)	406.00	403.57	403.57

4.10 RAW WATER RESERVOIR***Petitioner's submission***

- 4.10.1 SCCL claimed the additional capitalisation of Rs.2.90 Crore, Rs.5.41 Crore and Rs.3.09 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively towards raw water reservoir.

Commission's View

- 4.10.2 The Commission, in the Tariff Order, had approved the total cost of raw water reservoir at Rs.67.00 Crore and the cost upto project COD at 43.17 Crore. As against the approved additional capitalisation of Rs.5.05 Crore and Rs.18.78 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.2.90 Crore, Rs.5.41 Crore and Rs.3.09 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. SCCL claimed the raw water reservoir cost of Rs.54.57 Crore upto FY 2018-19 as against the approved total cost of Rs.67.00 Crore. As the claimed cost is lower than the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards raw water reservoir.
- 4.10.3 The cost of raw water reservoir claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 16: Raw water reservoir cost upto FY 2018-19*(Rs. Crore)*

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	67.00	-	-
Cost upto project COD (A)	43.17	43.17	43.17

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Additional capitalisation			
FY 2016-17	5.05	2.90	2.90
FY 2017-18	0.00	5.41	5.41
FY 2018-19	18.78	3.09	3.09
Total additional capitalisation (B)	23.83	11.40	11.40
Total cost upto FY 2018-19 (A+B)	67.00	54.57	54.57

4.11 RAILWAY SIDING

Petitioner's submission

4.11.1 SCCL claimed the additional capitalisation of Rs.322.57 Crore for FY 2018-19 towards railway siding.

Commission's View

4.11.2 The Commission, in the Tariff Order, had approved the total cost of railway siding as Rs.80.00 Crore and the cost upto project COD at Rs.0.00 Crore. As against the approved additional capitalisation of Rs.80.00 Crore SCCL claimed the additional capitalisation of Rs.322.57 Crore for FY 2018-19. SCCL submitted that the claimed cost towards railway siding is without considering the accounting for the grant claimed/received and the CCDAC grant amounting to Rs.84.19 Crore was received till 31.03.2019 against the claim of Rs.162.22 Crore.

4.11.3 As regards railway siding, SCCL's submission and Commission's ruling in the Tariff Order are as under:

"3.8.3(iii) The total estimated cost of railway siding is Rs.276 Crore. SCCL being a coal company has applied to the Coal Controller, Ministry of Coal for funds to the tune of 70% of the cost of the railway siding. The fund created out of the Stowing Excise Duty of Rs.10/MT is utilized for roads and railway lines, protective works, sand stowing operations etc. being developed in the mining areas for evacuation of coal. Normally, 70% of these works shall be paid to Coal Companies as a grant/assistance. Accordingly, SCCL, in its Petition, has claimed the cost of Railway Siding as Rs.80 Crore which was subsequently revised to Rs.113.32 Crore."

"3.8.6 SCCL in its revised submissions dated 03.04.2017 claimed the cost of railway siding as Rs.113.32 Crore in FY 2016-17. Whereas during the Public Hearing, SCCL submitted that part of land required for railway siding is under acquisition and the railway siding works will be completed by March, 2018."

3.8.7 After perusal of the submission in this regard, the Commission finds it prudent to approve the cost of Railway Siding as Rs.80 Crore in FY 2018-19, as submitted by SCCL during the Public Hearing. The Commission shall take an appropriate view on allowing shortfall, if any, in funds from the Coal Controller on this account from that envisaged in this Order during the truing up of additional capitalisation.”

4.11.4 The cost of railway siding has increased from Rs.276.00 Crore to Rs.322.56 Crore. SCCL submitted the reasons for this increase as under:

- In compliance to the revised guidelines from Indian Railways, the top width of the embankment was increased from 6.85 m to 7.85 m and the bottom width was increased from 9.25 m to 10.25 m. Rock requiring blasting had increased due to these changes.
- Further, the tracks in the yards are spaced at 12 m (instead of 6 m) and the requirement of earth work quantities have increased due to this change.
- National Highways Authority of India (NHAI) had insisted for construction of RUBs on National Highway (NH) 63 with 2m x 24.20m span whereas the RUBs were originally planned to be constructed with 2m x 18.30m span.
- One additional bridge of 2m x 12.20m span was included during tendering stage for movement of dumpers at SRP-OCP.
- Railways had revised the depth of piles from 12m to 25m for the bridge on Rasulpalli vagu.
- Implementation of Goods and Services Tax (GST) w.e.f. 01.07.2017, revised royalty charges, District Mineral Foundation Trust (DMFT), State Mineral Exploration Trust (SMET), PVC etc.

4.11.5 SCCL has not submitted any supporting documents to substantiate the increase in railway siding cost from Rs.276.00 Crore to Rs.322.56 Crore. In the absence of supporting documents, the Commission does not find it prudent to approve the revised railway siding cost of Rs.322.56 Crore. As against the cost of Rs.322.57 Crore, the grant portion is Rs.162.22 Crore which works out to 50.29% of the cost whereas SCCL, in its Petition in O.P.No.9 of 2016 submitted that the grants portion would be to the extent of 70% of the cost. SCCL has not submitted any justification for the variation in grants portion. In light of the above, the Commission approves the cost of Rs.80.00 Crore towards railway siding, same as approved in the Tariff Order.

4.11.6 The cost of railway siding claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 17: Railway siding cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	80.00	-	-
Cost upto project COD (A)	0.00	0.00	0.00
Additional capitalisation			
FY 2016-17	0.00	0.00	0.00
FY 2017-18	0.00	0.00	0.00
FY 2018-19	80.00	322.57	80.00
Total additional capitalisation (B)	80.00	322.57	80.00
Total cost upto FY 2018-19 (A+B)	80.00	322.57	80.00

4.12 OTHER WORKS UNDERTAKEN BY SCCL

Petitioner's submission

4.12.1 SCCL claimed the additional capitalisation of Rs.16.30 Crore, Rs.57.67 Crore and Rs.30.41 for FY 2016-17, FY 2017-18 and FY 2018-19 respectively towards other works.

Commission's View

4.12.2 The Commission, in the Tariff Order, had approved the total cost of other works at Rs.246.86 Crore and the cost upto project COD at Rs.139.91 Crore. As against the approved additional capitalisation of Rs.45.56 Crore and Rs.61.39 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.16.30 Crore, Rs.57.67 Crore and Rs.30.41 for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. The item wise details of additional capitalisation claimed towards other works is discussed in the following paragraphs.

Additional 400 kV Bays

4.12.3 The Commission, in the Tariff Order, had approved the total cost of additional 400 kV Bays at Rs.28.69 Crore and the cost upto project COD at Rs.0.00 Crore. As against the approved additional capitalisation of Rs.28.69 Crore for FY 2016-17, SCCL claimed the additional capitalisation of Rs.28.70 Crore and Rs.2.04 for FY 2017-18 and FY 2018-19 respectively. SCCL claimed the additional 400 kV Bays cost of Rs.30.74 Crore upto FY 2018-19 as against the approved total cost of Rs.28.69 Crore. SCCL has not submitted any

justification for the increase in this cost. Therefore, the Commission approves the additional 400 kV Bays cost as Rs.28.69 Crore same as approved in the Tariff Order.

- 4.12.4 The cost of additional 400 kV Bays claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 18: Additional 400 kV Bays cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	28.69	-	-
Cost upto project COD (A)	0.00	0.00	0.00
Additional capitalisation			
FY 2016-17	28.69	0.00	0.00
FY 2017-18	0.00	28.70	28.69
FY 2018-19	0.00	2.04	0.00
Total additional capitalisation (B)	28.69	30.74	28.69
Total cost upto FY 2018-19 (A+B)	28.69	30.74	28.69

Plant roads & culverts

- 4.12.5 The Commission, in the Tariff Order, had approved the total cost of plant roads & culverts at Rs.20.00 Crore and the cost upto project COD at Rs.11.44 Crore. As against the approved additional capitalisation of Rs.0.27 Crore and Rs.8.29 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.0.31 Crore, Rs.0.59 Crore and Rs.0.35 for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. SCCL claimed the plant roads & culverts cost of Rs.12.69 Crore upto FY 2018-19 as against the approved total cost of Rs.20.00 Crore. As the claimed cost is lower than the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards plant roads & culverts.

- 4.12.6 The cost of plant roads & culverts claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 19: Plant roads & culverts cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	20.00	-	-
Cost upto project COD (A)	11.44	11.44	11.44
Additional capitalisation			

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
FY 2016-17	0.27	0.31	0.31
FY 2017-18	0.00	0.59	0.59
FY 2018-19	8.29	0.35	0.35
Total additional capitalisation (B)	8.56	1.25	1.25
Total cost upto FY 2018-19 (A+B)	20.00	12.69	12.69

Coal transport roads

4.12.7 The Commission, in the Tariff Order, had approved the total cost of coal transport roads at Rs.56.48 Crore and the cost upto project COD at Rs.42.61 Crore. As against the approved additional capitalisation of Rs.1.50 Crore and Rs.12.37 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.3.11 Crore, Rs.(-)1.09 Crore and Rs.(-)0.68 for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. SCCL claimed the coal transport roads cost of Rs.43.95 Crore upto FY 2018-19 as against the approved total cost of Rs.56.48 Crore. As the claimed cost is lower than the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards coal transport roads.

4.12.8 The cost of coal transport roads claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 20: Coal transport roads cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	56.48	-	-
Cost upto project COD (A)	42.61	42.61	42.61
Additional capitalisation			
FY 2016-17	1.50	3.11	3.11
FY 2017-18	0.00	-1.09	-1.09
FY 2018-19	12.37	-0.68	-0.68
Total additional capitalisation (B)	13.87	1.34	1.34
Total cost upto FY 2018-19 (A+B)	56.48	43.95	43.95

Boundary walls

4.12.9 The Commission, in the Tariff Order, had approved the total cost of boundary walls at Rs.17.19 Crore and the cost upto project COD at Rs.16.94 Crore. As

against the approved additional capitalisation of Rs.0.25 Crore, SCCL claimed the additional capitalisation of Rs.0.25 Crore for FY 2016-17. SCCL claimed the boundary walls cost of Rs.17.19 Crore upto FY 2018-19 as against the approved total cost of Rs.17.19 Crore. As the claimed cost is equal to the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards boundary walls.

4.12.10 The cost of boundary walls claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 21: Boundary walls cost upto FY 2018-19

Particulars	(Rs. Crore)		
	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	17.19	-	-
Cost upto project COD (A)	16.94	16.94	16.94
Additional capitalisation			
FY 2016-17	0.25	0.25	0.25
FY 2017-18	0.00	0.00	0.00
FY 2018-19	0.00	0.00	0.00
Total additional capitalisation (B)	0.25	0.25	0.25
Total cost upto FY 2018-19 (A+B)	17.19	17.19	17.19

Gate complex, security etc.

4.12.11 The Commission, in the Tariff Order, had approved the total cost of gate complex, security etc. at Rs.5.40 Crore and the cost upto project COD at Rs.0.23 Crore. As against the approved additional capitalisation of Rs.0.20 Crore and Rs.4.97 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.0.37 Crore, Rs.0.85 Crore and Rs.0.07 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. SCCL claimed the cost of Rs.1.52 Crore upto FY 2018-19 as against the approved total cost of Rs.5.40 Crore. As the claimed cost is lower than the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards gate complex, security etc.

4.12.12 The cost of gate complex, security etc. claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 22: Gate complex, security etc. cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	5.40	-	-
Cost upto project COD (A)	0.23	0.23	0.23
Additional capitalisation			
FY 2016-17	0.20	0.37	0.37
FY 2017-18	0.00	0.85	0.85
FY 2018-19	4.97	0.07	0.07
Total additional capitalisation (B)	5.17	1.29	1.29
Total cost upto FY 2018-19 (A+B)	5.40	1.52	1.52

Township

4.12.13 The Commission, in the Tariff Order, had approved the total cost of township at Rs.80.00 Crore and the cost upto project COD at Rs.52.18 Crore. As against the approved additional capitalisation of Rs.13.54 Crore and Rs.14.28 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.11.32 Crore, Rs.26.80 Crore and Rs.19.23 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. SCCL claimed the township cost of Rs.109.53 Crore upto FY 2018-19 as against the approved total cost of Rs.80.00 Crore. The Commission's approval of township cost has been challenged by SCCL in its Appeal No.312 of 2017 before the Hon'ble APTEL and the Appeal is sub-judice. Therefore, the Commission does not find it prudent to revise the approved township cost of Rs.80.00 Crore. The same shall be subject to the outcome of the Appeal No.312 of 2017 pending before the Hon'ble APTEL.

4.12.14 The cost of township claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 23: Township cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	80.00	-	-
Cost upto project COD (A)	52.18	52.18	52.18
Additional capitalisation			
FY 2016-17	13.54	11.32	11.32
FY 2017-18	0.00	26.80	16.50
FY 2018-19	14.28	19.23	0.00
Total additional capitalisation (B)	27.82	57.35	27.82

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost upto FY 2018-19 (A+B)	80.00	109.53	80.00

Environmental impact measures

4.12.15 The Commission, in the Tariff Order, had approved the total cost of environmental impact measures at Rs.5.00 Crore and the cost upto project COD at Rs.0.79 Crore. As against the approved additional capitalisation of Rs.0.18 Crore and Rs.4.03 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.(-)0.01 Crore, Rs.0.09 Crore and Rs.0.38 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. SCCL claimed the environmental impact measures cost of Rs.1.25 Crore upto FY 2018-19 as against the approved total cost of Rs.5.00 Crore. As the claimed cost is lower than the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards environmental impact measures.

4.12.16 The cost of environmental impact measures claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 24: Environmental impact measures cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	5.00	-	-
Cost upto project COD (A)	0.79	0.79	0.79
Additional capitalisation			
FY 2016-17	0.18	-0.01	-0.01
FY 2017-18	0.00	0.09	0.09
FY 2018-19	4.03	0.38	0.38
Total additional capitalisation (B)	4.21	0.46	0.46
Total cost upto FY 2018-19 (A+B)	5.00	1.25	1.25

Mandatory capital expenditure under MoEF clearance

4.12.17 The Commission, in the Tariff Order, had approved the total cost towards mandatory capital expenditure under MoEF clearance at Rs.22.10 Crore and the cost upto project COD at Rs.9.45 Crore. As against the approved additional capitalisation of Rs.0.60 Crore and Rs.12.05 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of

Rs.0.60 Crore, Rs.0.68 Crore and Rs.3.11 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. SCCL claimed the mandatory capital expenditure under MoEF clearance cost of Rs.13.84 Crore upto FY 2018-19 as against the approved total cost of Rs.22.10 Crore. As the claimed cost is lower than the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards mandatory capital expenditure under MoEF clearance.

4.12.18 The mandatory capital expenditure under MoEF clearance claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 25: Mandatory capital expenditure under MoEF clearance cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	22.10	-	-
Cost upto project COD (A)	9.45	9.45	9.45
Additional capitalisation			
FY 2016-17	0.60	0.60	0.60
FY 2017-18	0.00	0.68	0.68
FY 2018-19	12.05	3.11	3.11
Total additional capitalisation (B)	12.65	4.39	4.39
Total cost upto FY 2018-19 (A+B)	22.10	13.84	13.84

Weight bridge, fire tender etc.

4.12.19 The Commission, in the Tariff Order, had approved the total cost of weigh bridge, fire tender etc., at Rs.2.00 Crore and the cost upto project COD at Rs.0.42 Crore. As against the approved additional capitalisation of Rs.1.58 Crore for FY 2018-19, SCCL claimed the additional capitalisation of Rs.0.03 Crore, and Rs.1.04 Crore for FY 2016-17 and FY 2018-19 respectively. SCCL claimed the weigh bridge, fire tender etc. cost of Rs.1.49 Crore upto FY 2018-19 as against the approved total cost of Rs.2.00 Crore. As the claimed cost is lower than the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards weigh bridge, fire tender etc.

4.12.20 The cost of weigh bridge, fire tender etc. claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 26: Cost of Weigh Bridge, fire tender etc. upto FY 2018-19*(Rs. Crore)*

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	2.00	-	-
Cost upto project COD (A)	0.42	0.42	0.42
Additional capitalisation			
FY 2016-17	0.00	0.03	0.03
FY 2017-18	0.00	0.00	0.00
FY 2018-19	1.58	1.04	1.04
Total additional capitalisation (B)	1.58	1.07	1.07
Total cost upto FY 2018-19 (A+B)	2.00	1.49	1.49

Furniture & office automation

4.12.21 The Commission, in the Tariff Order, had approved the total cost of furniture & office automation at Rs.5.00 Crore and the cost upto project COD at Rs.2.37 Crore. As against the approved additional capitalisation of Rs.2.63 Crore for FY 2018-19, SCCL claimed the additional capitalisation of Rs.(-)0.19 Crore, Rs.0.54 Crore and Rs.2.06 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. SCCL claimed the furniture & office automation cost of Rs.4.78 Crore upto FY 2018-19 as against the approved total cost of Rs.5.00 Crore. As the claimed cost is lower than the total cost approved, the Commission approves SCCL's claim of additional capitalisation towards furniture & office automation.

4.12.22 The cost of furniture & office automation claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 27: Furniture & office automation cost upto FY 2018-19*(Rs. Crore)*

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	5.00	-	-
Cost upto project COD (A)	2.37	2.37	2.37
Additional capitalisation			
FY 2016-17	0.00	-0.19	-0.19
FY 2017-18	0.00	0.54	0.54
FY 2018-19	2.63	2.06	2.06
Total additional capitalisation (B)	2.63	2.41	2.41
Total cost upto FY 2018-19 (A+B)	5.00	4.78	4.78

Miscellaneous expenditure

4.12.23 The Commission, in the Tariff Order, had approved the total cost towards miscellaneous expenditure at Rs.5.00 Crore and the cost upto project COD at Rs.3.48 Crore. As against the approved additional capitalisation of Rs.0.33 Crore and Rs.1.19 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.0.51 Crore, Rs.0.51 Crore and Rs.2.81 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. SCCL claimed the miscellaneous expenditure of Rs.7.31 Crore upto FY 2018-19 as against the approved total cost of Rs.5.00 Crore. SCCL has not submitted any justification for the increase in this cost. Therefore, the Commission approves the miscellaneous expenditure of Rs.5.00 Crore, same as approved in the Tariff Order.

4.12.24 The miscellaneous expenditure claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 28: Miscellaneous expenditure upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	5.00	-	-
Cost upto project COD (A)	3.48	3.48	3.48
Additional capitalisation			
FY 2016-17	0.33	0.51	0.51
FY 2017-18	0.00	0.51	0.51
FY 2018-19	1.19	2.81	0.50
Total additional capitalisation (B)	1.52	3.83	1.52
Total cost upto FY 2018-19 (A+B)	5.00	7.31	5.00

4.12.25 Based on the above, the cost of other works claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 29: Other works cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	246.86	-	-
Cost upto project COD (A)	139.91	139.91	139.91
Additional capitalisation			
FY 2016-17	45.56	16.30	16.30
FY 2017-18	0.00	57.67	47.36
FY 2018-19	61.39	30.41	6.83
Total additional	106.95	104.38	70.49

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
capitalisation (B)			
Total cost upto FY 2018-19 (A+B)	246.86	244.29	210.40

4.13 OVERHEADS

Petitioner's submission

- 4.13.1 SCCL claimed the additional capitalisation of Rs.31.59 Crore, Rs.5.86 Crore and Rs.(-)0.37 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively towards overheads.

Commission's View

- 4.13.2 The Commission, in the Tariff Order, had approved the total cost of overheads at Rs.334.58 Crore and the cost upto project COD at 291.10 Crore. As against the approved additional capitalisation of Rs.6.24 Crore and Rs.37.23 Crore for FY 2016-17 and FY 2018-19 respectively, SCCL claimed the additional capitalisation of Rs.31.59 Crore, Rs.5.86 Crore and Rs.(-)0.37 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. The Commission in the Tariff Order dated, had approved overhead expenses as 5% of the approved additional capitalisation for the respective year. The Commission's approval of overheads cost has been challenged by SCCL in its Appeal No.312 of 2017 before the Hon'ble APTEL and the Appeal is sub-judice. Therefore, the Commission does not find it prudent to revise the methodology of approval of overheads cost. Therefore, the Commission approves the overheads cost as lower of 5% of the approved additional capitalisation and the actual claimed for the respective year. The same shall be subject to the outcome of the Appeal No.312 of 2017 pending before the Hon'ble APTEL.
- 4.13.3 The cost of overheads claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 30: Overheads cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	334.58	-	-

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Cost upto project COD (A)	291.10	319.50	291.10
Additional capitalisation			
FY 2016-17	6.24	31.59	2.47
FY 2017-18	0.00	5.86	5.86
FY 2018-19	37.23	-0.37	-0.37
Total additional capitalisation (B)	43.48	37.08	7.96
Total cost upto FY 2018-19 (A+B)	334.58	356.58	299.07

4.14 INTEREST DURING CONSTRUCTION (IDC)

Petitioner's submission

- 4.14.1 SCCL claimed the additional capitalisation of Rs.17.14 Crore, Rs.21.55 Crore and Rs.(-)37.69 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively towards IDC.

Commission's View

- 4.14.2 The Commission, in the Tariff Order, had approved the IDC of Rs.883.63 Crore upto project COD. The Commission's approval of IDC has been challenged by SCCL in its Appeal No.312 of 2017 before the Hon'ble APTEL and the Appeal is sub-judice. Therefore, the Commission does not find it prudent to revise the approved IDC of Rs.883.63 Crore. The Commission does not find it prudent to consider the IDC after project COD claimed by SCCL.
- 4.14.3 The IDC claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 31: IDC upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Total cost	883.63	-	-
Cost upto project COD (A)	883.63	1264.34	883.63
Additional capitalisation			
FY 2016-17	0.00	17.14	0.00
FY 2017-18	0.00	21.55	0.00
FY 2018-19	0.00	-37.69	0.00
Total additional capitalisation (B)	0.00	1.00	0.00
Total cost upto FY 2018-	883.63	1265.34	883.63

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
19 (A+B)			

4.15 CAPITAL COST UPTO FY 2018-19

Commission's View

4.15.1 Based on the above, the capital cost claimed by SCCL and approved by the Commission upto FY 2018-19 is as shown in the Table below:

Table 32: Capital cost upto FY 2018-19

(Rs. Crore)

Particulars	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Cost upto project COD (A)	6705.71	7114.82	6705.71
Additional capitalisation			
FY 2016-17	124.85	95.62	49.37
FY 2017-18	0.00	401.50	369.64
FY 2018-19	744.69	849.06	620.60
Total additional capitalisation (B)	869.55	1346.18	1039.60
Total cost upto FY 2018-19 (A+B)	7575.26*	8461.00	7745.32**

* excluding undischarged liabilities as on COD amounting to Rs.443.81 Crore

** including liabilities as on COD discharged in FY 2016-17, FY 2017-18 and FY 2018-19

4.16 ANNUAL FIXED CHARGES (AFC)

4.16.1 In accordance with Regulation 21 of the CERC (Terms and Conditions of Tariff) Regulations, 2014, the AFC of thermal generating station consist of recovery of the following:

- Return on Equity (RoE);
- Interest on loan;
- Depreciation;
- Interest on Working Capital (IoWC); and
- Operation and Maintenance (O&M) expenses.

4.16.2 SCCL vide its submission dated 04.12.2019 submitted the true-up claims of AFC for FY 2016-17 to FY 2018-19. Subsequently, SCCL in replies to data gaps dated 25.02.2020 submitted the revised AFC for FY 2016-17 to FY 2018-19 rectifying the discrepancy in its computations. The Commission has considered the revised submissions dated 25.02.2020.

4.17 RETURN ON EQUITY (ROE)

Petitioner's submission

- 4.17.1 SCCL claimed RoE of Rs.180.13 Crore, Rs.438.11 Crore and Rs.475.08 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively.

Commission's View

- 4.17.2 Regulation 19(1) of the CERC (Terms and Conditions of Tariff) Regulations, 2014 stipulates that the equity in excess of 30% of the capital cost shall be treated as normative loan. SCCL submitted the actual means of finance of additional capitalisation for FY 2016-17 to FY 2018-19. Based on the actual means of finance submitted by SCCL, the Debt Equity ratio of capital cost including additional capitalisation upto FY 2018-19 is 57.78:42.22. As the actual equity is in excess of 30%, SCCL has claimed RoE on the equity corresponding to 30% of the claimed additional capitalisation.
- 4.17.3 The Commission has considered the approved equity base as on COD and 30% of the approved additional capitalisation as equity addition for the respective year. The equity base claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 33: Equity base for FY 2016-17 to FY 2018-19

(Rs. Crore)

Financial Year	Approved in Tariff Order		Claimed for true-up		Approved on true-up	
	Opening Equity	Closing Equity	Opening Equity	Closing Equity	Opening Equity	Closing Equity
2016-17						
From COD of Unit 1 till COD of Unit 2	1050.57	1050.57	1114.66	1114.66	1050.57	1050.57
From COD of Unit 2 till 31.03.2017	2011.71	2049.17	2134.45	2163.13	2011.71	2026.53
2017-18	2049.17	2049.17	2163.13	2283.58	2026.53	2137.42
2018-19	2049.17	2272.58	2283.58	2538.30	2137.42	2323.60

- 4.17.4 Regulation 25 of the CERC (Terms and Conditions of Tariff) Regulations, 2014 stipulate that the base rate of RoE of 15.50% shall be grossed up with the effective tax rate. SCCL has considered the MAT rate of 21.34% for grossing up the base rate of RoE. SCCL submitted the justification for considering MAT rate as below.

"The book profits calculated as per section 115JB of income tax act, 1961 for computing the MAT liability for the FY 2016-17, FY 2017-18 and FY 2018-19 are mentioned below:

S. No.	Particulars	FY 2016-17	FY 2017-18	FY 2018-19
1	STPP- Profit Before Tax	155.55	576.36	539.24
2	Book profit u/s 115JB-STPP (Standalone)	155.55	580.15	700.73
3	MAT payable on above @ 21.3416% for FY 2016-18 & 21.5488% for FY 2018-19	33.20	123.81	151.00
4	Book profit/(loss) u/s 115JB – SCCL (Coal operations)	-380.80	1383.25	2179.41
5	Net Book profit/(loss) of SCCL (Coal & Power) (4+6)	-225.25	1963.40	2880.14
6	MAT liability @21.3416% for FY 2016-18 & 21.5488% for FY 2018-19	Nil	419.02	620.64
7	Net Taxable income/(Loss) of SCCL (including carry forwarded Loss)	-2441.34	-806.55	1383.80
8	Normal Tax on above @ 34.608% & 34.944% for FY 2018-19	Nil	Nil	483.55

For the FY 2016-17, the MAT payable on STPP standalone book profits worked out to Rs.33.20 Crs at the applicable rate of 21.3416%. However, SCCL has a book loss of Rs.380.80 Crs from Coal operations, computed u/s 115JB of Income Tax act, 1961. The book loss from SCCL coal operations was due to deduction of the amounts of unascertainable provisions withdrawn in arriving at book profits as per section 115JB, as the same were added back for MAT computation in earlier years on which MAT or normal tax, whichever is higher was paid in the corresponding earlier years.

Clubbing of STPP profits with Coal operations loss, has resulted in net book loss at company level for the FY 2016-17 and hence no MAT was paid. Accordingly, it shall be construed that SCCL had MAT liability on STPP profits, which was adjusted against the loss from coal operations and hence MAT shall be deemed to have been paid on STPP profits.

For the FY 2017-18, SCCL has paid MAT of Rs.424.21 Crs (including interest of 5.17 Crs). However, MAT computed on standalone STPP book profits of Rs.580.15 Crs comes to Rs.123.81 Crs. at applicable MAT rate of 21.3416%.

For the FY 2018-19, SCCL has paid MAT of Rs.628.28 Crs (including interest of 7.65 Crs). However, MAT computed on standalone STPP book profits of Rs.700.73 Crs comes to Rs.151.01 Crs., at applicable MAT rate of 21.5488%.

- 4.17.5 The Commission has considered the opening equity as on COD as approved in the Tariff Order. The equity portion of additional capitalisation has been considered as equivalent to 30% of the approved additional capitalisation for the respective year. The base rate of RoE of 15.50% has been grossed up with the applicable MAT rate for the respective year.

4.17.6 The RoE claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 34: RoE for FY 2016-17 to FY 2018-19

(Rs. Crore)

Financial Year	Approved in Tariff Order	Claimed for true-up	Approved on true-up
2016-17			
From COD of Unit 1 till COD of Unit 2	38.57	40.92	38.57
From COD of Unit 2 till 31.03.2017	131.54	139.21	130.81
2017-18	403.79	438.11	410.25
2018-19	425.80	475.08	440.70
Total	999.70	1093.32	1020.33

4.17.7 The variation in RoE claimed by SCCL and approved by the Commission is on account of the variation in equity base.

4.18 INTEREST ON LOAN

Petitioner's submission

4.18.1 SCCL claimed the interest on loan of Rs.226.01 Crore, Rs.490.99 Crore and Rs.487.24 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively.

4.18.2 As regards interest rate, submitted as under:

- Project loan from PFC amounting to Rs.3980 Crore was availed at the interest rate of 12.25%.
- Pursuant to the letters dated 14.11.2016, 29.12.2016 and 09.03.2017, requesting reduction in the interest rates, PFC vide its letter dated 14.03.2017 had reduced the interest rate to 9.25%.
- The interest rates claimed for FY 2016-17 to FY 2018-19 have been computed considering the sharing of savings due to loan refinancing in accordance with Regulation 26(7) of the CERC (Terms and Conditions of Tariff) Regulations, 2014.

Commission's View

4.18.3 The interest rate considered by the Commission in the Tariff Order was challenged by SCCL in its Appeal No.312 of 2017 stating that the savings due to loan refinancing had not been considered. The Appeal is sub-judice.

4.18.4 The Commission directed SCCL to submit the copy of loan agreement executed pursuant to refinancing of long-term loans. In reply SCCL submitted

the correspondences regarding reduction of interest rate. SCCL submitted that no separate agreement was executed with the lender.

- 4.18.5 The Commission also directed SCCL to submit the computations to substantiate that the refinancing of loans has resulted in net savings in interest in compliance to Regulation 26(7) of the CERC (Terms and Conditions of Tariff) Regulations, 2014. In reply, SCCL submitted that the interest rates have reduced from 11.69% to 9.91%, 9.38% and 9.14% in FY 2016-17, FY 2017-18 and FY 2018-19 respectively and the interest rates claimed in true-up is after considering the sharing of savings on account of loan refinancing.
- 4.18.6 From the submissions, it is clear that only the interest rates have been reduced and this cannot be treated as loan refinancing as claimed by SCCL.
- 4.18.7 Regulation 19(1) of the CERC (Terms and Conditions of Tariff) Regulations, 2014 stipulates that the equity in excess of 30% of the capital cost shall be treated as normative loan. SCCL submitted the actual means of finance of additional capitalisation for FY 2016-17 to FY 2018-19. Based on the actual means of finance submitted by SCCL, the Debt Equity ratio of capital cost including additional capitalisation upto FY 2018-19 is 57.78:42.22. As the actual equity is in excess of 30%, the equity portion in excess of 30% of claimed additional capitalisation has been treated as normative loan thereby the total loan has been considered as 70% of the claimed additional capitalisation for the respective years.
- 4.18.8 The Commission has considered the opening loan as on COD as approved in the Tariff Order. The loan portion of additional capitalisation has been considered as equivalent to 70% of the approved additional capitalisation for the respective year. The normative repayment has been considered as equivalent to approved depreciation for the year. The Commission has considered the weighted average interest rate based on actual loan portfolio in accordance with Regulation 26 of the CERC (Terms and Conditions of Tariff) Regulations, 2014. The interest on loan has been computed on the normative average loan for the year by applying the weighted average interest rate.

4.18.9 The loan balances claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 35: Loan balances for FY 2016-17 to FY 2018-19

(Rs. Crore)

Financial Year	Approved in Tariff Order		Claimed for true-up		Approved on true-up	
	Opening Loan	Closing Loan	Opening Loan	Closing Loan	Opening Loan	Closing Loan
2016-17						
From COD of Unit 1 till COD of Unit 2	2451.33	2418.19	2600.88	2564.99	2451.33	2417.50
From COD of Unit 2 till 31.03.2017	4660.86	4635.30	4944.48	4889.31	4660.17	4579.99
2017-18	4635.30	4288.69	4889.31	4787.01	4579.99	4479.76
2018-19	4288.69	4444.69	4787.01	4967.61	4479.76	4531.41

4.18.10 The interest rates claimed by SCCL and approved by the Commission is as shown in the Table below:

Financial Year	Approved in Tariff Order	Claimed for true-up	Approved on true-up
2016-17			
From COD of Unit 1 till COD of Unit 2	10.78%	11.69%	11.69%
From COD of Unit 2 till 31.03.2017	10.78%	10.50%	9.91%
2017-18	9.21%	10.15%	9.38%
2018-19	9.21%	9.99%	9.14%

4.18.11 The interest on loan claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 36: Interest on loan for FY 2016-17 to FY 2018-19

(Rs. Crore)

Financial Year	Approved in Tariff Order	Claimed for true-up	Approved on true-up
2016-17			
From COD of Unit 1 till COD of Unit 2	48.91	56.26	53.03
From COD of Unit 2 till 31.03.2017	164.78	169.75	150.46
2017-18	410.83	490.99	424.74
2018-19	402.06	487.24	411.76
Total	1026.59	1204.23	1040.00

4.18.12 The variation in interest on loan claimed by SCCL and approved by the Commission is on account of variation in loan balances and interest rates.

4.19 DEPRECIATION

Petitioner's submission

4.19.1 SCCL claimed the depreciation of Rs.158.00 Crore, Rs.383.35 Crore and Rs.413.74 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively.

Commission's View

4.19.2 The Commission has approved the depreciation in accordance with Regulation 27 of the CERC (Terms and Conditions of Tariff) Regulations, 2014 considering the approved asset base and the asset class wise depreciation rates.

4.19.3 The depreciation claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 37: Depreciation for FY 2016-17 to FY 2018-19

(Rs. Crore)

Financial Year	Approved in Tariff Order	Claimed for true-up	Approved on true-up
2016-17			
From COD of Unit 1 till COD of Unit 2	33.14	35.89	33.83
From COD of Unit 2 till 31.03.2017	112.96	122.11	114.74
2017-18	346.61	383.35	358.97
2018-19	365.29	413.74	382.78
Total	858.00	955.09	890.31

4.19.4 The variation in depreciation claimed by SCCL and approved by the Commission is on account of variation in GFA base.

4.20 INTEREST ON WORKING CAPITAL (IoWC)

Petitioner's submission

4.20.1 SCCL claimed IoWC of Rs.45.65 Crore, Rs.108.75 Crore and Rs.110.68 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively.

Commission's View

4.20.2 The Commission has approved IoWC in accordance with Regulation 28 of the CERC (Terms and Conditions of Tariff) Regulations, 2014 by revising the working capital considering the AFC approved on true-up for FY 2016-17 to

FY 2018-19.

4.20.3 The IoWC claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 38: IoWC for FY 2016-17 to FY 2018-19

(Rs. Crore)

Financial Year	Approved in Tariff Order	Claimed for true-up	Approved on true-up
2016-17			
From COD of Unit 1 till COD of Unit 2	9.11	10.26	9.60
From COD of Unit 2 till 31.03.2017	32.03	35.39	32.87
2017-18	99.75	108.75	100.47
2018-19	101.21	110.68	102.13
Total	242.10	265.08	245.06

4.21 OPERATION AND MAINTENANCE (O&M) EXPENSES

Petitioner's submission

4.21.1 SCCL claimed O&M expenses of Rs.82.38 Crore, Rs.207.60 Crore and Rs.220.56 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively.

Commission's View

4.21.2 Regulation 29(1) of the CERC (Terms and Conditions of Tariff) Regulations, 2014 specifies the normative O&M expenses of Rs.16.27 lakh/MW, Rs.17.30 lakh/MW and Rs.18.38 lakh/MW for FY 2016-17, FY 2017-18 and FY 2018-19 respectively. The Commission has approved the O&M expenses considered the normative O&M expenses as specified in the CERC (Terms and Conditions of Tariff) Regulations, 2014.

4.21.3 The O&M expenses claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 39: O&M expenses for FY 2016-17 to FY 2018-19

(Rs. Crore)

Financial Year	Approved in Tariff Order	Claimed for true-up	Approved on true-up
2016-17			
From COD of Unit 1 till COD of Unit 2	18.19	18.19	18.19
From	64.19	64.19	64.19

Financial Year	Approved in Tariff Order	Claimed for true-up	Approved on true-up
COD of Unit 2 till 31.03.2017			
2017-18	207.60	207.60	207.60
2018-19	220.56	220.56	220.56
Total	510.54	510.54	510.54

4.22 ANNUAL FIXED CHARGES (AFC)

Commission's View

4.22.1 Based on the above, the AFC claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 40: AFC for FY 2016-17, FY 2017-18 & FY 2018-19

(Rs. Crore)

Particulars	From COD of Unit 1 till COD of Unit 2			From COD of Unit 2 till 31.03.2017		
	Approved in Tariff Order	Claimed for true-up	Approved on true-up	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Return on Equity	38.57	40.92	38.57	131.54	139.21	130.81
Interest on Loan	48.91	56.26	53.03	164.78	169.75	150.46
Depreciation	33.14	35.89	33.83	112.96	122.11	114.74
Interest on Working Capital	9.11	10.26	9.60	32.03	35.39	32.87
O&M expenses	18.19	18.19	18.19	64.19	64.19	64.19
Annual Fixed Charges	147.91	161.53	153.21	505.50	530.64	493.06

Particulars	FY 2017-18			FY 2018-19		
	Approved in Tariff Order	Claimed for true-up	Approved on true-up	Approved in Tariff Order	Claimed for true-up	Approved on true-up
Return on Equity	403.79	438.11	410.25	425.80	475.08	440.70
Interest on Loan	410.83	490.99	424.74	402.06	487.24	411.76
Depreciation	346.61	383.35	358.97	365.29	413.74	382.78
Interest on Working Capital	99.75	108.75	100.47	101.21	110.68	102.13
O&M expenses	207.60	207.60	207.60	220.56	220.56	220.56
Annual Fixed Charges	1468.58	1628.80	1502.03	1514.92	1707.30	1557.93

4.22.2 The Commission directs SCCL to bill the differential AFC recoverable/refundable for the period from FY 2016-17 to FY 2018-19 as per the AFC approved after true-up approved in this Order.

4.23 OTHER CHARGES

Petitioner's submission

4.23.1 SCCL claimed other charges of Rs.1.11 Crore, Rs.6.42 Crore and Rs.4.15 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively.

Commission's View

4.23.2 Regulation 29(2) of the CERC (Terms and Conditions of Tariff) Regulations, 2014 provides for allowance of water charges and capital spares separately.

The other charges claimed by SCCL are towards water charges and capital spares.

4.23.3 Regulation 29(2) of the CERC (Terms and Conditions of Tariff) Regulations, 2014 provides for allowance of water charges subject to prudence check. SCCL has claimed the total water charges of Rs.4.69 Crore for the period from FY 2016-17 to FY 2018-19 and submitted the copies of letters dated 28.03.2019 and 20.05.2019 addressed to the Irrigation Department. SCCL also requested the Commission to allow the water charges of Rs.3.63 Crore for the period from 01.12.2016 to 31.08.2018 in its submissions on billing disputes to which the DISCOMs submitted that all the monthly energy bills including supplementary bills towards taxes & duties as per the Tariff Regulations have been paid and sought the reconciliation of the sums received by SCCL. In light of the above, the Commission has not approved any amount towards water charges in this Order. **The Commission directs SCCL to take up the issue of water charges with the DISCOMs.**

4.23.4 Regulation 29(2) of the CERC (Terms and Conditions of Tariff) Regulations, 2014 provides for allowance of capital spares in true-up subject to submission of appropriate justification for incurring the same and substantiating that the same has not been funded by compensatory allowance or special allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernisation. SCCL has claimed the total capital spares of Rs.6.99 Crore for the period from FY 2016-17 to FY 2018-19 and submitted the list of capital spares along with justification for procurement of the same. As per the detailed list, the total value of capital spares procured during the period from FY 2016-17 to FY 2018-19 amounts to Rs.8.34 Crore. SCCL has not substantiated that the claimed capital spares have not been claimed as a part of additional capitalisation. Therefore, the Commission has not approved the capital spares claimed for FY 2016-17 to FY 2018-19.

4.24 BILLING DISPUTES

4.24.1 SCCL submitted that it has raised power bills during the period from FY 2016-17 to FY 2018-19 as per the Commission's Tariff Order however, some of the bills have not been admitted by the DISCOMs as shown below:

Table 41: Billing disputes raised by SCCL

			(Rs. Crore)
Sl. No.	Particulars	Period	Amount
1	Additional coal bills	FY 2018-19	121.43
2	Billing on actual metered energy	FY 2018-19	17.75
3	Incentive	FY 2017-18	29.11
4	Water charges	01.12.2016 to 31.08.2018	3.63
5	Other charges	FY 2016-17, FY 2017-18 and FY 2018-19	1.16
	Total		173.09

4.24.2 SCCL's submissions on each of the above items and Commission's ruling is detailed in the following paragraphs:

Petitioner's submission

Additional coal bills

4.24.3 SCCL was allotted Naini coal block in Odisha to meet the coal requirements of the project. As production from Naini coal block has not yet started, Bridge Linkage was approved by the Standing Committee of MoC. The coal has been supplied to the project from different nearby mines of SCCL under the Bridge Linkage. The coal bills for supply to the project were raised by SCCL (Mines Division) as per the MoU entered into between SCCL (Mines Division) and TPP. Such MoU was of similar nature entered into by SCCL with other power generating companies. SCCL submitted the copy of MoU entered into between SCCL and NTPC dated 30.06.2018.

4.24.4 As per the MoU, SCCL charges 20% premium to Bridge Linkage customers for supply upto 75% of annual agreed quantity over and above the regular supply price charged to generating companies having linked coal mine. For supply of additional quantum of coal beyond 75% of agreed quantity, the price on which 20% premium is computed gets changed to coal price applicable for non-power sector and as the base price for non-power sector is higher, the coal price for supply beyond 75% of agreed quantity increases significantly.

4.24.5 The agreed coal quantum as per the MoU for the project was 6.00 MMT per annum and the actual quantum received during FY 2018-19 was 5.08 MMT which is more than 75% of the agreed quantum. This resulted in additional

impact of Rs.118.18 Crore in coal bills and resulted in increase in energy charges for FY 2018-19. The bill for the incremental energy charges of Rs.121 Crore was raised on 08.06.2019 along with the auditor certificate. SCCL requested the Commission to allow these additional coal bills raised in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2014.

Billing on actual metered energy

- 4.24.6 The entire electricity generated from the project is being supplied to the DISCOMs for which the monthly billing is done as per the JMRs. The power purchase bills have been admitted based on scheduled generation instead of actual energy injected into the grid. Scheduled generation refers to the quantum of energy scheduled on day ahead basis by SLDC whereas actual energy is the metered energy injected into the grid. The scheduled generation and actual generation cannot be the same at most of the times due to variations in connected load, frequency and varying coal quality which are beyond the generators control. In order to deal with these variations, commercial mechanism known as Unscheduled Interchange (UI) or Deviation Settlement Mechanism (DSM) has been developed. Clause 14.1 of the Regulation No.1 of 2008 provides for notifying the charges for UI but any such notification has not been issued. In the absence of the same, energy bills for state generators in Telangana were allowed on JMRs. SCCL requested the Commission to consider the same methodology of accepting the energy injected into the grid for admittance of energy bills of the project as it is followed in respect of other state generators like KTPP, till intra-State ABT is implemented in Telangana.

Incentive

- 4.24.7 The Commission in the Tariff Order had approved the billing of incentive for higher PLF in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2014. The actual PLF for FY 2017-18 was 91.09% as against the target of 85%. The incentive for higher PLF to the tune of Rs.29.11 Crore for FY 2017-18 was billed considering the actual energy injected as per the JMRs instead of scheduled generation, in the absence of intra-State ABT

mechanism in Telangana. SCCL requested the Commission to allow the incentive bill raised as per CERC (Terms and Conditions of Tariff) Regulations, 2014 following prudent commercial practice prevalent for intra-State generators in the absence of DSM.

Water charges

- 4.24.8 The requisite water for power generation is drawn from rivers Godavari and Pranahita through 1 TMC and 2 TMC water supply schemes respectively. Accordingly, the water charges amounting to Rs.3.63 Crore were paid to GoTS for the water drawn for the period from 01.12.2016 to 31.08.2018. SCCL requested the Commission to allow the same in accordance with Regulation 29(2) of the CERC (Terms and Conditions of Tariff) Regulations, 2014.

Other charges

- 4.24.9 SCCL submitted that it has raised some bills amounting to Rs.1.16 Crore for the period from FY 2016-17 to FY 2018-19 as per the provisions of the PPA and the same had not been admitted by the DISCOMs.

Commission's View

- 4.24.10 The Commission has gone through the submissions of the Petitioner and stakeholders including the DISCOMs regarding the billing disputes. The Commission is not inclined to take up the issues of billing disputes in these proceedings. **The Commission directs SCCL to file a separate Petition on the billing disputes.**

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CHAPTER 5 ANALYSIS AND CONCLUSION ON BUSINESS PLAN FOR FY 2019-20 TO FY 2023-24

5.1 REGULATORY PROVISIONS

5.1.1 Clause 7 of the Regulation No.1 of 2019 stipulates the filing of Business Plan along with Capital Investment Plan for a duration covering at least the entire Control Period from FY 2019-20 to FY 2023-24. The Business Plan shall cover the following:

- i. Generation Planning and forecasts
- ii. Capital Investment Plan
- iii. Future performance targets
- iv. Proposed efficiency improvement measures
- v. Compliance status of environmental norms
- vi. Saving in operating costs
- vii. Financial statements for the Control Period duration
- viii. Any other new measures for generation business

5.1.2 SCCL's submissions and the Commission's analysis on the Business Plan for the Control Period from FY 2019-20 to FY 2023-24 is detailed in the following paragraphs.

5.1.3 In addition to the above constituents of Business Plan, SCCL has submitted the details regarding its manpower, training for its personnel, safety management and CSR. The Commission has taken note of the same and opines that the Commission's view is not required to be given on such additional details submitted by SCCL.

5.2 FUTURE PERFORMANCE TARGETS

Petitioner's submission

5.2.1 The norms of operation proposed for the Control Period from FY 2019-20 to FY 2023-24 are as under:

Table 42: Norms of operation proposed by SCCL for Control Period from FY 2019-20 to FY 2023-24

Parameter	Unit	Proposed
Normative Annual Plant Availability Factor (NAPAF)	%	80%
Normative Annual PLF	%	80%
Auxiliary Consumption	%	7.00%; Additional 1.5% for FGD from

Parameter	Unit	Proposed
		FY 2021-22 onwards
Gross Station Heat Rate	kcal/kWh	2400
Secondary Fuel Oil Consumption	ml/kWh	2.00
Transit Loss	%	0.80%

- 5.2.2 The recommendations of CEA on operating norms for the period from FY 2019-20 to FY 2023-24 have been furnished to CERC vide letter dated 10.12.2018. The broad outlines of the recommendations are as under:

Table 43: CEA recommendations on operating norms

Parameter	Unit	CEA Recommendation
Normative Annual Plant Availability Factor (NAPAF)	%	First Financial Year after COD: 68.5% Pit head stations: 83%
Normative Annual PLF	%	Same as NAPAF
Auxiliary Consumption	%	6.25% (with Induced Draft Cooling Tower)
Gross Station Heat Rate	kcal/kWh	1.05xDesign Heat Rate
Secondary Fuel Oil Consumption	ml/kWh	0.5
Transit Loss	%	1.2% to 1.5%

- 5.2.3 The CEA recommendations have to be considered by SERCs in determination of operating norms for the period from FY 2019-20 to FY 2023-24.
- 5.2.4 Currently, there are 3 Units of 600 MW capacity in the State, one Unit at KTPP and two Units at SCCL. All the three Units have similar technical configuration, have achieved COD in FY 2016-17 and supply power under the respective PPAs. All the three Units are required to have uniform operating norms whereas Regulation No.1 of 2019 specifies different norms for KTPP Unit and SCCL Units. The norms of operation have been proposed by adopting the specified norms of KTPP Stage II in Regulation No.1 of 2019. FGD plant is expected to be commissioned in January 2021 and the additional auxiliary consumption of 1.5% for FGD has been proposed from FY 2021-22 onwards.

Commission's View

- 5.2.5 The norms of operation of a thermal generating station comprise of NAPAF, NAPLF, auxiliary consumption, Station Heat Rate, Secondary Fuel Oil Consumption and Transit loss.

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5.2.6 SCCL has adopted the norms of operation specified for KTPP Stage II in Regulation No.1 of 2019. The Commission has gone through the rationale submitted by SCCL for adoption of norms of operation specified for KTPP Stage II. In reply to a specific query, SCCL submitted that there was no variation in norms of operation for KTPP Stage II and Singareni TPP in the Draft Regulations and therefore the issue had not arisen. SCCL submitted that the norm setting process is dynamic as witnessed in variation in operating norms specified in CERC (Terms and Conditions of Tariff) Regulations, 2014 and CERC (Terms and Conditions of Tariff) Regulations, 2019. SCCL requested the Commission to relook into the issue and approve comparable operating norms for the project. The Commission in exercise of powers conferred under the Act, has issued the Regulation No.1 of 2019 after due procedure. Therefore, the Commission does not find it prudent to adopt the norms of operation specified for KTPP Stage II for Singareni TPP.

5.2.7 SCCL has claimed the additional auxiliary consumption of 1.50% for FGD system with expected commissioning in January 2021, which was subsequently revised to FY 2022-23. The Commission is of the view that the it would be premature to approve additional auxiliary consumption for FGD system at this stage. Clause 7.19(l) of the Regulation No.1 of 2019 provides for approaching the Commission for change in operational parameters such as change in normative auxiliary consumption on account of installation of FGD. In accordance with Clause 27 of the Regulation No.1 of 2019, SCCL is required to file the Mid-Term Review Petition by 30.11.2022. **The Commission directs SCCL to submit its proposal of additional auxiliary consumption for FGD in its Mid-Term Review Petition for the consideration of the Commission.**

5.2.8 The norms of operation approved by the Commission for the Control Period from FY 2019-20 to FY 2023-24 is as shown in the Table below:

Table 44: Norms of operation for Control Period from FY 2019-20 to FY 2023-24

Parameter	Unit	Norm	Proposed	Approved
Normative Annual Plant Availability Factor	%	85%	80%	85%
Normative Annual PLF	%	85%	80%	85%
Auxiliary Consumption	%	5.75%	7.00%	5.75%

Parameter	Unit	Norm	Proposed	Approved
Gross Station Heat Rate	kcal/kWh	2303.88	2400	2303.88
Secondary Fuel Oil Consumption	ml/kWh	0.50	2.00	0.50
Transit Loss	%	0.80%	0.80%	0.80%

5.3 GENERATION PLANNING AND FORECASTS

Petitioner's submission

- 5.3.1 The production from Naini coal block is expected to commence in the year 2021 after obtaining all the necessary clearances and establishing the required infrastructure. As per the mining plan, the peak rated capacity is expected to be achieved by the year 2023. The Standing Linkage Committee has extended the Bridge Linkage for the project upto the year 2023 in accordance with the mining plan. Coal under the Bridge Linkage shall be sourced from the existing mines of SCCL in Telangana using rail mode of transportation. A separate application shall be filed for determination of input coal price from Naini coal block after commencement of production and supply to the project, as per the provisions of the CERC (Terms and Conditions of Tariff) Regulations, 2019. SCCL is also considering the possibility of swapping Naini coal block considering the distance from the project.
- 5.3.2 Based on the performance during the Control Period from FY 2016-17 to FY 2017-18, the estimated PLF for the Control Period from FY 2019-20 to FY 2023-24 is 91.09%. As per the prescription of the Original Equipment Manufacturer, each Unit is required to be overhauled in alternate years, for a period of 45 days. The annual overhaul plan for the Control Period from FY 2019-20 to FY 2023-24 is as under:

Table 45: Annual overhaul plan submitted by SCCL

Financial Year	Unit 1	Unit 2
2019-20	01.07.2019 to 14.08.2019	-
2020-21	-	01.05.2020 to 14.06.2020
2021-22	01.05.2021 to 14.06.2021	-
2022-23	-	01.07.2022 to 14.08.2022
2023-24	01.07.2023 to	-

Financial Year	Unit 1	Unit 2
	14.08.2023	

- 5.3.3 For achieving the estimated PLF of 91.09% with the above annual overhauling plan, the Units are required to be operated at higher PLF of 97.1% to achieve the overall PLF of 91.09%. Considering no constraint in obtaining primary inputs for power generation and the outages as 2%, the PLF of 97% appears to be achievable.
- 5.3.4 The generation forecast for the Control Period from FY 2019-20 to FY 2023-24 is as under:

Table 46: Generation forecast submitted by SCCL

Financial Year	Gross Generation	Auxiliary Consumption	Net Generation
	MU	%	MU
2019-20	9601.78	7.00%	8929.65
2020-21	9575.54	7.00%	8905.26
2021-22	9575.54	7.33%	8873.45
2022-23	9575.54	8.50%	8761.62
2023-24	9601.78	8.50%	8785.63

- 5.3.5 SCCL submitted the month wise generation forecast for each year of the Control Period from FY 2019-20 to FY 2023-24.

Commission's View

- 5.3.6 In reply to a specific query, SCCL submitted that the coal is procured from SRP mines in MGR mode and although coal shortage is a rare phenomenon for the project, sometimes, due to high unloading time of rakes, coal was procured from nearby mines on non-MGR mode.
- 5.3.7 SCCL has submitted the generation planning and forecast for the Control Period from FY 2019-20 to FY 2023-24 considering the annual overhaul of each Unit in alternate years. SCCL has not considered any shutdown period separately for the works being undertaken for complying with revised emission norms. SCCL submitted that the work of in-furnace modifications for NOx compliance requires shutdown of Units for final attachments with the boiler which shall be planned as per the annual overhaul schedules.
- 5.3.8 The generation forecast approved by the Commission at NAPLF of 85% and auxiliary consumption of 5.75% is as shown in the Table below:

Table 47: Generation forecast approved by the Commission

Financial Year	Gross Generation	Auxiliary Consumption	Net Generation
	MU	%	MU
2019-20	8959.68	5.75%	8444.50
2020-21	8935.20	5.75%	8421.43
2021-22	8935.20	5.75%	8421.43
2022-23	8935.20	5.75%	8421.43
2023-24	8959.68	5.75%	8444.50

5.3.9 This approval of generation forecast does not bar SCCL from generating at PLF higher than 85%.

5.4 CAPITAL INVESTMENT PLAN

Petitioner's submission

5.4.1 The Capital Investment Plan for the Control Period from FY 2019-20 to FY 2023-24 has been prepared in accordance with Clause 7(b) of the Regulation No.1 of 2019. SCCL submitted that it could not project the capital expenditure for the Control Period from FY 2019-20 to FY 2023-24 as per Ind AS 16 and requested the Commission for submission of the same during Mid-Term Review and End of Control Period review for consideration of the Commission.

5.4.2 The Phase II (1x800 MW) of the project is under active consideration by SCCL's management. SCCL requested the Commission for submission of capital investment for Phase II after receiving all necessary approvals. SCCL in its Petition submitted the Capital Investment Plan for the amount of Rs.1195.57 Crore which has been subsequently revised to Rs.1348.57 Crore.

5.4.3 The summary of Capital Investment Plan and capitalisation plan proposed for the Control Period from FY 2019-20 to FY 2023-24 is as under:

Table 48: Capital Investment Plan and capitalisation plan submitted by SCCL*(Rs. Crore)*

Particulars	Capital Investment	Capitalisation					Total
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	
FGD system	645.32	0.00	0.00	0.00	645.32	0.00	645.32
In-furnace modifications for NOx compliance	38.00	0.00	0.00	19.00	19.00	0.00	38.00
O&M modules	301.18	0.00	153.10	82.96	65.12	0.00	301.18
Railway works	284.04	0.00	42.94	161.50	79.60	0.00	284.04
Erection works in main plant	55.89	0.00	26.91	20.98	8.00	0.00	55.89
Township civil works	24.15	0.00	7.81	10.20	6.14	0.00	24.15
Total	1348.57	0.00	230.75	294.64	823.18	0.00	1348.57

FGD system

- 5.4.4 MoEF&CC, vide its notification dated 07.12.2015 brought out the amendments to Schedule – I of Environment (Protection) Rules, 1986 for emission norms applicable to TPPs. In accordance with the above notification, the following emission norms are applicable for Singareni TPP:

Table 49: Emission norms applicable for Singareni TPP

Pollutants	Emission norm
Particulate Matter (PM)	50 mg/Nm ³
Sulphur Dioxide (SO ₂)	200 mg/Nm ³
Oxides of Nitrogen	300 mg/Nm ³
Mercury	0.03 mg/Nm ³

- 5.4.5 These emission norms were required to be met within two years from the date of notification which was later revised as per MoPs letter dated 13.10.2017, in view of the technical challenges. As per the revised timeline, the FGD for Units 1&2 was required to be put into operation by December 2019. Singareni TPP sought extension of time from December 2019 to December 2022 for complying with SO₂ emission norm.
- 5.4.6 SCCL is currently complying with the emission norms of PM and mercury. SCCL has appointed NTPC for preparing the feasibility report and DPR for complying with SO₂ emission norm. SCCL has submitted the copy of DPR prepared by NTPC for FGD system. The total capital investment proposed for FGD system is Rs.645.32 Crore and capitalisation of the same has been claimed for FY 2022-23.

In-furnace modifications for NOx compliance

- 5.4.7 The boilers of Units 1&2 were designed for NOx level of 750 mg/Nm³ and the measured value of NOx emission has been closer to design value. MoEF&CC, vide its notification dated 07.12.2015 stipulated the emission norm of NOx as 300 mg/NM³. The NOx emission norm is proposed to be achieved by in-furnace modifications based on the recommendation of OEM. This is a cost-effective measure compared to other measures such as Selective Non-Catalytic Reduction (SNCR) and Selective Catalytic Reduction (SCR) which require chemical treatment by reagents. The combustion modification is required to be carried out as a part of in-furnace modification with the objective of reduction of NOx generated to the required level during the

combustion in boiler without effecting the designed boiler steam and flue gas parameters at various loads, under various mills combination for the range of coals. The total capital investment proposed for in-furnace modifications is Rs.38.00 Crore and capitalisation of Rs.19.00 Crore has been claimed for FY 2021-22 and FY 2022-23 respectively.

O&M modules

- 5.4.8 Some of the generating stations which have been supplied BHEL Units of 600 MW have recently experienced major breakdowns. The past experiences show that the OEM requires a high lead time of around one year to supply new equipment in case of failures. This high lead time is attributable to import of input materials and arranging the required machining and assembling activity. Any shutdown due to failure of equipment will impact the cash flows of both SCCL and the DISCOMs by way of under recovery of AFC and procurement from alternate sources respectively. Therefore, the O&M modules viz., HP module, IP module, LP rotor, generator stator, rotor and excited assembly have been proposed to be procured to cater to the needs of both the Units effectively.
- 5.4.9 The total capital investment proposed for O&M modules is Rs.301.18 Crore and capitalisation of Rs.153.10 Crore, Rs.82.96 Crore, and Rs.65.12 Crore has been claimed for FY 2020-21, FY 2021-22 and FY 2022-23 respectively. SCCL requested the Commission to approve the same as the initial spares approved in the Tariff Order are within the specified ceiling limit.

Railway works

- 5.4.10 The railway siding work was commissioned in FY 2018-19 and most of the coal for power generation is received through railway mode. Currently, the railway locos are running with diesel engines and manually managed signalling system. The railway authorities have advised to arrange for overhead electrification system along with necessary signalling and telecommunication works to ensure safe running of railway wagons. The railway electrification works would be taken up as per the cabinet decision of Gol dated 27.09.2018. The signalling & telecommunication work is proposed to be undertaken for handling rake traffic which is expected to further increase

with addition of 800 MW unit, for ensuring safety and saving in man-hours and expenditure.

- 5.4.11 The associated works related to construction of railway siding such as construction of drainage system along the railway track is proposed to be undertaken as per the original drawing.
- 5.4.12 Further, special tools and capital spares related to railway system to mitigate the incidents of wagons derailment have been proposed to be procured during the Control Period.
- 5.4.13 The total capital investment proposed for railway works is Rs.284.04 Crore and capitalisation of Rs.42.94 Crore, Rs.161.50 Crore, and Rs.79.60 Crore has been claimed for FY 2020-21, FY 2021-22 and FY 2022-23 respectively.

Erection works in main plant

- 5.4.14 The total capital investment proposed for erection works in main plant is Rs.55.89 Crore and capitalisation of Rs.26.91 Crore, Rs.20.98 Crore, and Rs.8.00 Crore has been claimed for FY 2020-21, FY 2021-22 and FY 2022-23 respectively. SCCL submitted the item wise justification for the proposed capitalisation under this head.

Township civil works

- 5.4.15 The total capital investment proposed for township civil works is Rs.24.15 Crore and capitalisation of Rs.7.81 Crore, Rs.10.20 Crore, and Rs.6.14 Crore has been claimed for FY 2020-21, FY 2021-22 and FY 2022-23 respectively.

Financing Plan

- 5.4.16 SCCL proposed the financing of proposed capital investment in the debt equity ratio of 70:30.

Commission's View

- 5.4.17 Clause 3.10.2 of the Regulation No.1 of 2019 stipulates that the Capital Investment Plan shall show, separately, ongoing projects that will spill over the Control Period and new projects that will commence in the Control Period but may be completed within or beyond it. SCCL submitted the details of spill over of ongoing works from the previous Control Period from FY 2016-17 to

FY 2018-19 to the current Control Period from FY 2019-20 to FY 2023-24. However, SCCL has not considered the additional capitalisation pertaining to this spill over items in its tariff computations for the Control Period from FY 2019-20 to FY 2023-24.

5.4.18 Clause 7(b) of the Regulation No.1 of 2019 stipulates that the Capital Investment Plan shall include the following details:

- Purpose of investment
- Broad technical specifications of the proposed investment and supporting details.
- Capital structure.
- Capitalisation schedule with milestones for completion.
- Financing plan with sources of investment.
- Physical targets.
- Cost-benefit analysis.
- Prioritisation of proposed investments etc.

5.4.19 SCCL submitted the item wise details of capitalisation schedule, purpose of investment, broad technical specifications of the proposed investment with supporting documents, benefits of the proposed investment, priority and Regulation under which the investment has been claimed. SCCL claimed the additional capitalisation for the Control Period from FY 2019-20 to FY 2023-24 under Clause 7.19.1 and also Clause 26.4, for some of the items, of the Regulation No.1 of 2019.

5.4.20 Clause 7.19 of the Regulation No.1 of 2019 stipulates as under:

“7.19. Additional Capitalisation

7.19.1. The capital expenditure actually incurred or projected to be incurred, on the following counts within the Original Scope Of Work, after the COD and up to the Cut-Off Date, may be admitted by the Commission subject to Prudence Check. Any additional capitalization after COD needs prior approval of the Commission:-

.....”

5.4.21 Regulation No.1 of 2019 defines cut-off date as 31st March of the year ending after two years of the year of start of commercial operation of a project and in case a project is declared to be under commercial operation in the last quarter of a year, it shall mean 31st March of the year ending after three years of the year of start of such commercial operation. The project has achieved COD on 02.12.2016 and accordingly, the cut-off date is 31.03.2019. The capital

investment and the additional capitalisation claimed by SCCL is beyond the original scope of work and after the cut-off date. The additional capitalisation beyond the original scope of work and after the cut-off date is not allowable in accordance with Clause 7.19.1 reproduced above.

5.4.22 Clause 26.4 of the Regulation No.1 of 2019 stipulates as under:

“26.4 Power of relaxation

The Commission may in public interest and for reasons to be recorded in writing, relax any of the provision of these Regulations.”

5.4.23 The power of relaxation must be exercised sparingly and for sufficient reasons. The Regulation gives discretion to the Commission to relax the provisions of the Regulations on circumstances of the case and such a case has to be exception to the general rule. There has to be sufficient reason to justify relaxation which has to be exercised only in the exceptional case where exercise of the discretion would be in public interest.

5.4.24 In view of the above, the Commission’s approval of the Capital Investment Plan and capitalisation plan for the Control Period from FY 2019-20 to FY 2023-24 is detailed below.

FGD system

5.4.25 MoEF&CC vide its notification dated 07.12.2015 has revised the SO₂ emission norm from 600 mg/Nm³ to 200 mg/Nm³. SCCL has claimed the capital investment towards FGD system for complying with the revised emission norm under Clause 7.19.1(e) and 7.19.1(l) of the Regulation No.1 of 2019. The DISCOMs submitted that the proposed capital investment is not allowable stating the following:

- i. The Environmental Clearance of Singareni TPP mandated to make specific provision of space for installation of FGD equipment in future. The Environmental Clearance also mandated for allocation of separate funds for implementation of environmental protection measures as part of project cost and such funds shall not be diverted for other purposes. SCCL has not complied with this condition and the capital investment for FGD has been claimed separately which falls beyond the original scope of work and after the cut-off date.
- ii. MoP vide its letter dated 30.05.2018 clarified that the MoEF&CC notification dated 07.12.2015 is of the nature of Change in Law event except for TPPs where such requirement of pollution control system was mandated under the Environmental Clearance or envisaged otherwise before the notification of amendment rules. FGD installation

was envisaged in the Environmental Clearance of Singareni TPP and hence the proposed capital investment is not allowable.

- iii. SCCL has not issued any Change in Law notice under the provisions of the PPA.
- iv. PSERC in its Order dated 21.12.2018 rejected the claim of the generator namely M/s TSPL to install FGD under Change in Law as FGD installation was already envisaged in the Environmental Clearance of that project and same rationale applies to Singareni TPP having identical Environmental Clearance.

5.4.26 The reliance placed by the DISCOMs on case laws is misplaced as the matter dealt in those cases was pertaining to tariff based competitive bidding projects unlike Singareni TPP whose tariff is determined in accordance with the Commission's Regulations.

5.4.27 In accordance with Clause 7.19.1 of the Regulation No.1 of 2019 the capital investment claimed for FGD system is not allowable as the same is beyond the original scope of work and after cut-off date. SCCL has not claimed relaxation in Clause 7.19.1 in its claim of capital investment for FGD system. However, the Commission deems it appropriate to decide on the issue of whether the power of relaxation can be invoked in the instant case or not. The FGD system for complying with SO₂ emission norm was initially required to be completed by December 2017 which was later extended upto December 2019 and further extension has been sought upto December 2022.

5.4.28 As the target date for complying with SO₂ emission norm was deferred by the competent authority and such uniform dispensation was given across the country, the Commission deems it a fit case to exercise the power of relaxation of Clause 7.19.1 regarding the criteria for allowing additional capitalisation i.e., within the original scope of work and upto the cut-off date for allowing the capital investment for FGD system beyond the original scope of work and after the cut-off date. Clause 7.19.1(l) provides for capital expenditure for complying with statutory norms for Environment in accordance with the appropriate notifications of MoEF&CC. Therefore, the capital investment for FGD system is allowable under Clause 7.19.1(l) of the Regulation No.1 of 2019. The Commission vide its Order dated 08.02.2020 accorded in-principal approval for undertaking the works for complying with revised emission norms. The Commission hereby confirms the said approval.

5.4.29 As FGD is still under implementation stage across the country, in the absence of any yardstick on market trends to compare the cost estimates of SCCL, the Commission is not expressing any opinion on the cost estimates at this stage. The Commission understands that SCCL is in the process of awarding the works of procurement and installation of FGD system through competitive process. The Commission expects such competitive procurement to yield the most economical prices aligned to market trends. The Commission shall carry out the prudence check of the cost of FGD system in true-up for the relevant year after commissioning of the same.

In-furnace modifications for NOx compliance

- 5.4.30 MoEF&CC vide its notification dated 07.12.2015 has introduced NOx emission norm of 300 mg/Nm³. The Units are designed for NOx emission levels of 750 mg/NM³. SCCL has claimed the capital investment for complying with the NOx emission norm under Clause 7.19.1(e) and 7.19.1(l) of the Regulation No.1 of 2019. The DISCOMs submitted that the NOx emission norm has been revised from 300 mg/NM³ to 450 mg/NM³ and the capital investment is not required to be allowed under this head as the project is complying with the emission norm of 450 mg/Nm³. SCCL submitted that the emission norm of 450 mg/Nm³ has not yet attained finality. The Commission finds merit in SCCL's submission in this regard. The maximum NOx emission levels submitted by SCCL for FY 2017-18, FY 2018-19 and FY 2019-20 are higher than 300 mg/Nm³.
- 5.4.31 In accordance with Clause 7.19.1 of the Regulation No.1 of 2019 the capital investment claimed for complying with NOx emission norm is not allowable as the same is beyond the original scope of work and after cut-off date. SCCL has not claimed relaxation in Clause 7.19.1 in its claim of capital investment. However, in line with the approval for FGD system, the Commission deems it a fit case to exercise the power of relaxation of Clause 7.19.1 regarding the criteria for allowing additional capitalisation i.e., within the original scope of work and upto the cut-off date for allowing the capital investment for NOx compliance beyond the original scope of work and after the cut-off date. Clause 7.19.1(l) provides for capital expenditure for complying with statutory norms for Environment in accordance with the appropriate notifications of

MoEF&CC. Therefore, the capital investment for NOx compliance is allowable under Clause 7.19.1(l) of the Regulation No.1 of 2019. The Commission vide its Order dated 08.02.2020 accorded in-principal approval for undertaking the works for complying with revised emission norms. The Commission hereby confirms the said approval.

- 5.4.32 The Commission is not expressing any opinion on the cost estimates at this stage. The Commission shall carry out the prudence check of the cost in true-up for the relevant year after commissioning of the same.

O&M modules

- 5.4.33 The Commission has gone through SCCL's submissions regarding the capital investment proposed for O&M modules. SCCL has claimed the capital investment for O&M modules under Clause 7.19.1(c) and 7.19.1(k) of the Regulation No.1 of 2019. In accordance with Clause 7.19.1 of the Regulation No.1 of 2019 the capital investment for O&M modules is not allowable as the same is beyond the original scope of work and after cut-off date. SCCL has not claimed relaxation in Clause 7.19.1 in its claim of capital investment. However, the Commission deems it appropriate to decide on the issue of whether the power of relaxation can be invoked in the instant case or not. It is pertinent to mention that SCCL had appointed NTPC for providing consultancy services and SCCL made the following submissions in O.P.No.9 of 2016 regarding the same:

"3.10.3

(iii) Regarding the cost of consultancy & Engineering, SCCL submitted the following:

a. SCCL is a coal mining company that has ventured into power generation business.

b. M/s NTPC Ltd. is the largest power generation company in India with installed capacity of more than 32,000 MW and BHEL is the main equipment supplier for most of its generating stations. NTPC is very much conversant with the equipment supplied by BHEL and other related working modalities.

c. The services of NTPC have been utilized for pre & post award works including preparation of tender specifications for BTG and BoP, techno commercial evaluation of bids, pre-award discussions with BHEL, supervision of construction activities, inspection services and review of O&M manuals, testing and commissioning documents.

....."

- 5.4.34 From the above, the prime criteria for taking consultancy services of NTPC

was its operational experience with BHEL Units. SCCL has already procured mandatory spares of critical auxiliaries under the BTG package. The consumers cannot be unduly burdened for the acts of omission on part of the Petitioner. The Commission does not find any merit in the reliance placed by SCCL on CEA advisory and the same does not amount of Change in Law as submitted by SCCL. In view of the above, the Commission does not find it prudent to exercise the power of relaxation of Clause 7.19.1 for allowing capital investment for O&M modules.

Railway works

- 5.4.35 The Commission has gone through the details of railway works and justification submitted by SCCL for the same. In accordance with Clause 7.19.1 of the Regulation No.1 of 2019 the capital investment for railway works is not allowable as the same is after cut-off date. The consumers cannot be unduly burdened for the acts of omission on part of the Petitioner. In view of the above, the Commission does not find it prudent to exercise the power of relaxation of Clause 7.19.1 for allowing capital investment for railway works.

Erection works in main plant

- 5.4.36 The Commission has gone through the details of erection works in main plant and justification submitted by SCCL for the same. In accordance with Clause 7.19.1 of the Regulation No.1 of 2019 the capital investment for erection works in main plant is not allowable as the same is after cut-off date. The consumers cannot be unduly burdened for the acts of omission on part of the Petitioner. In view of the above, the Commission does not find it prudent to exercise the power of relaxation of Clause 7.19.1 for allowing capital investment for erection works in main plant.

Township civil works

- 5.4.37 The Commission has gone through the details of township civil works and justification submitted by SCCL for the same. In accordance with Clause 7.19.1 of the Regulation No.1 of 2019 the capital investment for township civil works is not allowable as the same is after cut-off date. The consumers cannot be unduly burdened for the acts of omission on part of the Petitioner. In view of the above, the Commission does not find it prudent to exercise the

power of relaxation of Clause 7.19.1 for allowing capital investment for township civil works.

- 5.4.38 In accordance with Clause 7.8 of the Regulation No.1 of 2019, in case the capital expenditure is required for emergency work which has not been approved in the capital investment plan, SCCL shall submit an application (containing all relevant information along with reasons justifying the emergency nature of the proposed work) seeking approval by the Commission. SCCL may take up the work prior to the approval by the Commission provided that the emergency nature of the scheme has been approved by its Board of Directors. SCCL shall submit the pending details required as per Clause 7.1 within 10 days of the submission of the application for emergency work.

Financing Plan

- 5.4.39 The Commission has taken note of SCCL's submission regarding the financing of the capital investment in the debt equity ratio of 70:30.
- 5.4.40 In accordance with Clause 7.19.4 of the Regulation No.1 of 2019, the Commission shall consider the impact of additional capitalisation on tariff during Mid-Term Review or tariff determination for the next Control Period as the case may be.

5.5 PROPOSED EFFICIENCY IMPROVEMENT MEASURES

Petitioner's submission

- 5.5.1 The norms are specified for the operational norms of Availability, specific oil consumption, station heat rate and auxiliary consumption. The following measures are proposed in efficiency improvement in the operational parameters of the project:

Table 50: Proposed efficiency improvement measures

Sl. No.	Operational parameter	Efficiency improvement measures
1	Availability	<ul style="list-style-type: none"> ▪ Necessary engineering modifications, Root cause analysis of machine tripping. ▪ Carrying out trip analysis. ▪ Implementing trip analysis recommendations.
2	Specific oil consumption	
3	Station Heat Rate	<ul style="list-style-type: none"> ▪ Combustion optimisation i.e., monitoring unburnt carbon in bottom ash and fly ash.

Sl. No.	Operational parameter	Efficiency improvement measures
		<ul style="list-style-type: none"> ▪ Maintaining %O₂ and Air Pre-Heater (APH) inlet, monitoring Suspended Particulate Matter (SPM), SO_x, NO_x, CO₂ at ID fan outlet. ▪ Maintaining process parameters viz., main steam temperature, pressure, HRH temperature, condenser back pressure, RH spray, HPH outlet feed water temperatures etc. to design value. ▪ Identification of passing in high energy drains and rectification of the same on opportunity basis. ▪ Identification of Boiler Feed Pump (BFP) recirculation valve passing, deaerator overflow valve, deaerator drain valve passing and rectifying the same during opportunity. ▪ Monitoring and ensuring zero leakages of air, water and steam.
4	Auxiliary consumption	<ul style="list-style-type: none"> ▪ Monitoring of loading of all HT and LT drives and identifying the reasons of high loading and taking corrective actions on opportunity basis. ▪ Increasing the conveyor belt utilisation factor of Coal Handling Plant (CHP) and avoiding idle running of coal conveyors. ▪ %O₂ mapping of Flue Gas (FG) duct for identifying any air-in leakages. ▪ Monitoring of air (instrument and service), water (DM and raw water) and steam leakages; ▪ Optimisation of running hours of drives mainly in BoP area.

5.5.2 In addition to the above measures, the following measures have been proposed:

- Monthly Unit-wise review on main drivers of operating performances such as boiler efficiency, turbine heat rate, coal mill fineness.
- Identification of reasons/factors based on gaps in performance and corrective actions.
- Energy and Technical Audit by external agency in FY 2019-20 for identification of further improvement possibilities. The external audit is required to be undertaken under the Perform Achieve Trade (PAT) scheme under which Singareni TPP is a Designated Consumer (DC) of PAT-IV cycle having Registration No.TPP0217TS.

Commission's View

5.5.3 The Commission has taken note of the proposed efficiency improvement measures proposed by SCCL. The Commission directs SCCL to submit the

status of the efficiency improvement measures implemented by SCCL and the results of the same in its Mid-Term Review Petition.

5.6 COMPLIANCE STATUS OF ENVIRONMENTAL NORMS

Petitioner's submission

5.6.1 The emission levels of SO_x, NO_x, mercury and opacity submitted by SCCL is as under:

Table 51: Emission level of SO_x submitted by SCCL

(mg/Nm^s)

Financial Year	Design value	Unit 1		Unit 2	
		Maximum	Minimum	Maximum	Minimum
2016-17	Not specified	2409	809.3	2507	1184
2017-18		2502	1716	2100	1737
2018-19		1800	1201	1997	1625

Table 52: Emission level of NO_x submitted by SCCL

(mg/Nm^s)

Financial Year	Design value	Unit 1		Unit 2	
		Maximum	Minimum	Maximum	Minimum
2016-17	750	421	148	431	114
2017-18		304	275	427	271
2018-19		303	276	333	217

Table 53: Emission level of mercury submitted by SCCL

(mg/Nm^s)

Financial Year	Design value	Unit 1		Unit 2	
		Maximum	Minimum	Maximum	Minimum
2016-17	0.03	0.0007	0.0002	0.0087	0.0004
2017-18		0.019	0.001	0.025	0.008
2018-19		0.016	0.005	0.017	0.003

Table 54: Emission level of opacity submitted by SCCL

(mg/Nm^s)

Financial Year	Design value	Unit 1		Unit 2	
		Maximum	Minimum	Maximum	Minimum
2016-17	50	68.9	45.7	61.6	45.2
2017-18		52	37.8	52	33.4
2018-19		47.8	40.8	48.6	38.1

5.6.2 SCCL submitted that the emission levels of mercury and opacity are within the stipulated emission norms. The capital investment has been proposed for compliance to the emission norms of SO_x and NO_x.

5.6.3 The coal based TPPs have to achieve fly ash utilisation target of 100% as per the MoEF's notification dated 03.11.2009. Fly ash for this purpose includes all

kinds of ash generated such as ash in ESP, dry fly ash, bottom ash or pond ash. Further, the MoEF clearance for the project stipulates 100% fly ash utilisation from fourth year of operation. The unutilised ash of one period, if any, is permitted to be utilised in the ensuing years over and above 100% level of utilisation for the current year.

- 5.6.4 The fly ash generated from the project was used in cement plants, brick units, open cast mines of SCCL and manufacturing activity of fly ash-based products. The fly ash was also used for reclamation of low-lying areas by back filling in pit-heads. The bottom ash was utilised in the underground mines of SCCL. The ash utilisation rate was 88%, 91% and 106% for FY 2016-17, FY 2017-18 and FY 2018-19 (till January 2019) respectively. Effective ash management is an ongoing process and would be a key driver for complying with the norm of 100% fly ash utilisation.

Commission's View

- 5.6.5 The Commission has taken note of compliance status to environmental norms submitted by SCCL. The Commission has approved the capital investment towards FGD system and in-furnace modifications for complying with SO₂ and NO_x emission norms.

5.7 SAVING IN OPERATING COSTS

Petitioner's submission

- 5.7.1 SCCL submitted the saving in operating costs of Rs.3.43 Crore and Rs.17.52 Crore for FY 2016-17 and FY 2017-18 respectively. SCCL submitted the non-tariff income of Rs.4.79 Crore, Rs.11.15 Crore and Rs.15.87 Crore for FY 2016-17, FY 2017-18 and FY 2018-19 respectively.

Commission's View

- 5.7.2 In accordance with Clause 7.2 of the Regulation No.1 of 2019, SCCL was required to submit the saving in operating costs for the Control Period from FY 2019-20 to FY 2023-24 whereas SCCL has submitted the saving in operating costs for the Control Period from FY 2016-17 to FY 2018-19.

5.8 FINANCIAL STATEMENTS

Petitioner's submission

- 5.8.1 The financial statements have been prepared for SCCL as a whole for each year of the Control Period from FY 2019-20 to FY 2023-24. The financial statements include balance sheet, profit and loss account and cash flow statement. The financials of the generating station have not been prepared separately as the same have been considered in the consolidated financials of SCCL. The financial projections have been submitted in compliance of Clause 7 of the Regulation No.1 of 2019 considering the proposed Capital Investment Plan and MYT which may act as guidance/projection to the financials of the generating station.

Commission's View

- 5.8.2 The Commission has taken note of SCCL submissions in this regard.

5.9 OTHER NEW MEASURES FOR GENERATION BUSINESS***Petitioner's submission***

- 5.9.1 Thermal power plants are required to be equipped with an efficient maintenance process for operations in order to achieve the stipulated operational norms. The critical business processes involved in the maintenance are preventive maintenance, corrective maintenance (to correct a break down condition), opportunity maintenance (maintenance done by exploiting the opportunity of shutdown condition of the plant) and predictive maintenance (condition-based monitoring). The maintenance effort is required to be enhanced by adopting automatic procedures to avoid human errors and resultant losses. The primary activities in any maintenance work are procurement of material and services, work clearance management (permit system), maintenance and refurbishment process.
- 5.9.2 The plant maintenance module is one of the packages under Enterprise Resource Planning (ERP) and is a well-recognised semi-automated maintenance management process used by prominent generating companies such as NTPC. This module is used at various levels in the decision-making process and helps in reducing the downtime and associated cost of machine downtime. This new initiative is expected to provide the deliverables from FY 2020-21 while the fine tuning of the system and adoption of the same by O&M

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executives may require another 1-2 years.

- 5.9.3 The existing lighting in the main plant and colony area comprising of sodium vapour lamps and compact fluorescent lamps is proposed to be replaced with LEDs which will result in savings in annual power consumption to the tune of 8.704 MU. The replacement would cost Rs.5 Crore. SCCL requested the Commission to allow one-time investment towards the same.

Commission's View

- 5.9.4 The Commission has taken note of SCCL's submission in this regard.

Contd...

CHAPTER 6 ANALYSIS AND CONCLUSION ON MYT FOR FY 2019-20 TO FY 2023-24

6.1 REGULATORY PROVISIONS

6.1.1 The tariff for sale of electricity from a thermal generating station shall comprise of two parts namely, AFC and Energy Charges (for recovery of primary and secondary fuel cost). SCCL submitted the tariff proposals for FY 2019-20 to FY 2023-23 in its MYT Petition. Subsequently, SCCL in replies to datagaps dated 25.02.2020 submitted the revised tariff proposals for FY 2019-20 to FY 2023-24. The Commission has considered the revised submissions dated 25.02.2020. SCCL's submissions and Commission's analysis on MYT for the Control Period from FY 2019-20 to FY 2023-24 is detailed in the following paragraphs.

6.1.2 In accordance with Clause 7.19.4 of the Regulation No.1 of 2019, the Commission shall consider the impact of additional capitalisation on tariff during Mid-Term Review or tariff determination for the next Control Period as the case may be.

6.2 ANNUAL FIXED CHARGES (AFC)

6.2.1 The AFC shall comprise the following elements:

- i. Depreciation;
- ii. Interest and finance charges on loan;
- iii. Interest on working capital;
- iv. O&M expenses;
- v. Return on Equity; Minus
- vi. Non-Tariff Income;

6.3 DEPRECIATION

Petitioner's submission

6.3.1 SCCL has claimed the depreciation of Rs.437.35 Crore, Rs.443.02 Crore, Rs.456.87 Crore, Rs.486.19 Crore and Rs.507.48 Crore for FY 2019-20, FY 2020-21, FY 2021-22, FY 2022-23 and FY 2023-24 respectively.

6.3.2 SCCL requested the Commission to approve AAD of Rs.12.84 Crore for FY 2022-23 to meet the loan repayment obligation as per the loan agreement.

Commission's View

- 6.3.3 The Commission has approved the depreciation in accordance with Clause 10 of the Regulation No.1 of 2019 considering the approved GFA on true-up for FY 2018-19. In accordance with Clause 7.19.4 of the Regulation No.1 of 2019, the additional capitalisation has not been considered for tariff computations and the same shall be considered during Mid-Term Review or tariff determination for the next Control Period, as the case may be.
- 6.3.4 The depreciation claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 55: Depreciation for FY 2019-20 to FY 2023-24*(Rs. Crore)*

Financial Year	Claimed	Approved
2019-20	437.35	400.36
2020-21	443.02	400.36
2021-22	456.87	400.36
2022-23	486.19	400.36
2023-24	507.48	400.36
Total	2330.92	2001.80

- 6.3.5 The variation in depreciation claimed by SCCL and approved by the Commission is on account of the variations in GFA base.
- 6.3.6 The Commission does not find merit in the SCCL's request to approve AAD to meet the loan repayment obligation as the tariff determination is done on normative basis.

6.4 INTEREST AND FINANCE CHARGES ON LOAN**Petitioner's submission**

- 6.4.1 SCCL has claimed the interest on loan of Rs.484.39 Crore, Rs.447.73 Crore, Rs.420.59 Crore, Rs.412.40 Crore and Rs.391.11 Crore for FY 2019-20, FY 2020-21, FY 2021-22, FY 2022-23 and FY 2023-24 respectively.
- 6.4.2 The interest rate has been considered as the weighted average rate of interest for actual loan portfolio for FY 2018-19 adjusted for the sharing of savings on account of refinancing.

Commission's View

- 6.4.3 The Commission has approved the interest and finance charges on loan in accordance with Clause 12 of the Regulation No.1 of 2019. The outstanding

loan balance approved on true-up for FY 2018-19 has been considered as the opening loan balance for FY 2019-20. The approved depreciation has been considered as the normative repayment for the year. The weighted average interest rate of the actual loan portfolio has been considered as the rate of interest. The interest on loan has been calculated on the normative average loan balance for the year by applying the weighted average rate of interest. SCCL has not claimed any finance charges for the Control Period from FY 2019-20 to FY 2023-24.

- 6.4.4 The loan balances claimed by SCCL and considered by the Commission is as shown in the Table below:

Table 56: Loan balances for FY 2019-20 to FY 2023-24

(Rs. Crore)

Financial Year	Claimed		Approved	
	Opening Loan	Closing Loan	Opening Loan	Closing Loan
2019-20	4967.61	4530.26	4531.41	4131.05
2020-21	4530.26	4248.76	4131.05	3730.69
2021-22	4248.76	3998.12	3730.69	3330.33
2022-23	3998.12	4088.17	3330.33	2929.97
2023-24	4088.17	3580.69	2929.97	2529.61

- 6.4.5 From SCCL's submissions regarding the interest rate, it is clear that only the interest rates have been reduced and this cannot be treated as loan refinancing as claimed by SCCL. The Commission has considered the interest rate of 9.14% as against the claim of 10.20%.
- 6.4.6 The interest and finance charges claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 57: Interest and finance charges on loan for FY 2019-20 to FY 2023-24

(Rs. Crore)

Financial Year	Claimed	Approved
2019-20	484.39	395.83
2020-21	447.73	359.24
2021-22	420.59	322.65
2022-23	412.40	286.06
2023-24	391.11	249.48
Total	2156.22	1613.26

- 6.4.7 The variation in interest and finance charges claimed by SCCL and approved by the Commission is on account of the variations in loan balances and the interest rates.

6.5 INTEREST ON WORKING CAPITAL (IoWC)***Petitioner's submission***

- 6.5.1 SCCL has claimed IoWC of Rs.96.92 Crore, Rs.103.86 Crore, Rs.112.23 Crore, Rs.123.21 Crore and Rs.135.06 Crore for FY 2019-20, FY 2020-21, FY 2021-22, FY 2022-23 and FY 2023-24 respectively.
- 6.5.2 SCCL has also claimed the IoWC of Rs.0.40 Crore for FY 2021-22, FY 2022-23 and FY 2023-24 towards additional cost of limestone, O&M expenses and maintenance spares for FGD system.

Commission's View

- 6.5.3 The Commission has approved IoWC in accordance with Clause 13 of the Regulation No.1 of 2019. In accordance with Clause 7.19.4 of the Regulation No.1 of 2019, the additional capitalisation has not been considered for tariff computations and the same shall be considered during Mid-Term Review or tariff determination for the next Control Period, as the case may be. Further, the Commission has not considered the IoWC towards the additional cost of limestone, O&M expenses and maintenance spares for FGD system and the same shall be considered at the time of true-up in accordance with the provisions of the Regulations.
- 6.5.4 The working capital requirement has been computed considering the following:
- Cost of coal towards stock corresponding to 30 days generation corresponding to target Availability.
 - Cost of coal for 30 days of generation corresponding to target Availability.
 - Cost of secondary fuel oil for two months of generation corresponding to target Availability.
 - Maintenance spares @ 20% of the O&M expenses.
 - O&M expenses for one month.
 - Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on target Availability.
 - Minus payables for fuel (including secondary fuel oil) to the extent of thirty days of the cost of fuel computed at target Availability.
- 6.5.5 The rate of IoWC has been considered as 10.05% which is equivalent to the Bank Rate plus 150 basis points as on filing date.
- 6.5.6 The IoWC claimed by SCCL and approved by the Commission is as shown in

the Table below:

Table 58: IoWC for FY 2019-20 to FY 2023-24

(Rs. Crore)

Financial Year	Claimed	Approved
2019-20	96.92	80.40
2020-21	103.86	80.04
2021-22	112.23	79.84
2022-23	123.21	79.65
2023-24	135.06	79.63
Total	571.29	399.56

- 6.5.7 The variation in IoWC claimed by SCCL and approved by the Commission is on account of variation in working capital.

6.6 O&M EXPENSES

Petitioner's submission

- 6.6.1 SCCL has claimed O&M expenses of Rs.229.01 Crore, Rs.242.51 Crore, Rs.256.37 Crore, Rs.277.84 Crore and Rs.291.40 Crore for FY 2019-20, FY 2020-21, FY 2021-22, FY 2022-23 and FY 2023-24 respectively.
- 6.6.2 SCCL has also claimed additional O&M expenses of Rs.12.91 Crore and Rs.0.76 Crore for FGD system and NOx mitigation system respectively for FY 2021-22, FY 2022-23 and FY 2023-24.

Commission's View

- 6.6.3 The Commission has gone through the computation of O&M expenses submitted by SCCL based on the actual expenses for FY 2016-17, FY 2017-18 and FY 2018-19. The Commission observed some computational errors in the same wherein the methodology specified in the Regulations has been applied incorrectly.
- 6.6.4 The O&M expenses comprises of (i) employee cost, (ii) R&M expenses and (iii) A&G expenses. Clause 19 of the Regulation No.1 of 2019 stipulates the methodology for determination of O&M expenses. The Commission's approval of O&M expenses for the Control Period from FY 2019-20 to FY 2023-24 has been detailed in the following paragraphs. In accordance with Clause 7.19.4 of the Regulation No.1 of 2019, the additional capitalisation has not been considered for tariff computations and the same shall be considered during Mid-Term Review or tariff determination for the next Control Period, as

the case may be.

Employee cost:

6.6.5 Clause 19.2 of the Regulation No.1 of 2019 stipulates as under:

“19.2 Employee Cost (EMPn)

Employee cost shall be computed as per the approved norm escalated by CPI, adjusted by provisions for expenses beyond the control of the Generating Entity and one time expected expenses, such as recovery /adjustment of Terminal Benefits, implications of pay commission, arrears and interim relief, governed by the following formula

$$\mathbf{EMPn = (EMPb \times CPI\ Inflation) + Provision}$$

Where:

EMPn: Employee expense for the Year “n”;

EMPb: Employee expense as per the preceding Year;

For the first year of Control Period, expense shall be the average of the trued-up employee expenses after adding/deducting the share of efficiency gains/losses, for the immediately preceding Control Period, excluding abnormal, if any, subject to Prudence Check by the Commission.

CPI Inflation is the point to point change in the Consumer Price Index for Industrial Workers (all India) as per Labour Bureau, Government of India, as reduced by efficiency factor of 1% for immediately preceding Year;

CPI index source for one-month lag: Ministry of Statistics – GOI provided that in case CPI Inflation is a negative number, the escalation/change shall be 0%.

Provision refers to provision for expenses beyond control of the Generating Entity and expected one-time expenses as specified above.”

6.6.6 As per the above, the EMPb for FY 2019-20 shall be the average of the trued-up employee expenses after adding/deducting the share of efficiency gains/losses, for the immediately preceding Control Period i.e., FY 2016-17 to FY 2018-19, excluding abnormal, if any, subject to Prudence Check by the Commission.

6.6.7 The Commission had approved the composite normative O&M expenses for the Control Period from FY 2016-17 to FY 2018-19 without sharing of any gains/losses. Therefore, the Commission has worked out the employee cost out of the total approved O&M expenses for FY 2016-17, FY 2017-18 and FY 2018-19 considering the proportion of actual employee cost to the total O&M expenses for the respective years. As the Units were not in operation for full

year in FY 2016-17, the Commission has excluded the employee cost for FY 2016-17 and considered the average employee cost for FY 2017-18 and FY 2018-19 as EMPb for FY 2019-20.

- 6.6.8 The employee cost for FY 2019-20 and subsequent years of the Control Period has been computed by considering the CPI Inflation of 1.04 based on point-to-point change in CPI for industrial workers as per Labour Bureau, Gol for FY 2018-19 and thereafter reducing by an efficiency factor of 1%.
- 6.6.9 SCCL has claimed the provision equivalent to 5% of employee cost for FY 2019-20 for each year of the Control Period. The provision over and above the normative employee cost has been provided for expenses beyond the control of generating entity and one-time expected expenses such as recovery/adjustment of terminal benefits, implications of pay commission, arrears and interim relief. SCCL has not submitted any justification for its claim of provision in addition to the normative employee cost. Therefore, the Commission has not approved any amount towards provision in addition to the normative employee cost.
- 6.6.10 The computation of employee cost approved by the Commission is as shown in the Table below:

Table 59: Employee cost computed for FY 2019-20 to FY 2023-24

(Rs. Crore)

Financial Year	EMPb	CPI Inflation	Provision	EMPn
2019-20	88.00	1.04	0.00	91.91
2020-21	91.91	1.04	0.00	95.99
2021-22	95.99	1.04	0.00	100.25
2022-23	100.25	1.04	0.00	104.70
2023-24	104.70	1.04	0.00	109.34
Total	-	-	-	502.17

- 6.6.11 The employee cost claimed by SCCL and computed by the Commission in accordance with Clause 19.2 of the Regulation No.1 of 2019 is as shown in the Table below:

Table 60: Employee cost for FY 2019-20 to FY 2023-24

(Rs. Crore)

Financial Year	Claimed	Computed in accordance with Clause 19.2
2019-20	95.36	91.91
2020-21	102.38	95.99
2021-22	109.95	100.25

Financial Year	Claimed	Computed in accordance with Clause 19.2
2022-23	118.09	104.70
2023-24	126.87	109.34
Total	552.65	502.17

R&M expenses:

6.6.12 Clause 19.3 of the Regulation No.1 of 2019 stipulates as under:

“19.3. Repairs and Maintenance Expense (R&Mn)

The expense shall be calculated as percentage (as per the norm defined) of Opening Gross Fixed Assets for the Year governed by following formula:

$$R\&Mn = Kn \times GFAn \times WPI \text{ Inflation}$$

Where:

R&Mn: Repairs & Maintenance expense for nth Year;

GFAn: Opening Gross Fixed Assets for nth Year;

Kn: ‘K’ is the immediate preceding Control Period average (expressed in %) governing the relationship between R&M and Gross Fixed Assets (GFA);

WPI Inflation: point to point change in Wholesale Price Index (WPI) for immediately preceding Year;

Provided that in case WPI inflation is a negative number, the escalation/change shall be 0%.

Source for WPI – As published by Office of Economic Adviser – GOI”

6.6.13 The Commission had approved the composite normative O&M expenses for the Control Period from FY 2016-17 to FY 2018-19. Therefore, the Commission has worked out the R&M expenses out of the total approved O&M expenses for FY 2016-17, FY 2017-18 and FY 2018-19 considering the proportion of actual R&M expenses to the total O&M expenses for the respective years.

6.6.14 The ‘K’ factor has been considered as 1.04% which is the average percentage of R&M expenses upon opening GFA for the Control Period from FY 2016-17 to FY 2018-19. The R&M expenses for each year of the Control Period has been arrived at by multiplying the approved opening GFA for the respective year with the ‘K’ factor of 1.04% and WPI Inflation.

6.6.15 The computation of R&M expenses computed by the Commission is as shown in the Table below:

Table 61: R&M expenses computed for FY 2019-20 to FY 2023-24

(Rs. Crore)

Financial Year	Kn	GFA _n	WPI Inflation	R&M _n
2019-20	1.04%	7745.32	1.04	83.67
2020-21	1.04%	7745.32	1.09	87.26
2021-22	1.04%	7745.32	1.13	91.00
2022-23	1.04%	7745.32	1.18	94.90
2023-24	1.04%	7745.32	1.23	98.96
Total	-	-	-	455.79

6.6.16 The R&M expenses claimed by SCCL and computed by the Commission in accordance with Clause 19.3 of the Regulation No.1 of 2019 is as shown in the Table below:

Table 62: R&M expenses for FY 2019-20 to FY 2023-24

(Rs. Crore)

Financial Year	Claimed	Computed in accordance with Clause 19.3
2019-20	94.34	83.67
2020-21	98.95	87.26
2021-22	103.28	91.00
2022-23	114.54	94.90
2023-24	117.15	98.96
Total	528.25	455.79

A&G expenses

6.6.17 Clause 19.4 of the Regulation No.1 of 2019 stipulates as under:

"19.4. Administrative & General Expense (A&G_n)

A&G expense shall be computed as per the norm escalated by the inflation factor and adjusted by provisions for confirmed initiative (IT etc. initiatives as proposed by the Generating Entity and validated by the Commission) or other expected one-time expenses, and shall be governed by the following formula:

$$\mathbf{A\&G_n = A\&G_{fo} * Inflation\ Factor) Provision}$$

Where:

A&G_n: A&G expense for the Year "n";

A&G_{fo}: For the first Year of the Control Period, it shall be the average of the audited A&G expense for the immediately preceding 3 Financial Years if available, and for subsequent Years it shall be the preceding Year escalated by the inflation factor;

Inflation Factor: is the sum of the following:

- > point to point change in the Wholesale Price Index (WPI) numbers as per Office of Economic Advisor of Government of India for immediately Year reduced by an efficiency factor of 1% multiplied by 0.5.
- > point to point change in Consumer Price Index for Industrial Workers (all India) as per Labour Bureau, Government of India in the previous year, as reduced by an efficiency factor of 1% multiplied by 0.5.

Provided that in case inflation Factor is a negative number, the escalation/ change shall be 0%.

Provision: Cost for initiatives or other one-time expenses as proposed by the Generating Entity and validated by the Commission."

- 6.6.18 Clause 19.6 of the Regulation No.1 of 2019 stipulates as under:
"19.6. Any expenditure on account of license fee, initial or renewal, fee for determination of tariff and audit fee shall be allowed on actual basis, over and above the A&G expenses approved by the Commission."
- 6.6.19 As per the above, the A&Gfo for FY 2019-20 shall be the average of the audited A&G expenses for the immediately preceding 3 Financial Years i.e., FY 2016-17 to FY 2018-19. As the Units were not in operation for full year in FY 2016-17, the Commission has excluded the audited A&G expenses for FY 2016-17 and considered the average A&G expenses for FY 2017-18 and FY 2018-19 as A&Gfo for FY 2019-20.
- 6.6.20 The A&G expenses for FY 2019-20 and subsequent years of the Control Period has been computed by considering the Inflation Factor of 1.04 based on point-to-point change in CPI for industrial workers as per Labour Bureau, Gol and point-to-point change in WPI as Office of Economic Advisor, Gol for FY 2018-19 and applying the efficiency factor of 1% and multiplication factor of 0.5% as per the Regulations.
- 6.6.21 SCCL has claimed the provision equivalent to 5% of A&G expenses for FY 2019-20 for each year of the Control Period. The provision over and above the normative A&G expenses has been provided for initiatives or other one-time expenses. SCCL has not submitted any justification for its claim of provision in addition to the normative A&G expenses. Therefore, the Commission has not approved any amount towards provision in addition to the normative A&G expenses.
- 6.6.22 The computation of A&G expenses computed by the Commission is as shown in the Table below:

Table 63: A&G expenses computed for FY 2019-20 to FY 2023-24
(Rs. Crore)

Financial Year	A&Gfo	Inflation Factor	Provision	A&Gn
2019-20	29.53	1.04	0.00	30.67
2020-21	30.67	1.04	0.00	31.85
2021-22	31.85	1.04	0.00	33.08

Financial Year	A&Gfo	Inflation Factor	Provision	A&Gn
2022-23	33.08	1.04	0.00	34.36
2023-24	34.36	1.04	0.00	35.68
Total	-	-	-	165.64

6.6.23 The A&G expenses claimed by SCCL and computed by the Commission in accordance with Clause 19.4 of the Regulation No.1 of 2019 is as shown in the Table below:

Table 64: A&G expenses for FY 2019-20 to FY 2023-24

(Rs. Crore)

Financial Year	Claimed	Computed in accordance with Clause 19.4
2019-20	39.31	30.67
2020-21	41.18	31.85
2021-22	43.15	33.08
2022-23	45.21	34.36
2023-24	47.38	35.68
Total	216.23	165.64

6.6.24 Clause 19.6 of the Regulation No.1 of 2019 provides for allowing expenses on account of license fee, initial or renewal, fee for determination of tariff and audit fee shall be allowed on actual basis, over and above the A&G expenses approved by the Commission. SCCL has not claimed any amount in this regard.

6.6.25 Clause 19.1 of the Regulation No.1 of 2019 stipulates as under:

“The O&M expenses for each year of the Control Period shall be approved based on the formula shown below

$$\mathbf{O\&Mn = (R\&Mn + EMPn + A\&Gn) \times 99\%}$$

.....”

6.6.26 Based on the above, the O&M expenses claimed by SCCL and approved by the Commission for FY 2019-20 to FY 2023-24 is as shown in the Table below:

Table 65: O&M expenses for FY 2019-20 to FY 2023-24

(Rs. Crore)

Financial Year	Claimed				Approved				
	Employee cost	R&M expenses	A&G expenses	Total	Employee cost	R&M expenses	A&G expenses	Total	O&M expenses approved
					(i)	(ii)	(iii)	(iv)=(i)+(ii)+(iii)	(v)=(iv)x99%
2019-20	95.36	94.34	39.31	229.01	91.91	83.67	30.67	206.24	204.18
2020-21	102.38	98.95	41.18	242.51	95.99	87.26	31.85	215.09	212.94
2021-22	109.95	103.28	43.15	256.37	100.25	91.00	33.08	224.32	222.08
2022-23	118.09	114.54	45.21	277.84	104.70	94.90	34.36	233.95	231.61
2023-24	126.87	117.15	47.38	291.40	109.34	99.96	35.68	243.99	241.55
Total	552.65	528.25	216.23	1297.13	502.17	455.79	165.64	1123.60	1112.36

6.7 RETURN ON EQUITY (RoE)

Petitioner's submission

- 6.7.1 SCCL has claimed RoE of Rs.501.51 Crore, Rs.508.35 Crore, Rs.523.92 Crore, Rs.557.05 Crore and Rs.581.45 Crore for FY 2019-20, FY 2020-21, FY 2021-22, FY 2022-23 and FY 2023-24 respectively.
- 6.7.2 The rate of RoE has been considered as 19.76% by grossing up the base rate of 15.50% with the MAT rate of 21.55%.

Commission's View

- 6.7.3 The Commission has approved RoE in accordance with Clause 11 of the Regulation No.1 of 2019. The approved equity on true-up for FY 2018-19 has been considered as the equity for FY 2019-20. The rate of RoE has been considered as 18.78% by grossing up the base rate of 15.50% with the MAT rate of 17.47%.
- 6.7.4 The equity base claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 66: Equity base for FY 2019-20 to FY 2023-24

(Rs. Crore)

Financial Year	Claimed		Approved	
	Opening Equity	Closing Equity	Opening Equity	Closing Equity
2019-20	2538.30	2538.30	2323.60	2323.60
2020-21	2538.30	2607.53	2323.60	2323.60
2021-22	2607.53	2695.91	2323.60	2323.60
2022-23	2695.91	2942.87	2323.60	2323.60
2023-24	2942.87	2942.87	2323.60	2323.60

- 6.7.5 The RoE claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 67: RoE for FY 2019-20 to FY 2023-24

(Rs. Crore)

Financial Year	Claimed	Approved
2019-20	501.51	436.40
2020-21	508.35	436.40
2021-22	523.92	436.40
2022-23	557.05	436.40
2023-24	581.45	436.40
Total	2672.28	2181.98

6.8 NON-TARIFF INCOME (NTI)

Petitioner's submission

- 6.8.1 SCCL has claimed NTI of Rs.0.37 Crore for each year of the Control Period from FY 2019-20, FY 2020-21, FY 2021-22, FY 2022-23 and FY 2023-24.

Commission's View

- 6.8.2 Clause 16(a) of the Regulation No.1 of 2019 provides the tentative list of items that constitute NTI. The actual NTI for FY 2016-17, FY 2017-18 and FY 2018-19 is Rs. 4.70 Crore, Rs. 11.15 Crore and Rs. 15.87 Crore respectively. The Commission has provisionally considered average of NTI for the period from FY 2016-17 to FY 2018-19 and escalated the same upto FY 2019-20 by the annual escalation of 30%. The Commission has not considered any further escalation of NTI during the remaining years of Control Period.
- 6.8.3 The NTI claimed by SCCL and approved by the Commission is as shown in the Table below:

Table 68: NTI for FY 2019-20 to FY 2023-24

(Rs. Crore)

Financial Year	Claimed	Approved
2019-20	0.37	17.92
2020-21	0.37	17.92
2021-22	0.37	17.92
2022-23	0.37	17.92
2023-24	0.37	17.92
Total	1.84	89.60

6.9 ANNUAL FIXED CHARGES (AFC)

Commission's View

- 6.9.1 Based on the above, the AFC claimed by SCCL and approved by the Commission is as shown in the Tables below:

Table 69: AFC for FY 2019-20 to FY 2023-24

(Rs. Crore)

Particulars	FY 2019-20		FY 2020-21		FY 2021-22	
	Claimed	Approved	Claimed	Approved	Claimed	Approved
Depreciation	437.35	400.36	443.02	400.36	456.87	400.36
Advance Against Depreciation	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Loan	484.39	395.83	447.73	359.24	420.59	322.65
Interest on Working Capital	96.92	80.40	103.86	80.04	112.23	79.84
Interest on Working Capital for FGD system	0.00	0.00	0.00	0.00	0.40	0.00
O&M expenses	229.01	204.18	242.51	212.94	256.37	222.08
O&M expenses for FGD system	0.00	0.00	0.00	0.00	12.91	0.00
O&M expenses for NOx mitigation system	0.00	0.00	0.38	0.00	0.76	0.00

Particulars	FY 2019-20		FY 2020-21		FY 2021-22	
	Claimed	Approved	Claimed	Approved	Claimed	Approved
Return on Equity	501.51	436.40	508.35	436.40	523.92	436.40
Less: Non-tariff income	0.37	17.92	0.37	17.92	0.37	17.92
Annual Fixed Charges	1748.82	1499.25	1745.49	1471.06	1783.69	1443.41

Particulars	FY 2022-23		FY 2023-24	
	Claimed	Approved	Claimed	Approved
Depreciation	486.19	400.36	507.48	400.36
Advance Against Depreciation	12.84	0.00	0.00	0.00
Interest on Loan	412.40	286.06	391.11	249.48
Interest on Working Capital	123.21	79.65	135.06	79.63
Interest on Working Capital for FGD system	0.40	0.00	0.40	0.00
O&M expenses	277.84	231.61	291.40	241.55
O&M expenses for FGD system	12.91	0.00	12.91	0.00
O&M expenses for NOx mitigation system	0.76	0.00	0.76	0.00
Return on Equity	557.05	436.40	581.45	436.40
Less: Non-tariff income	0.37	17.92	0.37	17.92
Annual Fixed Charges	1883.22	1416.16	1920.19	1389.49

6.10 ENERGY CHARGES

Petitioner's submission

- 6.10.1 The energy charges have been computed based on Clause 21 of the Regulation No.1 of 2019. The energy charges for FY 2019-20 has been computed considering the fuel prices and GCV for the months of November 2018, December 2018 and January 2019. For the subsequent years, the fuel prices have been projected to increase at the rate of 7% and 10% for coal and oil respectively based on the actual increase during the period from April 2017 to January 2019. The energy bills shall be raised based on the actual fuel prices and GCV.
- 6.10.2 On conjoint reading of Clause 21.6, 21.7 and 21.10 of the Regulation No.1 of 2019, difficulty arises regarding the GCV of coal to be considered for determination of Energy Charge Rate (ECR). Clause 21.6 refer to as received GCV of coal whereas the Clause 21.7 and 21.10 refer to as fired GCV of coal.
- 6.10.3 SERCs are guided by the principles of CERC in specifying the Regulations as per Section 61(a) of the Act. The CERC (Terms and Conditions of Tariff) Regulations, 2019 stipulate the energy charge computation based on the GCV of coal as received less 85 kcal/kg. Further, CEA in its recommendations to CERC suggested a margin of 85-100 kcal/kg and 105-120 kcal/kg for pit head and non-pit head generating stations on account of GCV loss from that

measured at the unloading point till the firing point in the boiler. The Tariff Regulations of Maharashtra Electricity Regulatory Commission (MERC), Gujarat Electricity Regulatory Commission (GERC) and CERC provide for ECR computation based on CERC methodology or on the basis of as fired GCV of coal. SCCL requested the Commission to provide necessary clarifications in this regard.

- 6.10.4 The ECR claimed by SCCL for FY 2019-20 to FY 2023-24 is as shown in the Table below:

Table 70: ECR claimed by SCCL for FY 2019-20 to FY 2023-24

Particulars	Unit	FY	FY	FY	FY	FY
		2019-20	2020-21	2021-22	2022-23	2023-24
Auxiliary Consumption	%	7.00%	7.00%	7.00%	7.33%	8.50%
Gross Station Heat Rate	kcal/kWh	2400.00	2400.00	2400.00	2400.00	2400.00
Secondary Fuel oil consumption	ml/kWh	2.00	2.00	2.00	2.00	2.00
Calorific Value of Secondary Fuel	kcal/ml	9.99	9.99	9.99	9.99	9.99
Landed Price of Secondary Fuel	Rs./ml	0.05	0.06	0.07	0.08	0.09
Wt. Avg. Gross Calorific Value of Coal	kcal/kg	3866.17	3866.17	3866.17	3866.17	3866.17
Landed Price of Coal	Rs./kg	4.18	4.64	5.15	5.72	6.35
Specific Coal Consumption	kg/kWh	0.62	0.62	0.62	0.62	0.62
ECR	Rs./kWh	2.884	3.205	3.563	3.975	4.476

Commission's View

- 6.10.5 Clause 21.6 of the Regulation No.1 of 2019 stipulates the methodology for determination of ECR which stipulates the GCV of coal to be considered on as received basis. Clause 21.7 and 21.10 of the Regulation No.1 of 2019 stipulate as under:

"21.7. Provided that the details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal and the weighted average GCV of the fuels as fired shall also be provided separately, along with the bills of the respective month....."

"2.10. Any variation in fuel prices on account of change in the Gross Calorific Value (GCV) of coal or gas or liquid fuel shall be adjusted on a monthly basis on the basis of average GCV of coal or gas or liquid fuel in stock, as fired and weighted average landed cost incurred by the Generating Entity for procurement of coal, oil or gas or liquid fuel, as the case may be for a Station."

- 6.10.6 SCCL requested the Commission to provide necessary clarification regarding the GCV of coal to be considered for ECR computation in view of the difficulty arisen on conjoint reading of Clause 21.6, 21.7 and 21.10.
- 6.10.7 The Commission has gone through the submissions of SCCL and the stakeholders on this issue. The Commission clarifies that the 'as received'

GCV as specified in Clause 21.6 is to be considered while determining the tariff under MYT provisions. As the benefit of GCV loss from 'pit head' to 'as fired' needs to be passed on to the generator, the same shall be taken care of in Clause 21.7 and Clause 21.10 which provides for adjustment of the variation in GCV considered in tariff determination and 'as fired' GCV. Therefore, the Commission rules that the monthly adjustment in variation in GCV of coal has to be carried out in accordance with Clause 21.10 of the Regulation No.1 of 2019.

- 6.10.8 The Commission, in the approval of Business Plan for the Control Period from FY 2019-20 to FY 2023-24, had approved the following norms of operation in accordance with Regulation No. 1 of 2019:

Table 71: Norms of operation approved for the Control Period from FY 2019-20 to FY 2023-14

Parameter	Units	Approved
Normative Annual Plant Availability Factor	%	85%
Normative Annual PLF	%	85%
Auxiliary Consumption	%	5.75%
Gross Station Heat Rate	kcal/kWh	2303.88
Secondary Fuel Oil Consumption	ml/kWh	0.50
Transit Loss	%	0.80%

- 6.10.9 SCCL has claimed the energy charges for the Control Period from FY 2019-20 to FY 2023-24 by considering the year-on-year escalation in fuel prices. SCCL has considered the annual escalation of 11% and 15% for Coal and Secondary Fuel Oil prices.

- 6.10.10 Clause 21.10 of the Regulation No. 1 of 2019 provides for monthly adjustment of variation in fuel prices on account of any variations in GCV and prices of fuels. Therefore, the Commission has computed the base ECR considering tentatively the fuel prices and GCV for the months of January to March 2019. The tentative fuel prices and GCV considered by the Commission for computing the Base ECR is as shown in the Table below:

Table 72: Tentative fuel prices and GCV considered by the Commission

Particulars	Units	Value
Calorific Value of Secondary Fuel	kcal/ml	9.97
Landed Price of Secondary Fuel	Rs./ml	0.04
Wt. Avg. Gross Calorific Value of Coal	kcal/kg	3866.17
Landed Price of Coal	Rs./kg	3.68

6.10.11 Based on the above norms of operation and tentative fuel prices and GCV, the Base ECR computed by the Commission is as shown in the Table below:

Table 73: Base ECR computed by the Commission

Particulars	Units	Value
Auxiliary Consumption	%	5.75%
Gross Station Heat Rate	kcal/kWh	2303.88
Secondary Fuel oil consumption	ml/kWh	0.50
Calorific Value of Secondary Fuel	kcal/ml	9.97
Landed Price of Secondary Fuel	Rs./ml	0.04
Wt. Avg. Gross Calorific Value of Coal	kcal/kg	3866.17
Landed Price of Coal	Rs./kg	3.68
Specific Coal Consumption	kg/kWh	0.59
ECR	Rs./kWh	2.345

6.10.12 The variation in fuel prices and GCV shall be billed in accordance with the provisions of the Regulation No. 1 of 2019.

6.10.13 The indicative total tariff based on the above is as shown in the Table below:

Table 74: Indicative total tariff for FY 2019-20 to FY 2023-24

Particulars	FY 2019-20		FY 2020-21		FY 2021-22		FY 2022-23		FY 2023-24	
	Project ed by SCCL	Compute d by the Commission	Project ed by SCCL	Compute d by the Commission	Project ed by SCCL	Compute d by the Commission	Project ed by SCCL	Compute d by the Commission	Project ed by SCCL	Compute d by the Commission
Net Generation (MU)	8929.65	8444.50*	8905.26	8421.43*	8873.45	8421.43*	8751.62	8421.43*	8785.63	8444.50*
AFC (Rs. Crore)	1748.82	1499.25	1745.49	1471.06	1783.69	1443.41	1883.22	1416.16	1920.19	1389.49
AFC per unit (Rs./kWh) (indicative)	1.958	1.775	1.960	1.747	2.010	1.714	2.149	1.682	2.186	1.645
Base ECR (Rs./kWh)	2.884	2.345	3.205	2.345	3.563	2.345	3.975	2.345	4.476	2.345
Total Tariff (Rs./kWh) (indicative)	4.842	4.120	5.165	4.091	5.573	4.059	6.125	4.026	6.662	3.990

*Corresponding to NAPLF of 85%

**The variations in fuel prices and GCV shall be billed in accordance with the provisions of the Regulation No. 1 of 2019

6.11 COMMISSION'S DIRECTIVES

6.11.1 The Commission's earlier Directives and new Directives issued in this Order are enclosed at Appendix B.

6.12 I.A.No.2 of 2020 in O.P.No.5 of 2019

6.12.1 The Commission had passed an order dated 08.02.2020 directed the DISCOMs to pay the tariff as applicable for FY 2018-19 for the energy supplied by the Petitioner from 01.04.2019 till the disposal of the Original Petition. As the Commission is now passing the final Order determining the

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TSERC

Tariffs for Control Period from FY 2019-20 to FY 2023-24, no further action in the above said I.A. is required and accordingly the same stands closed.

6.13 APPLICABILITY

6.13.1 The Generation Tariffs determined for each year of the Control Period from FY 2019-20 to FY 2023-24 are applicable from 1st April to 31st March of the respective Financial Year. However, as FY 2019-20 and few months of FY 2020-21 are over, the Commission directs the Petitioner to recover/adjust the difference in revenue recoverable in accordance with the Tariff approved in this Order vis-a-vis the Tariff charged from April 2019 till the issue of this Order in 6 equal monthly instalments. For FY 2020-21, the Generation Tariffs are applicable w.e.f. 01.09.2020.

This Order is corrected and signed on this the 28th day of August, 2020.

**Sd/-
(BANDARU KRISHNAIAH)
MEMBER**

**Sd/-
(M.D.MANO HAR RAJU)
MEMBER**

**Sd/-
(T.SRIRANGA RAO)
CHAIRMAN**

APPENDIX A SCHEDULE OF APPROVED TARIFF

1. The AFC approved by the Commission for the Control Period from FY 2019-20 to FY 2023-24 is as shown in the Table below:

(Rs. Crore)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Depreciation	400.36	400.36	400.36	400.36	400.36
Advance Against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Loan	395.83	359.24	322.65	286.06	249.48
Interest on Working Capital	80.40	80.04	79.84	79.65	79.63
Interest on Working Capital for FGD system	0.00	0.00	0.00	0.00	0.00
O&M expenses	204.18	212.94	222.08	231.61	241.55
O&M expenses for FGD system	0.00	0.00	0.00	0.00	0.00
O&M expenses for NOx mitigation system	0.00	0.00	0.00	0.00	0.00
Return on Equity	436.40	436.40	436.40	436.40	436.40
Less: Non-tariff income	17.92	17.92	17.92	17.92	17.92
Annual Fixed Charges	1499.25	1471.06	1443.41	1416.16	1389.49

2. The norms of operation approved for the Control Period from FY 2019-20 to FY 2023-24 is as shown in the Table below:

Parameter	Units	Approved
Normative Annual Plant Availability Factor	%	85%
Normative Annual PLF	%	85%
Auxiliary Consumption	%	5.75%
Gross Station Heat Rate	kcal/kWh	2303.88
Secondary Fuel Oil Consumption	ml/kWh	0.50
Transit Loss	%	0.80%

3. The Base ECR computed by the Commission is as shown in the Table below:

Particulars	Units	Value
Auxiliary Consumption	%	5.75%
Gross Station Heat Rate	kcal/kWh	2303.88
Secondary Fuel oil consumption	ml/kWh	0.50
Calorific Value of Secondary Fuel	kcal/ml	9.97
Landed Price of Secondary Fuel	Rs./ml	0.04
Weighted. Average. Gross Calorific Value of Coal	kcal/kg	3866.17
Landed Price of Coal	Rs./kg	3.68
Specific Coal Consumption	kg/kWh	0.59
ECR	Rs./kWh	2.345

4. The computation and payment of Capacity Charges and Energy Charges shall be in accordance with the provisions of the Regulation No.1 of 2019.
5. Incentive for higher PLF shall be in accordance with the provisions of the Regulation No.1 of 2019.

APPENDIX B COMMISSION'S DIRECTIVES

EARLIER DIRECTIVES

1. Coal Swapping

SCCL should actively pursue the issue of coal allocation for its generating station with the Ministry of Coal so that the cumbersome task of transportation of coal from Naini coal block in Odisha and associated losses in quantity and GCV could be mitigated by procuring coal from its own mines which are closer to its generating station.

NEW DIRECTIVES

2. True-up for FY 2016-17 to FY 2018-19

(Para 4.22.2) The Commission directs SCCL to bill the differential AFC recoverable/refundable for the period from FY 2016-17 to FY 2018-19 as per the AFC approved after true-up approved in this Order.

(Para 4.23.3) The Commission directs SCCL to take up the issue of water charges with the DISCOMs.

3. Billing disputes (Para 4.24.10)

The Commission directs SCCL to file a separate Petition on the billing disputes.

4. MYT for FY 2019-20 to FY 2023-24

(Para 5.2.7) The Commission directs SCCL to submit its proposal of additional auxiliary consumption for FGD in its Mid-Term Review Petition for the consideration of the Commission.

(Para 5.5.3) The Commission directs SCCL to submit the status of the efficiency improvement measures implemented by SCCL and the results of the same in its Mid-Term Review Petition.

(Para 6.13.1) The Commission directs the Petitioner to recover/adjust the difference in revenue recoverable in accordance with the Tariff approved in this Order vis-a-vis the Tariff charged from April 2019 till the issue of this Order in 6 equal monthly instalments.

**ANNEXURE 1
PUBLIC NOTICE**

TELANGANA STATE ELECTRICITY REGULATORY COMMISSION



11-4-660, 5th Floor, Singareni Bhavan, Red Hills, Hyderabad.

Ph: (040) 23397625/ 23311125 to 28

Fax No. (040) 23397489 Website www.tserc.gov.in

PRESS RELEASE

G. P. No. 4 of 2019, O. P. No. 5 of 2019, O. P. No. 8 of 2020 & O. P. No. 9 of 2020

Singareni Collieries Company Limited (SCCL) has filed petitions under sections 62 and 86 (1) (a) of Electricity Act, 2003 (Act, 2003) read with the Telangana State Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulation, 2019 (Regulation No. 1 of 2019) seeking approval for 2 X 600 MW of its Singareni Thermal Power Plant (STTP) in the following petitions.

a) Aggregate revenue requirement and tariff for the period from 01.04.2019 to 31.03.2024. b) Truing up of tariff for the period FY 2016-2019. c) Business plan for the period from 01.04.2019 to 31.03.2024. d) Capital Investment plan for the period FY 2016-2019.

Interested persons may offer comments, objections and suggestions in the matter by 12.03.2020.

The Commission will hear the petitioner and other stakeholders including the DISCOMs with regard to the above matter on 18.03.2020 at the Commission's court hall in Hyderabad. Complete details on the above matter are available on www.tserc.gov.in and www.scclmines.com

Place: Hyderabad

Date: 10.02.2020

PR/2019-20/STPP/SLK/117

Sd/-

COMMISSION SECRETARY (FAC)

తెలంగాణ స్టేట్ ఎలక్ట్రిసిటీ రెగ్యులేటరీ కమిషన్



11-1-860 5వ అంతస్తు, సింగరేణి భవన్, రెడ్ హిల్స్, హైదరాబాద్.
ఫోన్: (040) 83397625 / 23311125 నుండి 88 లైన్ నెం. (040) 83397489
వెబ్సైట్ www.tserc.gov.in

విజ్ఞాన ప్రకటన

O. P. No. 4 of 2019, O. P. No. 5 of 2019, O. P. No. 8 of 2020 & O. P. No. 9 of 2020

సింగరేణి కాలరీస్ కంపెనీ లిమిటెడ్ (SCCL) తమ సింగరేణి తర్ఫీల్ పవర్ ప్లాంట్ (STTP), 2x600 MW యొక్క ఈ ప్రంద తెలిపిన అర్హులకు అమోదం కోరుతూ తెలంగాణ స్టేట్ ఎలక్ట్రిసిటీ రెగ్యులేటరీ కమిషన్ (అనరేషన్ టారిఫ్ యొక్క నియమ నిబంధనలు) రెగ్యులేషన్, 2019 (రెగ్యులేషన్ నెం. 1 ఆఫ్ 2019)లో పేర్కొనబడిన విద్యుత్ చట్టం 2009 (చట్టం, 2009)లోని సెక్షన్లు 62 మరియు 86 (1) (a) ప్రంద దరఖాస్తును దాఖలు చేసింది.

a) 01.04.2019 నుండి 31.03.2024 వరకు గల కాలానికి వార్త రెవెన్యూ అవశ్యకత మరియు టారిఫ్; b) FY 2018-2019 కాలానికి టారిఫ్ ట్రూయింగ్ ఆఫ్; c) 01.04.2019 నుండి 31.03.2024 వరకు గల కాలానికి వ్యాపార ప్రకాశిక; d) FY 2019-2024 వరకు గల కాలానికి మూలదన పెట్టుబడి ప్రకాశిక

దీనికి సంబంధించి అభ్యంతరాలు / సూచనలు / అభిప్రాయాలు తెలియజేయదలుచుకున్న వారు తేదీ: 12.03.2020 లోపు కమిషన్ డిప్యూటీ డిస్కం కమిషనర్ కు రావచ్చు.

పై విషయంపై కమిషన్ 18.03.2020 DISCOMs తో సహా కమిషనర్ మరియు అతర స్టేట్ మోడర్లను హైదరాబాద్ లోని కమిషన్ రోడ్డులో విచారిస్తుంది. ఈ విషయానికి సంబంధించి వార్త సమాచారం www.tserc.gov.in మరియు www.socilmines.com లలో చూడవచ్చు.

ప్రతికం: హైదరాబాద్
తేదీ: 19.02.2020

PR/2019-20/STTP/SLK/117
వం/
కమిషన్ సెక్రటరీ (FAC)

تلنگانہ اسٹیٹ الیکٹریسیٹی ریگولٹری کمیشن

11-4-660 'پانچوہویں منزل' سنگارینی بھون 'ریڈ ہلز' حیدرآباد

فون : 28 to 23311125 / 23397625/2 (040)

فیکس نمبر : 23397499 (040) ویب سائٹ : www.tserc.gov.in



پریٹس زینلز

O.P. No. 4 of 2019, No. O.P. 5 of 2019, O.P. No. 8 of 2020 & O.P. No. 9 of 2020

سنگارینی کارپوریشن لمیٹڈ (ایس سی ای ایل) نے حسب ذیل پمپنگ اسٹیشن میں اس کے سنگارینی قمرل پاور پلانٹ (ایس ٹی پی) کے 2x600MW کے لئے منظوری کے حصول کیلئے الیکٹریسیٹی ایکٹ 2003 (ایکٹ 2003) کے سیکشن 62 اور (a) 86(1) کے مطابق ملاحظہ ہو تلنگانہ اسٹیٹ الیکٹریسیٹی ریگولٹری کمیشن (جزیرہ ٹریف کے قواعد و شرائط) ریگولیشن 2019 (ریگولیشن نمبر 1 of 2019) پمپنگ اسٹیشن داخل کی ہیں۔

(a) مدت 01-04-2019 تا 31-03-2024 کیلئے مجموعی ریونیو مطلوبات اور ٹریف (b) مالی سال 2016-2019 کی مدت کے لئے ٹریف کارڈنگ اب (c) مدت 01-04-2019 تا 31-03-2024 کیلئے بزنس پلان (d) مالی سال 2016-2019 کی مدت کے لئے کیمپل انو-سٹمٹ پلان۔

خواہشمند اشخاص 12-03-2020 تک اس معاملہ میں تیسرے اعتراضات اور تہا دیز ٹائپ کر سکتے ہیں۔
کمیشن 18-03-2020 کو حیدرآباد میں کمیشن کے کورٹ ہال میں مذکورہ بالا معاملہ سے متعلق پمپنگ اسٹیشن اور دیگر اسٹیک ہولڈرز بشمول ڈسکام (DISCOMS) کو سماعت کرنے گا۔ مذکورہ بالا معاملہ میں مکمل تفصیلات : www.tserc.gov.in اور www.sccimines.com پر دستیاب ہیں۔

شروع دستخط

مقام : حیدرآباد

کمیشن سیکریٹری (ایف ایف سی)

تاریخ : 19-02-2020

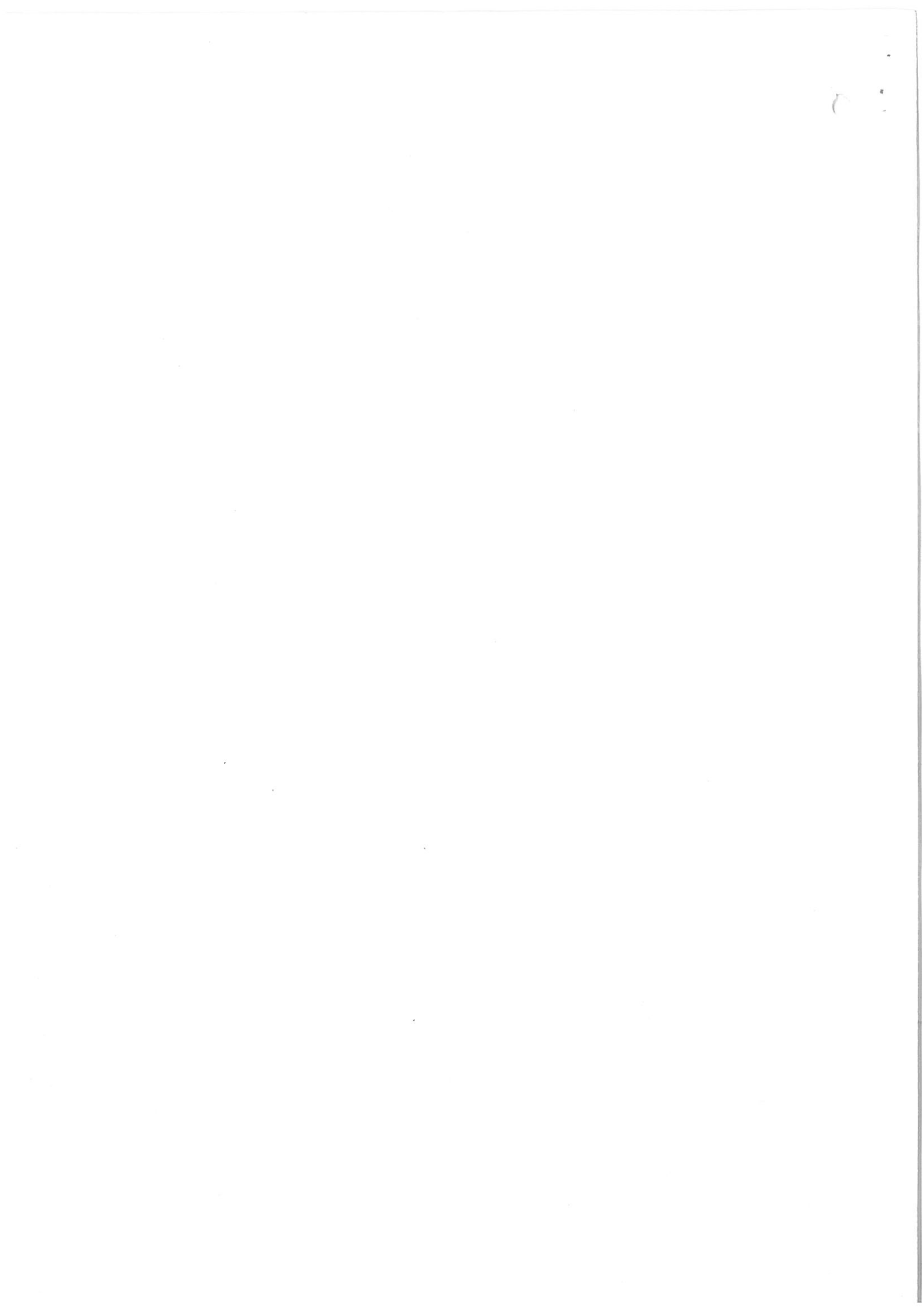
(PR/2019/20/STPP/SLK/117)

ANNEXURE 2
LIST OF STAKEHOLDERS WHO SUBMITTED
THE WRITTEN COMMENTS/OBJECTIONS/SUGGESTIONS

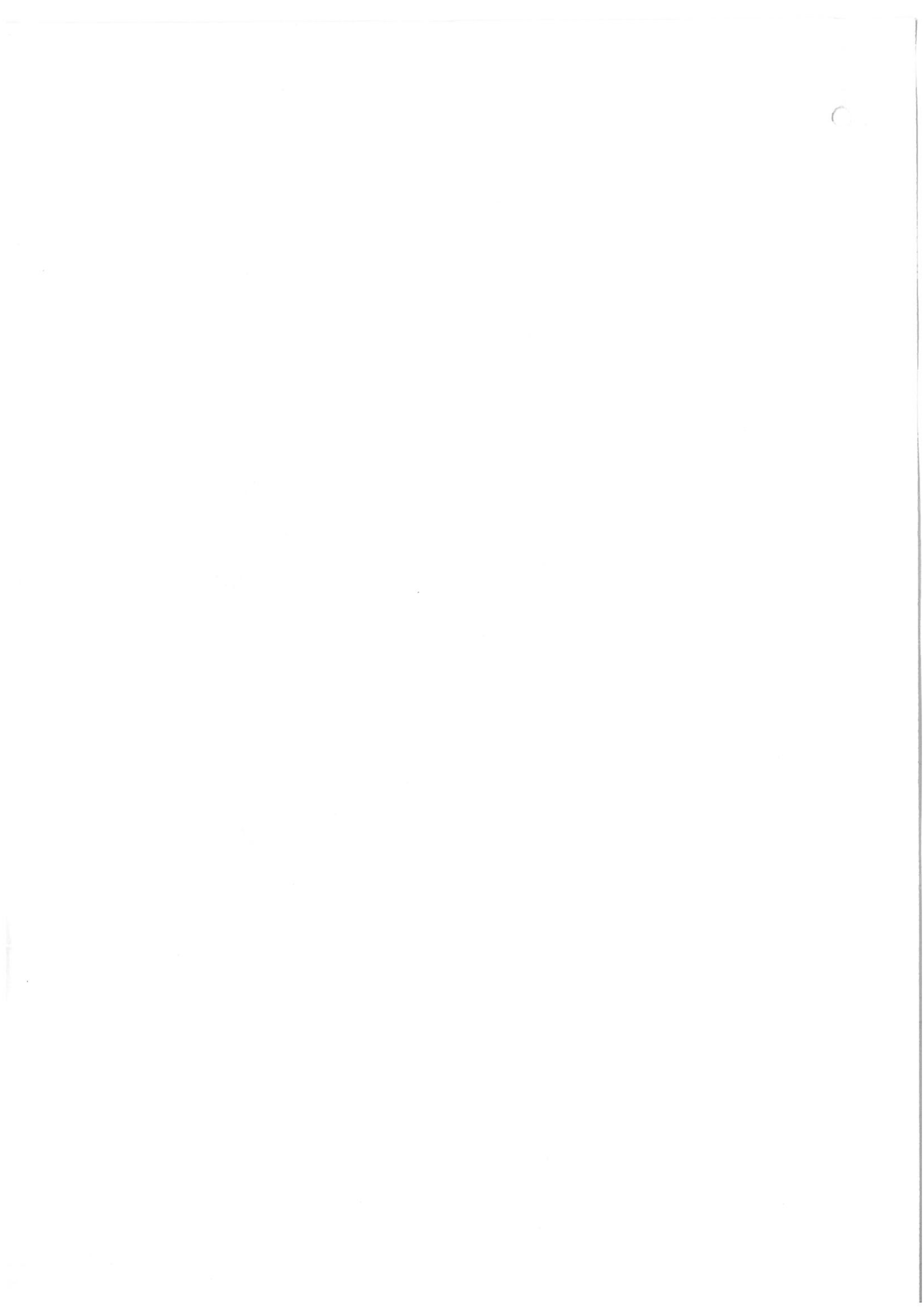
Sl. No.	Name and address of the stakeholder
1	Sri M.Venugopala Rao, Senior Journalist & Convenor, Centre for Power Studies, H.No.1-100/MP/101, Monarch Prestige, Journalists' Colony, Gopanpally, Serlingampally Mandal, Hyderabad – 500 032
2	Sri M.Thimma Reddy, Convenor, People's Monitoring Group on Electricity Regulation, 139, Kakatiyanagar, Hyderabad - 500 008
3	Southern Power Distribution Company of Telangana Ltd., Corporate Office, 6-1-50, Mint Compound, Hyderabad

ANNEXURE 3
LIST OF STAKEHOLDERS WHO PARTICIPATED IN
VIRTUAL PUBLIC HEARING BY VIDEO CONFERENCE
HELD ON 23.07.2020

Sl. No.	Name and address of the stakeholder
1	Sri M.Venugopala Rao, Senior Journalist & Convenor, Centre for Power Studies, H.No.1-100/MP/101, Monarch Prestige, Journalists' Colony, Gopanpally, Serlingampally Mandal, Hyderabad – 500 032
2	Southern Power Distribution Company of Telangana Ltd., Corporate Office, 6-1-50, Mint Compound, Hyderabad



**Annexure-C : A copy of TSERC terms &
conditions of generation tariff regulations
2019.**



Telangana State Electricity Regulatory Commission
(Terms and Conditions of Generation Tariff)
Regulations, 2019

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TELANGANA STATE ELECTRICITY REGULATORY COMMISSION

#11-4-660, 5th Floor, Singareni Bhavan, Red Hills, Hyderabad 500 004
Phone Nos. (040)23311125/26/27/28
Fax No. (040)23397489 website www.tserc.gov.in

TELANGANA STATE ELECTRICITY REGULATORY COMMISSION

(Terms and Conditions of Generation Tariff) Regulations, 2019

No. TSERC / 1 / 2019

Dated 04.01.2019.

Regulation No. 1 of 2019

Introduction

Section 62 and Section 86(1) (b) of the Electricity Act, 2003, require the Commission to determine the tariff for supply of electricity by a Generating Entity to a Distribution Licensee and to regulate electricity purchase and procurement process of Distribution Licensees including the price at which electricity shall be procured, from the Generating Entities or Licensees or from other sources through agreements for purchase of power for distribution and supply within the State. Section 61 of the Act requires the Commission to specify the terms and conditions for such determination of tariff. Accordingly, the Commission in exercise of the powers conferred by section 181(2) (zd) read with section 61 of the Electricity Act, 2003 (36 of 2003) thereof and all other powers enabling it in this behalf, hereby, makes the following Regulation.

1. Short title, commencement and extent

- 1.1. These Regulations shall be called the Telangana State Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2019;
- 1.2. These Regulations shall come into force with effect from the date of its publication in the Telangana State Gazette and shall remain in force till

amended or repealed by the Commission:

Provided that for all purposes, including the review matters pertaining to the period till FY 2018-19, the issues related to determination of Aggregate Revenue Requirement shall be governed by the provisions of the Andhra Pradesh Electricity Regulatory Commission (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) Regulation, 2008, including amendments thereto, as may be applicable.

1.3 These Regulations shall extend to the entire state of Telangana.

1.4 These Regulations shall be applicable to all existing and future Generating Entities and their successors, if any for determination of Aggregate Revenue Requirement within the state of Telangana in all matters covered under these Regulations from 1 April, 2019 to 31 March, 2024.

2. Definitions and interpretation

In these Regulations, unless the context otherwise requires

- 2.1. "**ABT Mechanism**" means availability based tariff mechanism.
- 2.2. "**Accounting Statement(s)**" means for each Financial Year, the following statements, namely:
 - 2.2.1. balance sheet, prepared in accordance with the form contained in the Companies Act, 2013 as amended from time to time, as applicable;
 - 2.2.2. profit and loss account, complying with the requirements contained in the Companies Act, 2013, as amended from time to time, as applicable, cash flow statement prepared in accordance with the applicable Accounting Standards of the Institute of Chartered Accountants of India

2.2.3. report of the statutory auditors;

2.2.4. cost records prescribed by the Central Government under the Companies Act, 2013, as applicable together with notes thereto, and such other supporting statements and information as the Commission may direct:

Provided that separate Accounting Statements shall be prepared and submitted to the Commission for each Licensed Business in accordance with the License conditions, and for each regulated business:

Provided further that, in case separate Accounting Statements are not submitted for each Licensed Business in accordance with the License conditions and for each regulated business for the FY 2018-19 onwards, the petitions filed by the Generating Entity, may be rejected by the Commission after giving the Petitioner a reasonable opportunity of being heard:

Provided also that the Generating Entity shall submit the statutory auditor's comments, observations and notes to accounts, along with the Accounting Statements, and a summary of the key issues highlighted by the statutory auditor and the steps taken to address them:

- 2.3. **"Act"** means the Electricity Act, 2003 (36 of 2003), as amended from time to time
- 2.4. **"Aggregate Revenue Requirement (ARR)"** means the annual revenue requirement for each financial year comprising of allowable expenses and return on capital pertaining to the Generating Entity, for recovery through tariffs and charges, in accordance with these Regulations;
- 2.5. **"Allocation Statement"** means for each Financial Year, a statement in respect of each of the separate businesses of the Generating Entity, showing the amounts of any revenue, cost, asset, liability, reserve or provision etc., which has been either:

2.5.1. determined by apportionment or allocation between different businesses of the Generating Entity including the Licensed Business, together with a description of the basis of the apportionment or allocation; or

2.5.2. charged from or to each such Other Business together with a description of the basis of that charge

Provided further that, separate Unit-wise and Station-wise Accounting Statements for Generation Business shall be prepared and submitted to the Commission wherever possible.

2.6. "**Applicant**" or "**Petitioner**" means a Generating Entity, who has made an application for determination of tariff in accordance with the Act and these Regulations and includes a Generating Entity whose tariff is the subject of a review by the Commission on suo-motu basis or as part of a truing- up exercise.

2.7. "**Auxiliary Energy Consumption (AUX)**" in relation to a period, in case of a Generating Station or Unit, means the quantum of energy consumed by auxiliary equipment of the Generating Station, such as the equipment being used for the purpose of operating plant and machinery, including switchyard of the Generating Station and the transformer losses within the Generating Station, and shall be expressed as a percentage of the sum of gross energy generated at the generator terminals of all the Units of the Generating Station:

Provided that the Auxiliary Energy Consumption shall not include the energy consumed for supply of power to housing colony and other facilities at the Generating Station and the power consumed for construction works at the Generating Station;

2.8. "**Availability**" in relation to a Thermal Generating Station/Unit for any period means the average of the daily average declared capacities as certified by the State Load Despatch Centre (SLDC) for all the Days

during that period, expressed as a percentage of the Installed Capacity of the Generating Station/Unit minus the normative Auxiliary Consumption in Megawatts (MW), as specified in these Regulations, and shall be computed in accordance with the following formula

In relation to a Thermal Generating Station/Unit

$$Availability = 100 \times \frac{\sum_{i=1}^N DC_i}{\{N \times IC \times (1 - AUX_n)\}} \%$$

where,

N = number of Time Blocks in the given period

DC_i = Average Declared Capacity in MW for the ith Time Block in such period

IC = Installed Capacity of the Generating Station/Unit in MW

AUX_n = Normative Auxiliary Consumption in MW, expressed as a percentage of gross generation in MW

- 2.9. **“Bank Rate”** shall mean the “One-year Marginal Cost of Funds-based Lending Rate” (MCLR) declared by State Bank of India and in effect on April 1st of the Financial Year of the date of petition / application.
- 2.10. **“Beneficiary or Beneficiaries”** in relation to a Generating Station means the purchaser of electricity generated at such Station whose tariff is determined under this Regulation.
- 2.11. **“Block”** in relation to a combined cycle Thermal Generating Station includes combustion turbine-generators, associated waste heat recovery boiler, connected steam turbine-generator and auxiliaries;
- 2.12. **“Books of Accounts”** includes records maintained by the Generating Station in respect of all sum of money received and expended; all sales and purchases of goods and services; the assets and liabilities; and any other cost/revenue items or financial transactions;

2.13. **“Capital Cost”** means the capital cost of a Project or its Unit or Stage as the case maybe as determined by the Commission after prudence check in accordance with clause 7 of this Regulation.

2.14. **“Capacity Index”** in relation to a Hydro power generating stations means the average of the daily capacity indices over one year excluding those days on which Maximum Available capacity is Zero due to non-availability of water

$$\text{Capacity Index} = \frac{\text{Sum of Capacity indices for all the days of the year}}{\text{Number of days in the year when the Maximum Available Capacity is non-zero}}$$

2.15. **“CEA”** means Central Electricity Authority referred to in Section 70 of the Act.

2.16. **“CERC”** means the Central Electricity Regulatory Commission referred to Section 76 of the Act;

2.17. **“CERC Regulations”** means the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 as amended from time to time.

2.18. **“Change in Law”** means occurrence of any of the following events :—

2.18.1. enactment, bringing into effect or promulgation of any new Indian law ; or

2.18.2. adoption, amendment, modification, repeal or re-enactment of any existing Indian law ; or

2.18.3. change in interpretation or application of any Indian law by a competent court, Tribunal or Indian Governmental Instrumentality, which is the final authority under law for such interpretation or application ; or

2.18.4. change of any condition or covenant by any competent statutory

authority in relation to any consent or clearances or approval or Licence available or obtained for the Project ; or

2.18.5. coming into force or change in any bilateral or multilateral agreement or treaty between the Government of India and any other Sovereign Government having implications for the Generating Station regulated under this Regulation ; or

2.18.6. any change in taxes or duties, or introduction of any taxes or duties levied by the Central or any State Government

2.19. **“Commission”** means the Telangana State Electricity Regulatory Commission;

2.20. **“Competitive Bidding”** means a transparent process for procurement of equipment, services and works in which bids are invited by the Project developer through open advertisement/e-procurement covering the scope and specifications of the equipment, services and works required for the Project, the terms and conditions of the proposed contract, the criteria by which the bids shall be evaluated, and shall include domestic as well as international Competitive Bidding.

2.21. **“Conduct of Business Regulations”** means the Telangana State Electricity Regulatory Commission (Conduct of Business) Regulations, 2015, as amended from time to time;

2.22. **“Control Period”** means the period comprising five Years from April 1st, 2019 to March 31st, 2024, as the Second control period and as may be extended by the Commission.

2.23. **“Cut-off Date”** means the 31st March of the Year ending after two (2) Years of the Year of start of commercial operation of a Project and, in case a Project is declared to be under commercial operation in the last quarter of a Year, it shall mean the 31st March of the Year ending after three Years of the Year of start of such commercial operation.

- 2.24. **“Date of Commercial Operation”** (or “COD”) shall have the meaning as assigned in clause 5 of this Regulation;
- 2.25. **“Day”** means the 24 hour period starting at 00:00 hour(s)
- 2.26. **“De-capitalisation”** means reduction in gross fixed assets of the Project corresponding to the removal of assets as admitted by the Commission;
- 2.27. **“Declared Capacity” (or “DC”)** in relation to a Generating Station means, the capability to deliver ex-bus electricity in MW declared by such Generating Station in relation to any Time-Block of the Day as defined in the Grid Code or whole of the Day, duly taking into account the availability of fuel or water, and subject to further qualification in the relevant Regulation
- 2.28. **“Design Energy”** means the quantum of energy which can be generated in a 90% Dependable Year with 95% Installed Capacity of the hydro Generating Station;
- 2.29. **“Detailed Project Report” (or “DPR”)** means a capital expenditure report with projected Capital Cost exceeding the limits specified in these Regulations, for which the Generating Entity is required to obtain prior in-principle approval by submitting a Detailed Project Report (DPR) in accordance with the Guidelines of the Commission for in-principle Clearance of proposed investment schemes;
- 2.30. **“Distribution Licensee”** means a Licensee authorised to operate and maintain a distribution system for supplying electricity to consumers in its area of supply.
- 2.31. **“End of Control Period Review”** means a review to be undertaken in accordance with the clause 3.13 of this Regulation;
- 2.32. **“Existing Project”** means a Project which has been declared under commercial operation on a date prior to commencement of the Control

Period;

2.33. **“Expected Revenue from Tariff and Charges”** means the revenue estimated to accrue to the Generating Entity from the regulated business at the prevailing level of tariff and charges.

2.34. **“Extended Life”** means the life of a Generating Station or Unit thereof beyond the period of Useful Life, as may be approved by the Commission on a case to case basis

2.35. **“Force Majeure Event”** means, with respect to any party, any event or circumstance, or combination of events or circumstances, which is not within the reasonable control of, and is not due to an act of omission or commission of that party and which, by the exercise of reasonable care and diligence, could not have been prevented ; and, without limiting the generality of the foregoing, shall include the following events or circumstances :—

2.35.1. acts of God, including but not limited to lightning, storm, action of the elements, earthquakes, flood, torrential rains, drought and natural disaster ;

2.35.2. acts of war, invasion, armed conflict or act of foreign enemy, insurrections, riots, revolution, terrorist or military action ;

2.35.3. unavoidable accident, including but not limited to fire, explosion, radioactive contamination and toxic chemical contamination ;

2.35.4. any shutdown or interruption of the grid, which is required or directed by the concerned Load Despatch Centre

2.36. **“Generation Business”** means the business of production of electricity from a Generating Station for the purpose of:

2.36.1. giving supply to any premises or enabling supply to be so given, or

- 2.36.2. supply of electricity to any Distribution Licensee in accordance with the Act and the rules and Regulations made there under, or
- 2.36.3. subject to the Regulation made under sub-section (2) of Section 42 of the Act, supply of electricity to any consumer
- 2.37. **“Generating Entity”** means any company or body corporate or association or body of individuals, whether incorporated or not, or artificial juridical person, which owns or operates or maintains a Generating Station.
- 2.38. **“Generating Station(s)” (or “Station(s)”**) means a Station for generating electricity, including any building and plant with step-up transformer, switchgear, switch yard, cables or other appurtenant equipment used for that purpose and the site thereof ; a site intended to be used for a Generating Station, and any building used for housing the operating staff of a Generating Station,
- Further provided that where electricity is generated by water-power, includes penstocks, head and tail works, main and regulating reservoirs, dams and other hydraulic works, but does not include any sub-station.
- 2.39. **“Generating Unit(s) or Unit(s)”** in relation to a Thermal Generating Station (other than combined cycle Thermal Generating Station) means steam generator, turbine-generator and auxiliaries, or in relation to a combined cycle Thermal Generating Station, means turbine generator and auxiliaries; in relation to a hydro generating station means turbine generator and its auxiliaries;
- 2.40. **“Grid”** means the high voltage backbone system of inter-connected transmission lines, sub-stations and Generating Stations;
- 2.41. **“Grid Code”** means the Indian Electricity Grid Code specified by the Central Commission or the Telangana State Electricity Regulatory

- Commission (State Grid Code) Regulations whichever is applicable as amended from time to time or subsequent re-enactment thereof;
- 2.42. **“Gross Calorific Value” (or “GCV”)** in relation to a Thermal Generating Station means the heat produced in kilocalories (kcal) by complete combustion of one kilogram (kg) of solid fuel or one litre of liquid fuel or one standard cubic meter of gaseous fuel, as the case may be.
- 2.43. **“Gross Station Heat Rate” (or “GSHR”)** means the heat energy input in kcal required to generate one kilo Watt hour (kWh) of electrical energy at generator terminals of a Thermal Generating Station.
- 2.44. **“Implementation Agreement”** means the agreement, contract or memorandum of understanding, or any such covenant, entered into between the Generating Station and transmission licensee for the execution of associated transmission system in coordinated manner.
- 2.45. **“Infirm Power”** means electricity injected into the Grid prior to the COD of a Unit or Block of the Generating Station;
- 2.46. **“Installed Capacity” (or “IC”)** means the summation of the name plate capacities of all the Units of the Generating Station or the capacity of the Generating Station (reckoned at the generator terminals) as may be approved by the Commission from time to time;
- 2.47. **“Kilowatt-Hour” (or “kWh”)** means a unit of electrical energy, measured in one (01) kilowatt or one thousand watts (1,000) of power produced or consumed over a period of one (01) hour;
- 2.48. **“License”** means license granted under section 14 of the Act;
- 2.49. **“Licensed Business”** means the functions and activities, which are required to be undertaken by the Licensee, in terms of the License granted under the Act;
- 2.50. **“Licensee”** means a person who has been granted a License.

- 2.51. **"Maximum Continuous Rating" (or "MCR")** in relation to a Generating Unit of the Thermal Generating Station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer at rated parameters, and in relation to a Block of a combined cycle Thermal Generating Station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer with water or steam injection (if applicable) and corrected to 50 Hz Grid frequency and under specified site conditions;
- 2.52. **"Mid-term Review"** means a review to be undertaken in accordance with the clause 3.12 of this Regulation;
- 2.53. **"New Generating Unit/Station"** means a generating unit/station declared under commercial operation on or after the date of coming into force of these Regulations.
- 2.54. **"Ninety (90) % Dependable Year"** shall mean the Year in which the annual energy generation has the probability of being equal to or in excess of 90% of the expected period of operation of the Station.
- 2.55. **"Non-DPR Scheme"** means a capital expenditure scheme with projected Capital Cost within the limits specified in these Regulations, for which the Generating Entity is not required to obtain prior in principle approval of the Commission.
- 2.56. **"Non-Tariff Income"** means the income relating to the regulated business other than from tariff, excluding any income from Other Business.
- 2.57. **"Normative Annual Plant Availability Factor" (or "NAPAF")**, in relation to a Generating Station means the availability factor as specified in clause 17.3 and 18.3 of these Regulations for Thermal Generating Station and hydro Generating Station respectively.
- 2.58. **"Officer"** means an officer of the Commission.

- 2.59. **“Operation and Maintenance expense” (or “O&M expense”)** in respect of a Generating Entity means the expenditure incurred on operation and maintenance of the Generating Station or Unit of a Generating Entity, or part thereof, and includes the expenditure on manpower, repairs, spares, consumables, insurance and overheads, but excludes fuel expenses and water charges and shall be as determined in clause 19 of this Regulation.
- 2.60. **“Original Project Cost”** means the capital expenditure incurred by a Generating Entity within the original scope of the Project, up to the Cut-Off Date as admitted by the Commission
- 2.61. **“Original Scope of Work”** means the activities to be performed under a contract or sub-contract in the completion of Project or scheme as approved by the Commission;
- 2.62. **“Other Business”** means any business undertaken by the Generating Entity, other than generation of electricity;
- 2.63. **“Pit head”** refers to the top of a mining pit or coal shaft that is immediately adjacent to the Generating Station
- 2.64. **“Plant Availability Factor” (or “PAF”)** ,in relation to a Generating Station for any period means the average of the daily Declared Capacities (DCs) for all the Days during the period expressed as a percentage of the Installed Capacity in MW less the normative Auxiliary Energy Consumption.
- 2.65. **“Plant Load Factor” (or “PLF”)**, in relation to a Thermal Generating Station for a given period, means the total sent-out energy corresponding to actual generation during such period, expressed as a percentage of sent-out energy corresponding to Installed Capacity in that period, and shall be computed in accordance with the following formula :—
- 2.65.1. In relation to a to a Thermal Generating Station/Unit

$$PLF = 100 \times \frac{\sum_{i=1}^N SG_i}{\{N \times IC \times (1 - AUX_n)\}} \%$$

where,

N = number of Time Blocks in the given period;

SG_i = Scheduled Generation in MW for the ith Time Block of the period;

IC = Installed Capacity of the Generating Station/Unit in MW;

AUX_n = Normative Auxiliary Consumption in MW, expressed as a percentage of gross generation in MW;

N

$\sum_{i=1}^N$ = Summation from i = 1 to N;

2.66. **"Primary Energy"** in relation to a hydro power generating station means the quantum of energy generated up to the design energy on per year basis at the generating station;

2.67. **"Project"** means a Generating Station

Provided that in case of a hydro Generating Station includes all components of generating facility such as dam, intake water conductor system, power Generating Station and generating units of the scheme, as apportioned to power generation.

Further provided that in case of Thermal Generating Stations it does not include mining if it is a Pit Head Project and dedicated captive coal mine.

2.68. **"Prudence Check"** means the scrutiny of reasonableness of expenditure incurred or proposed to be incurred, financing plan, use of

efficient technology, cost and time overrun and such other factors as may be considered appropriate by the Commission for determination of Aggregate Revenue Requirement and tariff.

- 2.69. **"Pumped Storage Hydro Generating Station"** means a hydro station which generates power through energy stored in the form of water energy, pumped from a lower elevation reservoir to a higher elevation reservoir.
- 2.70. **"Reform Act"** means the Andhra Pradesh Electricity Reform Act, 1998.
- 2.71. **"Run-of-river Generating Station"** means a hydro Generating Station, which does not have upstream pondage.
- 2.72. **"Run-of-river Generating Station with pondage"** means a hydro Generating Station with sufficient pondage for meeting the diurnal variation of power demand.
- 2.73. **"Scheduled Commercial Operation Date or SCOD"** shall mean the date(s) of commercial operation of a Generating Station or Generating Unit or Block thereof as indicated in the Investment approval or as agreed in power purchase agreement whichever is earlier.
- 2.74. **"Scheduled energy"** means the quantum of energy scheduled by the concerned load despatch center to be injected into the grid by a generating station for a given time period.
- 2.75. **"Scheduled generation"** at any time or for a time block or any period means schedule of generation in MW or MWh ex-bus given by the concerned Load Dispatch Centre;
- 2.76. **"Secondary Energy"** in relation to a hydro power generating station means the quantum of energy generated in excess of the design energy on per year basis at the generating station;

- 2.77. **“Small Gas Turbine Generating Station”** means and includes open cycle gas turbine or combined cycle Generating Stations with gas turbines in the capacity range of 50 MW or below.
- 2.78. **“Start Date or Zero Date”** means the date indicated in the investment approval for commencement of implementation of the Project and where no date has been indicated, the date of investment approval shall be deemed to be the Start Date or Zero Date.
- 2.79. **“State”** means the state of Telangana.
- 2.80. **“State Grid Code”** means the Code specified by the Commission under clause (h) of sub-section (1) of section 86 of the Act;
- 2.81. **“Storage-type Power Station”** means a hydro power Generating Station associated with large storage capacity to enable variation in generation of electricity according to demand.
- 2.82. **“Straight Line Method”** means the method where depreciation results in a constant charge over the Useful Life if the asset’s residual value does not change.
- 2.83. **“Time-Block”** means a time block of fifteen (15) minutes or any such shorter duration as may be notified by CERC and Commission, for which specified electrical parameters and quantities are recorded by special energy meter, with first time block starting at 00.00 hours or such other period as the Commission may stipulate.
- 2.84. **“Terminal Liabilities”** means terminal benefits such as Death-cum-Retirement Gratuity, Pension, Commuted Pension, Leave Encashment, LTC, Dearness relief, Interim relief, Medical reimbursement including fixed medical allowance in respect of pensioners.
- 2.85. **“Thermal Generating Station”** means a Generating Station or a Unit thereof that generates electricity using fossil fuels as its primary source

of energy.

2.86. **“Trial Run or Trial Operation”** means the successful running of the Generating Station or Unit thereof at MCR or Installed Capacity for continuous period of 72 hours in case of Unit of a Thermal Generating Station or Unit thereof and **3** hours in case of a Unit of a hydro Generating Station or Unit thereof;

Provided that:

2.86.1. The short interruptions, for a cumulative duration of 4 hours, shall be permissible with a corresponding increase in the duration of the test. Cumulative Interruptions for more than 4 hours shall call for repeat of Trial Operation or Trial Run.

2.86.2. Partial loading may be allowed with the condition that average load during the duration of the Trial Run shall not be less than Maximum Continuous Rating or the Installed Capacity or the Name Plate Rating excluding period of interruption and partial loading but including the corresponding extended period.

2.86.3. Units of thermal and hydro Central Generating Stations and inter-State Generating Stations shall also demonstrate capability to raise load up to 105% or 110% of this Maximum Continuous Rating or Installed Capacity or the Name Plate Rating as the case may be.

2.87. **“Unit”** in relation to a Thermal Generating Station (other than combined cycle Thermal Generating Station) means steam generator, turbine-generator and auxiliaries or, in relation to a combined cycle Thermal Generating Station, means turbine-generator and auxiliaries; and, in relation to a hydro Generating Station, means turbine-generator and its auxiliaries.

2.88. **“Useful life”** means in relation to a Unit of a Generating Station, from the date of commercial operation shall mean the following, namely:-

- (i) Coal/Lignite based thermal generating Station: 25 years;
- (ii) Gas/Liquid fuel based thermal Generating Station: 25 years;
- (iii) Hydel Generating Station including Pumped Storage, Hydel Generating Station : 40 years

Provided further that the extension of life of the projects beyond the completion of their useful life shall be decided by the Commission.

2.89. **“Year” or “Financial Year (FY)”** means a financial year;

2.90. Words and expressions used and not defined in the Regulation but defined in the Act and Reform Act shall have the meanings assigned to them in the Act or Reform Act. Expressions used herein but not specifically defined in the Regulation or in the Act but defined under any law passed by a competent legislature and applicable to the electricity industry in the State shall have the meaning assigned to them in such law. Subject to the above, expressions used herein but not specifically defined in this Regulation or in the Act or any law passed by a competent legislature shall have the meaning as is generally assigned in the electricity industry.

In the interpretation of this Regulation, unless the context otherwise requires:

- (i) words in the singular or plural term, as the case may be, shall also be deemed to include the plural or the singular term, respectively;
- (ii) references herein to the ‘Regulation’ shall be construed as a reference to this Regulation as amended or modified by the Commission from time to time in accordance with the applicable laws in force;
- (iii) the headings are inserted for convenience and may not be taken into account for the purpose of interpretation of this Regulation;
- (iv) reference to the statutes, Regulations or guidelines shall be

construed as including all provisions consolidating, amending or replacing such statutes, Regulations or guidelines, as the case may be, referred to;

3. Applicability and General Principles

- 3.1. This Regulation shall apply in all cases where tariff for a Generating Station or a Unit thereof is required to be determined by the Commission under section 62 of the Act.

Provided that, Provisions of these Regulations shall not be applicable for the Determination of Tariff for the Generation of Electricity from Renewable Energy Sources.

- 3.2. The Commission shall be guided by the Regulations contained herein for determining the tariff for supply of electricity by a Generating Entity to a Distribution Licensee in the following cases:

3.2.1. where such tariff is pursuant to a power purchase agreement or arrangement entered into subsequent to the date of effectiveness of these Regulations; or

3.2.2. where such tariff is pursuant to a power purchase agreement or arrangement entered into prior to the date of effectiveness of this Regulation and either the Commission has not previously approved such agreement / arrangement or the agreement/ arrangement envisages that the tariff shall be based on the this TSERC Generation Tariff Regulations, 2019;

- 3.3. This Regulation shall not apply for determination of tariff in case of the following:

3.3.1. Generating Stations whose tariff has been discovered through tariff based Competitive Bidding in accordance with the guidelines issued by the Central Government and adopted by the Commission under Section 63 of the Act;

- 3.4. This Regulation shall be applicable to all existing and future Generating Entities and their successors, if any.
- 3.5. These Regulations supersede the “APERC 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 Regulation 1 of 2008”.

Multi-Year Tariff Framework

- 3.6. The Commission shall determine the tariff for supply of electricity by a Generating Entity, except from renewable sources of energy to a Distribution Licensee under a multi-year tariff framework with effect from April 1, 2019.

Provided that where the Commission believes that a shortage of supply of electricity exists, it may fix the minimum and maximum ceiling of tariff for sale or purchase of electricity in pursuance of an agreement, entered into between a Generating Entity and a Distribution Licensee or between Distribution Licensees, for a period not exceeding one year to ensure reasonable prices of electricity.

Notwithstanding anything contained in this Regulation, the Commission shall adopt the tariff if such tariff has been determined through a transparent process of bidding in accordance with the guidelines issued by the Central Government pursuant to Section 63 of the Act.

- 3.7. The Multi-Year Tariff framework shall be based on the following elements, for determination of Aggregate Revenue Requirement and Expected Revenue from Tariff and Charges for Generating Entity:
- 3.7.1. The Applicant shall submit a detailed Multi-Year Tariff application comprising the following for each year of the Control Period:
- (a) the forecast of Aggregate Revenue Requirement for the entire Control Period

- (b) expected revenue from existing tariffs
- (c) proposed tariff
- (d) revenue gap

Provided that the performance parameters, whose trajectories have been specified in this Regulation, shall form the basis for projection of these performance parameters in the Aggregate Revenue Requirement for the entire Control Period;

3.7.2. Determination of Aggregate Revenue Requirement and tariff for the Generating Entity for each Financial Year within the Control Period by the Commission at the start of the Control Period;

3.7.3. Petition for Mid-term Review of operational and financial performance vis-a-vis the approved forecast for the first two years of the Control Period; and revised forecast of Aggregate Revenue Requirement, expected revenue from existing tariff, expected revenue gap, for the third, fourth and fifth year of the Control Period, shall be submitted by the Generating Entity;

3.7.4. True-up for the first year and second year of the Control Period based on audited accounts and provisional true-up for the third year of the Control Period of operational and financial performance vis-a-vis the approved forecast for the respective Years shall be submitted by the Generating Entity along with its Petition for Mid-term Review;

3.7.5. Determination of the revised Aggregate Revenue Requirement and tariff for Generating Entity by the Commission for the fourth and fifth year of the Control Period based on the Mid-term Review;

3.7.6. True-up for the first year and second year of the Control Period, provisional true-up for the third year of the Control Period of operational and financial performance vis-a-vis the approved forecast for the respective years, and categorisation of variation in performance as those caused by factors within the control of the

Petitioner (controllable factors) and by factors beyond its control (uncontrollable factors) by the Commission, along with the Mid-term Review

3.7.7. The mechanism for pass-through of approved gains or losses on account of uncontrollable factors as specified by the Commission in this Regulation;

3.7.8. The mechanism for sharing of approved gains or losses on account of controllable factors as specified by the Commission in this Regulation;

3.8. Petitions to be filed during the Second Control Period -

The Petitions to be filed in the Second Control Period under these Regulations are as under:-

3.8.1. **Multi-Year Tariff Petition** shall be filed by April 1 2019, comprising :

- (a) Truing-up for FY 2014-18 to be carried out under the Andhra Pradesh Regulation 1 of 2008 - Terms and Conditions for Determination of Tariff for Supply of Electricity by a Generating Entity to a Distribution Licensee and Purchase of Electricity by Distribution Licensees or CERC Regulations as relevant.
- (b) Provisional Truing-up and truing up for FY 2018-19 to be carried out under the Andhra Pradesh Regulation 1 of 2008 - Terms and Conditions for Determination of Tariff for Supply of Electricity by a Generating Entity to a Distribution Licensee and Purchase of Electricity By Distribution Licensees or CERC Regulations as relevant.

Provided that the Commission may, if it considers appropriate, carry out the truing-up for the year FY 2018-19, along with the truing up for the first two years of the Control

Period FY 2019-24 during the Mid-Term Review.

- (c) Aggregate Revenue Requirement for each year of the Control Period under this Regulations;
- (d) Revenue from the sale of power at existing tariffs and projected revenue gap for each year of the Control Period under this Regulation;

3.8.2. Mid-term Review Petition

- (a) Truing-up for the first and second year and provisional truing-up for third year of the Control Period to be carried out under these Regulations.
- (b) Revised forecast of Aggregate Revenue Requirement, expected revenue from existing tariff and charges and revenue gap for the fourth and fifth year of the Control Period.

Provided that a petition may be filed at any time during the Control Period in case of variation in uncontrollable factors that may result in sudden, steep, and sustained increase in tariff.

3.9. The Petitioner shall submit separate audited Accounting Statements along with the petition for determination of tariff and truing-up under these Regulations.

3.10. Multi-Year Tariff Petition

3.10.1. The Multi-Year Tariff Petition shall include a forecast of Aggregate Revenue Requirement and expected revenue from tariff for each Year of the Control Period in the manner specified in these Regulations, and shall be accompanied by applicable fees.

3.10.2. The forecast of Aggregate Revenue Requirement may be based on assumptions relating to the behavior of individual variables during the Control Period, including capital investment plan, financing plan and physical targets, in accordance with guidelines and formats as may be prescribed by the Commission.

- 3.10.3. The capital investment plan shall show, separately, on-going Projects that will spill over into the Control Period, and new Projects that will commence in the Control Period but may be completed within or beyond it, for which relevant technical and commercial details shall be provided.
- 3.10.4. The forecast of Expected Revenue from Tariff and Charges shall be based on the following:
- (a) Estimates of quantum of electricity to be generated by each Unit/Station for each year of the Control Period.
 - (b) Prevailing tariff as on the date of filing of the petition/application or estimated tariff for the new generating unit/station
- 3.10.5. Based on the forecast of Aggregate Revenue Requirement and expected revenue from tariff the Generating Entity shall submit the proposed tariff (Unit and Station-wise) for each year of the Control Period, that would meet the gap, if any, in the Aggregate Revenue Requirement, including unrecovered revenue gaps of previous years to the extent proposed to be recovered.
- 3.10.6. Full details supporting the forecast shall be provided, including but not limited to details of past performance, proposed initiatives for achieving efficiency or productivity gains, technical studies, contractual arrangements and secondary research, to enable the Commission to assess the reasonableness of the forecast.
- 3.10.7. On receipt of the petition, the Commission shall either issue an Order approving the Aggregate Revenue Requirement and tariff for the Control Period, subject to such modifications and conditions as it may stipulate; or reject the petition for reasons to be recorded in writing, after giving the Petitioner a reasonable opportunity of being heard.

3.11. **Specific trajectory for certain variables** - The Commission, while approving the Multi-Year Tariff Petition, may stipulate a trajectory variables.

3.12. **Mid-term Review**

3.12.1. The Generating Entity shall file a petition for Mid-term Review and truing-up of the Aggregate Revenue Requirement and Revenue for FY 2019-20 and FY 2020-21, and provisional truing-up for the FY 2021-22, by November 30, 2021:

Provided that the Petition shall include information in such form as may be stipulated by the Commission, together with the Accounting Statements, extracts of Books of Account and such other details, including cost accounting reports or extracts thereof, as it may require to assess the reasons for and extent of any difference in operational and financial performance from the approved forecast of Aggregate Revenue Requirement and expected revenue from tariff.

3.12.2. The scope of the Mid-term Performance Review shall be a comparison of the actual operational and financial performance vis-a-vis the approved forecast for the first three years of the Control Period; and revised forecast of Aggregate Revenue Requirement, expected revenue from existing Tariff, expected revenue gap, for the fourth and fifth year of the Control Period.

3.12.3. Upon completion of the review under clause 3.12.2 herein, the Commission shall attribute any variations or expected variations in performance, for variables specified under clause 6.7 & clause 6.8, to factors within the control of the Petitioner (controllable factors) or to factors beyond its control (uncontrollable factors).

3.12.4. Any variations or expected variations in performance, for

variables other than those specified under clause 6.7 of this Regulation, shall not ordinarily be reviewed by the Commission during the Control Period and shall be attributed entirely to controllable factors:

3.12.5. Where the Petitioner believes, for any variable not specified under clause 6.7, that there is a material variation or expected variation in performance for any Year on account of uncontrollable factors, it may apply to the Commission for inclusion of such variable.

3.12.6. Upon completion of the Mid-term Review, the Commission shall pass an order recording:—

- (a) the approved aggregate gain or loss to the Generating Entity on account of controllable factors for the first two Years of the Control Period and provisional Truing-up for the third year of the Control Period, and the amount of such gains or such losses that may be shared in accordance with clause 6.10 of this Regulation.
- (b) The approved aggregate gain or loss to the Generating Entity account of uncontrollable factors for the first two years of the Control Period and provisional Truing-up for the third year of the Control Period, and the amount of such gains or such losses that were not recovered during the respective years and which may be shared in accordance with clause 6.9 of this Regulation.
- (c) The approved modifications to the Aggregate Revenue Requirement and Tariffs for the remainder of the Control Period.

3.13. End of the Control Period Review

3.13.1. The Generating Entity shall file a petition for End of the Control

Period Review and truing-up of the Aggregate Revenue Requirement and revenue for FY 2021-22 and FY 2022-23, and provisional truing-up for the FY 2023-24, by November 30, 2023.

Provided that the Petition shall include information in such form as may be stipulated by the Commission, together with the Accounting Statements, extracts of Books of Account and such other details, including cost accounting reports or extracts thereof, as it may require to assess the reasons for and extent of any difference in operational and financial performance from the approved forecast of Aggregate Revenue Requirement and expected revenue from tariff.

- 3.13.2. The scope of the End of Control Period Review shall be a comparison of the actual operational and financial performance vis-a-vis the approved forecast for the third, fourth and fifth Year(s) of the Control Period;
- 3.13.3. Upon completion of the review under clause 3.13.2 of this Regulation, the Commission shall attribute any variations or expected variations in performance, for variables specified under clause 6.7 & clause 6.8 of this Regulation, to factors within the control of the Petitioner (controllable factors) or to factors beyond its control (uncontrollable factors).
- 3.13.4. Any variations or expected variations in performance, for variables other than those specified under clause 6.7 of this Regulation, shall not ordinarily be reviewed by the Commission during the Control Period and shall be attributed entirely to controllable factors :
- 3.13.5. Where the Petitioner believes, for any variable not specified under clause 6.7, that there is a material variation or expected variation in performance for any Year on account of

uncontrollable factors, it may apply to the Commission for inclusion of such variable.

3.13.6. Upon completion of the End of Control Period Review, the Commission shall pass an order recording :—

- (a) the approved aggregate gain or loss to the Generating Entity on account of controllable factors for the third and fourth year of Control Period and provisional Truing-up for the fifth year of the Control Period, and the amount of such gains or such losses that may be shared in accordance with clause 6.10 of this Regulation.
- (b) the approved aggregate gain or loss to the Generating Entity account of uncontrollable factors for the third and fourth Year of the Control Period and provisional Truing-up for the fifth year of the Control Period, and the amount of such gains or such losses that were not recovered during the respective years and which may be shared in accordance with clause 6.9 of this Regulation.

3.13.7. Also, the Commission shall review the achievement of objectives and implementation of the principles of MYT laid down in these Regulations.

3.13.8. To meet the objectives of the Act, the National Electricity Policy and Tariff Policy, the Commission may revise the principles of MYT for the subsequent Control Period(s).

3.13.9. The end of a Control Period shall be the beginning of the subsequent Control Period. The Applicant shall follow the same procedure for the next Control Period unless required otherwise by the Commission.

3.13.10. The Commission shall analyse the performance with respect to the norms set out at the beginning of the Control Period in the MYT order and shall determine the base values for the next

Control Period, based on actual performance achieved, expected improvement and other relevant factors.

4. Procedure for determination of tariff

4.1. Filing of Petition for determination of Tariff

- 4.1.1. Petition for determination of tariff shall be filed in such form and in such manner as specified in this Regulation, and be accompanied by applicable fees.
- 4.1.2. The proceedings for determination of Tariff shall be undertaken by the Commission in accordance with the Regulations governing its Conduct of Business.
- 4.1.3. Notwithstanding anything contained in this Regulation, the Commission shall have the authority to determine the tariff, either suo-motu or on a Petition filed by the Generating Entity as per TSERC terms and conditions of generation tariff regulation.

4.2. Petition for determination of tariff

- 4.2.1. Tariff in respect of a Generating Station under this Regulations may be determined Stage-wise, Unit-wise or for the whole Generating Station.

Provided that the terms and conditions for determination of tariff for Generating Stations specified herein shall apply in like manner to Stages or Units, as the case may be, as to Generating Stations.

- 4.2.2. Where the tariff is being determined for Stage or Generating Unit of a Generating Station, the Generating Entity shall adopt a reasonable basis for allocation of Capital Cost relating to common facilities and allocation of joint and common costs across all Stages or Generating Units, as the case may be.

Provided that the Generating Entity shall maintain an Allocation Statement providing the basis for allocation of such costs, which shall be duly audited and certified by the statutory auditors and submit such audited and certified statement to the Commission along with the application for determination of tariff.

- 4.2.3. The Generating Entity shall file the application for determination of provisional tariff for new Generating Station, one hundred and eighty (180) Days prior to the anticipated COD of Generating Unit or Stage or Generating Station as a whole, as the case may be.
- 4.2.4. The Generating Entity shall make an application for determination of tariff based on capital expenditure incurred or projected to be incurred up to the COD and additional capital expenditure incurred, duly certified by the statutory auditors.

Provided that the application shall contain details of underlying assumptions for the projected capital cost and additional capital cost, wherever applicable.

- 4.2.5. In the case of new Projects, the Generating Entity may be allowed provisional tariff by the Commission from the anticipated COD, based on the projected capital expenditure.
- 4.2.6. If the COD is delayed the provisional tariff granted shall be applicable till the determination of tariff by the Commission. The generating entity shall file for determination of tariff within 180 days from the date of COD.
- 4.2.7. The Generating Entity shall file the application for determination of final tariff for new Generating Station within one hundred and eighty Days (180) from the COD of Generating Unit or Stage or Generating Station as a whole, as the case may be, based on the audited capital expenditure and capitalisation as on the COD.

4.3. Determination of Tariff for Existing Generating Station

4.3.1. Where the Commission has, at any time prior to April 1, 2019, approved a power purchase agreement or arrangement between a Generating Entity and a Distribution Licensee or has adopted the Tariff contained therein for supply of electricity from an existing generating Unit/Station, then the Tariff for supply of electricity by such Generating Entity to the Distribution Licensee shall be in accordance with the Tariff mentioned in such power purchase agreement or arrangement for such period as so approved or adopted by the Commission.

4.3.2. Where, as on April 1, 2019, the power purchase agreement or arrangement between a Generating Entity and a Distribution Licensee for supply of electricity from an existing Generating Unit/Station or the tariff therein has not been approved by the Commission, or where there is no power purchase agreement or arrangement, the supply of electricity by such Generating Entity to the Distribution Licensee after April 1, 2019 shall be in accordance with a power purchase agreement approved by the Commission.

Provided that the petition for approval of such power purchase agreement or arrangement shall be filed by the Distribution Licensee with the Commission within three months from the date of notification of these Regulations:

Provided further that the supply of electricity shall be allowed to continue under the present agreement or arrangement until such time as the Commission approves such power purchase agreement, and shall be discontinued forthwith if the Commission rejects it, for reasons to be recorded in writing.

4.4. **Determination of Tariff for New Generating Stations**

The Tariff for the supply of electricity by a Generating Entity to a Distribution Licensee from a New Generating Unit/Station shall be in accordance with the Tariff determined in accordance with these

Regulations.

4.5. Tariff Order

4.5.1. The Commission shall, within one hundred and twenty (120) Days from receipt of a complete petition, and after considering all suggestions and objections received from the public :—

(a) Issue a Tariff Order accepting the Petition with such modifications or conditions as may be stipulated in that Order.

(b) Reject the petition for reasons to be recorded in writing if such petition is not in accordance with the provisions of the Act and the rules and Regulations made thereunder or any other provisions of law, after giving the Petitioner a reasonable opportunity of being heard.

4.5.2. The Petitioner shall provide the approved tariff schedule on its internet website, and make available for sale a booklet containing such tariff to any person upon payment of reasonable reproduction charges. The approved tariff shall also be published in at least two English and two Telugu language daily newspapers having wide circulation in the area of supply of the Distribution Licensee to whom the electricity is proposed to be supplied in terms of the Tariff Order.

4.5.3. The Tariff so published shall be in force from the date stipulated in the Order and shall, unless amended or revised, continue to be in force for such period as may be stipulated therein.

4.6. Adherence to Tariff Order

4.6.1. No tariff or part of any tariff may ordinarily be amended more frequently than once in a Year, except in respect of any changes expressly permitted under uncontrollable factors as specified in

clause 6.7 of this Regulation.

- 4.6.2. If any Generating Entity recovers a price or charge exceeding the tariff determined under Section 62 of the Act and in accordance with these Regulations, the excess amount shall be payable to the person who has paid such price or charge, along with interest equivalent to the Bank Rate as defined in this Regulations, without prejudice to any other liability to which such Generating Entity may be subject to:

Provided that such interest payable to any party shall not be allowed to be recovered through the Aggregate Revenue Requirement of the Generating Entity.

Provided also that the Generating Entity shall maintain separate details of such interest paid or payable by it, and shall submit them to the Commission along with its Petition.

- 4.6.3. The Generating Entity shall submit periodic returns as may be required by the Commission, containing operational and cost data to enable it to monitor the implementation of its Order.

5. Date of Commercial Operation (COD)

- 5.1. **Date of Commercial Operation (COD):** The date of commercial operation of a Generating Station or Unit or element thereof shall be determined as detailed in clauses 5.2 & 5.3 below.

- 5.2. **COD for Thermal Generating Station** - COD in case of a Generating Unit or Block of the Thermal Generating Station shall mean, the date declared by the Generating Entity after demonstrating the Maximum Continuous Rating (MCR) or the Installed Capacity (IC) through a successful Trial Run after notice to the Beneficiaries, if any, and in case of the Generating Station as a whole, the COD of the last Generating Unit or Block of the Generating Station:

Provided that:

5.2.1. Where the Beneficiaries have been tied up for purchasing power from the Generating Station, the Trial Run shall commence after seven Day notice by the Generating Entity to the Beneficiaries and SLDC and scheduling shall commence from 00:00 hour after completion of the Trial Run.

5.2.2. Where the Beneficiaries have not been tied up for purchasing power from the Generating Station, the Trial Run or each repeat of Trial Run shall commence after a notice of not less than seven Days by the Generating Entity to the SLDC.

5.2.3. The Generating Entity shall certify to the effect that:

- (a) The Generating Station meets the key provisions of the technical standards of Central Electricity Authority (Technical Standards for Construction of Electrical plants and electric lines) Regulations, 2010 as amended from time to time and Grid Code as amended from time to time.
- (b) The main plant equipment and auxiliary systems including Balance of Plant, such as Fuel Oil System, Coal Handling Plant, DM plant, pre-treatment plant, fire-fighting system, Ash Disposal system and any other site specific system have been commissioned and are capable of full load operation of the Units of the Generating Station on sustained basis.
- (c) Permanent electric supply system including emergency supplies and all necessary instrumentation, control and protection systems and auto loops for full load operation of unit have been put in service.

5.2.4. Trial Run shall be in accordance with clause 2.81 of these Regulations.

- 5.2.5. The certificate required in clause 5.2.3 above shall be signed by the Chief Executive Officer/Chief Managing Director/Managing Director or the highest relevant authority of the Generating Entity and a copy of the certificate shall be submitted to the Member Secretary, (Southern Regional Power Committee) and SLDC before declaration of COD. The Generating Entity shall submit to the Commission the approval of Board of Directors to the certificates as required herein within a period of 3 months of the COD.
- 5.2.6. Where on the basis of the Trial Run, a Unit of the Generating Station fails to demonstrate the Unit capacity corresponding to Maximum Continuous Rating or Installed Capacity or Name Plate Rating, the Generating Entity has the option to de-rate the capacity or to go for repeat Trial Run. Where the Generating Entity decides to de-rate the Unit capacity, the demonstrated capacity in such cases shall be more or equal to 105% of de-rated capacity.
- 5.3. The SLDC shall convey clearance to the Generating Entity for declaration of COD within 7 Days of receiving the generation data based on the Trial Run as per the procedure laid down in the Indian Electricity Grid Code 2010 and TSERC State Grid Code. Further, if the SLDC notices any deficiencies in the Trial Run, it shall be communicated to the Generating Entity within seven (7) Days of receiving the generation data based on the Trial Run.

Provided that the communication system and data telemetry system is put into service after completion of COD certification by SLDC including test transfer of voice and data to respective control centre as certified by the State Load Dispatch Centre.

- 5.4. **Hydro Generating Station:** COD in case of a Generating Unit of a hydro Generating Station, including Pumped Storage Hydro Generating Station, the date declared by the Generating Station from 00:00 hour(s) after the scheduling process in accordance with the Indian Electricity Grid Code 2010 and TSERC State Grid Code is fully implemented, and in

relation to the Generating Station as a whole, the date declared by the Generating Entity after demonstrating peaking capability corresponding to the Installed Capacity of the Generating Station through a successful Trial Run and after obtaining clearance from the SLDC, and in relation to the generating station as a whole, the COD of the last generating Unit of the Generating Station:

Provided that:

5.4.1. where the Beneficiaries have been tied up for purchasing power from the Generating Station, scheduling process for a Generating Unit of the Generating Station or demonstration of peaking capability corresponding to the Installed Capacity of the Generating Station through a successful Trial Run or each repeat of Trial Run shall commence after at least seven(7) Day notice by the Generating Entity to the Beneficiaries and scheduling shall commence from 00:00 hours after completion of the Trial Run.

5.4.2. Where the Beneficiaries have not been tied up for purchasing power from the Generating Station, the Trial Run shall commence after a notice of not less than seven Days by the Generating Entity to the SLDC.

5.4.3. the Generating Entity shall certify to the effect that:

- (a) the Generating Station meets the key provisions of the technical standards of Central Electricity Authority (Technical Standards for Construction of Electrical plants and electric lines) Regulations, 2010 as amended from time to time and Grid Code as amended from time to time.
- (b) The main plant equipment and auxiliary systems including Drainage Dewatering system, Primary and Secondary cooling system, LP and HP air compressor, Firefighting system, etc. have been commissioned and are capable for full load operation of

units on sustained basis

- (c) Permanent electric supply system including emergency supplies and all necessary Instrumentations Control and Protection Systems and auto loops for full load operation of the unit are put into service.
- (i) The certificate required in clause 5.4.3 above shall be signed by the Chief Executive Officer/Chief Managing Director/Managing Director or the highest relevant authority of the Generating Entity and a copy of the certificate shall be submitted to the Member Secretary, (Southern Regional Power Committee) and SLDC before declaration of COD. The Generating Entity shall submit to the Commission the approval of Board of Directors to the certificates as required herein within a period of 3 months of the COD.
- (ii) Trial Run shall be in accordance with clause 2.81 of this Regulation.
- (iii) in case a hydro Generating Station with pondage or storage is not able to demonstrate peaking capability corresponding to the Installed Capacity for the reasons of insufficient reservoir or pond level, the COD of the last Unit of the Generating Station shall be considered as the COD of the Generating Station as a whole, and it will be mandatory for such hydro Generating Station to demonstrate peaking capability equivalent to Installed Capacity of the Generating Unit or the Generating Station as and when such reservoir/pond level is achieved.
- (iv) If a run-of-river hydro Generating Station or a Generating Unit thereof is declared under commercial operation during lean inflows period when the water inflow is insufficient for such demonstration of peaking capability, it shall be mandatory for such hydro Generating Station or Generating Unit to

demonstrate peaking capability equivalent to Installed Capacity as and when sufficient water inflow is available. In case of failure to demonstrate the peaking capacity, the Unit capacity shall be de-rated to the capacity demonstrated with effect from the COD.

- (v) Where on the basis of the Trial Run, a unit of the generating station fails to demonstrate the unit capacity corresponding to Maximum Continuous Rating or Installed Capacity or Name Plate Rating, the generating company shall have the option to either de-rate the capacity or to go for repeat Trial Run. If the generating company decides to de-rate the unit capacity, the demonstrated capacity in such cases shall be more or equal to 110% of de-rated capacity.
- (vi) The SLDC shall convey clearance to the Generating Entity for declaration of COD within 7 Days of receiving the generation data based on the Trial Run. Further, if the SLDC notices any deficiencies in the Trial Run, it shall be communicated to the Generating Entity within seven (7) Days of receiving the generation data based on the Trial Run.

Provided that the communication system and data telemetry system is put into service after completion of COD certification by SLDC including test transfer of voice and data to respective control center as certified by the State Load Dispatch Centre.

6. Financial Principles Framework

- 6.1. The Generating Entity shall manage its finances in an optimum and prudent manner.
- 6.2. In determining the Aggregate Revenue Requirement and tariff of the Generating Entity, the Commission shall assess the financial prudence exercised with regard to the following factors :—
 - 6.2.1. revenue ;
 - 6.2.2. revenue expenditure;

6.2.3. capital expenditure;

Provided that the Commission may disallow a part of the Aggregate Revenue Requirement, as efficiency measure, if it finds the exercise of such prudence to have been deficient.

6.3. The financial prudence with respect to revenue shall be assessed in terms of the following parameters

6.3.1. Billing efficiency measured as a percentage of the units billed by the Generating Entity to the total units injected into the transmission system.

6.3.2. Collection efficiency measured as a percentage of the amount collected by the Generating Entity to the total amount billed.

6.3.3. Reduction in arrears receivable from Beneficiaries.

6.3.4. Whether revenue collected is in line with the projections made in the Petition and approved by the Commission.

6.4. The financial prudence with respect to revenue expenditure shall be assessed in terms of the following parameters :—

6.4.1. Monitoring of the revenue expenditure as against the revenue earned, such that the expenses and payment obligations of the Generating Entity to other entities are met in a timely manner.

6.4.2. Mechanism put in place for monitoring adherence to the approved revenue expenditure, including schedule of interest payments for long-term loans and working capital.

Provided that, in case the excess of revenue expenditure over the revenue earned exceeds 5%, the Generating Entity shall submit detailed justification for the mismatch along with its Petition for true-up, including a comparison of the revenue expenditure and revenue estimated in the petition with the amounts approved by the Commission and with the actual amount of revenue expenditure and revenue, under

key heads:

Provided further that the Generating Entity shall submit a detailed cash flow statement for the respective business showing the various sources of revenue, the actual amount of cash collected against the amount billed, the comparison of the actual revenue expenditure and capital expenditure with the projected and approved revenue expenditure and capital expenditure.

Provided also that, in case its payment obligations to other entities are not regularly met, the Generating Entity shall provide justification for such shortfall with reference to its cash flow statement.

6.5. The financial prudence with respect to capital expenditure shall be assessed in terms of the following parameters:

6.5.1. Mechanism put in place for monitoring the physical progress of Projects with respect to their original schedule.

6.5.2. Optimum drawal of loans in accordance with the physical progress of the capital expenditure schemes, and efficient utilisation of such loans.

6.5.3. In case, the excess of actual capital expenditure or capitalisation exceeds 10% of that approved by the Commission, the Generating Entity shall submit detailed justification for such excess along with its petition for true-up.

6.5.4. In case any Project has not been commenced during the Year despite the Commission's approval, detailed justification shall be submitted along with the petition for true-up.

6.6. **Uncontrollable factors**

The "uncontrollable factors" shall comprise the following factors, which were beyond the control of, and could not be mitigated by the Petitioner, as determined by the Commission:

- 6.6.1. Force Majeure events
- 6.6.2. Change in law
- 6.6.3. Variation in fuel cost on account of variation in price of primary and/or secondary fuel prices
- 6.6.4. Variation in market interest rates for long-term loan
- 6.6.5. Variation in freight rates
- 6.6.6. Non-Tariff Income

6.7. Controllable factors

Variations or expected variations in the performance of the Petitioner, which may be attributed by the Commission to controllable factors include, but are not limited to the following:

- 6.7.1. Variations in capitalisation on account of time or cost overruns or inefficiencies in the implementation of a capital expenditure scheme not attributable to an approved change in its scope, change in statutory levies or Force Majeure Events;
- 6.7.2. Variation in interest and finance charges, return on equity, and depreciation on account of variation in capitalisation as specified in clause 6.8.1 above;
- 6.7.3. Variation in performance parameters, such as Availability, Auxiliary Consumption, Secondary fuel oil consumption, Gross Station Heat Rate.
- 6.7.4. Variation in amount of interest on working capital;
- 6.7.5. Variation in Operation And Maintenance Expenses;
- 6.7.6. Variation in coal transit losses.

6.8. Mechanism for pass-through of gains or losses on account of uncontrollable factors

- 6.8.1 The uncontrollable cost shall be determined based on a petition

filed by the concerned Generating Entity.

6.8.2 The aggregate gain or loss to a Generating Entity on account of variation in cost of fuel from the sources considered in the Tariff Order, including blending ratio of coal procured from different sources, shall be passed through as an adjustment in its energy charges on a monthly basis, as specified in clause 21.6 of this Regulation.

6.8.3 The consequential impact of decisions of higher Courts or Tribunals or Review Orders passed by the Commission on the Generating Entity

- (a) for the first and second Years of the Control Period shall be addressed in the Mid-term Review Order
- (b) for the third, fourth or fifth Years of the Control Period shall be addressed in the End of Control Period Review Order

6.9 Mechanism for sharing of gains or losses on account of controllable factors

6.9.1 The approved aggregate gain to the Generating Entity on account of controllable factors shall be dealt with in the following manner:

- (a) Two-third ($2/3^{\text{rd}}$) of the amount of such gain shall be passed on as a rebate in tariff over such period as may be stipulated in the Order of the Commission.
- (b) The balance amount of such gain shall be retained by the Generating Entity.

6.9.2 The approved aggregate loss to the Generating Entity on account of controllable factors shall be dealt with in the following manner:

- (a) One-third ($1/3^{\text{rd}}$) of the amount of such loss may be passed

on as an additional charge in tariff over such period as may be stipulated in the Order of the Commission.

- (b) The balance amount of such loss shall be absorbed by the Generating Entity.

7. Business Plan and Capital investment plan

a) Business Plan

- 7.1. The Applicant shall file a business plan along with capital investment plan for its Generation Business on or before 1st April of the Year preceding the first Year of the Control Period for a duration covering at least the entire Control Period.
- 7.2. The business plan shall cover details such as Generation Planning and forecasts, Capex Investment Plan, future performance targets, proposed efficiency improvement measures, Compliance status of Environmental norms, Saving in operating costs. The Business Plan shall also include, financial statements such as balance sheet, profit and loss statement and cash flow statement for the Control Period duration, any other new measures to be initiated for the Generation Business, e.g. automation, IT initiatives etc.

b) Capital Investment Plan

- 7.3. The Capital Investment Plan submitted along with Business Plan shall include the details of purpose of investment, broad technical specifications of the proposed investment and supporting details. It shall also include capital structure, capitalization schedule with milestones for completion, financing plan with sources of investment, physical targets, Cost-benefit analysis, prioritization of proposed investments etc.
- 7.4. The capital investment plan during the Control Period shall be commensurate with the requirement of existing capacity.
- 7.5. In case, the Commission approves lesser amount of capital expenditure than filed by the Applicant for approval, the Commission may allow the respective Applicant to determine the priority of schemes to be

considered within the approved amount.

7.6. The capital investment plan for Renovation and Modernization shall be submitted with all information/data for approval of the Commission with a Detailed Project Report (DPR) elaborating the following elements:

- i. Complete scope and justification;
- ii. Estimated life extension of the asset;
- iii. Improvement in performance parameters;
- iv. Cost-benefit analysis;
- v. Phasing of expenditure;
- vi. Schedule of completion with milestones;
- vii. Reference price level;
- viii. Estimated completion cost;
- ix. Other relevant aspects.

7.7. In the normal course, the Commission shall not revisit the approved capital investment plan during the Control Period. However, during the Mid-Term Review, the Commission shall monitor the Year-wise progress of the actual capital expenditure incurred by the Applicant vis-a-vis the approved capital expenditure.

Provided that the actual capital expenditure incurred shall be only as per the approved capital investment plan.

7.8. In case the capital expenditure is required for emergency work which has not been approved in the capital investment plan, the respective Applicant shall submit an application (containing all relevant information along with reasons justifying emergency nature of the proposed work) seeking approval by the Commission. The Applicant shall take up the work prior to the approval of the Commission provided that the emergency nature of the scheme has been approved by its Board of Directors:

Provided that the Applicant shall submit the pending details

required as per clause 7.1 within 10 Days of the submission of the application for emergency work.

Provided that for the purpose of this clause, such approved capital expenditure shall be treated as a part of actual capital expenditure incurred by the Applicant as well as the approved capital expenditure by the Commission.

7.9. The Commission shall approve the capital investment plan within 90 Days from the date of its filing or submission of complete information, whichever is earlier, after considering all suggestions and objections of all stakeholders.

Computation of Capital Cost

7.10. The capital cost admitted by the Commission after Prudence Check shall form the basis for determination of tariff.

Provided that Prudence Check may include scrutiny of the reasonableness of the capital expenditure, financing plan including the choice and manner of funding, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff.

7.11. Capital cost for a capital investment Project shall include:

7.11.1. The expenditure incurred or projected to be incurred up to the date of commercial operation of the project as admitted by the Commission after Prudence Check.

7.11.2. Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less

than 30% of the funds deployed.

- 7.11.3. The interest during construction and financing charges, on the loans as admitted by the Commission after Prudence Check in accordance with clause 7.21 & 7.22 of this Regulation.
- 7.11.4. Capitalised initial spares subject to the ceiling rates specified in clause 7.12 this Regulation.
- 7.11.5. Additional capitalisation determined under this Regulation clause 7.14
- 7.11.6. Any gain or loss on account of foreign exchange rate variation pertaining to the loan amount availed up to COD, as admitted by the Commission after Prudence Check.
- 7.11.7. Adjustment of revenue on account of sale of Infirm Power by Generating Station in excess of fuel cost prior to the COD as specified under this Regulation at clause 8 of this Regulation.
- 7.11.8. Increase in cost in contract packages subject to Prudence Check and approved by the Commission.

Provided that in case the actual capital cost is lower than the approved capital cost, the actual capital cost, subject to Prudence Check and in accordance with the conditions and methodology specified herein for the capital cost of New Generating Unit/Station, shall be considered for determination of tariff of the Generating Entity

Provided that any gain or loss on account of foreign exchange rate variation pertaining to the loan amount availed up to COD shall be adjusted only against the debt component of the capital cost:

Provided further that the capital cost of the assets forming part of the Project but not put to use or not in use, shall be

excluded from the capital cost:

Provided also that the Generating Entity shall submit documentary evidence in support of its claim of assets being put to use:

Provided also that any capital expenditure incurred based on the specific requirement of a Generating Entity shall be substantiated with necessary documentary evidence of such request and undertaking received.

- 7.12. The actual capital expenditure as on COD for the Original Scope of Work based on audited accounts of the Generating Entity or Project, as the case may be, shall be considered subject to Prudence Check by the Commission.
- 7.13. Truing up of the capital cost for the new Generating Station shall be done by the Commission based on Prudence Check of the audited capital expenditure and capitalisation as on COD.
- 7.14. Where the actual capital cost incurred on Year to Year basis is lesser than the capital cost approved for determination of tariff by the Commission on the basis of the projected capital cost as on the COD or on the basis of the projected additional capital cost, by five percent (5%) or more, the Generating Entity shall refund to the Beneficiaries as approved by the Commission, the excess tariff realized corresponding to excess capital cost, along with interest at 1.20 times of the Bank Rate plus 250 basis points, as prevalent on the first Day of April of the respective Financial Year.
- 7.15. Where the actual capital cost incurred on Year to Year basis is higher than the capital cost approved for determination of tariff by the Commission on the basis of the projected capital cost as on the COD or on the basis of the projected additional capital cost, by five (5%) percent or more, the Generating Entity shall, subject to the approval of the

Commission, be entitled to recover from the Beneficiaries the shortfall in tariff corresponding to such decrease in capital cost along with interest at 0.80 times of the Bank Rate plus 150 basis points, as prevalent on the first Day of April of the respective Financial Year.

- 7.16. In relation to multi-purpose hydroelectric Projects, with irrigation, flood control and power components, the capital cost chargeable to the power component of the Project only shall be considered for determination of tariff.
- 7.17. The capital cost may include initial spares capitalised as a percentage of the plant and machinery cost up to the Cut-Off Date, subject to the following ceiling norms :-

Coal based Generating Stations	4.0%
Gas turbine/combined cycle Generating Stations	4.0%
Hydro Generating Stations, including Pumped Storage Hydro Generating Stations	4.0%

Provided that:

- 7.17.1. Where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the CERC Regulations, such norms shall apply to the exclusion of the norms specified above.
- 7.17.2. Where the Generating Station has any transmission equipment forming part of the Project, the ceiling norms for initial spares for such equipment shall be as per the ceiling norms specified for transmission system under CERC Regulations.
- 7.17.3. For the purpose of computing the cost of initial spares, plant and machinery cost shall be considered as Project cost as on Cut-Off Date excluding IDC, IEDC, Land Cost and cost of civil

works.

- 7.18. The impact of revaluation of assets shall be permitted provided it does not result in increase in tariff of the Generating Entity.

Provided that any benefit from such revaluation shall be passed on to persons who share the capacity charge in case of a Generating Entity at the time of Multi Year Tariff determination or Mid-term Review or End of the Control Period Review, as the case may be.

7.19. **Additional Capitalisation**

7.19.1. The capital expenditure actually incurred or projected to be incurred, on the following counts within the Original Scope Of Work, after the COD and up to the Cut-Off Date, may be admitted by the Commission subject to Prudence Check. Any additional capitalization after COD needs prior approval of the Commission:-

- (a) Un-discharged liabilities recognised to be payable at a future date;
- (b) Works deferred for execution;
- (c) Procurement of initial capital spares within the Original Scope of Work in accordance with clause 7.12 of these Regulations;
- (d) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;
- (e) Change in law or compliance of any existing law;
- (f) Any expenses to be incurred on account of need for higher security and safety of the Station/Unit as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal

security;

- (g) Deferred works relating to ash pond or ash handling system and coal handling in the Original Scope of Work
- (h) Any capital expenditure found justified after Prudence Check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialisation of coal supply corresponding to full coal linkage in respect of Thermal Generating Station as result of circumstances not within the control of the Generating Station.
- (i) Any liability for works executed prior to the Cut-Off Date, after Prudence Check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments, etc.

Provided that in case of such liabilities, the details and relevant Board of Director approvals shall be submitted along with the Petition for determination of final Tariff after the COD of the Generating Unit/ Station.

- (j) Any liability for works admitted by the Commission after the Cut-Off Date to the extent of discharge of such liabilities by actual payments.
- (k) Any additional capital expenditure which has become necessary for efficient operation.

Provided that the claim shall be substantiated with the technical justification duly supported by documentary evidence like test results carried out by an independent agency in case of deterioration of assets, damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as

increase in fault level.

- (l) An additional capital expenditure for complying with statutory norms for Environment in accordance with the appropriate notifications of Ministry of Environment, Forest and Climate Change.

Provided that, the Generating Company shall approach to the Commission for change in operational parameters such as change in normative Auxiliary Consumption on account of technology changes in the Generating Plant for e.g. installation of Flue Gas Desulfurization (FGD).

- (m) In case of hydro Generating Stations, any expenditure, which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the Generating Entity) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation.

7.19.2. The details of works included in the Original Scope of Work along with estimates of expenditure, liabilities recognised to be payable at a future date and the works deferred for execution shall be submitted along with the petition for determination of final tariff after COD of the Generating Unit/Station.

7.19.3. Any expenditure, which has been claimed under renovation and modernisation (clause 7.16 of this Regulation) or repairs and maintenance under O&M expenses (clause 19 of these Regulation), shall not be claimed under this clause.

7.19.4. Impact of additional capitalisation on tariff, if any, shall be considered during Mid-term Review or tariff determination for

the next Control Period as the case may be.

7.19.5. Any expenditure on miscellaneous items/assets like normal tools and tackles, personal computers, furniture, air-conditioners, voltage stabilizers, refrigerators, fans, coolers, TV, washing machines, heat-convectors, carpets, mattresses etc. brought after the Cut-Off Date shall not be considered for additional capitalisation for determination of tariff. The said items are illustrated and may include any other similar items.

7.20. De-Capitalisation

7.20.1. In case of De-Capitalisation of asset, the original cost of such asset shall be deducted from the value of gross fixed assets (GFA), on and from the date when that asset has been removed from GFA block and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year of De-Capitalisation.

7.20.2. Loss or Gain due to De-Capitalisation of asset based on the directions of the Commission due to technological obsolescence, wear & tear, etc. or due to change in law or force majeure, which cannot be re-used, shall be adjusted in the ARR of the Generation Entity in the relevant Year.

7.20.3. Loss or Gain due to De-Capitalisation of asset proposed by the Generation Entity itself for the reasons not covered under clause 6.7 of this Regulation shall be to the account of the Generation Entity.

7.20.4. Loss or Gain due to De-Capitalisation of asset after the completion of Useful Life of asset shall be to the account of the Generation Entity.

7.20.5. Principles for treatment of capital asset which has been removed from GFA before completion of its Useful Life with prior

approval of the Commission and such removed asset is held in reserve for a continuous period of more than six months for its reuse later shall be as follows:

- (a) In case the asset has been depreciated more than 70% of its book value, depreciation shall not be allowed on such asset from the date of De-Capitalisation to the date such asset is put to re-use;
- (b) In case the asset has been depreciated less than 70% of its book value, depreciation shall be allowed up to 70% of the total value of asset from the date of De-Capitalisation to the date such asset is put to re-use;
- (c) In case such asset has been put to re-use, differential of maximum permissible depreciation, as per CERC Regulations, and actual accumulated depreciation, shall be allowed from the date such asset is put to re-use;
- (d) The Generating Entity shall be allowed return on equity, interest on loan on the written down value of the de-capitalised asset from the date such asset is put to re-use.

7.21. Renovation and Modernisation for Life Extension

7.21.1. The Generating Entity shall file a petition towards the fag end (5 years before) of the Useful Life before the Commission for approval of the proposal with a Detailed Project Report (DPR) detailing the complete scope, justification, cost-benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure, schedule of completion, reference price level, estimated completion cost including foreign exchange component, if any, and any other information considered to be relevant by the Generating Entity for meeting the expenditure on renovation and modernisation

(R&M) for the purpose of extension of life beyond the originally recognised Useful Life as specified in CERC Regulations.

7.21.2. The Commission may grant approval for additional capital cost on account of R&M after due consideration of reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission.

Provided that any expenditure included in the R&M on consumables and cost of components and spares which is generally covered in the O&M expenses shall be suitably deducted after due Prudence Check from the R&M expenditure to be allowed.

7.21.3. Any expenditure on replacement, renovation and modernisation or extension of life of old fixed assets, as applicable to Generating Entities, shall be considered after writing off the net value of such replaced assets from the original capital cost, and shall be computed as follows:-

$$\text{Net Value of Replaced Assets} = \text{OCRA} - \text{AD}$$

Where,

OCRA: Original Cost of Replaced Assets

AD: Accumulated depreciation pertaining to replaced assets

Provided that, in case the original capital cost of the replaced asset is not available for any reason, it shall be considered by the Commission on a case-to-case basis.

Provided further that the amount of insurance proceeds received, if any, towards damage to any asset requiring its replacement shall be first adjusted towards outstanding actual

or normative loan ; and the balance amount, if any, shall be utilised to reduce the capital cost of such replaced asset, and any further balance amount shall be considered as Non-Tariff Income.

7.21.4. In case of gas/ liquid fuel based open/ combined cycle Thermal Generating Station, any expenditure which has become necessary for renovation of gas turbines/steam turbine after twenty five (25) years of operation from its COD and an expenditure necessary due to obsolesce or non-availability of spares for efficient operation of the Stations shall be allowed.

Provided that any expenditure included in the R&M on consumables and cost of components and spares which is generally covered in the O&M expenses during the major overhaul of gas turbine shall be suitably deducted after due prudence from the R&M expenditure to be allowed.

7.21.5. Any expenditure incurred or projected to be incurred and admitted by the Commission after Prudence Check based on the estimates of R&M expenditure and life extension, and after deducting the accumulated depreciation already recovered from the Original Project Cost, shall form the basis for determination of tariff.

7.22. INTEREST DURING CONSTRUCTION (IDC)

7.22.1. Interest during construction shall be computed corresponding to the loan as specified in from the date of infusion of debt fund, and after taking into account the utilisation of funds up to SCOD.

7.22.2. In case of additional costs on account of IDC due to delay in achieving the SCOD, the Generating Entity, shall be required to furnish detailed justifications with supporting documents for such delay including prudent phasing of funds.

7.22.3. IDC shall be allowed during the delay period only on payment basis and not accrual basis.

7.22.4. The Commission shall be guided by the following principles for the purpose of determining cost due to time over run:

- (a) The entire cost due to time over run has to be borne by the Generating Entity in case the causes for over-run are entirely attributable to the Generating Entity. For example imprudence in selecting the contractors / suppliers and in executing contractual agreements including terms and conditions of the contracts, delay in award of contracts, delay in providing inputs like making land available to the contractors, delay in payments to contractors/ suppliers as per the terms of contract, mismanagement of finances, slackness in project management like improper coordination between the various contractors, etc.,
- (b) The Commission shall examine on a case to case basis of the additional cost incurred due to time over-run on account of factors beyond the control of the Generating Entity e.g., delay caused due to Force Majeure like natural calamity. The Generating Entity shall clearly establish, beyond any doubt that there has been no imprudence on the part of the Generating Entity in executing the Project.

Provided that the consumers should get full benefit of the Liquidated Damages (LDs) recovered from the contractors/suppliers of the Generating Entity and the insurance proceeds, if any, to reduce the capital cost.

Provided that in case of natural calamities, the Generating Entity shall provide a certificate of the event and the delay duration (in Days) due to such calamity within 3 months of the occurring of such calamity.

7.23. INCIDENTAL EXPENDITURE DURING CONSTRUCTION (IEDC)

7.23.1. Incidental expenditure during construction shall be computed from the Zero Date and after taking into account the following:

- (a) Pre-operative expenses and additional expenditure when IDC is admissible necessary to be incurred upto COD as set out herein;
- (b) Adjustment for any revenue earned during construction period up to COD on account of interest on deposits or advances;
- (c) Adjustment for any other receipts during construction.

7.23.2. In case of additional costs on account of IEDC due to delay in achieving the COD, the Generating Entity shall be required to furnish detailed justification with supporting documents including necessary Board of Directors approvals for such delay including the details of incidental expenditure during the period of delay and liquidated damages, if any, recovered or recoverable corresponding to the delay.

7.23.3. Any additional cost on account of IEDC due to delay in achieving the COD shall be examined by the Commission on case to case basis.

7.23.4. In case the time over-run beyond scheduled COD is not admissible after due prudence check, the increase of capital cost on account of cost variation corresponding to the period of time over-run shall be excluded from capitalisation irrespective of price variation provisions in the contracts with supplier or contractor of the Generating Entity.

7.23.5. No additional impact of time over-run or cost over-run shall be admissible on account of non-commissioning of the Generating

Station by scheduled COD, as the same should be recovered through Implementation Agreement.

7.23.6. Initial spares shall be capitalised as a percentage of the plant and machinery cost up to Cut-off Date, subject to the norms specified at clause 7.12 of this Regulation.

8. Sale of Infirm Power

Treatment to the infirm power shall be in accordance with the provisions of the TSERC (Deviation Settlement Mechanism and Related Matters) Regulations as and when specified by the Commission.

Provided that any revenue earned by the Generating Entity from supply of Infirm Power after accounting for the fuel expenses shall be adjusted towards reduction in the capital cost based on provisional claims made.

Provided also that the start-up power drawn by the Generating Station from the Grid shall be adjusted with ex-bus energy and such energy shall be billed to its Beneficiaries in the proportion of contracted capacities.

9. Debt Equity Ratio

9.1. For determination of Tariff, the debt-equity ratio for any Project under commercial operation shall be considered as 70:30 of the amount of capital cost approved by the Commission under clause 7 of this Regulation, after Prudence Check for determination of Tariff:

Provided that:

9.1.1. Where equity actually deployed is less than 30% of the capital cost of the capitalised assets, actual equity shall be considered for determination of Tariff.

9.1.2. Where equity actually deployed is more than 30% of the capital

cost, equity in excess of 30% shall be treated as notional loan of the Generating Entity.

Provided further that the Generating Entity shall submit documentary evidence for the actual deployment of equity and explain the source of funds for the equity.

9.1.3. The equity invested in foreign currency shall be designated in Indian rupees using the closing exchange rate at the date of each investment.

9.1.4. Any grant/contribution/deposit obtained for the execution of the Project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.

9.2. The premium, if any, raised by the Generating Entity while issuing share capital and investment of internal resources created out of its free reserves, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilised for meeting the capital expenditure of the Generating Entity, and are within the ceiling of 30% of capital cost approved by the Commission.

9.3. The debt and equity amount arrived at in accordance with clause 9.1 above shall be used for calculating interest on loan, return on equity, and foreign exchange rate variation.

9.4. The Generating Entity shall submit the audited statement regarding reconciliation of equity required and actually deployed to meet the capital expenditure of the Project with documentary evidence approved by relevant authority:

Provided that the reconciliation statement shall indicate the movement of equity with details of return on equity, incentive/disincentive, additional equity infused, distribution of dividend, normative loan etc.

- 9.5. In case of the Generating Station declared under commercial operation prior to 1 April, 2019, debt equity ratio allowed by the Commission for determination of tariff for the period ending 31 March, 2019 shall be considered.
- 9.6. In case of the Generating Station declared under commercial operation prior to 1 April, 2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31 March, 2019, the Commission shall approve the debt-equity ratio based on actual information provided by the Generating Entity.
- 9.7. Any expenditure incurred or projected to be incurred on or after 1 April, 2019 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause 9.1 of this Regulation.

10. Depreciation

10.1. Depreciation shall be computed from the COD of a Generating Station or Unit thereof. In case of the Tariff of all the Units of a Generating Station for which a single Tariff needs to be determined, the depreciation shall be computed from the effective COD of the Generating Station taking into consideration the depreciation of individual Units or elements thereof.

Provided that effective COD shall be worked out by considering the actual COD and installed capacity of all the Units of the Generating Station for which single tariff needs to be determined.

10.2. The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple Units of a Generating Station, weighted average life for the Generating Station shall be applied. Depreciation shall be chargeable from the first Year of commercial operation.

10.3. In case of commercial operation of the asset is for part of the Year, depreciation shall be charged on pro-rata basis.

Provided that, where the Generating Entity does not furnish sufficient information to compute depreciation on pro-rata basis, depreciation shall be allowed at the discretion of the Commission.

10.4. **Salvage value:** The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

Provided that in case of hydro Generating Station, if the salvage value provided in the agreement signed by the developers with the State Government for development of the Plant is less than 10%, same shall be considered:

Provided also that any depreciation disallowed on account of lower availability of the Generating Station or Generating Unit, shall not be allowed to be recovered at a later stage during the Useful Life and the Extended Life.

10.5. **Land:** Land other than the land held under lease and the land for reservoir in case of hydro Generating Station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset:

Provided further that the depreciable value of land under lease shall be the aggregate of lease payments as per the lease agreement.

10.6. Depreciation shall be calculated annually, based on Straight Line Method and at rates specified in CERC (Terms and conditions of Tariff) Regulations, 2014, as amended from time to time for the assets of the Generating Entity.

Provided that the remaining depreciable value as on 31st March of the Year closing after a period of twelve (12) Years from the effective COD

of the Station shall be spread over the balance Useful Life of the assets or Extended Useful Life, as provided in this Regulation.

Provided further that in case of repayment of entire loan is earlier than the period of twelve (12) Years from the effective COD, the remaining depreciable value as on 31st March of the Year of repayment, shall be spread over the balance Useful Life of the assets or Extended Useful Life, as provided in this Regulation.

- 10.7. In case of the Existing Projects, the balance depreciable value as on 1 April, 2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31 March, 2019 from the gross depreciable value of the assets.
- 10.8. The Generating Entity shall submit the details of proposed capital expenditure during the fag end of the Project (five years before the end of Useful Life) along with justification and proposed life extension.
- 10.9. Depreciation in case of plants that have been renovated and modernised:
 - 10.9.1. For the existing assets depreciation shall be allowed on the net asset value over the revised Useful Life of the plant.
 - 10.9.2. For new assets that have been installed as part of modernisation and renovation, depreciation shall be allowed equally over the Extended Life.
- 10.10. In case of De-Capitalisation of assets in respect of Generating Entity or Unit there of or any element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalised asset during its useful services.

Depreciation shall be re-computed for assets capitalised at the time of Truing-up along with the Mid-term Review or at the End of the Control Period, based on documentary evidence of assets capitalised by the

Petitioner, subject to the Prudence Check of the Commission, such that the depreciation is allowed proportionately from the date of capitalisation.

11. Return on equity (RoE)

11.1. Return on equity shall be computed in rupee terms, on the equity base determined in accordance with clause 9 of this Regulation (Debt equity ratio clause).

11.2. RoE shall be computed at the following base rates:

11.2.1. Thermal Generating Stations: 15.50%

11.2.2. Run of the river hydro Generating Station : 15.50%

11.2.3. Storage Type hydro Generating Stations including Pumped Storage Hydro Generating Stations and Run-of-River Generating Station with pondage : 16.50%:

11.2.4. Provided that:

- a) the rate of return of a new Project shall be reduced by 1% for such period as may be decided by the Commission, if the Generating Station is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:
- b) as and when any of the above requirements in clause 11.2.4 are found lacking in a Generating Station based on the report submitted by the SLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:
- c) The base rates as specified above or as per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014, including amendments thereto or any

superseding Regulations, whichever is lower shall be used for the computation of RoE.

11.3. Tax on return on equity

11.3.1. The base rate of RoE as allowed by the Commission under clause 11.2 shall be grossed up with the effective tax rate of the respective Financial Year.

11.3.2. The effective tax rate shall be considered on the basis of actual tax paid in the respect of the Financial Year in line with the provisions of the relevant Finance Acts by the concerned Generating Entity, as the case may be.

11.3.3. The actual tax income on other income stream (i.e., income of non-Generation Business) shall not be considered for the calculation of "effective tax rate".

11.3.4. Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below *Rate of pre-tax return on equity = Base rate / (1-t)*

Where "t" is the effective tax rate in accordance with Clause 11.3.1 of this Regulation and shall be calculated at the beginning of every Financial Year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial Year to the generating entity on pro-rata basis by excluding the income of non-generation and the corresponding tax thereon.

11.3.5. In case of Generating Entity paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess.

11.3.6. Illustration: -

(a) In case of the Generating Entity paying Minimum Alternate Tax (MAT) @ 20.96% including surcharge and cess:

Rate of return on equity = $15.50 / (1 - 0.2096) = 19.610\%$

(b) In case of Generating Entity paying normal corporate tax including surcharge and cess:

- Estimated Gross Income from generation business for FY 2014-15 is Rs.1,000 Crores.
 - Estimated Advance Tax for the year on above is Rs.240 Crores.
 - Effective Tax Rate for the year 2014-15 = Rs.240 Crores/Rs.1,000 Crores = 24%
 - Rate of return on equity = $15.50 / (1 - 0.24) = 20.395\%$

11.4. The Generating Entity, shall true up the grossed up rate of RoE at the end of every Financial Year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff MYT period on actual gross income of any Financial Year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the Generating Entity. Any under-recovery or over-recovery of grossed up rate on RoE after truing up, shall be recovered or refunded to Beneficiaries or the long term transmission customers/DICs as the case may be on Year to Year basis.

12. Interest and finance charges on loan

- 12.1. The amount of loans arrived in the manner as indicated in clause 9 of this Regulation reduced by the corresponding loan amount of de-capitalised asset shall be considered as gross loan for calculation of interest on loan.
- 12.2. The loan outstanding as on 1st April of the respective Year shall be worked out by deducting the cumulative repayment as admitted by the Commission from the gross loan.
- 12.3. The repayment for each of the Year of the Control Period shall be

deemed to be equal to the depreciation allowed for the corresponding Year/period. In case of De-Capitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of De-Capitalisation of such asset.

12.4. The repayment of loan shall be considered from the first Year of commercial operation of the Project irrespective of any moratorium period availed by the Generating Entity.

12.5. The rate of interest on loan shall be based on weighted average rate of interest for actual loan portfolio subject to the interest rate specified in these Regulations as on the date of filing.

Provided that in no case the rate of interest on loan shall exceed approved rate of RoE.

Provided further that if there is no actual loan for a particular Year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided also that if the Generating Entity does not have actual loan then the rate of interest shall be considered at the interest rate as specified in these Regulations as on the date of filing, for the notional loan of the relevant Control Period:

Provided that if such rate on notional loan changes by more than MCLR during the Control Period and such change subsists for more than 3 continuous quarters in a Year, then the same shall be effected on the notional loan and adjusted during true-up at the time of Mid-term Review and End of Control Period Review.

Provided also that the loan availed through open tendering process (Competitive Bidding) among Scheduled Banks, Financial Institutions etc., shall be considered at the rate discovered through open tendering process but limited to interest rate specified in these

Regulations.

12.6. Refinancing:

12.6.1. The Generating Entity shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such refinancing shall be borne by the beneficiaries and the net savings shall be shared between the Beneficiaries and the Generating Entity in the ratio of 2:1 respectively subject to Prudence Check by the Commission.

12.6.2. The Generating Entity shall submit documentary evidence of the costs associated with such re-financing.

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

12.6.4. In case of dispute, any of the parties may make an application in accordance with TSERC (Conduct of business) Regulations, 2015 as amended from time to time, including statutory re-enactment thereof for settlement of dispute:

Provided that the Beneficiaries shall not withhold any payment on account of the interest claimed by the Generating Entity during the pendency of any dispute arising out of the re-financing of loan.

13.1. **Interest on working capital**

The Commission shall calculate the Working Capital requirement as follows:

Coal-based generating stations	
(a)	Cost of coal and lime stone towards stock, if applicable, Lower of : A. maximum coal stock storage capacity [OR] B. for generation corresponding to the target availability • Pit head Generating Station - 15 Days coal cost • Non - pit head Generating Station - 30 Days coal cost
(b)	Cost of coal and limestone for 30 Days of generation corresponding to the target availability;
(c)	Cost of secondary fuel oil for two months of generation corresponding to target availability;
(d)	Maintenance spares @ 20% of the O&M expenses specified in clause 19
(e)	O&M expenses for one (01) month as specified in clause 19 of this Regulation
(f)	Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on target availability
(g)	Minus Payables for fuel (including oil and secondary fuel oil) to the extent of thirty Days of the cost of fuel computed at target availability, depending on the modalities of payment

Provided that for the purpose of Truing-up, the working capital shall be computed based on the scheduled generation or target availability whichever is lower:

Provided further that for the purpose of Truing-up for any Year, the working capital requirement shall be re-computed on the basis of the values of components of working capital approved by the Commission in the Truing-Up before sharing of gains and losses;

Open-cycle Gas Turbine/Combined Cycle Thermal Generating Stations		
(a)	Fuel Cost for 30 Days corresponding to the target availability, duly taking into account mode of operation of the Generating Station on gas fuel and liquid fuel	
(b)	Liquid fuel stock for 15 Days corresponding to the target availability, and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of operation of the Generating Stations of gas fuel and liquid fuel	
(c)	Maintenance spares @ 30% of Operation And maintenance Expenses specified in clause 19 these Regulations	
(d)	O&M expenses for one month as specified in clause 19 of these Regulations	
(e)	Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on target availability, duly taking into account mode of operation of the Generating Station on gas fuel and liquid fuel	
	Minus	
(f)	Payables for fuel (including liquid fuel stock) to the extent of thirty Days of the cost of fuel computed at target availability, depending on the modalities of payment :	

Provided that for the purpose of Truing-up, the working capital shall be computed based on the actual generation or target availability whichever is lower:

Provided further that for the purpose of Truing-up for any Year, the working capital requirement shall be re-computed on the basis of the values of components of working capital approved by the Commission in the Truing-Up before sharing of gains and losses

Hydro Generating Station including pumped storage hydro-electric Generating Station		
(a)	Maintenance spares @ 15% of Operation And Maintenance Expenses specified in Regulation 29	
(b)	O&M expenses for one month as specified in these Regulations	
(c)	Receivables equivalent to two months fixed cost	

Provided that for the purpose of Truing-up for any Year, the working capital requirement shall be re-computed on the basis of the values of components of working capital approved by the Commission in the Truing-up before sharing of gains and losses ;

13.2. The cost of fuel in cases covered above shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the Generating Entity and Gross Calorific Value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period.

13.3. Rate of interest on working capital shall be on normative basis and shall be considered as the Bank Rate plus 150 basis points as on filing date or as on 1st April of the financial Year during the MYT period in which the Generating Station or Unit thereof is declared under commercial operation, whichever is later.

Provided that for the purpose of Truing-up for any year, interest on working capital shall be allowed at a rate equal to the weighted average Bank Rate prevailing during the concerned Year plus 150 basis points

13.4. Rate of interest on working capital shall be on normative basis notwithstanding that the Generating Entity has not taken loan for working capital from any outside agency.

14. Rebates and Delayed Payment Charge

a) Delayed Payment Charges

- 14.1. In case the payment of bills of generation Tariff and charges by the Beneficiary is delayed beyond a period of 60 Days from the date of billing, a delayed payment charge at the rate of 1.25% per month on the billed amount shall be levied for the period of delay by the Generating Entity, notwithstanding anything to the contrary as may have been stipulated in the agreement or arrangement with the Beneficiaries.
- 14.2. Such delayed payment charge and interest on delayed payment earned by the Generating Entity shall not be considered under its Non-Tariff Income

b) Rebate

- 14.3. For payment of bills of generation Tariff and charges within 7 Days of presentation of bills, through Letter of Credit or through NEFT/RTGS, a rebate of 2% on billed amount, excluding taxes, cess, duties etc., shall be allowed.

15. Components of Tariff

- 15.1. The tariff for sale of electricity from a thermal Power Generating Station shall comprise of two parts, namely,
- 15.1.1. The Annual Fixed Charges and
- 15.1.2 Energy Charges (for recovery of primary and secondary fuel cost)
- 15.2. The tariff for sale of electricity from a Hydro Generating Station shall comprise of two parts, namely, the Capacity Charge and Energy Charge
- 15.3. **Annual Fixed Charges:** The annual fixed charges shall

comprise the following elements:

- 15.3.1. Depreciation;
- 15.3.2. Interest and finance charges on loan;
- 15.3.3. Interest on Working Capital;
- 15.3.4. Operation & Maintenance Expenses;
- 15.3.5. Return on Equity;

Minus

- 15.3.6. Non-Tariff Income:

Provided that Depreciation, Interest and finance charges on loan, interest on working capital and Return on Equity for Thermal and Hydro Generating Stations shall be allowed in accordance with the provisions specified in these Regulations.

16. Non- Tariff Income & Other Business income

a) Non- Tariff Income

The Generating Entity shall submit forecast of Non-Tariff Income to the Commission, in such form as may be stipulated by the Commission from time to time, whose tentative list is as follows:

- Income from rent of land or buildings;
- Net Income from sale of de-capitalised assets;
- Net Income from sale of scrap;
- Income from statutory investments;
- Interest on advances to suppliers/contractors;
- Rental from staff quarters;
- Rental from contractors;
- Income from investment of consumer security deposit;
- Income from hire charges from contactors and others, etc.

Income from the sale of ash/ rejected coal

The amount of Non-Tariff /other income relating to the Generation Business as approved by the Commission shall be deducted from the Annual Fixed Cost in determining the Annual Fixed Charge of the Generating Entity:

Provided that the Generating Entity shall submit full details of its forecast of Non-Tariff Income to the Commission in such form as may be stipulated by the Commission from time to time. Non-Tariff Income shall also be trued-up based on audited accounts.

b) Other Business Income

The net income after tax from Other Business shall be adjusted in the ARR.

The Generating Entity shall follow segment wise reporting of Other Business in the audited financial statement and a reasonable basis for allocation of all joint and common costs between the Licensed Business and the Other Business and shall submit the Allocation Statement as approved by the Board of Directors / competent authority to the Commission along with the application for determination of tariff:

Provided that loss on account of Other Business shall not be considered in the ARR of the Licensee.

17. Norms of operation for Thermal Generating Stations

- 17.1 Recovery of capacity charge, energy charge, and incentive by the Generating Entity shall be based on the achievement of the operational norms specified by the Commission.
- 17.2 Norms of operation for existing Generating Stations shall be as follows:

Thermal		KTPS ABC / KTPS O&M	KTPS - Stage V	KTPS Stage VI
Normative Annual Plant Availability Factor (Target Availability)	%	70.00%	80.00%	80.00%
Gross Station Heat Rate	kcal/kWh	3,000	2,500	2,450
Secondary fuel oil consumption	ml/kWh	2.00	2.00	2.00
Auxiliary Energy Consumption	%	10.00%	9.00%	7.50%
Transit and Handling Losses	%	0.80%	0.80%	0.80%
Thermal		RTSB	KTPP- Stage - I	KTPP- Stage - II
Normative Annual Plant Availability Factor (Target Availability)	%	75.00%	80.00%	80.00%
Gross Station Heat Rate	kcal/kWh	3,000	2,450	2,400
Secondary fuel oil consumption	ml/kWh	2.00	2.00	2.0
Auxiliary Energy Consumption	%	10.00%	7.50%	7.00%
Transit and Handling Losses	%	0.80%	0.80%	0.80%

Provided that,

- i. Target Availability for full recovery of Annual Fixed Charges shall be 85 % for all thermal Generating Stations, except those covered under Regulation 17.2.
- ii. Full Capacity Charges shall be recoverable at Normative Annual Plant Availability Factor (NAPAF) specified above of these Regulations. Recovery of Capacity Charges below the level of Normative Annual Plant Availability Factor (NAPAF) will be on a pro-rata basis. At zero availability, no Capacity Charges shall be

payable.

- iii. The Availability certified by SLDC shall also include Backing Down of the Generating Stations for the purpose of recovery of capacity charges.
- iv. The Normative Annual Plant Load Factor (NAPLF) for incentive will be the same as the Normative Annual Plant Availability Factor (NAPAF)

17.3 Norms of operation for new Generating Stations commissioned during or after the Financial Year 2015 other than those covered in 17.2 above, shall be as follows:

17.3.1 Normative Annual Plant Availability Factor (Target Availability): 85%

17.3.2 Normative Annual Plant Load Factor (NAPLF) for incentive: 85%

17.4 Gross Station Heat Rate

(a) Coal-based Thermal Generating Stations

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

Where the design heat rate of a Generating Unit means the Unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure.

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

MW	200 to 300	>300 & ≤500	&>500 & ≤600	> 600
Pressure Rating (Kg/cm ²)	150	170	170	247
SHT/RHT (°C)	535/535	537/537	537/565	565/593
Type of BFP	Electrical Driven	Turbine Driven	Turbine Driven	Turbine Driven
Max Turbine Heat Rate (kCal/kWh)	1,955	1,950	1,935	1,850
Min. Boiler Efficiency				
Sub-Bituminous Indian Coal	0.86	0.86	0.86	0.86
Bituminous Imported Coal	0.89	0.89	0.89	0.89
Max Design Unit Heat Rate (kCal/kWh)				
Sub-Bituminous Indian Coal	2,273	2,267	2,250	2,151
Bituminous Imported Coal	2,197	2,191	2,174	2,078

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

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

Provided also that where the boiler efficiency is below 86% for Sub-bituminous Indian coal and 89% for bituminous imported coal, the same shall be considered as 86% and 89% respectively for Sub-bituminous Indian coal and bituminous imported coal for

computation of station heat rate.

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

Provided also that for Generating Stations based on coal rejects, the Commission will approve the Design Heat Rate on case to case basis.

Note: In respect of Generating Units where the boiler feed pumps are electrically operated, the maximum design unit heat rate shall be 40 kCal /kWh lower than the maximum design unit heat rate specified above with turbine driven BFP.

(b) Gas-based / Liquid-based thermal Generating Unit(s)/ Block(s)

= 1.05 X Design Heat Rate of the unit/block for Natural Gas and

RLNG (kCal/kWh)

= 1.071 X Design Heat Rate of the Unit/ Block for Liquid Fuel (kCal/kWh)

Where the Design Heat Rate of a Unit shall mean the guaranteed heat rate for a Unit at 100% MCR and at site ambient conditions; and the Design Heat Rate of a block shall mean the guaranteed heat rate for a block at 100% MCR, site ambient conditions, zero percent make up, design cooling water temperature/back pressure:

17.5 Secondary fuel oil consumption

Coal-based generating stations	0.50 <u>ml/kWh</u>
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17.6 Auxiliary Energy Consumption

(a) Coal Based Generating Stations

	With natural draft cooling tower or without cooling
200 MW series	8.50%
300/330/350/500 MW and above series Steam driven boiler feed pumps	5.25%
Electrically driven boiler feed pumps	7.75%

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

Provided also that Additional Auxiliary Energy Consumption as follows may be allowed for plants with Dry Cooling Systems:

Type of Dry Cooling System	(% of gross generation)
Direct cooling air cooled condensers with mechanical draft fans	1%
Indirect cooling system employing jet condensers with pressure recovery turbine and natural draft tower	0.5%

(b) Gas Turbine / Combined Cycle generating stations

Combined Cycle	2.5%
Open Cycle	1.0%

17.7 Transit and handling losses:

Transit and handling losses for coal based Generating Stations, as a percentage of quantity of coal dispatched by the coal supply company during the month shall be as given below:

17.7.1 Pit head Generating Stations: 0.20%;

17.7.2 Non-pit head Generating Stations: 0.80%;

Provided that in case of Pit Head stations if coal is procured from sources other than the Pit Head mines which is transported to the station through rail, transit loss of 0.80% shall be applicable.

Provided further that in case of imported coal, the transit and handling losses shall be 0.20%, subject to terms of delivery.

- 17.8 In case a Thermal Generating Station or Unit is directed by SLDC to operate below normative loading but at or above technical minimum schedule on account of grid security or due to the lower schedule given by the Beneficiaries, increase in Gross Station Heat Rate or penalties imposed by Bureau of Energy Efficiency (BEE) for being non-compliant arising due to generation backing down/partial loading operation if any or any such charges incurred by Generating Station or Unit on account of operational instructions issued by SLDC for grid security purpose, may be considered by the Commission on case to case basis at time of truing up, subject to prudence check.

18. Norms of operation for hydro Generating Stations

- 18.1. Recovery of capacity charge, energy charge, and incentive by the Generating Entity shall be based on the achievement of the operational norms specified by the Commission.
- 18.2. Normative capacity index for recovery of annual Capacity charges

	First Year of commissioning of the Generating Station	After first Year of commissioning of the Generating Station
Purely Run-of-river power stations	85%	90%
Storage type and Run-of- river power stations with pondage	80%	85%

Note: There shall be pro rata recovery of annual Capacity Charges in case the Generating Station achieves capacity index below the prescribed normative levels. At Zero capacity index, no fixed charges shall be payable to the Generating Station.

18.3. Auxiliary Energy Consumption

- (a) Surface hydro-electric power Generating Stations with rotating exciters mounted on the generator shaft - 0.2% of energy generated
- (b) Surface hydroelectric power Generating Stations with static excitation system - 0.5% of energy generated
- (c) Underground hydroelectric power Generating Stations with rotating exciters mounted on the generator shaft - 0.4% of energy generated
- (d) Underground hydroelectric power generating stations with static excitation system - 0.7% of energy generated

18.4. Transformation losses

From generation voltage to transmission voltage: 0.5% of energy generated.

19. Operating & maintenance expenses (O&M)

19.1. The O&M expenses for each year of the Control Period shall be approved based on the formula shown below

$$\mathbf{O\&M_n = (R\&M_n + EMP_n + A\&G_n) \times 99\%}$$

Where,

R&M_n - Repair and Maintenance Costs of the Applicant for the nth year;

EMP_n - Employee Cost of the Applicant for the nth year;

A&G_n - Administrative and General Costs of the Applicant for the nth year;

The above components shall be computed in the manner specified in this clause:

19.2. Employee Cost (EMP_n)

Employee cost shall be computed as per the approved norm escalated by CPI, adjusted by provisions for expenses beyond the control of the Generating Entity and one time expected expenses, such as recovery/adjustment of Terminal Benefits, implications of pay commission, arrears and interim relief, governed by the following formula

$$\mathbf{EMP_n = (EMP_b \times CPI\ inflation) + Provision}$$

Where:

EMP_n: Employee expense for the Year "n"

EMP_b: Employee expense as per the preceding Year.

For the first year of Control Period, expense shall be the average of the trued-up employee expenses after adding/deducting the share of efficiency gains/losses, for the immediately preceding Control Period,

excluding abnormal, if any, subject to Prudence Check by the Commission.

CPI inflation is the point to point change in the Consumer Price Index for Industrial Workers (all India) as per Labour Bureau, Government of India, as reduced by an efficiency factor of 1% for immediately preceding Year.

CPI index source for one-month lag: Ministry of Statistics - GOI
Provided that in case CPI inflation is a negative number, the escalation/ change shall be 0%.

Provision refers to provision for expenses beyond control of the Generating Entity and expected one-time expenses as specified above.

19.3. **Repairs and Maintenance Expense (R&M_n)**

The expense shall be calculated as percentage (as per the norm defined) of Opening Gross Fixed Assets for the Year governed by following formula:

$$\mathbf{R\&M_n = K_n \times GFA_n \times WPI\ inflation}$$

Where:

R&M_n: Repairs & Maintenance expense for nth Year
GFA_n: Opening Gross Fixed Assets for nth Year

K_n: 'K' is the immediate preceding Control Period average (expressed in %) governing the relationship between R&M and Gross Fixed Assets (GFA).

WPI inflation: point to point change in Wholesale Price Index (WPI) for immediately preceding Year.

Provided that in case WPI inflation is a negative number, the escalation/ change shall be 0%.

Source for WPI - As published by Office of Economic Adviser - GOI

19.4. **Administrative & General Expense (A&G_n)**

A&G expense shall be computed as per the norm escalated by the inflation factor and adjusted by provisions for confirmed initiatives (IT etc. initiatives as proposed by the Generating Entity and validated by the Commission) or other expected one-time expenses, and shall be governed by following formula:

$$\mathbf{A\&G_n = (A\&G_{fo} * Inflation\ Factor) + Provision}$$

Where:

A&G_n: A&G expense for the Year "n"

A&G_{fo}: For the first Year of the Control Period, it shall be the average of the audited A&G expense of the immediately preceding 3 Financial Years if available, and for subsequent Years it shall be the preceding Year escalated by the inflation factor.

Inflation Factor: is the sum of the following

- > point to point change in the Wholesale Price Index (WPI) numbers as per Office of Economic Advisor of Government of India for immediately preceding Year as reduced by an efficiency factor of 1% multiplied by 0.5
- > point to point change in Consumer Price Index for Industrial Workers (all India) as per Labour Bureau, Government of India in the previous year, as reduced by an efficiency factor of 1% multiplied by 0.5

Provided that in case Inflation Factor is a negative number, the escalation/ change shall be 0%.

Provision: Cost for initiatives or other one-time expenses as proposed by the Generating Entity and validated by the Commission.

19.5. Normative Operation and Maintenance Expenses for the first Year of a new Generating Entity shall be as per the norms approved by the CERC in Central Electricity Regulatory Commission (Terms and

Conditions of Tariff) Regulations, 2014 as amended from time to time, for respective Year unless specifically approved by the Commission.

- 19.6. Any expenditure on account of license fee, initial or renewal, fee for determination of tariff and audit fee shall be allowed on actual basis, over and above the A&G expenses approved by the Commission.
- 19.7. O&M expenses of assets taken on lease/hire-purchase and those created out of the consumer's contribution shall be considered in case the Generating Entity has the responsibility for its operation and maintenance and bears O&M expenses.
- 19.8. With regard to unfunded past liabilities of pension and gratuity, the Commission will follow the principle of "pay as you go". The Commission shall not allow any other amount towards creating fund for meeting unfunded past liability of pension and gratuity.
- 19.9. O&M expenses for gross fixed assets added during the Year, if not accounted already, shall be considered from the COD on pro-rata basis.
- 19.10. The O&M expenses incurred by the Generating Entity on the housing colonies and related expenses including medical and other facilities, of its operating staff shall be recorded separately and excluded from the above
- 19.11. actual O&M expenses are less than 90% of the normative expenses in respect of New generating stations :

Provided, if actual O&M expenses are less than 90% of the normative expenses, the Commission shall true-up the O&M expenses during the Mid-Term Review or End of Control Period Review as the case may be.

- 19.12. Terminal Liabilities such as death-cum-retirement gratuity, pension, commuted pension, leave encashment, LTC, medical reimbursement

including fixed medical allowance in respect of pensioners will be approved as per the actuals paid.

19.13. O&M expenses made on account of extraordinary situations (if any) shall be submitted to Commission for its approval. Such expenses shall be filed separately and will not be subjected to provisions of this clause of the Regulation. The approved amount by the Commission shall be trued up in the Mid-Term Review and End of Control Period review, as applicable.

19.14. Any increase in employee cost on account of pay revision etc. will be considered separately by the Commission.

19.15. **Prior period expenses**

19.15.1. The Applicant shall submit to the Commission the prior period expenses as a part of the filing for Mid-Term Review and End of Control Period Review;

19.15.2. The Commission shall allow prior period expenses for uncontrollable cost items only as per the audited accounts, during such reviews.

20. Foreign Exchange Rate Variation

20.1. The Applicant may hedge foreign exchange exposure in respect of the interest on foreign currency loans and repayment of foreign loans acquired for the Generating Station in part or full at the discretion of the Applicant.

20.2. The Applicant shall recover the cost of hedging of foreign exchange rate variation corresponding to the normative foreign debt, in the relevant Year on Year-to-Year basis as expense in the period in which it arises and extra rupee liability corresponding to such foreign exchange rate variation shall not be allowed against the hedged foreign debt.

20.3. To the extent the Applicant is not able to hedge the foreign exchange exposure, the extra rupee liability towards interest payment and loan repayment corresponding to the normative foreign currency loan in the relevant Year shall be permissible provided it is not attributable to the Applicant or its contractors.

20.4. The Applicant shall recover the cost of hedging and foreign exchange rate variation on Year-to-Year basis as income or expense in the period in which it arises.

21. Computation & Payment of Capacity Charges & Energy Charges for Thermal Generating Stations

21.1. The fixed cost of a Thermal Generating Station shall be computed on annual basis, based on norms specified under these Regulations, and recovered on monthly basis under capacity charge. The total capacity charge payable for a Generating Station shall be shared by its Beneficiaries as per their respective percentage share / allocation in the capacity of the Generating Station

21.2. The capacity charge payable to a Thermal Generating Station for a calendar month shall be calculated in accordance with the following formulae

$$CC_1 = (AFC/12)(PAF_1 / NAPAF) \text{ subject to ceiling of } (AFC/12)$$

$$CC_2 = ((AFC/6)(PAF_2 / NAPAF) \text{ subject to ceiling of } (AFC/6)) - CC_1$$

$$CC_3 = ((AFC/4)(PAF_3/NAPAF)\text{subject to ceiling of } (AFC/4)) - (CC_1+CC_2)$$

$$CC_4 = ((AFC/3) (PAF_4 / NAPAF) \text{ subject to ceiling of } (AFC/3)) - (CC_1+CC_2+CC_3)$$

$$CC_5 = ((AFC \times 5/12) (PAF_5/NAPAF) \text{ subject to ceiling of } (AFC \times 5/12)) - (CC_1+CC_2+CC_3+CC_4)$$

$$CC_6 = ((AFC/2) (PAF_6 / NAPAF) \text{ subject to ceiling of } (AFC/2)) - (CC_1+CC_2+CC_3+CC_4+CC_5)$$

$$CC_7 = ((AFC \times 7/12) (PAF_7/ NAPAF) \text{ subject to ceiling of } (AFC \times 7/12)) -$$

$$(CC_1+CC_2+CC_3+CC_4+CC_5+CC_6)$$

$$CC_8 = ((AFC \times 2/3) (PAF_8 / NAPAF) \text{ subject to ceiling of } (AFC \times 2/3)) - (CC_1+CC_2+CC_3+CC_4+CC_5+CC_6+CC_7)$$

$$CC_9 = ((AFC \times 3/4) (PAF_9 / NAPAF) \text{ subject to ceiling of } (AFC \times 3/4)) - (CC_1+CC_2+CC_3+CC_4+CC_5+CC_6+CC_7+CC_8)$$

$$CC_{10} = ((AFC \times 5/6) (PAF_{10} / NAPAF) \text{ subject to ceiling of } (AFC \times 5/6)) - (CC_1+CC_2+CC_3+CC_4+CC_5+CC_6+CC_7+CC_8+CC_9)$$

$$CC_{11} = ((AFC \times 11/12) (PAF_{11} / NAPAF) \text{ subject to ceiling of } (AFC \times 11/12)) - (CC_1+CC_2+CC_3+CC_4+CC_5+CC_6+CC_7+CC_8+CC_9+CC_{10})$$

$$CC_{12} = ((AFC) (PAF_Y / NAPAF) \text{ subject to ceiling of } (AFC)) - (CC_1+CC_2+CC_3+CC_4+CC_5+CC_6+CC_7+CC_8+CC_9+CC_{10}+CC_{11})$$

Provided that in case of Generating Station under shutdown due to Renovation and Modernisation, the Generating Entity shall be allowed to recover the O&M expenses and interest on loan only.

Where,

AFC Annual fixed cost specified for the year, in Rupees.

NAPAF = Normative annual Plant Availability Factor in percentage.

PAF_n = Percent Plant Availability Factor achieved upto the end of the n^{th} month.

PAFY = Percent Plant Availability Factor achieved during the Year

$CC_1, CC_2, CC_3, CC_4, CC_5, CC_6, CC_7, CC_8, CC_9, CC_{10}, CC_{11}$, and CC_{12} are the Capacity Charges of 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th and 12th months respectively

21.3. The PAF_n up to the end of a particular month and PAFY shall be computed in accordance with the following formula:

$$\text{PAF}_n \text{ or } \text{PAFY} = 10000 \times \sum_{i=1}^N \text{DC}_i / \{ N \times \text{IC} \times (100 - \text{AUX}) \} \%$$

Where,

AUX = Normative Auxiliary Energy Consumption in percentage.

DC_i = Average Declared Capacity (in ex-bus MW), for the ith Day of the period i.e. the month or the year as the case may be, as certified by the concerned load dispatch centre after the Day is over.

IC = Installed Capacity (in MW) of the Generating Station

N = Number of Days during the period.

Note: DC_i and IC shall exclude the capacity of Generating Units not declared under commercial operation. In case of a change in IC during the concerned period, its average value shall be taken

21.4. PLF Incentive to a Generating Station shall be payable at the rate specified in CERC Regulations, 2014 as applicable during control period.

21.5. The energy charge shall cover the primary and secondary fuel cost and shall be payable by every Beneficiary for the total energy scheduled to be supplied to such Beneficiary during the calendar month on ex--power plant basis, at the energy charge rate of the month with fuel and limestone price (wherever applicable) adjustment. Total Energy charge payable to the Generating Entity for a month shall be:

(Energy charge rate in Rs./kWh) x (Scheduled energy (ex-bus) for the month in kWh.)

21.6. Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the

following formulae

21.6.1. For coal based stations

$$ECR = \{(GSHR - SFC \times CVSF) \times LPPF / CVPF + SFC \times LPSFi + LC \times LPL\} \times 100 / (100 - AUX)$$

21.6.2. For gas and liquid fuel based stations

$$ECR = GSHR \times LPPF \times 100 / \{CVPF \times (100 - AUX)\}$$

Where,

AUX = Normative Auxiliary Energy Consumption in percentage

CVPF =

- Weighted Average Gross calorific Value of coal as received, in kCal per kg for coal based stations
- Weighted Average Gross calorific Value of primary fuel as fired, in kCal per kg, per litre or per standard cubic meter, as applicable for gas and liquid fuel based stations.
- In case of blending of fuel from different sources, the weighted average Gross Calorific Value of primary fuel shall be arrived in proportion to blending ratio.

CVSF = Calorific value of secondary fuel, in kCal per ml.

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

GSHR = Gross Station Heat Rate, in kCal per kWh.

LC = Normative limestone consumption in kg per kWh.

LPL = Weighted average landed price of limestone in Rupees per kg.

LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic meter, as applicable, during the month. (In case of blending of fuel from different sources, the weighted average landed price of primary fuel shall be arrived in proportion to blending ratio)

SFC = Normative Specific fuel oil consumption, in ml per kWh.

LPSFi=Weighted Average Landed Price of Secondary Fuel in Rs./ml during the month

Provided that energy charge rate for a gas/liquid fuel based station shall be adjusted for open cycle operation based on certification of TSSLDC for the open cycle operation during the month

21.7. The Generating Entity shall provide to the Beneficiaries of the Generating Station the details of parameters of GCV and price of fuel i.e., domestic coal, imported coal, e-auction coal, natural gas, RLNG, liquid fuel etc., as per the forms prescribed at Annexure I of CERC Regulations;

Provided that the details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal and the weighted average GCV of the fuels as fired shall also be provided separately, along with the bills of the respective month;

Provided further that the copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, natural gas, RLNG, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the Generating Entity. The details should be available on its website on monthly basis for a period of three months

21.8. The landed cost of fuel for the month shall include price of fuel corresponding to the grade and quality of fuel inclusive of royalty, taxes and duties as applicable, transportation cost by rail / road or any other means (all these parameters to be shown separately), and, for the purpose of computation of energy charge, and in case of coal shall be arrived at after considering normative transit and handling losses as percentage of the quantity of coal dispatched by the coal supply company during the month as notified by the Central Electricity Regulatory Commission, for respective Year unless

specifically approved by the Commission;

Provided that any refund of taxes and duties along with any amount received on account of penalties from fuel supplier shall be adjusted in the fuel cost

21.9. In case of part or full use of alternative source of fuel supply by coal based Thermal Generating Stations other than as agreed by the Generating Entity and Beneficiaries in their power purchase agreement for supply of contracted power on account of shortage of fuel or optimization of economical operation through blending, the use of alternative source of fuel supply shall be permitted to Generating Station.

Provided that in such case, prior permission from Beneficiaries shall not be a precondition, unless otherwise agreed specifically in the power purchase agreement:

Provided further that the weighted average price of use of alternative source of fuel shall not exceed 30% of base price of fuel, however the Commission will make a prudent check in approving the price of alternative fuel, considering the improved GCV and impact of energy rate on account of increased price of alternative source of fuel. Provided also that where the energy charge rate based on weighted average price of use of fuel including alternative source of fuel exceeds 30% of base energy charge rate as approved by the Commission for that year or energy charge rate based on weighted average price of use of fuel including alternative sources of fuel exceeds 20% of energy charge rate based on weighted average fuel price for the previous month, whichever is lower shall be considered and in that event, prior consultation with Beneficiary shall be made not later than three Days in advance

21.10. Any variation in fuel prices on account of change in the Gross Calorific Value (GCV) of coal or gas or liquid fuel shall be adjusted on

a monthly basis on the basis of average GCV of coal or gas or liquid fuel in stock, as fired and weighted average landed cost incurred by the Generating Entity for procurement of coal, oil, or gas or liquid fuel, as the case may be for a Station.

21.11. The Generating Entity shall separately indicate rate of energy charges in its bills at base price of primary and secondary fuel specified by the Commission.

22. Computation & Payment of Capacity Charges & Energy Charges for Hydro Generating Stations.

22.1. The fixed cost of a hydro Generating Station shall be computed on annual basis, based on norms specified under these Regulations, and shall be recovered one twelfth of Annual fixed charges on every month which shall be payable by the Beneficiaries in proportion to their respective allocation in the saleable capacity of the Generating Station.

Provided that during the period between COD of the first unit of the Generating Station and the COD of the Generating Station, the annual fixed cost shall provisionally be worked out based on the latest estimate of the completion cost for the Generating Station, for the purpose of determining the capacity charge and energy charge payment during such period.

22.2. The capacity charge payable to a hydro Generating Station for a calendar year shall be:

Annual Capacity Charges = (Annual Fixed Charge - Primary Energy Charge)

Provided that the Primary Energy Charge shall not exceed the Annual Fixed Charge and there shall be pro rata recovery of annual capacity charges in case the Generating Station achieves capacity index below the prescribed normative levels. At Zero capacity index, no capacity charges shall be payable to the Generating Station.

22.3. Hydel stations Energy Charges

1. Rate of primary energy for all hydro electric power generating stations, except for pumped storage generating stations, shall be equal to average of the lowest variable charges of the Central and State thermal power generating stations of the State for all months of the previous year. The primary energy charge shall be computed based on the primary energy rate and scheduled primary energy of the station:

Provided that in case the primary energy charge recoverable by applying the above primary energy rate exceeds the Annual fixed charges of a generating station, the primary energy rate of such generating station shall be calculated by the following formula :

$$\text{Primary energy rate} = \text{Annual fixed charge} / \text{Primary Energy}$$

2. **Primary Energy Charge** = Scheduled Primary Energy x Primary Energy Rate.

Secondary Energy Rate shall be equal to the Primary Energy Rate.

$$\text{Secondary Energy Charge} = \text{Scheduled Secondary Energy} \times \text{Secondary Energy Rate}$$

Note:

- i. Annual fixed charges shall be adjusted at the end of the financial year
- ii. Declared capacity of Hydel stations based on the instructions of SLDC subjected to the water availability constraints.

23. Computation & Payment of Capacity Charges & Energy Charges for Pumped Hydro Generating Stations

- 23.1 The fixed cost of a Pumped Storage Hydro Generating Station shall be computed on annual basis, based on norms specified under these regulations, and recovered on monthly basis as capacity charge. The capacity charge shall be payable by the Beneficiaries in proportion to

their respective allocation in the saleable capacity of the Generating Station.

Provided that during the period between COD of the first Unit of the Generating Station and the COD of the Generating Station, the annual fixed cost shall be worked out based on the latest estimate of the completion cost for the Generating Station, for the purpose of determining the capacity charge payment during such period

23.2 The capacity charge payable to a Pumped Storage Hydro Generating Station for a calendar month shall be:

If actual Generation during the month is $\geq 75\%$ of the Pumping Energy consumed by the Station during the month $(AFC \times NDM / NDY)$ (in Rupees)

If actual Generation during the month is $< 75\%$ of the Pumping Energy consumed by the Station during the month.

$\{(AFC \times NDM / NDY) \times (\text{Actual Generation during the month during peak hours} / 75\% \text{ of the Pumping Energy consumed by the station during the month})\}$ (in Rupees)}

Where,

AFC = Annual fixed cost specified for the year, in Rupees

NDM = Number of Days in the month

NDY = Number of Days in the year

Provided that there would be adjustment at the end of the year based on actual generation and actual pumping energy consumed by the Station during the Year.

Provided further that, the above norms shall be applicable to the dedicated Pumped Storage Hydro Generating Station only.

23.3 The energy charge shall be payable by every Beneficiary for the total

energy scheduled to be supplied to the Beneficiary in excess of the Design Energy plus 75% of the energy utilised in pumping the water from the lower elevation reservoir to the higher elevation reservoir, at a flat rate equal to the average energy charge rate of 20 paise per kWh, excluding free energy, if any, during the calendar month, on ex power plant basis.

- 23.4 Energy charge payable to the Generating Entity for a month shall be = $0.20 \times \{ \text{Scheduled energy (ex-bus) for the month in kWh} - (\text{Design Energy for the month (DE}_m) + 75\% \text{ of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir of the month}) \}$

Where,

DE_m = Design energy for the month specified for the hydro Generating Station, in MWh

Provided that in case the scheduled energy in a month is less than the Design Energy for the month plus 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir of the month, then the energy charges payable by the Beneficiaries shall be zero.

- 23.5 The Generating Entity shall maintain the record of daily inflows of natural water into the upper elevation reservoir and the reservoir levels of upper elevation reservoir and lower elevation reservoir on hourly basis. The Station shall be required to maximize the peak hour supplies with the available water including the natural flow of water. In case it is established that Generating Entity is deliberately or otherwise without any valid reason, is not pumping water from lower elevation reservoir to the higher elevation during off-peak period or not generating power to its potential or wasting natural flow of water, the capacity charges of the Day shall not be payable by the Beneficiary. For this purpose, outages of the Unit(s)/Station including planned outages and the forced outages up to 15% in a year shall be construed as the

valid reason for not pumping water from lower elevation reservoir to the higher elevation during off-peak period or not generating power using energy of pumped water or natural flow of water:

Provided that the total capacity charges recovered during the Year shall be adjusted on pro-rata basis in the following manner in the event of total machine outages in a Year exceeds 15%:

$$(ACC)_{adj} = (ACC)_R \times (100 - ATO) / 85$$

Where,

(ACC)_{adj} - Adjusted Annual Capacity Charges (ACC)_R - Annual Capacity Charges recovered

ATO - Total Outages in percentage for the year including forced and planned outages

Provided further that the Generating Station shall be required to declare its machine availability daily on Day-ahead basis for all the Time Blocks of the Day in line with the scheduling procedure of Grid Code;

- 23.6 The concerned Load Dispatch Centre shall finalise the schedules for the hydro Generating Stations, in consultation with the Beneficiaries, for optimal utilization of all the energy declared to be available, which shall be scheduled for all Beneficiaries in proportion to their respective allocations in the Generating Station.

24 **Deviation Charges**

Variations between actual injection of Energy and scheduled injection of Energy for the Generating Stations, and variations between actual drawl of Energy and scheduled drawl of Energy for the Beneficiaries shall be treated as their respective deviations and charges for such deviations shall be governed by the deviation settlement mechanism regulations as notified by the Commission.

25. Scheduling, Accounting and Billing

25.1 Scheduling:

The methodology for scheduling and dispatch for the Generating Station shall be as specified in the Grid Code and TSERC's Regulations for Deviation Settlement Mechanism as and when notified by the Commission.

25.2 Metering and Accounting:

The provisions of the Grid Code and TSERC's Regulations for Deviation Settlement Mechanism as and when notified by the Commission shall be applicable.

25.3 Billing and Payment of charges:

25.3.1 Bills shall be raised for capacity charge, energy charge on monthly basis by the Generating Entity in accordance with these Regulations, and payments shall be made by the Beneficiaries

25.3.2 Payment of the capacity charge for a Thermal Generating Station shall be shared by the Beneficiaries of the Generating Station as per their percentage shares for the month (inclusive of any allocation out of the unallocated capacity) in the Installed Capacity of the Generating Station. Payment of capacity charge and energy charge for a hydro Generating Station shall be shared by the Beneficiaries of the Generating Station in proportion to their shares (inclusive of any allocation out of the unallocated capacity) in the saleable capacity

25.4 **Note 1:** Shares / allocations of each Beneficiary in the total capacity of Central sector Generating Stations shall be as determined by the Central Government, inclusive of any allocation made out of the unallocated capacity. The shares shall be applied in percentages of Installed Capacity and shall

normally remain constant during a month. Based on the decision of the Central Government the changes in allocation shall be communicated by the Member-Secretary, Regional Power Committee in advance, at least three Days prior to beginning of a calendar month, except in case of an emergency calling for an urgent change in allocations out of unallocated capacity. The total capacity share of a Beneficiary would be sum of its capacity share plus allocation out of the unallocated portion. In the absence of any specific allocation of unallocated power by the Central Government, the unallocated power shall be added to the allocated shares in the same proportion as the allocated shares.

25.5 **Note 2:** The Beneficiaries may propose surrendering part of their allocated firm share to other States within / outside the region. In such cases, depending upon the technical feasibility of power transfer and specific agreements reached by the Generating Entity with other States within/ outside the region for such transfers, the shares of the beneficiaries may be prospectively re-allocated by the Central Government for a specific period (in complete months) from the beginning of a calendar month. When such re-allocations are made, the Beneficiaries who surrender the share shall not be liable to pay capacity charges for the surrendered share. The capacity charges for the capacity surrendered and reallocated as above shall be paid by the State(s) to whom the surrendered capacity is allocated. Except for the period of reallocation of capacity as above, the Beneficiaries of the Generating Station shall continue to pay the full capacity charges as per allocated capacity shares. Any such reallocation and its reversion shall be communicated to all concerned by the Member Secretary, Regional Power Committee in advance, at least three Days prior to such reallocation or reversion taking effect.

26. Miscellaneous

26.1 Dispute resolving mechanism

In the event of any dispute regarding interpretation of any provision of the Terms and Conditions of Generation Tariff Regulations or rules and procedures notified under the provisions of the Terms and Conditions of Generation Tariff Regulations, the matter will be decided by the Commission according to the Act.

Provided that for this purpose the aggrieved person shall be entitled to file a proper petition before the Commission by following the Conduct of Business Regulation, 2015 being regulation No. 2 of 2015 and Levy of Fee for Rendering Services Rendered by the Commission Regulation, 2016 being regulation No. 2 of 2016.

Provided that the Commission may initiate such suo moto proceedings as may be necessary in the event of it having come to the conclusion based on reports of the TSGENCO that action needs to be taken against any of the stakeholders in terms of the Act, 2003 by exercising the powers vested in it thereof and by invoking the Conduct of Business Regulation, 2015 being regulation No. 2 of 2015 and Levy of Fees for Rendering Services Rendered by the Commission Regulation, 2016 being regulation No. 2 of 2016, where such fee if required to be levied is to be decided at the end of the proceeding as to who shall pay the same.

26.2 Issue of orders and practice directions

Subject to the provisions of the Act and this Regulation, the Commission may, from time to time, issue orders and practice directions in regard to the implementation of these Regulations and procedure to be followed on various matters, which the Commission has been empowered by these Regulations to direct, and matters incidental or ancillary thereto.

26.3 Powers to remove difficulties

If any difficulty arises in giving effect to the provisions of this

regulations, the Commission may, by general or specific order, make such provisions not inconsistent with the provisions of the Act, 2003, as may appear to it to be necessary and expedient for removing such difficulty duly following the procedure contemplated under the Act, 2003 and regulations in vogue.

26.4 Power of relaxation

The Commission may in public interest and for reasons to be recorded in writing, relax any of the provision of these Regulations.

26.5 Interpretation

If a question arises relating to the interpretation of any provision of these Regulations, the decision of the Commission shall be final.

26.6 Saving of inherent powers of the Commission

1. Anything done or any action taken or purported to have been done or taken including any rule, notification, inspection, order or notice made or issued or any appointment, confirmation or declaration made or any licence, permission, authorization or exemption granted or any document or instrument executed or any direction given under the repealed regulation shall, insofar as it is not inconsistent with the provisions of this regulation, be deemed to have been done or taken under the corresponding provisions of this regulation shall be deemed to be not invalid by virtue of such repeal.

2. Nothing contained in these Regulations shall limit or otherwise affect the inherent powers of the Commission from adopting a procedure, which is at variance with any of the provisions of these Regulations, if the Commission, in view of the special circumstances of the matter or class of matters and for reasons to be recorded in writing, deems it necessary or expedient to depart from the procedure specified in these Regulations.

26.7 Enquiry and investigation

All enquiries, investigations and adjudications under these regulations shall be done by the Commission through the proceedings in accordance with the provisions of the Conduct of

Business Regulations, 2015.

26.8 Power to amend

The Commission may, at any time, vary, alter, modify or amend any provisions of this regulation.

27. Summary of timelines

Description	Filing of the Document (on or before)	Obtaining additional information and acceptance by the Commission	Approval of the Document
Capital Investment Plan (to be filed only at the beginning of the Control Period)	1st April of the Year preceding the first Year of Control Period	Within 45 Days of filing of document	Within 90 Days of acceptance of the filing
Business Plan	1st April of the Year preceding the first Year of Control Period	Within 45 Days of filing of document	Within 90 Days of acceptance of the filing
Filing of MYT Petition (ARR and Tariff Proposal for the Control Period)	1st April 2019	Within 45 Days of filing of document	Within 120 Days of acceptance of the filing
Mid-Term Review	30th November of the fourth Year of the Control Period	Within 45 Days of filing of document	Within 120 Days of acceptance of the filing
End of Control Period Review	30th November of the first Year of the subsequent Control Period	Within 45 Days of filing of document	Within 120 Days of acceptance of the filing

(BY ORDER OF THE COMMISSION)

Sd/-

**UMAKANTA PANDA
COMMISSION SECRETARY (FAC)
Telangana State Electricity
Regulatory Commission**

Hyderabad

Date: 04.01.2019.