

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

Between:

The Singareni Collieries Company Limited (SCCL): Kothagudem Collieries,  
Bhadradi 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 (TSPDCL):  
Corporate Office: # 6-1-50, Mint Compound, Hyderabad, Telangana-500 063.
2. Northern Power Distribution Company of Telangana Limited (TSNPDC): H.No:  
2-5-31/2, corporate Office, Vidyut Bhavan, Nakkalagutta, Hanamkonda,  
Warangal, Telangana- 506001

**RESPONDENTS**

**AFFIDAVIT**

I, Shri N. Balram, son of N. Hunya aged 39 years residing at Bungalow no: S-4,  
Bungalows area, Lakshmidivally, Kothagudem – 507101, do solemnly affirm and  
say that

1. I am the Director Finance of 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 affidavit  
drafted pursuant to my instructions. The statements made in  
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 correct.

I Solemnly affirm at Hyderabad on 07<sup>th</sup> day of May, 2020 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.

  
**DASARADHA RAMULU**  
B.Com., LL.B.,  
**ADVOCATE**  
**HYDERABAD**

ATTESTED

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

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

Between:

The Singareni Collieries Company Limited (SCCL): Kothagudem Collieries,  
Bhadradi Kothagudem Dist, Telangana State - 507101;

Represented by its authorized representative i.e., **Director Finance, SCCL.**

**PETITIONER**

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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**

**REJOINDER FILED BY THE PETITIONER**

**IN**

**O.P.No.4 of 2019, O.P.No.5 of 2019, O.P.No.8 of 2020 & O.P.No.9 of 2020**

I, Shri N. Balram, son of N. Hunya aged 39 years residing at Bungalow no: S-4,  
Bungalows area, Lakshmidivally, Kothagudem – 507101, do solemnly affirm and  
say that-

1. It is submitted that the respondents as mentioned above has filed reply to the  
petitions filed before this Hon'ble Commission seeking approval of

- a) Aggregate revenue requirement and tariff for the 3<sup>rd</sup> control period  
from 01.04.2019 to 31.03.2024;
- b) Final truing-up claim for the 2<sup>nd</sup> control period FY 2016-19;
- c) Business plan for the period from 01.04.2019 to 31.03.2024;
- d) Capital investment plan for the multi year period FY 2019-24,

..... in respect of 2x600MW Singareni Thermal Power Plant(STPP) for the 3<sup>rd</sup>  
control period 01.04.2019 to 31.03.2024, filed under section 62 and 86(1)(a) of  
the Electricity Act, 2003 read with TSERC (Terms & Conditions of Generation  
Tariff) Regulation, 2019(1 of 2019).

2. The rejoinder of the reply is provided in the subsequent pages.

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



THE SINGARENI COLLIERIES COMPANY LIMITED  
(A Government Company)  
2 X 600 MW SINGARENI THERMAL POWER PROJECT  
Jaipur (V&M)-504216, Mancherial (Dist), T.S.

Ref no: STPP/COML/2020-21/

Dt: 24.04.2020

To,  
The Secretary,  
T.S. Electricity Regulatory Commission,  
5<sup>th</sup> Floor, Singareni Bhavan, Red Hills,  
Lakdi ka pool, Hyderabad – 500 008.

Sub: SCCL – Reply to the objections by **TSDISCOM's** regarding petitions in respect of Singareni Thermal Power Project, Phase-I (2X600 MW) – Reg.

Ref: Your email dated 18.04.2020 regarding objections of TSDISCOM's in OP Nos.4&5 of 2019 and OP Nos.8&9 of 2020 relating to 2x600MW STPP of SCCL.

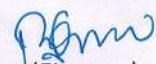
Sir,

The reply to the objections made by the beneficiary related to 2X600MW STPP as sought by the Hon'ble Commission vide reference email relating to truing up petition (O.P. No. 4 of 2019), Multi-year tariff petition (O.P. No. 5 of 2019), Business plan (O.P. No. 8 of 2020) and Capital investment plan (O.P. No. 9 of 2020) is hereby submitted with six copies each.

The Hon'ble commission is kindly requested to accept the same.

Thanking you.

Yours sincerely

  
Director (Finance)

**N. BALRAM, IRS**

**DIRECTOR (FINANCE)**

**THE SINGARENI COLLIERIES CO. LTD.,  
KOTHAGUDEM - 507 101.**

Encl: Reply to the email dated 18.04.2020 with 6 copies.

Rejoinder BY STPP, SCCL

in

O.P.No.4 of 2019, O.P.No.5 of 2019, O.P.No.8 of 2020 & O.P.No.9 of 2020

Counter filed by the Respondents	Rejoinder
<p>1. It is submitted that the petitioner has filed multiple petitions before this Hon'ble commission seeking approval of –</p> <ul style="list-style-type: none"><li>a) Aggregate revenue requirement and tariff for the 3<sup>rd</sup> control period from 01.04.2019 to 31.03.2024;</li><li>b) Final truing-up claim for the 2<sup>nd</sup> control period FY 2016-19;</li><li>c) Business plan for the period from 01.04.2019 to 31.03.2024;</li><li>d) Capital investment plan for the multi year period FY 2019-24,</li></ul> <p>..... in respect of their 2x600 MW Singareni thermal power plant (STPP) for the 3<sup>rd</sup> control period 01.04.2019 to 31.03.2024, filed under section 62 and 86(1)(a) of the Electricity Act, 2003 read with TSERC (Terms &amp; conditions of generation tariff) regulation, 2019 (1 of 2019).</p>	<p>These are the matter of facts but since the Petitioner is entitled for several claims there is no bar of law to make such claims.</p>
<p>2. The aforesaid petitions filed are inter-connected to the main petition (O.P.No.5 of 2019), where-under tariff determination has been sought for the 3<sup>rd</sup> control period 01.04.2019 to 31.03.2024. The prayer in each of the petition</p>	<p>The beneficiary has quoted some portion of prayers made in O.P.No.5 of 2019, O.P.No.4 of 2019, O.P.No.8 of 2020 and O.P.No.9 of 2020. <b>Except the prayer for truing up petition</b> other part of quotations are correct. The prayer in truing up petition for 2016-19 submitted on 10.07.2018 is placed hereunder:</p>

is as below:

(i) O.P.No.5 of 2019 (Main petition for approval of ARR & Multi-Year Tariff for the 3<sup>rd</sup> control period FY 2019-20 to 2023-24)

.....  
SCCL Prayed the Hon'ble  
Commission:

- a) to consider the submissions made by SCCL in this Multi-Year Tariff Petition along with the application for approval of Capital Investment plan and Business plan.
  - b) to approve Aggregate Revenue Requirement and tariff for 2X600 MW Singareni Thermal Power Plant (STPP) for each financial year within the control period comprising five years from 1<sup>st</sup> April 2019 to 31<sup>st</sup> March 2024.
  - c) to allow raising bills for supply of energy by STPP based on annual fixed charges and norms applicable for FY 2018 -2019 till determination of Aggregate revenue requirement and Tariff for FY 2019-24.
- .....  
" O.P.No.4 of 2019 (TRUING-UP Petition for Previous Control period FY 2016-17 to FY 2018-19) .....
- a) SCCL prayed for carrying out the final Truing-up of Tariff for the period FY 2016-17, FY 2017-18 & FY 2018-19 with actual capital costs claimed at Rs.8580.22 Crore as on

*"18 prayer before the Hon'ble Commission  
SCCL prays to the Hon'ble Commission that it may pleased to:*

- a) *Consider the submissions made by SCCL and allow the true up tariff by revision of annual fixed charges*
- ....."

31.03.2019 with spillover of Rs.199.78 Crore beyond 31.03.2019, aggregating to Rs.8780.00 Crore (as against the TSERC approved Capital cost of Rs.7575.25 Crore in the order dated 19<sup>th</sup> June 2017 in O.P.No.9 of 2016).

(iii) O.P.No.8 OF 2020 (Petition for approval of Business Plan for 3<sup>rd</sup> control period FY 2019-20 to FY 2023-24)

SCCL prayed the Hon'ble Commission:  
a) to consider the Business plan of STPP during FY 2019-24 for approval as per Regulation 7 and 27 of terms and condition of generation Tariff Regulation 2019.....

(iv) O.P.No.9 of 2020 (Petition for approval of Capital Investment plan for the 3<sup>rd</sup> control period FY 2019-20 to FY 2023-24 )

SCCL prayed the Hon'ble Commission:  
a) to consider the Capital Investment plan of STPP during FY 2019-24 for approval as per regulation 7(b), 7.19 and 27 of terms and conditions of generation Tariff Regulation 2019.

3. As submitted in the foregoing paras, out of the aforesaid 4 nos. Petitions, the Hon'ble commission is required to take up

Simultaneous hearing of several claims is not prohibited in law. However Hon'ble Commission may decide the schedule of hearing in respect of several claims covered by

<p>Firstly the Truing-up petition (O.P.No.4 of 2019) filed by the Petitioner for the 2nd control period FY 2016-17 to FY 2018-19, in order to finalize the closing balance as on 31<sup>st</sup> March 2019, which would be carried forward to next control period, as the opening balance on 1<sup>st</sup> April 2019. As such, the other petitions for approval of Business Plan (O.P.No.8 of 2020) &amp; Capital Investment Plan (O.P.No.9 of 2020) for FY 2019-24 can be taken together, to check the prudence of costs claimed, which would finally factor in the main Tariff petition(O.P.No.5 of 2019) for the 3rd control period FY 2019-20 control period FY 2019-20 to FY 2023-24.</p>	<p>separate petitions.</p>
<p>4. As already submitted, the Petitioner filed the Multi-Year Tariff Petition (O.P.No.5 of 2019) together with other Petitions in terms of the TSERC Tariff Regulations 2019, which stipulate the provisions as extracted below, which are relevant for examining the claims of the Petitioner. “ .....</p>	<p>The beneficiary has referred some of the clauses of TSERC terms and conditions of generation tariff regulation 2019. These are found to be the extracted from of the regulation 01 of 2019 and hence <b>no comments to offer</b>.</p>
<p><b>Article – 3.8.1</b> “3.8.1 Multi- Year tariff Petition shall be filed by April 1 of 2019, comprising:</p>	
<p>(a) <u>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 Electrical by a Generating Entity to a Distribution Licensee and Purchase of Electricity by Distribution Licensees (or) CERC Regulations as Relevant.</u></p>	

(b) Provisional true-up and true-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 Entry to a Distribution Licensee and Purchase of Electricity by Distributing Licensees (or) CERC Regulations as relevant. Provided that the Commission may, if it considers appropriate, carry out the true-up for the year FY 2018-19, along with the true-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 Regulation;

(d) Revenue from the sale of power at exiting tariffs and projected revenue gap for each year of the Control Period under this Regulation;

“ .....  
**Article – 3.10.3**  
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 on the Control Period but may be completed within or beyond it, for which relevant technical and commercial details shall be provided.  
.....”

**N. BALARAM, IRS**  
  
DIRECTOR (FINANCE)  
THE SINGARENI COLLIERIES CO. LTD.,  
KOTHASUDEN - 507 404.....



Article – 3.10.6

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.  
.....”

Article – 3.13.9

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.  
.....”

5. It is submitted that the Hon'ble Commission is mandated to carry out the truing-up of the expenditure claimed by the petitioner for the period prior to FY 2019-20 vis-a-vis the costs admitted by this Commission after carrying out prudence check under the O.P.No.9 of 2016, and then finalize the closing balance of outstanding normative loan as on 31<sup>st</sup> March 2019, by deducting the cumulative repayment of principle amount with the normative depreciation recovered, which shall be carried forward as the opening capital cost as on 01.04.2019, for tariff determination for the 3<sup>rd</sup> control period FY 2019-20 to FY 2023-24.

It is to submit that the truing up exercise is required to be done by the Hon'ble Commission **as per regulation 8 of CERC tariff regulation, 2014**. This regulation provides truing up of capital expenditure including additional capital expenditure upto 31.03.2019. This is a regulatory process contemplated under regulation in force.

It is to further submit that the **opening capital cost in MYT petition will be the closing capital cost of truing up petition**. Therefore, MYT petition is required to be approved based on capital cost that is arrived upto 31.03.2019 as per truing up petition and also by approved additional capital cost considering the projected capital investment plan (CIP) during 2019-24.

5. In this context, it is submitted that this Hon'ble Commission vide order dated 19<sup>th</sup> June 2017 passed in O.P.No.9 of 2016, determined the capital cost of the petitioner's thermal power project (2x600 MW-STPP) as well as the generation tariff applicable for the period FY2016-17 to FY 2018-19, where-under the capital cost was approved at Rs.7575.26 crore, which included additional capitalization upto the cut-off date (31<sup>st</sup> March 2019), against the capital cost claimed by the petitioner at Rs.8540.22 crore, while in the final truing up petition, the petitioner revised the capital cost to Rs.8580.22 crore, till 31<sup>st</sup> March 2019 with further spillover of Rs.199.78 crore to the 3<sup>rd</sup> control period, as extracted below.

Table 3.39: Debt and equity approved by the Commission (O.P.No.9 of 2016)

Particulars	SCCL (Rs. Crores)	Approved (Rs. Crores)
Total capital cost (100%)	<u>8540.22</u>	<u>7575.26</u>
Gross loan (70%)	5978.15	5302.68
Equity (30%)	2562.07	2272.58

The approved capital cost of 2X600 MW STPP including additional capitalization as per the tariff order of Hon'ble TSERC was rightly referred by the beneficiary as Rs.7575.25 Crores (Rs.6705.71Crores+124.85 Crores+744.69 Crores). However, the beneficiary did not state the undischarged liability part of the said order where in the Hon'ble Commission has excluded Rs.414.56 Crores in BTG contract and Rs.29.25 crores in BOP contract towards undischarged liability while arriving at the value of Rs.7575.25 crore. Since the said undischarged liability is since been discharged, ipso facto the same need to be added to the capital cost that was decided.

It may please be noted that Rs.6705.71 crore capital cost as mentioned in the previous para was the capital cost upto COD of unit-II (reference table 3-34 of tariff order) composed of Rs.883.63 crore IDC & FC and hard cost of Rs.5822.08 crores.

It is further submitted that Rs.5822.08 crore includes the BTG cost and BOP cost of Rs.4366.98 crore and Rs.835.71 crore respectively (reference table 3-26 of tariff order).

However, it is clearly stated that the amount of Rs.4366.98 crore and Rs.835.71 crore considered in BTG & BOP packages as mentioned in previous para has already excluded the BTG & BOP packages due to reduction of undischarged liability (reference table 3-10 & 3-12 of tariff order).

The Hon'ble Commission further held in para 3.4.18 and in 3.5.7 of tariff order dated 19.06.2017 that these undischarged liabilities would be considered while determining the tariff for next control period i.e., 2019-24. SCCL also submitted PG test reports along with the data of liquidated damages related to BTG & BOP contracts in reply to specific query raised by the Hon'ble Commission. Accordingly, these undischarged liabilities need to be considered to the extent of actual payment made towards these obligations in truing up exercise by the Hon'ble TSERC.

7. In the aforesaid order, the Hon'ble Commission had also fixed the operational norms for the petitioner's 2x600 MW STPP as extracted below:

**Table 4.12: Norms of operation approved by the Commission**

Particulars	Units	Claimed by SCCL	Approved
Target availability for recovery of full fixed charges	%	80.00	85.00
Target PLF for incentive*	%	80.00	85.00
Auxiliary consumption	%	7.50	5.75**
Gross station heat rate	Kcal/kWh	2450.00	2303.88
Secondary fuel oil consumption	MI/kWh	2.00	0.50

It is also stated that the tariff order dated 19.06.2017 had only considered estimated additional capitalization beyond the project COD. These additional expenditures are now being finalized upto 31.03.2019 which is required to be considered for determination of tariff while undertaking true up exercise.

It is also stated that the spillover items are to be considered during the MYT tariff period 2019-24 as per the clause 3.10.3 of TS 01 of 2019. The relevant clause is quoted below:

"3.10.3 The capital investment plan shall show, separately, on-going projects that will spill over into the control period....."

The operating norms allowed for 2016-19 are quoted by the respondent. It has to be noted that these operating norms were allowed for the tariff period 2016-19. But as far as the normative operating parameters for 2019-24 is concerned, these have to be determined by the Hon'ble Commission afresh.

Transit loss (non-pithead)	%	0.80	0.80
GCV of coal (for tariff purpose)		As fired basis	As received basis

\*Incentive shall be in accordance with CERC (Terms and Conditions of Tariff) regulations, 2014

\*\*5.25% + 0.50% for induced draft cooling tower.

8. Further, in the O.P.No.9 of 2016, this Hon'ble Commission also computed the components of fixed charges (FC) such as ROE (Return on Equity), interest on loan (IoL), depreciation, interest on working capital (IoWC), O&M expenses for each year of the 2<sup>nd</sup> control period viz., FY 2016-17 to FY 2018-19, duly considering the repayment of normative loan with the depreciation amount recovered as per CERC tariff regulation, thus outstanding the loan gets reduced year-on-year and the corresponding burden of interest on loan also gets reduced, which gets reflected in the fixed charges, as extracted below:

**Table 4.6: Interest on loan approved by the Commission (Rs.Crore)**

Particulars	FY 2016-17		FY 2017-18	FY 2018-19
	From COD of unit 1 till COD of unit 2	From COD of unit 2 till 31.03.2017		
Opening loan	2451.33	4660.86	4635.30	4288.69
Addition	0.00	87.40	0.00	521.29
Repayment	33.14	112.96	346.61	365.29
Closing loan	2418.19	4635.30	4288.69	4444.69

The respondents have quoted the table 4-6 of the tariff order which provides computation of interest on loan. It may kindly be noted that the interest rates as mentioned in 2017-18 & 2018-19 are based on estimated interest rates (9.21%). **These interest rates need to be tried up based on actual incurred interest rates and sharing of gains due to restructuring of loan.**

Interest rate	10.75%	10.78%	9.21%	9.21%
Interest	48.91	164.78	410.83	402.06

9. However, in the final truing-up petition filed (O.P.No.4 of 2019), the petitioner has claimed the entire capital cost of Rs.8780.00 crore, claiming the expenditure as actual @ Rs.8580.22 crore till 31.03.2019 and the balance expenditure at Rs.199.78 crore as spillover beyond 31.03.2019, by ignoring the final capital cost at Rs. 7575.26 crore admitted by this Hon'ble Commission in the order passed in O.P.No.9 of 2016, thereby the petitioner seeks to pass through the excess expenditure disallowed by the Commission onto the respondents, which renders the prudence check exercise undertaken by this Hon'ble Commission pointless & Infructuous. Therefore, the Hon'ble Commission is prayed to disallow the excess capital cost claimed by the petitioner, which would otherwise burden the end consumers.

10. In this context, it is pertinent to submit that the petitioner has appealed against the TSERC order dated 19<sup>th</sup> June 2017 (in O.P. No.9 of 2016) before APTEL under **Appeal No312 of 2017**, by contesting the methodology adopted by this Hon'ble Commission in the determination of capital cost as well as the consequent year-wise tariff and sought relief to set aside the impugned TSERC order and the consequent tariff determination for the period FY 2016-17 to FY 2018-19, which is pending for adjudication at present.

The beneficiary has raised points related to  
 (i) Ignoring the capital cost of Rs.7575.26 crore.  
 (ii) Including the balance expenditure of Rs.199.78 crore as spill over beyond 31.03.2019.  
 (iii) The suggestion that the prudent check exercise by the Hon'ble Commission may be pointless and in-fructuous.

The point (i) & (ii) are replied vide reply against point 6 submitted above in page no.7-8 of this reply.

The reply against point (iii) is submitted below:

The truing up exercise is required to be done by the Hon'ble Commission as per regulation 8 of CERC tariff regulation, 2014. This regulation provides truing up of capital expenditure including additional capital expenditure upto 31.03.2019. This is a regulatory process contemplated under appropriate regulation and pendency of appeal against some issues of tariff order dated 19.06.2017 cannot be a ground for the denial of a regulatory exercise, namely truing up. This truing up is nothing to do with the outcome of pending Appeal. The Discoms have not filed Appeal. Therefore, in the Appeal the APTEL may either increase the capital cost or may uphold the decision. In either of said events it will not have any impact on the truing up issue since the same is separate one.

Further, the Hon'ble Appellate Tribunal of Electricity (APTEL) vide its order dated 28.09.2018 directed the Hon'ble TSERC to hear the truing up petition as per the procedure contemplated.

The attention of the beneficiary is drawn toward the order of APTEL in appeal no. 17 of

<p>11. However, the petitioner has now claimed the entire excess capital expenditure earlier disallowed by this Commission in O.P.No.9 of 2016 together with further additional capital cost spillover claim of Rs.199.78 crore in the final truing-up petition. <b>When the said impugned TSERC order is under challenge before APTEL, which is a sub-judice matter, the Hon'ble Commission may kindly examine whether it would be logical to proceed with adjudication in the Multi-year tariff petition, for FY 2019-24, including adjudication of other connected petitions filed by the petitioner under truing up, business plan &amp; capital investment plan.</b></p>	<p>2017 dated 9<sup>th</sup> May, 2019 between M/S Him Urja Private Limited vs Uttarakhand Electricity Regulatory Commission. In this case, the appellant, M/s Him Urja Private Limited challenged tariff order issued by Uttarakhand Electricity Regulatory Commission on various grounds. <b>During the pendency of the appeal the state commission undertook necessary modifications in the tariff in line with principle mentioned in impugned order. However, tribunal did not interfere with the modifications of tariff order issued by state commission during the pendency of the appeal. The relevant portion of the order is reproduced below;</b></p> <p><b><i>"1.1 The Appellant had challenged the tariff order dated 10.04.2014 before the Tribunal in Appeal no. 178 of 2014 on various grounds including the ground that the tariff ought not to assume the receipt of capital subsidy. During the proceedings in the said appeal, the State commission had undertaken to carry out necessary corrections in the tariff as was also stated in the tariff order dated 10.04.2014. In the circumstances, the Tribunal did not interface with the said decision of the State Commission".</i></b></p>
<p>12. Nevertheless, the respondents would submit their objections on the truing-up petition, capital investment plan petition &amp; business plan petition &amp; main petition for ARR &amp; tariff for 3<sup>rd</sup> control period, as below</p> <ol style="list-style-type: none"> <li>I. <u>Truing-up petition (O.P.No.4 of 2019)</u></li> <li>II. <u>Business plan petition (O.P.No.8 of 2020)</u></li> <li>III. <u>Capital investment plan petition (O.P.No.9 of 2020)</u></li> <li>IV. <u>ARR &amp; Tariff petition (O.P. No.5 of 2019)</u></li> </ol>	<p>No comments to offer.</p>
<ol style="list-style-type: none"> <li>I. <u>Truing-up petition (O.P. 4 of 2019)</u></li> </ol> <p>1. As already submitted at para-9 of this reply, the petitioner has claimed the entire capital cost of Rs.8780.00 crore (with breakup of Rs.8580.22 crore till</p>	<p>The approved capital cost of 2X600 MW STPP including additional capitalization as per the tariff order of Hon'ble TSERC was rightly referred by the beneficiary as Rs.7575.25 Crores (Rs.6705.71Crores+124.85 Crores+744.69 Crores). However, the beneficiary did not state the undischarged liability part of the order where in the Hon'ble Commission has</p>

<p>31.03.2019 plus Rs.199.78 crore as spillover beyond 31.03.2019) ignoring the final capital cost admitted by this Hon'ble Commission at Rs.7575.26 crore in O.P.No.9 of 2016, which order is under challenge before APTEL and hence it is prayed to disallow the excess claim of the petitioner, which otherwise would burden the end consumer.</p>	<p>excluded Rs.414.56 Crores in BTG contract and Rs.29.25 crores in Bop contract on the ground that the same is still not discharged by Generator while arriving at the value of Rs.7575.25 crore.</p> <p>The Hon'ble Commission has further stated in para 3.4.18 and in 3.5.7 of tariff order dated 19.06.2017 that <b>these undischarged liabilities would be considered while determining the tariff for next control period</b> i.e., 2019-24. SCCL also submitted PG test reports along with the data of liquidated damages related to BTG &amp; BOP contracts in reply to specific query raised by the Hon'ble Commission. <b>Accordingly, these undischarged liabilities needs to be considered to the extent of actual payment made for these obligations in truing up exercise by the Hon'ble TSERC.</b></p> <p>It is also stated that the tariff order dated 19.06.2017 had only considered estimated additional capitalization beyond the project COD. <b>These additional expenditures are now being finalized upto 31.03.2019 and submitted before the Hon'ble Commission</b> which is required to be taken into account for determination of truing up petition.</p> <p>It is to further submit that <b>spillover items which have to be completed in the interest of the project are required to be considered by the Hon'ble Commission in the next control period as per the clause 3.10.3 of TS 01 of 2019.</b></p>
<p>2. Apart from the above, the petitioner has raised certain issues in the truing-up petition and prayed the Hon'ble Commission to allow the bills claimed by it for a consolidated sum of Rs.173.09 crores, as detailed below.</p>	<p>Specific submissions will be made against specific reply made by the beneficiary related to non-admission of various bills by Discoms.</p>
<p>3. The petitioner alleged that some of the energy bills raised during the period FY 2016-19, had not been admitted by the respondents on the following heads.</p>	<p>The beneficiaries have submitted that,</p> <ol style="list-style-type: none"> <li>1. Coal supply to STPP beyond 75% of agreed quantity was made with 20% premium</li> </ol>

<p>Additional coal bills for the year FY 2018-19 for Rs.121.4335 Crore not admitted by TSDISCOMs.</p> <p>a) The basic contention of the petitioner is that TSDISCOMs have disallowed the energy bills to the tune of Rs.121.4335 crore without considering additional coal price as per the provisions of the MoU between SCCL (petitioner) &amp; STPP (petitioner's thermal power plant) and also not considered the revised Form-15 (coal) for April 2018 to March 2019, certified by auditor.</p>	<p>over notified price of non-power sector.</p> <ol style="list-style-type: none"> <li>STPP has achieved higher PLF using premium priced coal.</li> <li>Delay in production from Naini coal mine is solely attributable to SCCL.</li> <li>Coal India Limited has been charging NTPC at only 10% premium over notified price for power sector.</li> </ol> <p>The comment of the beneficiary that achievement of higher PLF is unjustified using premium priced coal has no legal basis. The PLF has been achieved based on schedules given by SLDC. <b>The applicable tariff regulation neither prohibits achieving higher PLF using bridge linkage coal nor puts a bar on paying coal price as per the MoU between coal supplier and generator which are very much within the knowledge of Discoms.</b></p>
<p>b) It is submitted that as per the MoU between the petitioner (SCCL) and its thermal plant (STPP), under Bridge Linkage, the coal supplies upto 75% of agreed quantity would be charged at 20% over the notified basic price for power sector for all grades of coal while for coal supplies beyond 75% agreed quantity, the price charged would be 20% over and above the notified basis price for <b>Non-power sector</b>.</p>	<p>It is to further note that the reasons for delay in materializing coal supply from Naini coal block were well discussed in the standing linkage committee under Ministry of Coal and the committee, after considering the representation made by SCCL had recommended extension of bridge linkage of STPP upto 2023 in form of tapering linkage in synchronization with production from Naini coal block. This incident proves that the delay in production of Naini coal had various legitimate uncontrollable factors and hence the delay is attributable to those factors. The beneficiary's submission in this respect is strongly refuted.</p>
<p>c) As could be observed from the above, in terms of the MoU between SCCL &amp; STPP, the coal price is being charged at a premium of <u>20% over and above the notified basic price applicable for Non-power sector</u>, which categorization is totally untenable as the STPP is dedicated basically for power sector in Telangana State. Since the</p>	<p>The beneficiary has tried to agitate the issue of different coal pricing principles for bridge linkage followed by SCCL and CIL forgetting the fact that <b>SERCs are not the appropriate forum to deal with this subject as the issue of coal pricing is dealt by Ministry of Coal.</b></p> <p>However, it has to be appreciated by the beneficiary that the operating areas of SCCL and CIL are not comparable. The annual production target level of Coal India is 710 MMT for 2020, whereas for the same year the production target for Singareni is 67.5 MMT which is 1/11<sup>th</sup> of Coal India target. Further, the ratio of open cast mine to underground mine,</p>

  
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petitioner has stated the PLF of its project (STPP) for FY 2017-18 @ 90.88%, it is deemed that the petitioner has generated energy by achieving higher PLF, using **premium priced coal, applicable for non-power sector**, which is absolutely unjustified, as the said MoU results in enrichment of the petitioner at the cost of TSDISCOMs. Further, the petitioner has projected uniform average PLF at 91.09% for the 3<sup>rd</sup> control period (FY 2019-2024) also, which would cause additional financial burden on the TSDISCOMs.

d) Further, the petitioner also stated that the existing bridge linkage for STPP got extended till 2023, therefore the delay that would occur in materializing the production from its linked coal mine till 2023 (at Naini in Orissa) is solely attributable to the petitioner itself, which burden continues in the form of premium pricing of coal applicable for non-power sector and cannot be allowed to be passed onto the respondents.

e) It is understood that CIL (Coal India Limited) has been charging NTPC at 10% premium over notified price applicable for power sector, whereas the petitioner is charging the coal supply to its own project STPP at **20% premium over notified price applicable for non-power sector.**

f) The Hon'ble Commission may kindly disallow the said irrational pricing claimed by the petitioner.

numbers of employee per ton of coal production, over burden ratio etc.. varies significantly between Coal India and Singareni. Therefore, **the cost structure of coal produced by Coal India and Singareni are different and as a result, pricing structure of coal is bound to be different** and any comparison between the two is inappropriate.

It is to submit that the detail reasons for raising additional coal bills were already submitted before the Hon'ble TSEER in page no. 42-46 of submission dated 04.12.2019. The main points of the submission are given below:

1. As production from Naini coal mine has not started yet STPP is provided with bridge linkage by standing committee of Ministry of Coal.
2. SCCL is supplying the coal for STPP as per the above with the pricing contained in memorandum of understanding (MoU) entered between SCCL & STPP.
3. **The terms and conditions in the MoU contains the same provisions applicable for any bridge linkage customer getting coal from SCCL.**
4. To illustrate the above point, a copy of SCCL-NTPC MoU was submitted. The following table contains the relevant part of MOU related to coal price charged to STPP.

**The summary of pricing provision contained in SCCL-STPP MOU(Ref. submission dated 04.12.2019 page no. 152).**

S no.	Type of customer	Mine	Quantity	Price
1	Bridge Linkage	Normal	Up to 75 % Agreed Quantity	20 % over notified basic price of Power for all grades of coal
2	Bridge Linkage	Normal	Beyond 75 % Agreed Quantity	20% Over and above notified basic Price of Non-Power Sector.

The following table contains the relevant part of MOU related to coal price charged to NTPC.

The summary of pricing provision contained in SCCL-NTPC MOU(Ref: submission dated 04.12.2019 page no. 160).

S no.	Type of customer	Mine	Quantity	Price
1	Bridge Linkage	Normal	Up to 75 % Agreed Quantity	20 % over notified basic price of Power for all grades of coal
2	Bridge Linkage	Normal	Beyond 75 % Agreed Quantity	20% Over and above notified basic Price of Non-Power Sector.

5. Any increase in landed cost of coal certified by the auditor is admissible for computation of energy charge rate under section 30(6) of CERC terms and conditions of tariff regulation 2014.
6. The audited certificate for additional coal bills are also submitted.

Hence, it is to be understood by the beneficiary that the MoU entered between SCCL & STPP satisfies the condition for arm's length transaction which provides that the parties have to act independently without being influenced by other.

**The fact that both SCCL-STPP and SCCL-NTPC MoU agreement contains the same pricing provision applicable for supply upto 75% agreed quantity and beyond proves that the MoU between SCCL & STPP was entered fairly.**

Therefore, the Hon'ble Commission is prayed to allow additional Coal bills raised in accordance with CERC tariff regulation 2014.

<p>ii. <b>Billing on actual Metered data-</b></p> <p>a) The claim of the petitioner is that Singareni TPP had supplied energy to TSDISCOMs during FY 2017-18 in excess of energy scheduled by TSSLDLDC and prayed the Hon'ble Commission to allow the energy bills to the tune of Rs.17.7532 crore (disallowed by TSDISCOMs) based on actual energy injected into grid as per the Joint Meter Reading (JMR), as being followed for State generator like KTPP.</p> <p>b) The petitioner's claim in respect of the excess energy injected by it is not in consonance with APERC/CERC tariff regulations as well as violation of grid code as the excess energy injected into grid without complying to the schedules of TSSLDLDC would give rise to threat to grid security and therefore not permissible as per Indian Electricity Grid Code (IEGC) as violating the grid code by the petitioner cannot be rewarded in the form of tariff payment for excess unscheduled energy injected into the grid. Further, the KTPP unit has not injected excess unscheduled energy as averred by the petitioner, hence the comparison made by the petitioner with KTPP is not plausible.</p> <p>c) As such, it is prayed to disallow the claim, of the petitioner.</p>	<p>The detailed reasoning for claiming bills on actual metered data was furnished before the Hon'ble Commission in Page no.46-47 of submission of additional details for FY 2016-19 filed on 04.12.2019.</p> <p>The summary of reasons already furnished is given below:</p> <ol style="list-style-type: none"> <li><b>1. Scheduling is a day ahead exercise and actual generation cannot exactly match with the schedule on real time basis.</b></li> <li>The reasons for such variation on real time basis are variation in connected load, frequency and coal quality.</li> <li>Accordingly, commercial mechanism has been developed in the country to deal with the difference in scheduled generation (SG) and actual generation (AG).</li> <li><b>4. There is absence of regulation in respect of energy difference between SG and AG in the state of Telangana.</b></li> </ol> <p>Accordingly, the Commission was prayed to consider actual energy for the purpose of energy charge billing.</p> <p>It is to further submit that para 6.1.9 of the power purchase agreement (PPA) provides <b>that SCCL would submit the monthly bill based on:</b></p> <ol style="list-style-type: none"> <li>a. Meter reading pursuant to Article 7 of PPA.</li> <li>b. The tariff (fixed charged and monthly variable charges).</li> </ol> <p>The Article 7 of PPA, more specifically Article 7.11 provides that <b>the readings of main meter shall form the basis of billing.</b></p> <p>Accordingly, from the above, it can be noted that the bills raised by SCCL are in accordance with the relevant stipulations in PPA.</p>
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The beneficiary could not reply against the specific points raised by STPP. Instead they have raised two issues as given below:

1. Excess energy injected is not in consonance with CERC regulation.  
2. The excess energy injection is a violation of grid code and hence not permissible.  
SCCL wants to draw attention of the Discoms to the deviation settlement mechanism and related matters regulation 2014 issued by Hon'ble CERC which not only recognises such deviations but also provides commercial mechanism to deal with such deviations. Now, it may please be understood that if such regulation recognises the deviation, such deviation cannot be said as in violation of IEGC 2010. As per CERC 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 (reference clause 7.2(a) of deviation settlement mechanism related matters and regulation 2014).

The actual and schedule generation of 2018-19 is given below:

1. Scheduled generation : 8113.454 MU
2. Actual generation : 8208.214 MU
3. Deviation (+) : 94.760 MU
4. Deviation on schedule generation : 1.16%

Hence, the deviation is very nominal, which is in permissible limits as per grid code and payable as per deviation settlement mechanism related matters and regulation 2014.

A study has been conducted to understand the implication of such over injection upon the payment liability of Telangana state in regional level.  
This study is based on the monthly reports prepared by the CERC market monitoring cell. The complete report as attached as Annexure-A. The summary of report is placed hereunder:

<p>iii. <b>Incentive claimed for FY 2017-18-</b></p> <p>a) The petitioner has submitted that it had achieved PLF of 91.09% during FY 2017-18, which was 6.09% more than the target PLF (85%) for receiving the incentive of Rs.29.11 crore and sought the Hon'ble Commission to allow the incentive as per incentive bill raised by it in terms of CERC tariff regulations.</p> <p>b) The respondents submit that the petitioner has taken into account the excess energy pumped by it during FY 2017-18, while computing the PLF of its STPP, whereas the actual PLF worked out by TSDISCOMs was 90.79%, <u>without considering the excess energy injected into grid, in violation of Indian Electricity Grid Code.</u> As such, no tariff/incentive is allowable for the excess unscheduled energy injected. Therefore the Hon'ble Commission is prayed to disallow the incentive claimed by the petitioner.</p>	<p>"It is estimated that in absence of STPP's energy injection, the pay outgo for Telangana state in SRPC (southern region power committee) for the FY 2018-19 would have increased by Rs. 31.88 crores".</p> <p><b>Accordingly, even going by the commercial transaction details of the energy quantum based on deviation, the claim of Rs. 17.7532crore is quite reasonable.</b></p> <p>Hence, the contention of the petitioner is strongly refuted and Hon'ble Commission is prayed to allow energy charge based on actual energy.</p> <p>The detailed reasoning for claiming incentive bills on actual metered data was furnished before the Hon'ble Commission in Page no.47 of submission of additional details for FY 2016-19 filed on 04.12.2019. The relevant portion is stated below:</p> <p>It is to submit that, table 4-12 in STPP tariff order dated 19.06.2017 provides the norms of operation approved by the commission. The table shows that the target PLF for earning incentive was 85% and the attached foot note provides that incentive shall be payable in accordance with the CERC (terms and conditions of tariff) regulations, 2014. The relevant portion from CERC regulation is quoted below:</p> <p><b><i>"Incentive to a generating station or unit thereof shall be payable at a flat rate of 50 paise/kWh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to Normative Annual Plant Load Factor (NAPLF) as specified in regulation 36 (B)."</i></b></p> <p>Further, the incentive claimed by STPP for the FY 2017-18 is computed by considering the actual energy generated &amp; recorded in the Joint meter reading (JMR) instead of scheduled energy specified in CERC regulation as Telangana state does not have balancing and settlement code for intra state generators and in absence of such mechanism, traditionally</p>
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	<p>energy bills for state generators were allowed on actual energy quantum injected into grid as per joint meter reading.</p> <p>The PLF of STPP for the FY 2017-18 was 91.09% which was 6.09% more than the target PLF for receiving incentive. Thus STPP has claimed the incentive bill as per CERC (terms and conditions of tariff) regulations, 2014 which was made applicable by Hon'ble Commission to STPP. The incentive bill for FY 2017-18 amounts to rupees 29.11 Crores.</p> <p>The Hon'ble Commission is prayed to allow the incentive bill claimed as per CERC (terms and conditions of tariff) regulations, 2014 following prudent commercial practice prevalent for intra state generating station in absence of deviation settlement mechanism.</p>
<p><b>iv. Water charges &amp; other local taxes &amp; interest differential</b></p> <p>a) The petitioner has averred that water charges (Rs.3.6314 crore together with other local taxes, license fees etc.. (Rs.1.158 crore) claimed by it for an aggregated sum of Rs.4.789 crores, for the period 01.12.2016 to 31.08.2018 have not been paid by the respondents and prayed the Hon'ble Commission for allowing the same.</p> <p>b) The respondents submit that monthly energy bills including the supplementary bills towards taxes &amp; duties, were paid to the petitioner as per the TSERC order &amp; APERC tariff regulation and the petitioner may be directed to reconcile the sums received by it, in terms of the provisions of the said orders.</p> <p>c) The respondents pray the Hon'ble Commission to</p>	<p>The respondent has submitted that it had paid the taxes and duties as claimed before by 2x600 MW STPP. However, item wise acceptance of the bills as per the Power Purchase Agreement (PPA) was not been confirmed by the beneficiary.</p> <p>It is to kindly submit that the taxes, duties and statutory charges are payable by the Discoms as per Article 5 of PPA and more specifically so, as nothing contained in CERC regulation 2014 and TSERC tariff order dated 19.06.2017 is contrary to allowance of such statutory payments, required to be paid by STTP and to be reimbursed by Discoms.</p>

<p>consider the above submissions while examining the claim of the petitioner in the truing-up petition and pass appropriate orders.</p>	
<p><b>II. Business plan petition (O.P No. 8 of 2020):</b></p> <p><b>1. The main issues raised/submissions made in the business plan petition are as below:</b></p> <p>(i) It is submitted that the petitioner has filed the business plan for the 3<sup>rd</sup> control period (FY 2019-24), which inter alia, included generation planning of STPP, the STPP's projected generation year-wise like gross generation (MU), Auxiliary power consumption, Net Ex-bus generation (MU) month-wise, in each year of the 3<sup>rd</sup> control period.</p> <p>(ii) Apart from the above, the petitioner has also referred to the capital investment plan (<b>filed under O.P. No.9 of 2020</b>), projected performance targets (PAF, PLF), efficiency related measures &amp; status of captive coal mine development, environmental compliance etc..</p> <p>(iii) As could be observed from the petition under the business plan, the petitioner has reiterated the submissions made in the capital investment plan for Rs.1195.57 crore for installation of FGD (SOx, NOx mitigation) system for complying to new emission norms, and also procurement of O&amp;M modules, Railway electrification etc.. during the 3<sup>rd</sup> control period.</p>	<p>These are the matters of fact. Hence no comment to offer.</p> <p>These are the matters of fact. Hence no comment to offer.</p> <p>These are the matters of fact. Hence no comment to offer.</p>

(iv) The petitioner has sought the Hon'ble Commission to approve the operational norms on par with the norms stipulated for KTPP Stage-II (1x600 MW-TSGENCO unit). The KTPP, Stage-II norms vis-a-vis the existing norms for petitioners STPP project are as below:

Operational norms approved in the TSERC tariff regulation 2019	(1x600 MW) KTPP Stage-II	(2x600 MW) STPP existing
Normative annual plan availability factor (target availability)	80%	85%
Normative annual plant load factor (for compensation of incentive)	80%	85%
Gross station heat rate	2400 Kcal/kWh	2308 Kcal/kWh
Secondary fuel oil consumption	2.0 ml/kWh	0.5 ml/kWh
Auxiliary energy consumption	7%	5.75%
Transit & handling losses	0.8%	0.8%

These are the matters of fact. Hence no comment to offer.

(v) The petitioner has also sought to enhance the Auxiliary energy consumption (AEC) by 1.5% from the proposed 7% (seeking to adopt AEC @ 7% as applicable to KTPP stage-II) to 8.5% from FY 2021-22 onwards, considering the installation of FGD system.

These are the matters of fact. Hence no comment to offer.

(vi) The petitioner has stated that the standing linkage committee (Long term) under the Ministry of Coal, extended the bridge linkage to Singareni TPP till 2023, as per the captive mine (Naini in Orissa), allocated to petitioner's STPP.

These are the matters of fact. Hence no comment to offer.



(vii) The petitioner has submitted that its power project, STPP had achieved more than 100% ash utilization for 2018-19 and the same level of ash evacuation was expected to continue in the 3<sup>rd</sup> control period.

It is to state that SCCL submitted that 2x600 MW STPP achieved 100% ash utilization for 2018-19 till January 2019. Further, the cumulative level of ash utilization for 2016-19 was 95% as duly mentioned in the business plan submitted before the Hon'ble Commission 30.03.2019.

(viii) The petitioner has submitted that the capital investment for **Rs.301.18 crore**, proposed for **procurement of plant maintenance (PM) module** would be implemented in their thermal power plant.

It is to submit that STPP has proposed capital investment plan Rs.301.18 crore for procurement of **operation and maintenance (O&M) module**. Most of the items proposed under **O&M modules have to be procured in fulfillment of advisory dated 07.02.2020 issued by Central Electricity Authority (CEA)**. The relevant portion is attached **Annexure-B**.

**2. The reply of TSDISCOMs to the Business plan petition:**

(i) The petitioner has projected uniform average annual PLF of its thermal plant at 91.09% for the 3<sup>rd</sup> control period, whereas it is seeking to adopt the normative PLF of 80%, on par with KTRP-II, contrary to the norms fixed by this Hon'ble Commission at normative PLF of 85% in the order dated 19<sup>th</sup> June 2017 in O.P.No.9 of 2016 and also in deviation to the operational norms fixed in the TSERC tariff regulation 2019, therefore the prayer of the petitioner need to be disallowed.

The COD date for the station was 02.12.2016. Accordingly, till now 2x600 MW STPP completed three full financial years of operation. The PLF figures for these three financial years are reported below:

Particular	2017-18	2018-19	2019-20
PLF	91.06%	81.94%	86.58%

It can be seen from the above table that 2x600 MW STPP achieved a PLF more than 85% in two out of three occasions. It can be further interpreted that there is a probability of around 67% for achieving a PLF greater than 85% in MYT period 2019-24 also based on the past performance data. Accordingly, the Commission is requested to consider the generation planning as submitted for FY 2020-24.

(ii) Further, the petitioner is comparing its thermal power plant (2x600MW) with TSGENCO (1x600MW) for seeking adoption of its operational norms, disregarding the economies of scaling achieved by it in setting up the 2 nos. 600 MW units, such as sharing of identical BTG spares,

It is to submit that "norms" cannot be project specific, rather norms should be generic and similar/same for similar units.

A. The reasoning for claiming similar operating norm specified for KTRP stage-II was submitted in Page no. 16 to 18 of MYT petition.

sharing of common infrastructure facilities for raw water intake pump house, BFPs, common conveyor system, common ash disposal, common auxiliaries etc.

- B. The norms of KTPP stage-II based on CERC regulations, 2014 are 5.25% Aux and station heat rate as 2305.11 kcal/kg. This is clear from the TSERC order dated 5<sup>th</sup> June, 2017.
- C. The norms of STPP computed based upon CERC regulation, 2014 is 5.75% aux (5.25%+0.5% for induced draft cooling tower) and station heat rate as 2303.88 kcal/kg.

The following table compares the operating norms:

Parameter	Unit	STPP	KTPP stage-II	Remark
Aux	%	5.75	5.25	Due to induced draft cooling tower norm Aux for STPP is more by 0.5%
SHR	Kcal/kwh	2304	2315	Very similar value of SHR

- D. It is clear from the above table that the design parameters of the units are very close to each another and therefore require application of similar norms. Further, due to presence of induced draft cooling tower and due to in principle approval for FGD, normative aux for STPP is required to be adjusted by 2% (1.5% for FGD & 0.5% for IDCT).
- E. The actual operational parameter can also be compared for a closer look into the situation.
- F. Comparison of operational data for 2016-17 between KTPP stage-II & STPP is produced below:

Comparison of operational data between KTTP stage-II & STPP in 2016-17

Parameter	Unit	KTTP-II	STPP
Aux	%	6.59%	7.143%
SHR	Kcal/kWh	2293	2360

G. The values of aux & SHR for 2017-18 & 2018-19 are also given below so that the Hon'ble Commission may further extend the comparison if it desires so.

Parameter	unit	2017-18	2018-19
Aux	%	5.97	5.64
SHR	Kcal/kWh	2314	2315

H. As the operating norms for STPP in draft regulation stage was matching to KTTP stage-II, STPP could not request the Hon'ble Commission for change in STPP's operating norm at the draft stage. The Hon'ble Commission may kindly look into the issue and fix a comparable norm for STPP.

I. Further, the operating norms of STPP as per CERC tariff regulation 2014-19 and CERC tariff regulations 2019-24 are also computed and produced below to show the dynamism in norm setting process which frequently changes norm from one tariff regime to another.

Parameter	Unit	As per CERC norms 2014-19	As per CERC norms 2019-24
Normative Annual Plant Availability Factor (Target Availability)	%	85%	85%
Normative annual Plant Load Factor (for computation of incentive)	%	85%	85%

Gross Station Heat Rate	Kcal/kWh	2303.88	2315
Secondary fuel oil consumption	Ml/kWh	0.5	0.5
Auxiliary energy consumption	%	5.75%	6.25%
Transit and Handling losses	%	0.80%	0.80%

Accordingly, the normative PLF of STPP needs to be approved by the Hon'ble Commission considering the facts stated above.

The beneficiary stated that operating norms will vary depending upon economies of scale which is the point of difference between KTPP stage-II & STPP since STPP has two 600 MW units whereas KTPP has only one 600 MW unit. The beneficiary has wrongfully linked the norms with scale of economies.

The normative station heat rate for STPP during the period 2016-19 was determined in table 4-11 of the order dated 19.06.2017 issued by Hon'ble TSERC. The Hon'ble Commission has computed the station heat rate as per the CERC regulation 2014 in the following manner.

1. Design heat rate = Guaranteed turbine cycle heat rate / Guaranteed boiler efficiency  
=  $1927.1 / (87.41\%) = 2204.67$  kcal/kWh
2. Allowable gross station heat rate =  $1.045 * \text{Design heat rate} = 1.045 * 2204.67 = 2303.88$  kcal/kWh

It can be seen from the above calculation that the station heat rate is dependent on boiler efficiency and turbine heat rate and the composition of number of units do not play any role in fixing the station heat rate. Hence, it is established that scale of economies does not have any bearing on operating norms.

	<p>Further, it is to submit that 2x600 MW STPP is a green field project whereas KTRPP Stage-II is an extension unit providing it an opportunity to optimize O&amp;M cost due to economies of scale.</p> <p>As pointed out by the beneficiary the common infrastructure facilities have already been considered by the Commission for determination of capital cost for STPP as on the date of COD and shall be finalized after truing up exercise. The benefit of such sharing will automatically be passed on through tariff after finalization of the capital cost of such common facilities.</p>
<p>(iii) In fact, the petitioner is expected to pass on the gains accrued in its STPP under the controllable parameters, Non-tariff income gained in the process of 100% ash utilization to the DISCOMs but not passed any gains to the respondents, instead seeking lower operating efficiency norms, which claim is not in consonance with the TSERC tariff regulation 2019, hence the Hon'ble Commission is prayed to disallow the same.</p>	<p>It is to state that Ash utilization and the proceeds from sale of ash if any shall be guided by the notification no. S.O. 2804(E) of MoEF. The relevant part is quoted below:</p> <p><i>" (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 utilization 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 from fly ash shall get restricted to development of infrastructure or facilities and promotion or facilitation activities for fly ash utilization until 100 percent fly ash utilization level is again achieved and maintained."</i></p>
<p>(iv) The other issue is that the petitioner was granted bridge linkage of coal allocation to its STPP, which was given in the year 2016 (dated 11<sup>th</sup> April 2016)</p>	<p><b>The desire of the beneficiary to source the coal of STPP from the Naini coal block, Odisha has been noted.</b> As pointed out by the beneficiary, the progress of coal production from Naini coal block, Odisha have been continuously monitored by the top management of</p>

<p>for 3 years period only, to bridge the gap between the requirement of coal for STPP and the start of production from the linked allotted coal mine/block (Naini in Orissa).</p> <p>(v) The policy guidelines for grant of bridge linkage mandated to the coal suppliers (SCCL) to supply 75% of Agreed requirement of coal where "Agreed Requirement" is calculated at 90% of normative requirement of the plant at 85% PLF, which means that the bridge linkage coal allocation would be 75% of (90% of 85% of normative PLF) = 57.375% of requirement of STPP at notified price. As such, the balance coal requirement is deemed to have been produced through purchase of e-auction coal which be at a premium price (20%) over the notified price applicable for non-power sector, which can be avoided by expending the coal production from its linked captive mine (Naini coal block).</p>	<p>SCCL. As such, the production from Naini coal block will be further expedited.</p>
<p>(vi) As per the submissions made by the petitioner to the Ministry of Coal, Naini coal mine was allotted to the petitioner on 13<sup>th</sup> August 2015 and coal block was expected to commence production in December 2020, whereas the petitioner submitted in the Multi-year tariff petition that the production would be achieved by the year 2023, thus with abnormal delay of 3 years and therefore the petitioner got extended the bridge linkage till 2023. Due to the delay caused in realizing the coal</p>	<p>It is to submit that the Naini coal block is expected to commence production in late 2020 and the production level is expected to reach the peak rated capacity (PRC) by the year 2023. It is to further submit that it requires sufficient time to reach the PRC level after starting of production in coal mine. SCCL has estimated this time as three years considering the technical and managerial issues involved.</p> <p>It is to further appreciate that the total coal requirement of STPP cannot be fulfilled by Naini before 2023. Accordingly, a tapering linkage has been approved for STPP to fulfil its total coal requirement.</p>

<p>production from the captive coal mine, the petitioner is burdening the TSDISCOMs with high priced coal supplies and the petitioner further sought to adopt lower operational norms on par with KTPP Stage-II contrary to the TSERC order dated 19<sup>th</sup> June 2017 as well as TSERC tariff regulation 2019, which prayer deserved to be rejected.</p>	
<p>(vii) The other observation is that the petitioner has projected the expenditure of CSR (Corporate Social Responsibility) for Rs.30.00 crore @ Rs.6.00 crore per year for the 3<sup>rd</sup> control period, which claim is totally unjustified as CSR is the obligation of the petitioner to meet the expenditure from its net profit but may not be allowed in the Annual Revenue Requirement (ARR).</p>	<p>It is to submit that <b>Ministry of environment and forest (MOEF) has laid out specific conditions to be complied in respect of CSR activity by 2x600 MW STPP as part of conditions of project environment clearance.</b> The relevant condition is quoted below:   <b>“(xxiv) An amount of Rs.22.10 crores shall be earmarked as one time capital cost for CSR programme. Subsequently, a recurring expenditure of Rs.4.10 crores per annum shall be earmarked as recurring expenditure for CSR activities....”</b></p>
<p>(viii) In this regard, the respondents submit the extract of Hon’ble APTEL’s judgement passed in Appeal No. 174 of 2015 dated 2<sup>nd</sup> June 2016 (Noida Power Company Ltd vs UPERC) is as below (copy of APTEL’s judgement is annexed as Annexure-1).   <b>“29.....  a. On this issue of disallowance of CSR expenses claimed during FY 15-16 reference has been made by the Appellant on the provisions of companies Act 2013 which has mandated appellant to incur expenses on corporate social responsibility @ 2% of the appellant’s profit.</b></p>	<p>It is to submit that this expenditure of Rs.4.1 crore per annum is not related to any kind of profit earned by the company. Even if there is no profit, the CSR expenditure @ 4.1 crore per annum has to be incurred by the company. Therefore this expenditure is not conditional on the profit earned.   The Hon’ble Commission in para 3.9.15, 3.9.16 and subsequently under table 3-37 of tariff order has approved amount of Rs.22.10 crore earmarked as one time capital cost of CSR programme as per tariff order dated 19.06.2017. The Hon’ble Commission has approved Rs.9.45 crore upto COD of unit-II and the remaining Rs.12.65 crore under additional capitalization.   However, from the experience of doing CSR activities covering 34 villages around the plant of 2x600 MW STPP, it was felt to increase the recurring mandatory expenditure of Rs.4.4</p>

- b. The appellant had claimed an additional amount of Rs.0.95 crore in its ARR petition for FY 2015-16. The CSR expenditure has not been allowed by the state Commission in the impugned tariff order stating that the essence of the above provision in the companies Act, 2013 is for the companies to contribute some of their profits to corporate social developments and if such expenses are allowed in the ARR, it would indirectly mean that the CSR is being done by the consumers and not by the companies.
- c. The appellant contended that the CSR expenses is being incurred by mandate of law which came subsequent to the notification of the distribution tariff regulations, 2006 and are therefore incurred on account of change in law.
- d. As per the respondent, the appellant is statutorily bound to incur CSR expenses on the activities as defined in provisions of the newly enacted companies Act, 2013.
- e. It is very much clear from the relevant extract from companies Act, 2013 that the company should spend, in every financial year, at least two per cent of the average net profits of the company made during the three immediately preceding financial years in pursuance of its corporate social responsibility policy.
- f. We are of the considered opinion that f such expenses are passed on to the consumes in the ARR, it would defeat the very purpose, in fact, such expenses are for the social development which should not be passed on

crore per annum to Rs.6 crore per annum for the tariff period 2019-24.

The beneficiaries have referred the extract of Hon'ble APTEL judgement passed in appeal no. 174 of 2015 dated 2<sup>nd</sup> June 2016 (Noida Power Company Ltd vs UPERC). This case relates to Noida Power Company Ltd (NPCL) which is a distribution licensee operating in the state of Uttar Pradesh under the regulatory oversight of Uttar Pradesh Electricity Regulatory Commission.

The tariff of NPCL in the impugned order was determined based on UPERC regulation 2006 which provides excess return (16%) on equity compared to 15.5% regulated return earned by 2x600 MW STPP. The relevant portion is quoted below:

"4.10 Return on Equity

1. Return on equity shall be allowed @ 16%, on the equity base determined...."

Further, on perusal of its tariff order dated August 1, 2016 by UPERC it was observed that NPCL was allowed 16% ROE for 2014-17 period.

For the time being, if we proceed to determine a Return on Equity on pre-CSR level for an entity which gets 15.5% regulated ROE post CSR, the ROE on pre-CSR level becomes 15.5/(1-2%)= 15.81% (considering CSR level at 2% of profit/ROE). Therefore, it can be stated that the regulatory return earned by NPCL is more than sufficient to consider 2% CSR expenditure of profit as claimed by them (16% is more than 15.81%). Therefore, the judgement as quoted above in case of NPCL is not applicable for 2x600 MW STPP.

Accordingly, the Hon'ble TSERC is prayed to consider the claim of STPP towards CSR activities.



the consumers.

<p>(ix) The Hon'ble Commission is prayed to take into consideration, the rationale of the aforesaid judgement of APTEL and disallow the claim of the petitioner towards CSR in the ARR projected.</p>	
<p>(x) Further, the petitioner has claimed the auxiliary energy consumption @ 7% for its STPP plant as allowed for KTRP stage-II. In addition to the above, the petitioner has also sought additional auxiliary energy consumption @ 1.5% towards FGD plant, expected to be commissioned in January 2021.</p>	<p>It is to submit that the claim of additional auxiliary energy @ 1.5% is as per DPR prepared by NTPC and may be allowed from the completion date of FGD plant. SCCL has already submitted that expected completion time of FGD as 2022.</p>
<p>(xi) As already submitted by the respondents in the foregoing paras, the enhancement of auxiliary energy consumption to 7%, by deviating from the norms fixed by the Hon'ble Commission @ 5.75% is totally unjustified and therefore the Hon'ble Commission may disallow the same.</p>	<p>Comments already submitted in reply to 2(ii) of business plan petition.</p>
<p>(xii) Regarding the additional auxiliary consumption claimed, the Hon'ble Commission may consider the same after the FGD system is installed by the petitioner duly considering the guideline issued by CEA in respect of such norm.</p>	<p>It is to submit that the additional auxiliary energy @ 1.5% (as per DPR prepared by NTPC) may be allowed from the completion date of FGD plant.</p>
<p>(xiii) Further, as per the DPR for FGD system prepared by NTPC (at Page-77) the petitioner's STPP (2x600 MW) would produce 1000-1100 tons of gypsum per day, as a</p>	<p>It is to submit that selling of gypsum shall be a consideration after installation of FGD and any revenue earned by selling gypsum after adjustment of sales expenditure will only be known by that time. Accordingly, this prayer may be looked into only during the truing up</p>

<p>by-product which can be used by cement manufacturers. As such, the production of gypsum can be a sort of revenue generation to the petitioner, therefore the entire revenue gain would be required to be passed onto the TSDISCOMs since the petitioner is seeking approval of capital investment of FGD system including additional auxiliary energy consumption.</p>	<p>for 2019-24 in accordance with applicable TSERC regulation.</p>
<p>(xiv) The Hon'ble Commission is prayed to take into consideration the replies of the respondents in respect of business plan petition, while examining the multi-year tariff petition (O.P.No.5 of 2019).</p>	<p>The Hon'ble Commission is prayed to take into consideration the submissions and the replies of the petitioner in respect of business plan petition, while examining the multi-year tariff petition (O.P.No.5 of 2019).</p>
<p><b>III. Capital investment plan (O.P.No.9 of 2020)</b></p> <p>1. This petitioner has been filed for approval of additional capital investment plan for the control period FY 2019-20 to FY 2023-24 for <b>Rs.1195.57 crores</b>, which has been proposed despite having claimed the entire capital cost of <b>Rs.8780.00 crore</b>, till 31<sup>st</sup> March 2019 with spillover to next control period, under the final true-up petition.</p>	<p>The beneficiary has presented some irrelevant matters which do not require any comment.</p>
<p>2. The significant component claimed in the capital investment plan is towards implementation of revised FGD (Flue gas desulphurization) system installation and In-furnace modifications for NOx mitigation for Rs.683.32 crore (Rs.645.32 crs+Rs.38.00 crs) and the balance sum claimed at Rs.512.25 crore, towards procurement of O&amp;M modules, railway electrification works, township civil works &amp; erection works in the main plant, etc., which would further burden the DISCOMs/end consumers.</p>	<p>The beneficiary has presented some irrelevant matters which do not require any comment.</p>

<p>3. In this regard, it is necessary for this Hon'ble Commission to examine whether further additional capitalization is allow able during the 3<sup>rd</sup> control period in terms of TSERC regulation, 2019, when the final capital cost was already determined by this Hon'ble Commission, which included additional capitalization upto the <b>Cut-off date (31.03.2019)</b>.</p>	<p>It is to state that the beneficiary has raised the question of admitting additional capitalization in 2019-24 and has quoted the clause 7.19.1 partially only as attempt to mislead the Hon'ble TSERC. The relevant portion of 7.19.1 is quoted below:</p> <p><b>" 7.19. Additional Capitalization</b></p> <p><b>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:-</b></p> <p><b>(a) Un-discharged liabilities recognized to be payable at a future date;</b></p> <p>....."</p>
<p>4. The TSERC tariff regulation 2019 provides at <b>Article 7.19.1</b> for additional capitalization on the following counts, <b>in respect of the works covered within the original scope of works, after the COD upto the cut-off date</b>, may be admitted by the Commission, subject to prudent check.</p>	<p>As evident from the clause above, especially the bold portion that <b>no limitation was put by the Hon'ble Commission for expending additional capitalization beyond the cut-off date.</b> Further, it can be observed that additional capitalization beyond original scope of work and after cut-off date can be admitted by the Hon'ble Commission as per 7.19.1 if it meets the criteria as laid out from 7.19.1(a) to 7.19.1(m).</p> <p>More specifically the attention of beneficiary is drawn towards 7.19.1(k) whereby the Hon'ble Commission can admit any additional capital expenditure which has become necessary for efficient operation if the claim is substantiated with due justification along with documentary evidences.</p> <p>The beneficiary contends that the scope of add cap is limited upto cut-off date. The said contention is not correct. In this respect specific clause of 7.19.1(j) is quoted below:</p> <p><b>"7.19.1(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".</b></p>

<p>5. The <b>cut-off date</b> as defined in the TSERC regulation, 2019 is below:  "....."</p>	<p>It can be seen from the aforesaid clause that the Hon'ble Commission will allow the liability for works even after cut-off date to the extent of payment of such liabilities.</p> <p>The clause 7.19.1(e) provides admission route for additional capitalization due to change in law or compliance of existing law and to limit such change in law till cut-off date will defeat the very purpose of providing add cap due to change in law, as change in law event can happen any time based on the promulgation of new law or amendment of existing law.</p> <p><b>Hence, the regulation 7.19.1 contemplates many events in both letters and spirits that the various routes of add cap given from 7.19.1(a) to 7.19.1(m) is equally applicable for add cap after COD and extending beyond the cut-off date.</b></p> <p>It is to further submit that the capital investment plan is envisaged in regulation 7.3 to 7.7. specifically the proviso of 7.7 provides the following:  <b>"7.7 .....</b>  <b>Provided that the actual capital expenditure incurred shall be only as per the approved capital investment plan".</b></p> <p>The above proviso stipulates that the capital expenditure during 2019-24 is required to be made as per the capital investment plan approved by the Hon'ble Commission.</p> <p>It is to state that the clause 3.10.3 provides that <b>spill over items from previous control period is shown separately in capital investment plan.</b></p> <p><b>Accordingly, the contention of beneficiary is not tenable and may be ignored by the Hon'ble Commission while approving the capital investment plan.</b></p> <p>The beneficiary has presented some irrelevant matters which do not require any comment.</p>
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2.23. "cut-off date" means the 31<sup>st</sup> March of the year ending after two (2) years from the year of start of commercial operation of the project and, in case a project is declared to be under commercial operation in the last quarter of a year, it shall mean the 31<sup>st</sup> March of the year ending after three years of the year of start of such commercial operation.

6. The COD of Unit-1 and Unit-2 declared by the petitioner in respect of 2x600 MW STPP are as below:

Unit	COD
Unit-1	25.09.2016
Unit-2	02.12.2016

Project COD = COD of unit-2

The beneficiary has presented some irrelevant matters which do not require any comment.

7. Since the COD of the project was declared on 2<sup>nd</sup> December 2016, as per the aforesaid definition, it fell under the 3<sup>rd</sup> quarter of FY 2016-17, hence the cut-off date for the STPP project would be 31<sup>st</sup> March 2019.

The beneficiary has presented some irrelevant matters which do not require any comment.

8. Whereas the petitioner has filed the petition for capital investment plan for **Rs.1195.57 crore** for the 3<sup>rd</sup> control period proposed from 1<sup>st</sup> April 2019 to 31<sup>st</sup> March 2024, the works proposed under the capital investment plan are altogether new works and not part of original scope of works claimed in the petition (O.P.No.9 of 2016) filed by the petitioner during 2016 and further the claims of

Comments already submitted against reply to 4 of capital investment plan petition. Accordingly, the contention of beneficiary is not tenable and may be ignored by the Hon'ble Commission while approving the capital investment plan.

the petitioner are beyond the cut-off date (31<sup>st</sup> March 2019), hence the additional capitalization works claimed under capital investment plan during the 3<sup>rd</sup> control period are beyond the provisions of regulation and therefore not allowable in terms of the TSERC regulation 2019. As such, he Hon'ble Commission is prayed to disallow the works proposed under the capital investment plan, which would be capitalize upon approval by this Commission and this would automatically translate into further increase in the tariff (Fixed charge- FC components) payable to the petitioner, and cause additional financial burden on the TSDISCOMs/respondents.

9. It is submitted that the Hon'ble Commission in the interim order (dated 08.02.2020 in I.A No.2 of 2020) has accorded in-principle approval for undertaking the works claimed by the petitioner under FGD system (Rs.645.32 crore) and In-furnace modifications for NOx mitigation system for Rs.38.00 crore aggregating to Rs.688.32 crore, basing on the stipulation at Article 7.19.1, which provision is extracted below:  
 “ .....  
 7.19.1 The capital expenditure actually incurred or projected to be incurred, on the following courts 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

The respondent has failed to understand the relevant portion of clause 7.19.1 of TS 01 of 2019 which the Hon'ble TSERC has quoted in the I.A order dated 08.02.2020. The useful portion is given below:

“7.19.1 .....Any additional capitalization after COD needs prior approval of the Commission:-  
 (a).....”

Hence, it is kindly submitted that the arguments canvassed by the beneficiary is completely untenable and needs to be ignored by the Hon'ble Commission.

after COD needs prior approval of the Commission:-

- (a).....
- (b).....
- (c).....
- (d).....
- (e).....

(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 desulphurization (FGD).  
(m).....

10. It is submitted that the Hon'ble Commission has ignored the preamble of the provision at Article 7.19.1 of the TSERC tariff regulation 2019 while according in-principle approval for the projected expenditure towards FGD installation claimed by the petitioner, which is the basis for allowing any expenditure towards additional capital expenditure for statutory compliance.

11. The respondents would submit that such capital investment plan for additional capitalization for

complying with the statutory norms for environment shall be allowable in respect of the works covered within original scope of works claimed in the O.P.No.9 of 2016 and upto the cut-off date only (31.03.2019) but not beyond the cut-off date.

12. Further, it is submitted that the **notification of Ministry of Environment, Forest & Climate (MoEF) was issued on 7<sup>th</sup> December 2015 itself**, therefore any projected expenditure towards complying with the said notification, should have been claimed by the petitioner in the tariff petition O.P.No.9 of 2016. However, the petitioner has projected the FGD notification, as a recent notification in the I.A.No.2 of 2020, pleading urgent statutory compliance and sought in-principle approval, which claim is not permissible as per the preamble of the provision at Article 7.19.1 of TSERC regulations, 2019.

The beneficiary has failed to understand the following events triggered by MoEF notification dated 07.12.2015.

1. In view of technical challenges in implementing new technologies like FGD, revised dates for compliance of new emission standards was prepared by Central Electricity Authority (CEA) which was forwarded to MoEF & CC on 13.10.2017.
2. The Central pollution control board (CPCB) has issued directions on 11.12.2017 to thermal power plants to ensure compliance as per revised plan submitted by Ministry of Power.

It may be noted that there was significant risk associated with implementation of completely new technology on ground level to comply the environment standards set by MoEF notification dated 7.12.2015.

The attention of the beneficiary is drawn in the petition no. 152/MP/2019 filed before the Hon'ble CERC by Mithon Power Limited (MPL). The relevant portion is extracted below:

*"2. On account of the Ministry of Environment, Forest and Climate Change ("the MoEFCC") notification dated 7 th December, 2015 inter-alia specified revised standards of emission applicable to thermal generating station ("revised emission standards"), the petitioner filed Petition no. 72/MP/2016 under CERC (Terms & Condition for Determination of Tariff) Regulations, 2014 ("the 2014 Tariff Regulations") which was disposed by the Commission on 20.3.2017 with the direction to approach Central Electricity Authority ("the CEA") with*



	<p><i>regard to optimum technology, phasing and deciding cost factors accordingly and liberty to approach the Commission thereafter".</i></p> <p>It can be ascertain from the above that the developers of the power project could not themselves choose the required technology or could estimate the expenditure for environment compliance without the advisory from CEA.</p> <p>The CEA has issued standard technical specification for erection/retro fitting of FGD system on December 2017 and modified the same on October 2018.</p> <p>Accordingly, the objection raised by the Discom related to non-inclusion of expenditures for complying the notification dated 7<sup>th</sup> December, 2015 which was submitted before the Hon'ble TSERC well before June 2017 (the date of tariff order was 19.06.2017) have no merit for consideration.</p>
<p>13. It is further submitted that before according in-principle approval, the Hon'ble Commission ought to have ascertained the emission norms &amp; conditions stipulated by the environmental clearance issued by the MOEFCC to the petitioner in the year 2010 and the extent of the compliance achieved by STPP and the additional compliance required by STPP in terms of the said notification. <b>As such, the Hon'ble Commission is prayed to re-visit the decision of in-principle approval accorded in the interim order as the said approval is not in consonance with the TSERC tariff regulation 2019.</b></p>	<p>The beneficiary has tried to reopen the mater already decided by order dated 08.02.2020 in I.A.No.2 of 2020 where in-principle approval was accorded by the Hon'ble Commission. Such recourse to attempt to reopen the concluded issues is not permissible in law.</p> <p>The Hon'ble Commission has allowed installation of FGD system and in furnace modifications for NOx mitigation vide its I.A order dated 08.02.2020.</p> <p>It is to further submit that 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 served to STPP. A copy of show cause notice is attached as <b>Annexure-C</b>.</p> <p>Accordingly, the objection raised by the beneficiary lacks merit and should be ignored by</p>

<p>14. Further regarding the <b>NOx emission limit prescribed</b> in the revised norms as 300 mg/Nm<sup>3</sup> for coal based thermal power plants, it is submitted that the Hon'ble Supreme Court in the order dated 5<sup>th</sup> August 2019 passed in <b>W.P (Civil) No.13029/1985</b>, agreed to the principle of consensus reached between EPCA (Environment Pollution Control Authority), Ministry of Power, Central Pollution board (CPCB), CEA, NTPC, MoEF &amp; CE to review the <b>NOx mitigation system from 300 mg/Nm<sup>3</sup> to 450 mg/Nm<sup>3</sup></b> for coal based thermal power plants in which case, to the extent of such relaxation, the capital expenditure/Investment can be reduced. <b>The Hon'ble Commission is prayed to consider the relaxation given to all coal based thermal stations in country and apply the apex Court's judgement to the petitioner's thermal power plant. The copy of the Apex court order is annexed (Annexure-II).</b></p>	<p>the Hon'ble Commission.</p> <p>The beneficiary has submitted that consensus reached between Environment Pollution Control Authority (EPCA), Ministry of Power, Central Pollution board (CPCB), CEA, NTPC, MoEF &amp; CC to review the <b>NOx mitigation system from 300 mg/Nm<sup>3</sup> to 450 mg/Nm<sup>3</sup></b> as per the supreme court order in <b>W.P (Civil) No.13029/1985</b>.</p> <p>On perusal, following has been found in serial no. 5(iii) of the minutes quoted in the above judgement:</p> <p><i>"5(iii) assurance given to Power generating companies by BHEL would be able to achieve NOx emission level of 450 mg/Nm<sup>3</sup> by combustion modification"</i></p> <p>It is seen from the above that the aforesaid minutes envisage achievement of NOx emission level of 450 mg/Nm<sup>3</sup> by way of "combustion modification".</p> <p>It is to state that 2x600 MW STPP has planned for "combustion modification" only as is also evident from page no. 18-19 &amp; 145 of our submission dated 29.03.2019.</p> <p>In fact our proposal for NOx mitigation is <b>supported by the quotation of BHEL in this regard.</b></p> <p>However, the afore mentioned minutes of meeting state that the NOx emission level varies based on operational conditions of the units (load and mill combination). It may kindly be noted that the design value for NOx emission level in case of 2x600 MW STPP was 750mg/Nm<sup>3</sup>.</p> <p>It is stated that the minutes attached in the apex court's judgement provides in the last</p>
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<p>15. Further regarding other works proposed in the capital investment plan such as township, guest house &amp; other works for <b>Rs.35.47 crore</b> during this control period 2019-24, the justification furnished by the petitioner that <b>"this is to be constructed to support modest living of persons inside the township;</b> which is not in consonance with the earlier Commission's observations made in the order in O.P.No.9 of 2016 that <b>"after perusal of the SCCL submissions in this regard, the Commission does not find it prudent to approve the increase in cost of township due to change in scope"</b> and <b>TSERC approved only Rs.80.00 crore as against Rs.145.00 crore</b> claimed by the petitioner. Despite the same, the petitioner is repeatedly claiming the expenditure till 31<sup>st</sup> March, 2019 at <b>Rs.109.53 crore</b> in the final truing up petition for 2<sup>nd</sup> control period &amp; balance <b>Rs.35.47 crore</b> as spillover in the 3<sup>rd</sup> control period, which aggregates to <b>Rs.145.00 crore (originally claimed by the petitioner in O.P.No.9 of 2016) under capital investment plan, therefore the</b></p>	<p>para that the proposal for increasing normative NOx from 300 mg/Nm<sup>3</sup> would be presented for final decision to Secretary MoEF &amp; CC and Secretary MoP. In other way it can be stated that the proposal has yet to reach its finality.</p> <p>Further, the Hon'ble Commission has given in principal approval for investment in NOx mitigation system by its order dated 08.02.2020 in I.A.No. 02 of 2020.</p> <p>Therefore the contention of the beneficiary <b>at this stage is not tenable.</b></p> <p>It is also to state that the Hon'ble TSERC has approved <b>additional capital expenditure based on projected values of add cap beyond COD which is now required to be finalized based on actuals.</b></p> <p>The audited actual expenditure till 31.03.2019 is now submitted before the Hon'ble commission to carry out truing up exercise in accordance with clause 8 of CERC tariff regulation, 2014.</p> <p>The spillover amounting Rs.35.47 crore in respect of township is estimated to be capitalized during the next control period. The same was submitted before the Hon'ble Commission as per clause 3.10.3 of TSERC terms and conditions of generation tariff regulation 2019. As per regulation TS 01 of 2019 any capital expenditure after COD can be approved by the Hon'ble Commission as per clause 7.19.1.</p> <p>Further, the Hon'ble Commission may consider <b>clause 22(a) of CERC terms and conditions of tariff regulation 2019 where "approved change in scope" is not considered as controllable factor.</b></p> <p>Accordingly, the Hon'ble Commission is requested to allow expenditures for township due</p>
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<p>claim is not admissible and the same may be disallowed.</p> <p>16. The petitioner's other claims such as capital investment during the 3<sup>rd</sup> control period for O&amp;M modules, railway electrification for railway signalling &amp; telecommunication, security watch towers, erection works in main plant aggregating to Rs.512.25 crore, are not admissible as these works were not covered in the original scope of works upto the cut-off date (31.03.2019), and are deemed to be new works, hence it is prayed that the capital investment for the above works may be disallowed in terms of TSERC tariff regulation 2019.</p>	<p>to change in scope, cost escalation and spillover in the respective years of capitalization as already incurred or estimated to be incurred.</p> <p>Comments already submitted in reply to 4 of capital investment plan petition.</p> <p>Accordingly, the contention of beneficiary is not tenable and may be ignored by the Commission while approving the capital investment plan.</p>
<p><b>IV. ARR &amp; Tariff petition (O.P.No5 of 2019)</b></p> <p>1. The petitioner has filed the petition for approval of Aggregate revenue requirement (ARR) and tariff in respect of its Singareni thermal power plant (STPP-2x600 MW) for the 3<sup>rd</sup> control period from 01.04.2019 to 31.03.2024, as per the TSERC tariff regulation 2019. Before discussing on this petition, it may be pertinent to re-submit the related issues raised in other connected petitions.</p>	<p>No comment to offer.</p>
<p>2. The COD (Commercial operation date) of the project was 2<sup>nd</sup> December 2016 and the cut-off date as per the definition was 31<sup>st</sup> March 2019.</p>	<p>No comment to offer.</p>
<p>3. The petitioner has submitted that it had filed appeal against TSERC order dated 19<sup>th</sup> June 2017 in O.P.No.9 of</p>	<p>No comment to offer.</p>

2016, contesting the methodology adopted by this Hon'ble Commission in the determination of capital cost of STPP and also against the disallowance of certain claims made by it. **The Hon'ble APTEL is yet to take up the Appeal.**

4. However, the petitioner has filed the truing-up before this Hon'ble Commission under O.P.No.4 of 2019, claiming the entire capital cost of Rs.8780.00 crore (Rs.8580.22 crore till 31.03.2019 and balance sum of Rs.199.78 crore as spillover beyond 31.03.2019) disregarding the admitted final capital cost of Rs.7575.26 crore, which renders the prudence check exercise undertaken by this Commission as infructuous. **The Hon'ble Commission is prayed to disallow the excess capital cost claimed by the petitioner, which otherwise would burden the end consumers.**

The approved capital cost of 2X600 MW STPP including additional capitalization as per the tariff order of Hon'ble TSERC was rightly mentioned by the beneficiary as Rs.7575.25 Crores (Rs.6705.71Crores+124.85 Crores+744.69 Crores). But, the beneficiary did not state that the undischarged liability part of the order where the Hon'ble Commission has excluded Rs.414.56 Crores in BTG contract and Rs.29.25 crores in Bop contract for arriving at the value of Rs.7575.25 crore.

The Hon'ble Commission further stated in para 3.4.18 and in 3.5.7 of tariff order dated 19.06.2017 that these undischarged liabilities would be considered while determining the tariff for next control period i.e., 2019-24. SCCL also submitted PG test reports along with the data of liquidated damages related to BTG & BOP contracts in reply to specific query raised by the Hon'ble Commission. Accordingly, these undischarged liabilities need to be considered to the extent of actual payment made for these obligations in truing up exercise by the Hon'ble TSERC.

It is also stated that the tariff order dated 19.06.2017 had only considered estimated additional capitalization beyond the project COD. These additional expenditures are now finalized upto 31.03.2019 and submitted before the Hon'ble Commission which is required to be considered for determination of truing up petition.

It is also stated submitted that the spillover items are to be considered during the MYT tariff period 2019-24 as per the clause 3.10.3 of TS 01 of 2019. The relevant clause is quoted below:

5. As already submitted, the approved/admitted closing balances as on 31<sup>st</sup> March 2019 would be carried forward as opening balance as on 1<sup>st</sup> April 2019, which shall be the basis for tariff determination for the 3<sup>rd</sup> control period (FY 2019-24).

"3.10.3 The capital investment plan shall show, separately, on-going projects that will spill over into the control period....."

No comments to offer.

6. The petitioner has also filed the capital investment plan for Rs.1195.57 crore for the 3<sup>rd</sup> control period and the expenditure that would be approved by this Commission, out of the aforesaid projected expenditure, clubbed with the opening balance of project cost as on 01.04.2019 would become the basis for determining the tariff for the 3<sup>rs</sup> control period.

The beneficiary has submitted that the approved capital expenditure out of CIP amounting Rs.1195.57 crore will be clubbed with the opening balance of project cost as on 01.04.2019. **This comment is not correct as the capitalization schedule put before the Hon'ble Commission was spread in four financial years and the benefit of the capitalization will be available only after completion of those items in different years.** As such, the modified capitalize schedule as submitted before the Hon'ble Commission is produced below:

(In crores)

Item	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
Capital investment plan	0	230.75	294.64	823.18

7. In the capital investment plan, the petitioner has proposed Rs.683.32 crore towards FGD system installation and furnace modification for NOX mitigation, while the balance sum of Rs.512.25 Crore claimed towards procurement of O&M modules, railway electrification works, township civil works, erection works in the main plant etc., which expenditure was claimed beyond the cut-off date and the proposed works are not covered within the original scope of works

STPP has submitted capital investment plan in accordance with 7.19.1 by virtue of which the Hon'ble Commission may consider any item for capitalization after COD irrespective of whether such item is covered within the original scope of work or not. Hence, the objection by the beneficiary is misconceived.

<p>claimed by the petitioner in the petition O.P.No.9 of 2016, therefore the same need to be disallow by this Hon'ble Commission in terms of TSERC tariff regulation, 2019.</p>	
<p><b>8. Now coming to the ARR &amp; Tariff petition, the respondents submit the remarks as below:</b></p> <p>(i) The petitioner claimed the fixed charge (FC) components such as, return on equity (RoE), Interest on loan, depreciation, additional depreciation, interest on working capital, O&amp;M expenses, by considering the capital cost of the project @ <b>Rs.8584.00 crore</b>, at the beginning of the control period FY 2019-24, which is in total contravention to the approved capital cost of <b>Rs.7575.26 crore</b>, admitted by this Hon'ble Commission in the order dated 19<sup>th</sup> June 2017 in <b>O.P.No.9 of 2016</b>. The Hon'ble Commission is prayed to disallow the excess capital cost claimed by the petitioner, otherwise the excess claim would burden the DISCOMs and consequently the end consumers. The Hon'ble Commission is prayed to take into cognizance of the appeal pending before APTEL while adjudicating the aforesaid claim.</p>	<p>The approved capital cost of 2X600 MW STPP including additional capitalization as per the tariff order of Hon'ble TSERC was rightly mentioned by the beneficiary as Rs.7575.25 Crores (Rs.6705.71Crores+124.85 Crores+744.69 Crores). However, the beneficiary did not mention the undischarged liability part of the order where the Hon'ble Commission has excluded Rs.414.56 Crores in BTG contract and Rs.29.25 crores in Bop contract for arriving at the value of Rs.7575.25 crore.</p> <p>The Hon'ble Commission further mentioned in para 3.4.18 and in 3.5.7 of tariff order dated 19.06.2017 that these undischarged liabilities would be considered while determining the tariff for next control period i.e., 2019-24. SCCL also submitted PG test reports along with the data of liquidated damages related to BTG &amp; BOP contracts in reply to specific query raised by the Hon'ble Commission. Accordingly, these undischarged liabilities needs to be considered to the extent of actual payment made for these obligations in truing up exercise by the Hon'ble TSERC.</p> <p>It is also stated that the tariff order dated 19.06.2017 had only considered estimated additional capitalization beyond the project COD. These additional expenditures are now being finalized upto 31.03.2019 and submitted before the Hon'ble Commission which is required to be considered for determination of truing up petition.</p> <p>It is also stated that the spillover items are to be considered during the MYT tariff period 2019-24 as per the clause 3.10.3 of TS 01 of 2019. The relevant clause is quoted below:</p> <p><i>"3.10.3 The capital investment plan shall show, separately, on-going projects that will spill</i></p>

	<p><i>over into the control period.....”</i></p> <p>Further, the attention of the beneficiary is drawn toward the order of APTEL in appeal no. 17 of 2017 dated 9th May, 2019 between M/S Him Urja Private Limited vs Uttarakhand Electricity Regulatory Commission. In this case, the appellant, M/s Him Urja Private Limited challenged tariff order issued by Uttarakhand Electricity Regulatory Commission on various grounds. During the pendency of the appeal the state commission undertook necessary modifications in the tariff in line with principle mentioned in impugned order. However, tribunal did not interfere with the modifications of tariff order issued by state commission during the pendency of the appeal.</p> <p>Accordingly, the contention of the beneficiary is not tenable.</p>
<p>(ii) In addition to the aforesaid excess claim on capital cost, the petitioner has proposed <b>additional capital investment plan</b> for the 3<sup>rd</sup> control period (FY 2019-24) for <b>Rs.1195.57 crore</b>, which would further burden the end consumers, if approved. Hence, the Hon'ble Commission is prayed to disallow the additional capital investment plan.</p>	<p>The objection raised by the beneficiary shows absolute misconception of the facts. SCCL has submitted the CIP petition in accordance with clause 7 of TS 01 of 2019 which provides:</p> <ol style="list-style-type: none"> <li>1. Any capital expenditure during 2019-24 shall be incurred as per the approved capital investment plan (the proviso of clause 7.7).</li> <li>2. The capital investment plan shall show separately the spillover items from the previous control period (clause 3.10.3).</li> <li>3. The provisions for additional capitalization after COD (clause 7.19.1(a) to 7.19.1(m)).</li> <li>4. Specific provision of 7.19.1(l), whereby additional capital expenditure for complying statutory norms for environment in accordance with MoEF notification shall be allowed.</li> <li>5. The specific provision of 7.19.1(k), whereby the Hon'ble Commission may admit any additional capital expenditure necessary for efficient operation when such claim is substantiate with required justification.</li> </ol>



<p>(iii) Further, as could be seen from the tariff petition, the petitioner is seeking to recover <b>additional depreciation</b>, which has not been provided in the TSERC tariff regulation 2019, hence the same need to be disallowed.</p>	<p>Accordingly, the comment of the beneficiary has no merit and may be ignored by the Hon'ble Commission.</p> <p>The beneficiary has objected to the proposal for allowance of additional depreciation. A detailed rationale for claiming additional depreciation is given below:</p> <p><i>The decision of project finance for STPP was made based on the regulation AP 01 of 2008 which provides that the depreciation rate shall be based on straight line method over the useful life of the asset and at the rates prescribed in Ministry of Power notification dated 21-03-1994 and on repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.</i></p> <p><i>Accordingly, depreciation rates were arrived at the inception of the project based on tariff regulation AP 01 of 2008 and loan payback period has been modeled utilizing such depreciation. Loan agreements have been entered upon based on this computation.</i></p> <p><i>However, Hon'ble TSERC has adopted CERC regulation 2014-19 where by the depreciation rates fell to such extent that the depreciation so computed is becoming insufficient for repaying the loan and in this situation STPP has to repay the loan from its internal resource on which no return is allowed in tariff.</i></p> <p><i>Therefore, the Hon'ble commission is prayed to allow additional depreciation to meet loan repayment obligation as per loan agreement already entered by SCLL.</i></p> <p><b><i>This additional depreciation will help to reduce interest on loan amount at a faster rate, the benefit of which will ultimately accrue to end consumer.</i></b></p>
<p>(iv) The petitioner is repeatedly seeking additional auxiliary energy consumption due to installation of FGD system and further seeking to the adoption of operational norms (PAF, PLF, AEC, SFC, GSHR) of</p>	<p>The claim of additional auxiliary energy due to installation of FGD system is made in accordance with regulation 7.19.1(i). The relevant portion is quoted below:</p> <p><i>"7.19.1(i) .....</i></p> <p><b><i>Provided that, the Generating Company shall approach to the Commission for change in</i></b></p>

KTPP Stage-II(1x600MW) to its 2x600 MW STPP, which is also in deviation to the TSERC tariff regulation 2019, hence the claim would need to be disallowed.

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)".

It is also to submit that "norms" cannot be project specific, rather norms should be generic and similar/same for similar units.

- A. The reasoning for claiming similar operating norm specified for KTPP stage-II was submitted in Page no. 16 to 18 of MYT petition.
- B. The norms of KTPP stage-II based on CERC regulations, 2014 are 5.25% Aux and station heat rate as 2305.11 kcal/kg. This is clearly reflected in the TSERC order dated 5<sup>th</sup> June, 2017.

C. The norms of STPP computed based upon CERC regulation, 2014 is 5.75% aux (5.25%+0.5% for induced draft cooling tower) and station heat rate as 2303.88 kcal/kg.

The following table compares the operating norms:

Parameter	Unit	STPP	KTPP stage-II	Remark
Aux	%	5.75	5.25	Due to induced draft cooling tower norm Aux for STPP is more by 0.5%
SHR	Kcal/kWh	2304	2315	Very similar value of SHR

D. It is clear from the above table that the design parameters of the units are very close to each another and therefore require similar norms. Further, due to presence of induced draft cooling tower and due to in principle approval for FGD, normative aux for STPP is required to be adjusted by 2% (1.5% for FGD & 0.5% for IDCT).

E. As the operating norms for STPP in draft regulation stage was matching to KTPP stage-II, STPP could not request the Hon'ble Commission for change in STPP's operating norm at the draft stage. As the norms shall now be finalized in the present proceedings, the Hon'ble Commission may kindly look into the issue and fix a comparable norm for STPP.

F. Further, the operating norms of STPP as per CERC tariff regulation 2014-19 and CERC tariff regulations 2019-24 are also computed and produced below to show the dynamism in norm setting process which frequently changes norm from one tariff regime to another.

Parameter	Unit	As per CERC norms 2014-19	As per CERC norms 2019-24
Normative Annual Plant Availability Factor (Target Availability)	%	85%	85%
Normative annual Plant Load Factor (for computation of incentive)	%	85%	85%
Gross Station Heat Rate	Kcal/KWh	2303.88	2315
Secondary fuel oil consumption	Ml/kWh	0.5	0.5
Auxiliary energy consumption	%	5.75%	6.25%
Transit and Handling losses	%	0.80%	0.80%

Accordingly, the generic norms applied for 1x600 MW KTPP should be made applicable for 2x600 MW STPP with necessary adjustments as detailed above. Therefore the comments canvassed by beneficiary lack merit.

(v) The petitioner has worked out the energy charges by adopting the operational norms stipulated for 1x600 MW KTPP Stage-II, which is in absolute deviation to the provisions of TSERC tariff regulation 2019, hence the petitioners prayer need to be disallowed. Further, the petitioner is seeking approval under the heading at para-18 of the petition :“STPP shall raise energy bills as per the actual coal and oil parameters (GCV and cost) during the control period 2019-24”, which need to be disallowed in term of Article 21.6 of the TSERC tariff regulation 2019,which stipulated for computing ECR (energy charge rate) considering the GCV of coal on ‘as received basis’ only whereas the petitioner is seeking to allow actual cost on actual GCV, which means to allow on ‘as fire’ basis, which is not permissible under the TSERC tariff regulation 2019 as well as the norm fixed under the TSERC order in O.P.No.9 of 2016.

It is to submit that the objection raised by the beneficiary is not in accordance with the TS regulation 01 of 2019 because there is some ambiguity in considering either “as received” or “as fired” GCV in raising energy charge bill due to incompatibility between clauses 21.6, 21.7 and 21.10 of TS 01 of 2019.

It is to submit that the SERC's are guided by the principles and methodologies of CERC while specifying regulations as per section 61(a) of Electricity Act, 2003. CERC tariff regulation 2019-24 provides that the energy charge computation shall be done based on GCV of coal as received less 85 Kcal/kg on account of variation during storage at generating station.

The relevant portion is given below:

*“4.3. Computation and Payment of Energy Charge for Thermal Generating Stations*

*(1) The energy charge shall cover the primary .....  
CVPF = (a) Weighted Average Gross calorific value of coal as received, in Kcal per kg for coal based stations less 85 Kcal/Kg on account of variation during storage at generating station;  
.....”*

Further CEA, in recommendation to CERC during finalisation of 2019-24 tariff regulation provided that

*“CEA has suggested that above mentioned margins would vary from plant to plant, season to season and to varying coal characteristics and accordingly a margin of 85-100 Kcal/kg for pit head stations and a margin of 105-120 Kcal/kg for non-pit head stations may be allowed to the generators as a loss of GCV measured at Wagon top at unloading point till the point of firing in the boiler.”*  
Further, it is to kindly submit that MYT regulations in Maharashtra Electricity Regulatory

	<p>Commission (clause 50.7), Gujarat Electricity Regulatory Commission (clause 58.5) and draft regulation in Orissa Electricity Regulatory Commission (clause 26.11) have incorporated energy charge rate computation as given by CERC regulation or recommended by CEA or on the basis of as fired GCV of coal.</p> <p>Accordingly, the Commission is requested to allow energy billing either based on "as fired" GCV or to allow sufficient margin to compensate for GCV loss due to storage at generating station from the "As received" GCV as per CERC tariff regulation 2019-24</p>
<p>(vi) The petitioner is seeking the <b>payment of incentive</b> as per CERC tariff regulation, 2019 @ 65 paise/kWh during peak hours and @ 50 paise/kWh during off-peak hours, instead of incentive approved by this Hon'ble Commission @ 50 paise/kWh, which need to be disallowed, as the TSERC tariff regulation, 2019 has not provided for such higher incentive.</p>	<p>The clause 21.4 of TSERC regulation 1 of 2019 is quoted below:</p> <p><b>"21.4 PLF Incentive to a Generating Station shall be payable at the rate specified in CERC Regulations, 2014 as applicable during control period. "</b></p> <p>Accordingly, SCCL has claimed incentive in accordance with CERC regulation 2019-24 which became the applicable regulation for the tariff period 2019-24. The relevant regulation of incentive extracted from CERC terms and conditions of tariff regulation 2019-24 is placed below:</p> <p><i>"(6) In addition to the capacity charge, an incentive shall be payable to a generating station or unit there of @ 65 paise/ kWh for ex-bus scheduled energy during Peak Hours and @ 50 paise/ kWh for ex-bus scheduled energy during Off-Peak Hours corresponding to scheduled generation in excess of ex-bus energy corresponding to Normative Annual Plant Load Factor (NAPLF) ....."</i></p> <p>Accordingly, the contention of the beneficiary has no merit and contrary to the law.</p>
<p>(vii) Further, the petitioner has factored the projected expenditure of Rs.30.00 crores towards corporate social responsibility (CSR), in the ARR for 3<sup>rd</sup></p>	<p>It is to submit that <b>Ministry of environment and forest (MoEF) has laid out specific conditions to be complied in respect of CSR activity by 2x600 MW STPP as part of conditions of project environment clearance.</b> The relevant condition is quoted below:</p>

control period, which need to be disallowed, in terms of APTEL's judgement in appeal no.174 of 2015.

*"(xxiv) An amount of Rs.22.10 crores shall be earmarked as one time capital cost for CSR programme. Subsequently, a recurring expenditure of Rs.4.10 crores per annum shall be earmarked as recurring expenditure for CSR activities...."*

It is to submit that this expenditure of Rs.4.1 crore per annum is not related to any kind of profit earned by the company. Even if there is no profit, the CSR expenditure @ 4.1 crore per annum has to be expended by the company. Therefore this expenditure is not conditional on profit that may be earned.

The Hon'ble Commission in para 3.9.15, 3.9.16 and at later part under table 3-37 of tariff order has approved amount of Rs.22.10 crore earmarked as onetime capital cost of CSR programme in the tariff order dated 19.06.2017. The Hon'ble Commission has approved Rs.9.45 crore upto COD of unit-II and the remaining Rs.12.65 crore under additional capitalization.

However, from the experience of doing CSR activities covering 34 villages around the plant of 2x600 MW STPP, it was felt to increase the recurring mandatory expenditure of Rs.4.4 crore per annum to Rs.6 crore per annum for the tariff period 2019-24.

The beneficiaries have quoted the extract of Hon'ble APTEL judgement passed in appeal no. 174 of 2015 dated 2<sup>nd</sup> June 2016 (Noida Power Company Ltd vs UPERC). This case relates to Noida Power Company Ltd (NPCL) which is a distribution licensee operating in the state of Uttar Pradesh under the regulatory oversight of Uttar Pradesh Electricity Regulatory Commission.

The tariff of NPCL in the impugned order was determined based on UPERC regulation 2006 which provides excess return (16%) on equity compared to 15.5% regulated return

	<p>earned by 2x600 MW STPP. The relevant portion is quoted below:</p> <p><b>"4.10 Return on Equity</b>  <b>2. Return on equity shall be allowed @ 16%, on the equity base determined...."</b></p> <p>Further, on perusal of its tariff order dated August 1, 2016 by UPERC it was observed that NPCL was allowed 16% ROE for 2014-17 period.</p> <p>Assuming for a moment, if we proceed to determine a Return on Equity on pre-CSR level for an entity which gets 15.5% regulated ROE post CSR, the ROE on pre-CSR level becomes 15.5/(1-2%) = 15.81% (considering CSR level at 2% of profit/ROE). <b>Therefore, it can be stated that the regulatory return earned by NPCL is more than sufficient to consider 2% CSR expenditure of profit as claimed by them (16% is more than 15.81%).</b> Therefore, the judgement as quoted above in case of NPCL is not applicable for 2x600 MW STPP.</p>
<p>(viii) The Hon'ble Commission is prayed to take into cognizance of the orders of <b>Hon'ble supreme court</b> vide order dated 5<sup>th</sup> August 2019 passed in <b>W.P (Civil) No.13029/1985</b> with regard to relaxation of NOX emission parameter <b>from 300mg/Nm<sup>3</sup> to 450 mg/Nm<sup>3</sup></b>, which would reduce the capital investment to that extent and corresponding tariff reduction.</p>	<p>The beneficiary has submitted that consensus reached between Environment Pollution Control Authority (EPCA), Ministry of Power, Central Pollution board (CPCB), CEA, NTPC, MOEF &amp; CE to review the <b>NOx mitigation system from 300 mg/Nm<sup>3</sup> to 450 mg/Nm<sup>3</sup></b> as per the supreme court order in <b>W.P (Civil) No.13029/1985</b>.</p> <p>On perusal, following has been found in serial no. 5(iii) of the minutes quoted in the above judgement:</p> <p><b>"5(iii) assurance given to Power generating companies by BHEL would be able to achieve NOx emission level of 450 mg/Nm<sup>3</sup> by combustion modification"</b></p> <p>It is to state that 2x600 MW STPP has planned for "combustion modification" only as is also evident from page no. 18-19 &amp; 145 of our submission dated 29.03.2019. In fact our proposal for NOx mitigation is supported by the quotation of BHEL in this</p>

<p>(ix) The Hon'ble Commission is prayed to take into consideration the above submissions while examining the claim of the petitioner.</p>	<p>Accordingly, the objections raised by the beneficiary are required to be overlooked by the Hon'ble Commission while deciding upon the tariff filings of SCLL.</p>
	<p>regard.</p> <p>Further, the aforesaid minutes envisage achievement of NOx emission level of 450 mg/Nm<sup>3</sup> by way of "combustion modification".</p> <p>However, the afore mentioned minutes of meeting state that the NOx emission level varies based on operational conditions of the units (load and mill combination). It may kindly be noted that the design value for NOx emission level in case of 2x600 MW STPP was 750mg/Nm<sup>3</sup>.</p> <p>It is stated that the minutes attached in the apex court's judgement provides in the last para that the proposal for increasing normative NOx from 300 mg/Nm<sup>3</sup> would be presented for final decision to Secretary MoEF &amp; CC and Secretary MoP. In other way it can be stated that the proposal has yet to reach its finality.</p> <p>Further, the Hon'ble Commission has given in principal approval for investment in NOx mitigation system by its order dated 08.02.2020 in I.A.No. 02 of 2020.</p> <p>The benefit in reduction of NOx emission will benefit the community as a whole and needs to be approved by the Hon'ble Commission.</p> <p>Therefore the contention of the beneficiary has no merit.</p>



## Impact of STPP's over injection in FY 2018-19 on payable by Telangana State at regional level.

The data collected regarding Telangana State's deviation from schedule at regional level is studied. As per the reports published by CERC market monitoring cell, Telangana had a cumulative under drawl of **(-) 325.53 MU** for the FY 2018-19.

A negative under drawl of 325.53 MU energy signifies an over drawl of 325.53 MU for which expected loss of Telangana state is computed (at wt avg DSM price for each month) as 58.94 Crores (Table-B). STPP, SCCL's over injection at the same period happens to be **94.76 MU** (Table-A).

It is calculated that, in absence of STPP's energy injection, the TSDISCOM's would have to draw energy of 325.53MU+ 94.76MU (contributed by STPP) from regional grid through DSM or would resort to load shedding of 94.76MU. Both the actions would impact its revenue by at least **Rs.31.88 Crores** by computation at regional level. The summary of the transactions is given below:

### Summary of Impact of STPP injection in FY 2018-19

Sl. No	Particulars	Purchase(-) /Sale(+) (MU)	Cost (In Crores)	Remarks
1	Actuals by TSDISCOM's at regional level	-325.53	<b>-58.94</b> [325.53* 2.74]	i) TSDISCOM's made over drawl of 325.53MU. ii) TSDISCOM's paid to SRPCC Rs.58.94 Crores.
2	STPP at state level	+94.76	<b>+31.88</b> [-58.94+ 90.82]	i) STPP over injection by 94.76MU. ii) STPP should have been paid Rs.31.88 Crores, Which is difference of Sl.no1 & Sl.no3. iii) SCCL claimed amount of Rs.17.75 Crores.
3	Modified actuals of TSDISCOM's at regional level by deducting of STPP's injection at state level	-420.29 [-325.53- 94.76]	<b>-90.82</b> [420.29* 2.74]	i) Over drawl in absence of STPP injection would have been 420.29MU. ii) Payable by TSDISCOM's would have been Rs.90.82 Crores. iii) By the help of over injection from STPP TSDISCOM's payable reduced by <b>Rs.31.88 Crores.</b>

Therefore an over injection of STPP commercially helped Telangana state to reduce its drawl at regional level (SRPC).

  
**N. BALRAM, IRS**

TABLE-A

## STPP generation details FY 2018-19

S.No	Month	Scheduled generation (MU)	Actual generation (MU)	Difference (Actual-schedule)	Energy charge rate(Rs/kwh)
1	April'18	670.276	669.088	-1.188	2.29
2	May'18	751.448	766.42	14.972	2.27
3	June'18	422.874	427.512	4.638	2.24
4	July'18	604.414	600.18	-4.234	2.30
5	Aug'18	751.491	761.819	10.328	2.24
6	Sep'18	806.242	810.939	4.697	2.34
7	Oct'18	820.256	834.801	14.545	2.38
8	Nov'18	491.291	497.446	6.155	2.19
9	Dec'18	458.061	456.735	-1.326	2.18
10	Jan'19	815.590	829.864	14.274	2.30
11	Feb'19	752.897	766.285	13.388	2.28
12	Mar'19	768.612	787.125	18.513	2.28
	<b>FY 2018-19</b>	<b>8113.454</b>	<b>8208.214</b>	<b>94.760</b>	<b>2.28</b>



**N. BALRAM, IRS**

**DIRECTOR (FINANCE)**

**JE SINGARENI COLLIERIES CO. LTD.,**

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TABLE-B

## Net Gain/loss of Telangana at regional level on account of deviations FY 2018-19

S.No	Month	Over drawal(MU)	Under drawal (MU)	Net under drawal(MU)	average price (Rs/Kwh)	computed Gain in crores(Gain+/loss-)
1	April'18	24.56	71.1	46.54	2.28	10.61
2	May'18	34.27	59.84	25.57	2.59	6.62
3	June'18	48.93	50.07	1.14	2.10	0.24
4	July'18	69.13	34.13	-35.00	2.05	-7.18
5	Aug'18	66.19	39.74	-26.45	2.02	-5.34
6	Sep'18	313.00	46.28	-266.72	2.33	-62.15
7	Oct'18	6.60	0.9	-5.70	2.19	-1.25
8	Nov'18	72.76	16.79	-55.97	2.20	-12.31
9	Dec'18	73.32	22.99	-50.33	2.19	-11.02
10	Jan'19	53.78	51.83	-1.95	3.48	-0.68
11	Feb'19	42.90	53.51	10.61	3.34	3.54
12	Mar'19	36.41	69.14	32.73	6.10	19.97
	<b>FY 2018-19</b>	<b>841.850</b>	<b>516.320</b>	<b>-325.530</b>	<b>2.74</b>	<b>-58.94</b>



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TABLE-C

## Net Gain/loss of Telangana on account of deviation after adjusting deviations of STPP FY 2018-19

S.No	Month	Deviation of STPP (MU) (Actual-Schedule)	Net Under drawal(MU)	Adjusted Net under drawal(MU)	average price (Rs/Kwh)	Expected Gain in crores(Gain+/loss-)
1	April'18	-1.19	46.54	47.73	2.28	10.88
2	May'18	14.97	25.57	10.60	2.59	2.74
3	June'18	4.64	1.14	-3.50	2.10	-0.73
4	July'18	-4.23	-35	-30.77	2.05	-6.31
5	Aug'18	10.33	-26.45	-36.78	2.02	-7.43
6	Sep'18	4.70	-266.72	-271.42	2.33	-63.24
7	Oct'18	14.54	-5.7	-20.24	2.19	-4.43
8	Nov'18	6.15	-55.97	-62.12	2.20	-13.67
9	Dec'18	-1.33	-50.33	-49.00	2.19	-10.73
10	Jan'19	14.27	-1.95	-16.22	3.48	-5.65
11	Feb'19	13.39	10.61	-2.78	3.34	-0.93
12	Mar'19	18.51	32.73	14.22	6.10	8.67
	<b>FY 2018-19</b>	<b>94.760</b>	<b>-325.530</b>	<b>-420.290</b>	<b>2.74</b>	<b>-90.82</b>

Net gain	31.87
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**Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), MARCH 2019**

Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Drawl from the Grid (DSM)		
	Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid	
Minimum Price								Maximum Price	Average Price**
1-Mar-19	2.19	6.60	3.45	-	-	-	0.00	8.00	5.03
2-Mar-19	2.30	6.58	3.40	-	-	-	0.00	8.00	5.38
3-Mar-19	2.19	4.66	3.07	-	-	-	0.00	8.00	5.88
4-Mar-19	1.84	7.02	3.26	-	-	-	0.00	8.00	5.70
5-Mar-19	2.19	7.77	3.32	-	-	-	0.00	8.00	7.08
6-Mar-19	1.93	4.66	3.02	-	-	-	0.00	8.00	7.12
7-Mar-19	2.22	4.77	3.18	-	-	-	0.00	8.00	7.33
8-Mar-19	2.40	5.50	3.22	-	-	-	0.00	8.00	7.42
9-Mar-19	2.22	8.54	3.28	-	-	-	3.20	8.00	7.67
10-Mar-19	2.49	5.80	3.22	-	-	-	0.00	8.00	6.72
11-Mar-19	2.49	7.79	3.58	-	-	-	0.00	8.00	7.22
12-Mar-19	2.51	7.33	3.45	-	-	-	0.00	8.00	6.85
13-Mar-19	2.25	6.06	3.43	-	-	-	0.00	8.00	6.52
14-Mar-19	2.84	4.90	3.45	-	-	-	0.00	8.00	7.13
15-Mar-19	2.48	4.68	3.24	-	-	-	0.00	8.00	6.52
16-Mar-19	2.50	4.00	3.05	4.24	4.24	4.24	0.00	8.00	5.45
17-Mar-19	2.55	3.24	2.89	-	-	-	0.00	8.00	5.90
18-Mar-19	2.47	4.31	3.21	-	-	-	0.00	8.00	4.95
19-Mar-19	2.47	4.17	3.19	4.24	4.24	4.24	0.00	8.00	5.45
20-Mar-19	2.66	4.76	3.13	-	-	-	0.00	8.00	5.95
21-Mar-19	1.80	4.00	2.69	-	-	-	0.00	8.00	4.22
22-Mar-19	1.91	4.89	2.97	3.05	4.05	3.55	0.00	8.00	5.22
23-Mar-19	2.49	4.50	3.04	3.05	4.20	3.59	0.00	8.00	6.62
24-Mar-19	2.49	3.99	2.92	3.05	4.15	3.58	0.00	8.00	5.33
25-Mar-19	2.59	5.67	3.42	3.05	4.20	3.58	0.00	8.00	6.50
26-Mar-19	2.62	6.27	3.35	3.05	4.50	3.74	0.00	8.00	4.68
27-Mar-19	2.64	7.05	3.32	3.05	4.45	3.73	0.00	8.00	6.02
28-Mar-19	2.65	7.86	3.43	3.60	3.60	3.60	0.00	8.00	7.15
29-Mar-19	2.65	8.62	3.67	3.60	3.60	3.60	0.00	8.00	6.42
30-Mar-19	2.81	9.41	4.02	3.64	3.64	3.64	0.00	8.00	5.73
31-Mar-19	2.70	10.17	3.31	3.75	3.75	3.75	0.00	8.00	4.03
	<b>1.80#</b>	<b>10.17#</b>	<b>3.28</b>	<b>3.05#</b>	<b>4.50#</b>	<b>3.72</b>	<b>0.00#</b>	<b>8.00#</b>	<b>6.10</b>

Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.

\* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.

\*\* Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.

# Maximum/Minimum in the month

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

50.61

Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE)  
(MUs), MARCH 2019

Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Purchase	Net**	Sale	Purchase	Net**	Import (Over Draw)	Export (Under Draw)	Net**	
PUNJAB	928.10	0.00	-928.10	5.70	77.85	72.15	26.14	39.98	-13.84	-869.79
HARYANA	696.03	50.57	-645.46	21.55	113.50	91.96	41.00	33.88	7.12	-546.38
RAJASTHAN	88.44	28.46	-59.98	156.43	114.39	-42.04	67.73	81.13	-13.40	-115.43
DELHI	465.38	15.36	-450.02	137.13	69.22	-67.90	17.02	27.78	-10.76	-528.68
UTTAR PRADESH	52.58	144.11	91.53	94.12	42.53	-51.59	58.58	76.41	-17.83	22.10
UTTARAKHAND	0.00	295.42	295.42	123.83	53.67	-70.15	14.55	29.34	-14.79	210.47
HP	43.78	244.09	200.31	122.08	55.81	-66.27	22.85	23.42	-0.57	133.47
J & K	17.26	360.37	343.11	34.17	0.00	-34.17	17.14	44.30	-27.16	281.78
CHANDIGARH	0.00	0.00	0.00	20.17	0.03	-20.14	4.15	5.41	-1.26	-21.40
MP	435.97	7.25	-428.72	835.95	27.59	-808.36	57.21	66.12	-8.91	-1246.00
MAHARASHTRA	9.97	34.28	24.31	76.30	372.89	296.59	53.69	46.41	7.28	328.18
GUJARAT	216.52	231.99	15.47	50.27	482.78	432.51	36.05	103.53	-67.48	380.50
CHHATTISGARH	188.40	527.63	339.23	17.55	44.95	27.41	32.41	37.31	-4.90	361.73
GOA	0.00	38.19	38.19	31.89	3.72	-28.17	8.70	10.80	-2.10	7.92
DAMAN AND DIU	0.00	0.00	0.00	0.00	19.16	19.16	13.41	2.21	11.20	30.36
DADRA & NAGAR	0.00	0.64	0.64	8.52	21.72	13.20	8.03	5.37	2.66	16.49
ANDHRA PRADES	90.09	658.10	568.01	53.31	199.37	146.06	34.55	48.76	-14.21	699.86
KARNATAKA	74.02	0.10	-73.92	53.38	57.22	3.84	65.21	37.66	27.54	-42.53
KERALA	0.00	138.76	138.76	3.98	50.34	46.36	22.48	7.35	15.13	200.25
TAMIL NADU	2.26	1362.91	1360.65	22.25	305.83	283.59	42.05	62.92	-20.86	1623.37
PONDICHERY	0.00	0.00	0.00	0.00	0.00	0.00	5.66	4.96	0.70	0.70
TELANGANA	40.71	458.30	417.59	91.28	615.22	523.94	36.41	69.14	-32.73	908.80
WEST BENGAL	75.91	400.07	324.16	32.60	30.61	-1.99	30.89	33.76	-2.87	319.30
ODISHA	12.60	73.42	60.82	25.31	237.9	212.63	56.01	16.50	39.51	312.96
BIHAR	2.26	29.81	27.55	133.25	135.4	2.21	34.37	37.83	-3.46	26.31
JHARKHAND	0.00	138.83	138.83	12.68	42.41	29.73	16.11	12.80	3.30	171.87
SIKKIM	18.60	20.52	1.92	21.17	0.00	-21.17	3.60	5.09	-1.49	-20.73
DVC	25.80	1.78	-24.02	261.77	0.00	-261.77	31.18	27.95	3.23	-282.56
ARUNACHAL PRA	0.00	5.61	5.61	8.32	3.40	-4.91	2.89	3.13	-0.24	0.46
ASSAM	0.00	50.58	50.58	71.40	49.57	-21.83	24.68	24.82	-0.14	28.61
MANIPUR	0.48	27.95	27.46	3.97	1.44	-2.53	4.26	4.22	0.04	24.97
MEGHALAYA	4.56	81.32	76.76	0.00	32.74	32.74	6.51	6.35	0.16	109.66
MIZORAM	0.00	0.71	0.71	8.47	0.74	-7.72	1.69	1.66	0.03	-6.98
NAGALAND	0.00	7.20	7.20	0.18	1.11	0.93	2.51	2.71	-0.20	7.93
TRIPURA	0.00	0.00	0.00	79.70	0.00	-79.70	2.08	2.45	-0.37	-80.07
NTPC -NR	0.00	0.00	0.00	0.01	0.00	-0.01	55.09	139.83	-84.74	-84.75
NHPC STATIONS	0.00	0.00	0.00	0.00	0.00	0.00	25.81	43.09	-17.28	-17.28
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	3.57	3.61	-0.05	-0.05
AD HYDRO	0.00	0.00	0.00	11.15	0.00	-11.15	0.65	0.97	-0.33	-11.48
KARCHAM WANG	0.00	0.00	0.00	13.12	0.00	-13.12	3.91	2.46	1.45	-11.67
SHREE CEMENT	142.95	0.00	-142.95	4.69	0.00	-4.69	3.93	1.21	2.72	-144.92
LANCO BUDHIL	0.00	0.00	0.00	1.01	0.00	-1.01	0.52	1.13	-0.61	-1.62
MALANA	0.00	0.00	0.00	0.85	0.00	-0.85	0.13	0.08	0.05	-0.80
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	0.57	1.35	-0.78	-0.78
SAINJ HEP	0.00	0.00	0.00	7.02	0.00	-7.02	0.00	0.00	0.00	-7.02
NTPC -WR	0.00	0.00	0.00	0.89	0.00	-0.89	107.54	106.05	1.49	0.60
JINDAL POWER	0.00	0.00	0.00	3.05	0.00	-3.05	1.31	2.67	-1.36	-4.41
LANKO_AMK	7.30	0.00	-7.30	0.00	0.00	0.00	1.42	3.79	-2.37	-9.67
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	3.51	2.72	0.79	0.79
ACBIL	21.00	0.00	-21.00	20.14	0.00	-20.14	1.96	3.35	-1.39	-42.52
BALCO	0.00	0.00	0.00	0.24	0.00	-0.24	5.97	2.01	3.96	3.73
RGPPL (DABHOL)	0.00	0.00	0.00	0.00	0.00	0.00	9.70	5.95	3.74	3.74

**Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), FEBRUARY 2019**

Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Draw/Over Draw from the Grid (DSM)		
	Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid	
Minimum Price								Maximum Price	Average Price**
1-Feb-19	1.65	4.49	3.11	-	-	-	0.00	8.00	3.17
2-Feb-19	1.50	5.80	3.10	-	-	-	0.00	8.00	3.70
3-Feb-19	1.54	4.31	3.02	2.90	2.90	2.90	0.00	8.00	4.15
4-Feb-19	1.25	5.81	3.53	2.15	4.15	3.17	0.00	8.00	4.34
5-Feb-19	1.74	5.80	3.47	-	-	-	0.00	8.00	2.97
6-Feb-19	1.75	5.83	3.16	-	-	-	0.00	8.00	2.32
7-Feb-19	2.01	5.00	3.32	-	-	-	0.00	8.00	2.97
8-Feb-19	1.75	5.80	3.19	-	-	-	0.00	7.38	3.15
9-Feb-19	1.50	5.80	3.15	-	-	-	0.00	8.00	3.61
10-Feb-19	1.55	5.80	2.88	2.20	4.50	3.87	0.00	8.00	3.80
11-Feb-19	1.50	6.57	3.29	2.20	4.50	4.03	0.00	8.00	4.20
12-Feb-19	1.75	4.63	3.02	-	-	-	0.00	8.00	3.66
13-Feb-19	1.62	4.25	2.95	-	-	-	0.00	7.68	2.73
14-Feb-19	1.75	5.00	3.28	-	-	-	0.00	7.69	2.55
15-Feb-19	1.75	5.10	3.42	-	-	-	0.00	8.00	2.72
16-Feb-19	1.61	6.57	3.30	-	-	-	0.00	7.39	3.06
17-Feb-19	1.74	4.02	2.84	-	-	-	0.00	7.67	3.00
18-Feb-19	1.50	4.36	3.07	-	-	-	0.57	8.00	4.42
19-Feb-19	1.80	5.88	3.49	-	-	-	0.00	8.00	3.46
20-Feb-19	1.91	4.63	3.27	-	-	-	0.00	7.09	2.64
21-Feb-19	2.00	5.51	3.65	-	-	-	0.00	8.00	3.29
22-Feb-19	2.41	5.29	3.63	-	-	-	0.00	8.00	3.33
23-Feb-19	2.32	5.80	3.68	-	-	-	0.00	8.00	3.56
24-Feb-19	1.80	5.42	3.12	-	-	-	0.00	8.00	3.25
25-Feb-19	2.47	5.00	3.44	-	-	-	0.00	7.71	3.75
26-Feb-19	2.47	5.81	3.44	-	-	-	0.00	8.00	2.91
27-Feb-19	2.49	5.53	3.48	-	-	-	0.00	8.00	3.01
28-Feb-19	2.49	6.26	3.52	-	-	-	0.00	8.00	3.69
	<b>1.25#</b>	<b>6.57#</b>	<b>3.31</b>	<b>2.15#</b>	<b>4.50#</b>	<b>3.70</b>	<b>0.00#</b>	<b>8.00#</b>	<b>3.34</b>

Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.

\* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.

\*\* Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.

# Maximum/Minimum in the month

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

**Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE)  
(MUs), FEBRUARY 2019**

Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Purchase	Net**	Sale	Purchase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	851.28	0.00	-851.28	13.85	8.88	-4.98	24.26	31.34	-7.08	-863.33
HARYANA	561.34	33.07	-528.27	18.04	97.92	79.88	39.72	35.30	4.42	-443.97
RAJASTHAN	5.52	37.80	32.29	130.08	120.55	-9.53	71.62	64.71	6.92	29.68
DELHI	432.63	12.82	-419.81	167.08	57.47	-109.62	13.05	24.91	-11.86	-541.29
UP	214.48	112.63	-101.85	86.00	29.27	-56.73	75.24	56.63	18.61	-139.98
UTTARAKHAND	0.00	337.53	337.53	54.95	69.08	14.14	14.51	32.58	-18.08	333.60
HP	31.44	367.94	336.51	102.12	48.78	-53.34	19.65	25.43	-5.78	277.39
J & K	12.53	395.18	382.65	9.76	12.00	2.24	8.82	83.25	-74.43	310.46
CHANDIGARH	0.00	0.00	0.00	10.00	2.35	-7.65	7.05	5.32	1.73	-5.92
MP	26.36	208.68	182.32	420.00	35.21	-384.79	48.69	63.07	-14.37	-216.84
MAHARASHTRA	6.31	35.24	28.93	85.77	212.92	127.15	57.07	43.49	13.58	169.66
GUJARAT	247.01	301.08	54.06	31.80	357.53	325.73	43.14	74.28	-31.14	348.65
CHHATTISGARH	75.60	190.01	114.41	35.51	43.27	7.76	35.73	24.86	10.87	133.04
GOA	0.00	35.34	35.34	16.92	2.37	-14.55	6.25	5.67	0.58	21.37
DAMAN AND DIU	0.00	0.00	0.00	0.00	28.28	28.28	7.70	2.46	5.24	33.52
DADRA & NAGAR	0.00	3.60	3.60	1.51	39.49	37.98	8.69	3.00	5.69	47.27
ANDHRA PRADES	71.37	669.82	598.45	47.57	251.60	204.04	28.05	58.70	-30.65	771.84
KARNATAKA	8.58	0.90	-7.68	55.57	85.13	29.56	53.01	38.40	14.61	36.49
KERALA	0.00	8.22	8.22	1.65	125.74	124.08	25.30	8.23	17.06	149.37
TAMIL NADU	2.57	611.79	609.22	19.02	296.09	277.07	40.82	61.40	-20.58	865.71
PONDICHERRY	0.00	0.00	0.00	0.00	0.00	0.00	3.98	4.30	-0.32	-0.32
TELANGANA	33.99	219.86	185.87	107.32	307.9	200.66	42.90	53.51	-10.61	375.92
WEST BENGAL	189.03	59.30	-129.74	17.97	66.59	48.61	25.18	31.85	-6.67	-87.80
ODISHA	14.13	38.15	24.01	46.36	73.59	27.23	36.73	19.22	17.51	68.75
BIHAR	1.10	18.01	16.91	57.81	154.39	96.58	24.84	37.51	-12.68	100.81
JHARKHAND	0.27	120.44	120.17	14.01	41.88	27.88	19.31	14.80	4.51	152.55
SIKKIM	0.00	6.59	6.59	14.61	0.00	-14.61	3.21	4.24	-1.03	-9.05
DVC	27.84	0.00	-27.84	176.01	0.00	-176.01	32.17	24.72	7.45	-196.41
ARUNACHAL PRA	0.00	4.68	4.68	1.30	5.69	4.39	3.70	5.17	-1.47	7.60
ASSAM	0.00	47.05	47.05	55.64	54.43	-1.21	10.29	13.42	-3.13	42.70
MANIPUR	3.78	30.83	27.05	1.46	1.50	0.04	2.85	2.79	0.06	27.15
MEGHALAYA	3.86	80.41	76.55	0.00	27.62	27.62	3.44	4.75	-1.31	102.86
MIZORAM	0.00	1.41	1.41	4.67	1.41	-3.26	1.75	2.51	-0.76	-2.61
NAGALAND	0.00	5.04	5.04	0.08	3.25	3.17	5.38	1.93	3.45	11.66
TRIPURA	0.00	0.00	0.00	79.58	0.00	-79.58	3.00	11.02	-8.02	-87.59
NTPC -NR	0.00	0.00	0.00	0.00	0.00	0.00	57.35	39.89	17.46	17.46
NHPC STATION	0.00	0.00	0.00	0.00	0.00	0.00	25.66	52.08	-26.42	-26.42
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	2.44	0.00	2.44	2.44
AD HYDRO	0.00	0.00	0.00	9.12	0.00	-9.12	0.82	0.67	0.15	-8.97
KARCHAM WANG	0.00	0.00	0.00	10.54	0.00	-10.54	0.00	0.00	0.00	-10.54
SHREE CEMENT	121.54	0.00	-121.54	5.16	0.00	-5.16	3.17	0.77	2.40	-124.30
LANCO BUDHIL	0.00	0.00	0.00	0.74	0.00	-0.74	1.23	0.00	1.23	0.48
MALANA	0.00	0.00	0.00	0.65	0.00	-0.65	0.25	0.07	0.18	-0.48
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43	-1.43	-1.43
SAINJ HEP	0.00	0.00	0.00	9.43	0.00	-9.43	0.00	0.00	0.00	-9.43
NTPC -WR	0.00	0.00	0.00	0.26	0.00	-0.26	75.19	41.49	33.70	33.43
JINDAL POWER	0.00	0.00	0.00	3.47	0.00	-3.47	1.28	1.86	-0.58	-4.06
LANKO_AMK	8.88	0.00	-8.88	0.00	0.00	0.00	1.70	3.10	-1.40	-10.28
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	3.18	2.26	0.92	0.92
ACBIL	0.68	0.00	-0.68	31.07	0.00	-31.07	3.16	2.42	0.74	-31.01
BALCO	0.00	0.00	0.00	0.52	0.00	-0.52	4.50	1.27	3.23	2.71
RGPPL	0.00	0.00	0.00	0.00	0.00	0.00	8.45	6.30	2.15	2.15



**Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), JANUARY 2019**

Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Drawl from the Grid (DSM)		
	Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid	
							Minimum Price	Maximum Price	Average Price**
1-Jan-19	1.50	5.25	3.49	-	-	-	0.00	8.00	3.35
2-Jan-19	1.71	6.56	3.82	-	-	-	0.00	8.00	4.05
3-Jan-19	1.75	5.05	3.63	-	-	-	0.00	8.00	4.35
4-Jan-19	1.83	6.28	4.12	-	-	-	0.00	8.00	4.59
5-Jan-19	1.75	7.00	4.12	-	-	-	0.00	8.00	3.22
6-Jan-19	1.80	5.50	3.74	-	-	-	0.00	8.00	2.56
7-Jan-19	1.78	6.91	4.53	-	-	-	0.00	8.00	3.58
8-Jan-19	1.83	7.08	4.09	-	-	-	0.00	7.46	3.56
9-Jan-19	1.50	7.50	4.05	-	-	-	0.00	8.00	4.06
10-Jan-19	1.50	7.50	3.94	-	-	-	0.00	8.00	4.33
11-Jan-19	1.50	7.50	4.42	-	-	-	0.00	8.00	4.66
12-Jan-19	1.55	7.81	4.05	-	-	-	0.00	8.00	4.07
13-Jan-19	1.75	4.70	3.34	-	-	-	0.00	7.70	2.94
14-Jan-19	1.55	5.12	3.51	-	-	-	0.00	7.70	2.63
15-Jan-19	1.82	5.10	3.77	-	-	-	0.00	8.00	2.92
16-Jan-19	1.75	4.80	3.40	-	-	-	0.00	7.40	3.16
17-Jan-19	1.50	5.42	3.52	-	-	-	0.00	7.70	3.31
18-Jan-19	1.75	4.99	3.40	-	-	-	0.00	8.00	4.63
19-Jan-19	1.75	5.60	3.62	-	-	-	0.00	8.00	3.60
20-Jan-19	1.50	4.80	3.24	-	-	-	0.00	7.07	2.62
21-Jan-19	1.50	5.50	3.66	-	-	-	0.00	8.00	3.26
22-Jan-19	1.80	5.50	3.75	-	-	-	0.00	8.00	3.32
23-Jan-19	1.84	4.94	3.42	-	-	-	0.00	8.00	3.38
24-Jan-19	1.76	4.60	3.24	-	-	-	0.00	8.00	3.32
25-Jan-19	1.80	4.50	3.23	-	-	-	0.00	7.69	3.59
26-Jan-19	1.50	3.70	2.73	-	-	-	0.00	8.00	2.57
27-Jan-19	1.50	5.65	3.01	-	-	-	0.00	8.00	2.80
28-Jan-19	1.50	5.65	3.28	-	-	-	0.00	8.00	3.55
29-Jan-19	1.60	5.20	3.41	-	-	-	0.00	8.00	3.90
30-Jan-19	1.50	5.00	3.39	-	-	-	0.00	7.40	3.28
31-Jan-19	1.75	4.70	3.11	-	-	-	0.00	6.75	2.72
	<b>1.50</b>	<b>7.81</b>	<b>3.63</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>8.00</b>	<b>3.48</b>

Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.  
 \* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.  
 \*\* Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.  
 # Maximum/Minimum in the month

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

**Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE)  
(MUs), JANUARY 2019**

Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Pur- chase	Net**	Sale	Pur- chase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	1071.67	0.00	-1071.67	48.18	15.15	-33.03	59.11	14.16	44.95	-1059.75
HARYANA	827.67	43.47	-784.20	32.21	88.39	56.18	27.10	69.58	-42.47	-770.49
RAJASTHAN	68.09	52.84	-15.24	68.33	212.67	144.34	76.00	89.75	-13.76	115.34
DELHI	558.50	33.90	-524.60	194.46	61.55	-132.92	17.14	26.60	-9.46	-666.98
UP	229.29	90.53	-138.76	17.95	53.96	36.01	62.15	66.64	-4.49	-107.24
UTTARAKHAND	0.00	390.08	390.08	55.63	70.48	14.85	25.64	23.76	1.87	406.80
HP	36.82	508.54	471.72	105.16	51.13	-54.03	27.86	19.17	8.70	426.39
J & K	13.79	515.27	501.48	10.07	102.73	92.66	30.17	53.45	-23.27	570.87
CHANDIGARH	0.00	0.00	0.00	6.45	4.76	-1.69	13.83	3.93	9.90	8.21
MP	26.02	742.97	716.95	220.15	55.95	-164.20	56.16	70.89	-14.73	538.02
MAHARASHTRA	10.43	84.57	74.13	231.77	219.77	-12.00	58.36	67.21	-8.84	53.29
GUJARAT	177.98	101.87	-76.11	127.78	239.59	111.81	49.12	85.98	-36.87	-1.16
CHHATTISGARH	156.24	309.77	153.53	22.36	89.95	67.59	33.31	25.05	8.26	229.38
GOA	0.00	38.84	38.84	23.99	2.90	-21.10	6.73	7.83	-1.10	16.65
DAMAN AND DIU	0.00	0.00	0.00	0.00	42.59	42.59	6.65	2.28	4.36	46.95
DADRA & NAGAR	0.25	13.68	13.43	2.00	54.59	52.59	7.65	2.69	4.96	70.98
ANDHRA P	148.36	696.42	548.06	58.34	213.44	155.09	29.90	90.53	-60.63	642.53
KARNATAKA	21.84	1.24	-20.60	96.76	95.65	-1.11	45.91	48.77	-2.86	-24.57
KERALA	6.22	0.00	-6.22	7.79	85.56	77.78	17.68	13.39	4.30	75.85
TAMIL NADU	1.15	23.22	22.07	11.73	410.89	399.16	75.03	53.04	21.99	443.22
PONDICHERRY	0.00	0.00	0.00	0.00	0.00	0.00	5.44	8.63	-3.19	-3.19
TELANGANA	36.66	164.49	127.83	102.97	370.02	267.04	53.78	51.83	1.95	396.82
WEST BENGAL	368.66	49.14	-319.52	7.25	249.45	242.20	32.09	26.65	5.43	-71.88
ODISHA	20.50	51.80	31.30	56.91	132.85	75.94	26.61	25.69	0.92	108.16
BIHAR	1.88	47.69	45.82	50.43	185.59	135.17	34.55	34.83	-0.27	180.71
JHARKHAND	0.00	118.05	118.05	2.79	60.38	57.59	38.79	8.77	30.02	205.66
SIKKIM	0.00	4.67	4.67	9.38	0.38	-9.00	1.37	5.66	-4.29	-8.61
DVC	13.87	0.00	-13.87	82.25	0.50	-81.75	30.53	23.55	6.98	-88.64
ARUNACHAL P	0.00	0.00	0.00	1.54	4.88	3.34	17.69	0.28	17.41	20.75
ASSAM	0.00	47.71	47.71	82.36	36.34	-46.02	11.34	12.70	-1.37	0.33
MANIPUR	4.65	47.67	43.01	16.04	0.08	-15.96	2.38	3.03	-0.65	26.41
MEGHALAYA	9.78	99.16	89.38	1.20	27.89	26.69	2.40	6.45	-4.06	112.01
MIZORAM	0.00	0.25	0.25	5.89	0.25	-5.64	2.40	3.22	-0.82	-6.21
NAGALAND	0.00	0.00	0.00	0.00	3.33	3.33	7.68	0.66	7.02	10.35
TRIPURA	0.25	0.19	-0.06	80.31	0.00	-80.31	4.48	11.28	-6.81	-87.18
NTPC -NR	0.00	0.00	0.00	0.25	0.00	-0.25	54.35	51.72	2.63	2.38
NHPC-STATIONS	0.00	0.00	0.00	0.00	0.00	0.00	18.75	30.94	-12.19	-12.19
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.31	-2.31	-2.31
AD HYDRO	0.00	0.00	0.00	12.14	0.00	-12.14	0.52	0.90	-0.38	-12.51
KARCHAM WANGT	0.00	0.00	0.00	12.50	0.00	-12.50	0.00	2.31	-2.31	-14.81
SHREE CEMENT	91.15	0.00	-91.15	20.39	0.00	-20.39	3.01	0.96	2.05	-109.49
LANCO BUDHIL	0.00	0.00	0.00	0.57	0.00	-0.57	0.80	0.35	0.46	-0.11
MALANA	0.00	0.00	0.00	0.82	0.00	-0.82	0.23	0.07	0.16	-0.66
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	0.61	2.10	-1.49	-1.49
SAINJ HEP	0.00	0.00	0.00	10.49	0.00	-10.49	0.00	0.00	0.00	-10.49
NTPC -WR	0.00	0.00	0.00	0.23	0.00	-0.23	77.31	46.47	30.83	30.60
JINDAL POWER	0.00	0.00	0.00	13.81	0.00	-13.81	1.61	2.63	-1.02	-14.83
LANCO_AMK	9.18	0.00	-9.18	0.00	0.00	0.00	3.11	3.94	-0.83	-10.01
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	1.91	1.19	0.73	0.73
ACBIL	0.76	0.00	-0.76	32.52	0.00	-32.52	2.66	1.76	0.90	-32.37
BALCO	0.00	0.00	0.00	0.00	0.00	0.00	6.37	0.76	5.60	5.60
RGPPL (DABHOL)	0.00	0.00	0.00	0.00	0.00	0.00	8.38	3.63	4.75	4.75
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	11.58	10.40	1.19	1.19
EMCO	0.00	0.00	0.00	0.00	0.00	0.00	3.97	5.14	-1.16	-1.16
ESSAR STEEL	0.00	288.55	288.55	0.00	37.24	37.24	23.94	23.14	0.80	326.59

**Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), DECEMBER 2018**

Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Draw from the Grid (DSM)		
	Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid	
Minimum Price								Maximum Price	Average Price**
1-Dec-18	2.00	7.05	3.68	-	-	-	0.36	3.45	2.22
2-Dec-18	2.00	4.14	3.05	-	-	-	0.00	3.45	1.79
3-Dec-18	1.80	5.10	3.21	-	-	-	0.00	4.91	2.12
4-Dec-18	1.80	4.22	3.06	4.81	4.81	4.81	0.36	6.16	2.29
5-Dec-18	1.92	4.92	3.31	-	-	-	0.00	5.32	2.69
6-Dec-18	2.00	5.00	3.60	-	-	-	0.00	5.95	2.68
7-Dec-18	2.18	4.82	3.59	-	-	-	0.00	3.45	2.11
8-Dec-18	2.00	4.83	3.45	-	-	-	0.00	5.32	2.17
9-Dec-18	2.01	3.80	2.99	-	-	-	0.00	5.11	2.31
10-Dec-18	1.97	5.30	3.51	-	-	-	0.00	6.16	2.80
11-Dec-18	2.00	5.70	3.70	-	-	-	0.00	5.74	2.49
12-Dec-18	1.93	5.62	3.63	-	-	-	0.00	5.11	2.28
13-Dec-18	1.79	5.31	3.60	-	-	-	0.00	3.45	2.32
14-Dec-18	1.80	6.07	3.80	-	-	-	0.00	5.11	2.14
15-Dec-18	1.92	6.60	3.81	-	-	-	0.00	5.74	2.12
16-Dec-18	1.91	4.21	3.17	-	-	-	0.00	5.95	1.77
17-Dec-18	1.75	5.20	3.60	-	-	-	0.00	5.74	2.24
18-Dec-18	1.78	5.10	3.44	-	-	-	0.00	3.45	2.04
19-Dec-18	1.95	6.77	3.50	-	-	-	0.00	6.16	2.58
20-Dec-18	2.00	7.53	4.11	-	-	-	0.00	6.36	2.54
21-Dec-18	2.00	6.79	3.80	-	-	-	0.00	5.74	2.61
22-Dec-18	2.00	6.80	3.82	-	-	-	0.00	3.45	1.96
23-Dec-18	2.00	4.93	3.29	-	-	-	0.00	5.32	1.78
24-Dec-18	1.80	5.80	3.61	-	-	-	0.00	5.32	1.98
25-Dec-18	1.95	5.65	3.20	-	-	-	0.00	5.32	2.54
26-Dec-18	2.00	4.96	3.44	-	-	-	0.00	3.45	1.58
27-Dec-18	2.00	5.73	3.66	-	-	-	0.00	3.45	1.83
28-Dec-18	1.90	4.60	3.47	-	-	-	0.00	4.91	2.14
29-Dec-18	1.78	4.93	3.38	-	-	-	0.00	5.11	2.00
30-Dec-18	1.80	4.26	3.00	-	-	-	0.00	6.36	2.02
31-Dec-18	1.75	5.01	3.48	-	-	-	0.00	3.45	1.81
	<b>1.75#</b>	<b>7.53#</b>	<b>3.50</b>	<b>4.81#</b>	<b>4.81#</b>	<b>4.81</b>	<b>0.00#</b>	<b>6.36#</b>	<b>2.19</b>

Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.

\* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.

\*\* Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.

# Maximum/Minimum in the month

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

**Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE)  
(MUs), DECEMBER 2018**

Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Pur- chase	Net**	Sale	Pur- chase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	1213.64	0.00	-1213.64	6.25	288.16	281.91	38.23	29.95	8.28	-923.44
HARYANA	855.74	55.91	-799.82	28.99	80.45	51.46	31.01	44.78	-13.77	-762.13
RAJASTHAN	70.25	172.61	102.36	139.00	123.59	-15.41	92.09	59.91	32.17	119.12
DELHI	599.15	15.01	-584.14	260.74	30.78	-229.95	19.27	13.66	5.61	-808.48
UTTAR PRADESH	260.27	119.98	-140.29	14.86	18.01	3.15	58.36	56.62	1.75	-135.40
UTTARAKHAND	0.00	410.01	410.01	43.93	56.20	12.27	26.61	23.82	2.79	425.07
HP	38.02	381.26	343.24	89.67	32.23	-57.44	35.26	8.70	26.56	312.36
J & K	13.64	472.07	458.43	20.72	122.59	101.87	46.01	15.31	30.70	591.00
CHANDIGARH	0.00	0.00	0.00	17.96	0.81	-17.15	19.76	1.66	18.10	0.95
MP	18.09	930.12	912.04	117.85	41.30	-76.55	45.26	59.92	-14.66	820.83
MAHARASHTRA	12.45	394.80	382.35	266.94	85.34	-181.60	54.07	70.74	-16.67	184.09
GUJARAT	57.89	564.69	506.79	182.69	73.42	-109.27	46.85	78.45	-31.60	365.93
CHHATTISGARH	234.36	453.82	219.46	96.47	34.94	-61.53	32.29	26.75	5.54	163.46
GOA	0.00	38.05	38.05	12.63	12.39	-0.24	10.19	6.45	3.74	41.55
DAMAN AND DIU	0.00	0.00	0.00	0.00	34.13	34.13	24.03	0.20	23.82	57.95
DADRA & NAGAR	0.00	37.49	37.49	1.04	36.04	35.00	27.69	0.51	27.19	99.68
ANDHRA PR	299.39	647.13	347.74	79.22	95.54	16.31	21.94	74.91	-52.96	311.09
KARNATAKA	17.10	1.25	-15.85	112.29	97.83	-14.45	37.61	54.36	-16.75	-47.06
KERALA	9.83	0.00	-9.83	3.10	188.97	185.86	27.50	6.04	21.46	197.49
TAMIL NADU	2.66	159.28	156.62	8.30	379.16	370.86	65.26	38.33	26.93	554.42
PONDICHERRY	0.00	0.00	0.00	0.00	0.00	0.00	2.91	7.10	-4.19	-4.19
TELANGANA	133.04	25.39	-107.65	118.78	392.17	273.39	73.32	22.99	50.33	216.07
WEST BENGAL	201.31	45.22	-156.08	74.06	39.37	-34.69	30.85	25.24	5.61	-185.16
ODISHA	95.33	80.41	-14.93	26.95	136.52	109.57	62.21	13.57	48.64	143.28
BIHAR	0.26	49.57	49.31	57.14	192.39	135.25	29.04	40.84	-11.81	172.75
JHARKHAND	18.14	108.94	90.79	0.84	46.45	45.61	32.91	12.56	20.35	156.76
SIKKIM	0.00	2.72	2.72	11.04	0.00	-11.04	3.24	3.73	-0.49	-8.81
DVC	325.70	1.74	-323.97	0.61	202.37	201.76	64.87	5.51	59.36	-62.84
ARUNACHAL PR	0.00	0.00	0.00	1.56	5.44	3.88	18.06	0.95	17.11	20.99
ASSAM	0.00	49.62	49.62	53.08	45.64	-7.45	7.66	12.53	-4.87	37.30
MANIPUR	0.00	35.24	35.24	17.10	0.29	-16.82	3.66	2.97	0.69	19.12
MEGHALAYA	0.00	78.88	78.88	2.66	33.03	30.37	1.08	9.40	-8.33	100.92
MIZORAM	3.78	0.01	-3.77	9.44	0.01	-9.43	2.08	4.59	-2.51	-15.70
NAGALAND	0.00	0.00	0.00	0.00	2.88	2.88	10.02	0.80	9.22	12.10
TRIPURA	2.69	0.00	-2.69	100.59	0.00	-100.59	2.33	7.44	-5.11	-108.38
NTPC -NR	0.00	0.00	0.00	0.00	0.00	0.00	60.95	70.21	-9.26	-9.26
NHPC-STATIONS	0.00	0.00	0.00	0.00	0.00	0.00	15.50	59.43	-43.94	-43.94
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	2.11	3.05	-0.95	-0.95
AD HYDRO	0.00	0.00	0.00	13.43	0.00	-13.43	0.22	1.06	-0.84	-14.27
KARCHAM WANGT	0.00	0.00	0.00	14.22	0.00	-14.22	0.00	0.00	0.00	-14.22
SHREE CEMENT	94.81	0.00	-94.81	4.59	0.00	-4.59	3.20	0.62	2.58	-96.82
LANCO BUDHIL	0.00	0.00	0.00	0.85	0.00	-0.85	0.80	0.49	0.31	-0.54
MALANA	0.00	0.00	0.00	0.95	0.00	-0.95	0.00	0.16	-0.16	-1.11
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	0.46	4.59	-4.13	-4.13
SAINJ HEP	0.00	0.00	0.00	13.84	0.00	-13.84	0.00	0.00	0.00	-13.84
NTPC -WR	0.43	0.43	0.00	0.30	0.00	-0.30	46.89	163.55	-116.66	-116.96
JINDAL POWER	0.00	0.00	0.00	11.50	0.00	-11.50	1.45	2.75	-1.30	-12.80
LANCO_AMK	8.56	0.00	-8.56	0.00	0.00	0.00	1.21	7.25	-6.04	-14.60
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	1.16	1.14	0.01	0.01
ACBIL	33.43	0.00	-33.43	13.89	0.00	-13.89	6.01	1.47	4.54	-42.79
BALCO	4.92	0.00	-4.92	0.84	0.00	-0.84	13.60	0.51	13.09	7.32
RGPPL (DABHOL)	0.00	0.00	0.00	0.00	0.00	0.00	11.38	1.73	9.65	9.65
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	21.39	5.90	15.48	15.48
DCPP	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.71	-0.47	-0.47
EMCO	0.00	0.00	0.00	0.00	0.00	0.00	13.15	2.15	11.00	11.00

*[Handwritten Signature]* 18

**Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE)  
(MUs), NOVEMBER 2018**

Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Pur- chase	Net**	Sale	Pur- chase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	1138.34	0.00	-1138.34	26.00	71.28	45.28	31.17	32.05	-0.88	-1093.94
HARYANA	630.33	85.95	-544.38	15.88	32.86	16.98	47.99	28.45	19.53	-507.86
RAJASTHAN	53.24	21.33	-31.91	177.94	108.26	-69.68	101.26	37.95	63.31	-38.28
DELHI	666.15	15.60	-650.55	300.92	10.07	-290.85	22.24	18.12	4.13	-937.27
UTTAR PRADESH	199.15	100.54	-98.62	24.74	4.66	-20.07	49.34	71.29	-21.96	-140.65
UTTARAKHAND	41.67	367.33	325.65	54.62	35.39	-19.23	24.64	23.68	0.96	307.38
HIMACHAL PR	47.79	249.14	201.35	150.64	21.62	-129.01	28.40	8.46	19.95	92.28
J & K	25.79	384.84	359.05	30.91	55.95	25.03	24.32	70.48	-46.16	337.93
CHANDIGARH	0.00	0.00	0.00	23.73	0.30	-23.44	10.86	2.60	8.26	-15.17
MP	4.45	923.12	918.68	101.99	47.28	-54.71	28.93	79.12	-50.19	813.78
MAHARASHTRA	19.96	338.02	318.06	42.22	379.23	337.01	50.04	90.28	-40.24	614.83
GUJARAT	65.73	604.13	538.40	58.51	559.89	501.38	91.85	27.88	63.97	1103.75
CHHATTISGARH	226.80	357.44	130.64	81.73	10.81	-70.92	16.45	35.24	-18.79	40.92
GOA	0.00	30.96	30.96	15.25	10.15	-5.10	8.42	6.05	2.37	28.23
DAMAN AND DIU	0.00	0.00	0.00	0.00	14.94	14.94	19.69	0.65	19.04	33.98
DADRA & NAGAR	1.65	19.04	17.39	33.93	0.30	-33.63	18.13	2.37	15.76	-0.47
ANDHRA PR	159.10	866.02	706.92	75.41	104.18	28.77	34.37	59.39	-25.02	710.68
KARNATAKA	70.71	0.51	-70.20	143.41	92.04	-51.37	47.99	37.98	10.01	-111.55
KERALA	54.40	0.00	-54.40	4.01	104.55	100.54	27.97	6.81	21.16	67.30
TAMIL NADU	2.67	27.35	24.68	6.74	194.94	188.20	58.32	50.01	8.31	221.19
PONDICHERRY	0.00	0.00	0.00	0.00	0.00	0.00	3.32	5.57	-2.25	-2.25
TELANGANA	59.46	11.70	-47.76	165.60	526.50	360.91	72.76	16.79	55.97	369.12
WEST BENGAL	128.67	81.62	-47.06	104.73	98.14	-6.59	65.97	10.79	55.18	1.54
ODISHA	19.93	100.75	80.82	34.05	268.07	234.02	105.38	3.80	101.58	416.42
BIHAR	1.35	83.09	81.74	75.38	242.39	167.01	20.10	47.76	-27.66	221.09
JHARKHAND	0.00	111.75	111.75	0.24	0.00	-0.24	18.07	15.44	2.63	114.14
SIKKIM	0.00	0.00	0.00	29.14	0.00	-29.14	4.20	4.19	0.01	-29.13
DVC	285.78	9.28	-276.50	0.38	206.19	205.82	88.48	3.47	85.01	14.33
ARUNACHAL PR	0.00	0.00	0.00	3.32	3.74	0.42	9.92	1.84	8.07	8.49
ASSAM	0.00	50.19	50.19	54.16	41.71	-12.45	17.69	7.08	10.61	48.35
MANIPUR	0.00	18.00	18.00	12.50	0.70	-11.80	5.38	2.55	2.82	9.02
MEGHALAYA	0.00	25.92	25.92	4.22	19.21	14.99	1.29	6.26	-4.97	35.94
MIZORAM	1.81	0.00	-1.81	17.25	0.00	-17.25	1.07	6.15	-5.08	-24.14
NAGALAND	0.00	0.00	0.00	0.01	0.00	-0.01	4.04	4.83	-0.79	-0.80
TRIPURA	1.42	0.00	-1.42	95.70	0.00	-95.70	3.07	8.74	-5.67	-102.79
NTPC -NR	0.00	0.00	0.00	1.05	0.00	-1.05	56.73	64.64	-7.91	-8.96
NHPC STATIONS	0.00	0.00	0.00	0.00	0.00	0.00	3.95	16.74	-12.79	-12.79
NJPC	0.00	0.00	0.00	24.34	0.00	-24.34	2.59	9.08	-6.48	-30.82
AD HYDRO	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.26	-0.14	-0.14
KARCHAM WANG	0.00	0.00	0.00	18.50	0.00	-18.50	2.73	4.91	-2.19	-20.68
SHREE CEMENT	47.87	0.00	-47.87	53.80	0.00	-53.80	3.45	0.52	2.93	-98.74
LANCO BUDHIL	0.00	0.00	0.00	1.27	0.00	-1.27	0.66	0.74	-0.08	-1.35
MALANA	0.00	0.00	0.00	0.72	0.00	-0.72	0.23	0.12	0.12	-0.61
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	0.22	25.06	-24.84	-24.84
SAINJ HEP	0.00	0.00	0.00	19.97	0.00	-19.97	0.00	0.00	0.00	-19.97
NTPC -WR	0.00	0.00	0.00	0.22	0.00	-0.22	80.08	174.50	-94.42	-94.64
JINDAL POWER	8.07	0.00	-8.07	89.08	0.00	-89.08	3.47	3.03	0.44	-96.71
LANKO_AMK	9.52	0.00	-9.52	0.00	0.00	0.00	0.63	6.87	-6.24	-15.76
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	2.53	2.16	0.37	0.37
ACBIL	0.73	0.00	-0.73	50.16	0.00	-50.16	6.71	1.39	5.32	-45.58
BALCO	0.00	0.00	0.00	0.15	0.00	-0.15	8.74	1.19	7.55	7.40
RGPPL (DABHOL)	0.00	0.00	0.00	0.00	0.00	0.00	9.76	1.30	8.46	8.46
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	30.89	3.60	27.29	27.29
EMCO	0.00	0.00	0.00	0.24	0.00	-0.24	15.25	5.25	10.00	9.75
ESSAR STEEL	0.00	196.32	196.32	0.00	141.13	141.13	26.00	20.18	5.82	343.27

*[Handwritten Signature]* 69  
N. BALRAM

Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), NOVEMBER 2018									
Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Draw/Over Draw from the Grid (DSM)		
Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid		
							Minimum Price	Maximum Price	Average Price**
1-Nov-18	3.10	19.99	4.90	-	-	-	0.00	3.45	2.08
2-Nov-18	3.66	8.74	5.19	-	-	-	0.00	4.91	2.28
3-Nov-18	3.55	11.09	5.05	-	-	-	0.00	5.11	2.57
4-Nov-18	3.03	5.63	4.27	-	-	-	0.00	4.91	2.48
5-Nov-18	3.02	8.72	4.67	-	-	-	0.00	5.95	2.51
6-Nov-18	3.00	7.01	3.96	-	-	-	0.00	3.45	1.82
7-Nov-18	1.50	4.97	3.17	-	-	-	0.00	3.24	1.49
8-Nov-18	1.79	8.35	2.90	-	-	-	0.00	3.45	1.96
9-Nov-18	1.96	4.62	3.18	-	-	-	0.00	3.45	2.23
10-Nov-18	2.40	9.10	3.56	-	-	-	0.00	4.91	2.37
11-Nov-18	2.50	4.75	3.31	-	-	-	0.00	5.11	2.29
12-Nov-18	2.02	5.10	3.53	-	-	-	0.00	5.95	2.10
13-Nov-18	2.17	5.20	3.52	-	-	-	0.00	5.11	2.18
14-Nov-18	2.00	5.00	3.62	-	-	-	0.00	5.95	2.44
15-Nov-18	2.00	5.06	3.62	-	-	-	0.00	5.74	2.17
16-Nov-18	2.00	9.71	3.78	-	-	-	0.00	3.45	2.23
17-Nov-18	2.11	5.61	3.76	-	-	-	0.00	5.11	2.49
18-Nov-18	2.00	4.31	3.29	-	-	-	0.00	3.45	2.18
19-Nov-18	1.92	6.17	3.66	-	-	-	0.36	5.32	2.23
20-Nov-18	2.00	5.49	3.42	-	-	-	0.00	3.45	1.80
21-Nov-18	2.01	5.04	3.32	-	-	-	0.00	5.11	2.25
22-Nov-18	2.00	6.00	3.46	-	-	-	0.00	3.45	1.62
23-Nov-18	2.30	6.02	3.58	-	-	-	0.00	5.11	2.40
24-Nov-18	2.18	6.74	3.72	-	-	-	0.36	5.74	2.74
25-Nov-18	2.35	4.31	3.42	3.30	3.30	3.30	0.00	3.45	1.90
26-Nov-18	2.25	6.83	3.57	4.50	4.50	4.50	0.00	5.32	1.91
27-Nov-18	2.33	5.50	3.50	4.50	4.50	4.50	0.00	5.32	2.14
28-Nov-18	2.21	6.84	3.67	-	-	-	0.00	3.45	1.89
29-Nov-18	2.07	6.50	3.36	-	-	-	0.00	5.32	2.64
30-Nov-18	2.07	6.90	3.49	-	-	-	0.00	6.16	2.54
	<b>1.50#</b>	<b>19.99#</b>	<b>3.82</b>	<b>3.30#</b>	<b>4.50#</b>	<b>3.38</b>	<b>0.00#</b>	<b>6.16#</b>	<b>2.20</b>

Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.

\* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.

\*\* Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.

# Maximum/Minimum in the month

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

**Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE)  
(MUs), OCTOBER 2018**

Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Pur- chase	Net**	Sale	Pur- chase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	343.98	42.58	-301.40	643.96	0.00	-643.96	45.96	27.27	18.68	-926.68
HARYANA	238.00	442.54	204.54	216.01	0.71	-215.31	56.78	30.99	25.79	15.02
RAJASTHAN	24.65	0.00	-24.65	716.86	5.57	-711.29	109.65	40.09	69.56	-666.38
DELHI	164.81	37.38	-127.43	430.63	2.38	-428.24	15.31	26.40	-11.08	-566.75
UTTAR PRADESH	28.73	191.59	162.86	35.46	54.95	19.49	86.92	56.00	30.91	213.26
UTTARAKHAND	15.17	71.59	56.42	33.72	39.05	5.33	16.49	35.48	-18.99	42.77
HP	84.65	69.39	-15.26	246.11	3.22	-242.89	47.02	4.13	42.89	-215.26
J & K	76.69	92.99	16.30	0.81	276.17	275.36	24.41	50.90	-26.49	265.17
CHANDIGARH	0.00	0.00	0.00	23.40	0.03	-23.37	9.06	3.68	5.38	-17.99
MP	16.53	175.25	158.72	103.69	23.91	-79.77	48.78	58.96	-10.18	68.77
MAHARASHTRA	4.39	309.35	304.96	47.03	1725.78	1678.75	83.81	77.19	6.62	1990.33
GUJARAT	49.15	715.65	666.51	223.06	1088.03	864.97	151.68	9.03	142.65	1674.13
CHHATTISGARH	0.00	167.29	167.29	18.07	106.42	88.35	29.05	24.87	4.18	259.81
GOA	0.00	31.99	31.99	11.79	12.72	0.93	14.58	12.44	2.13	35.06
DAMAN AND DIU	0.00	0.00	0.00	0.00	8.91	8.91	25.13	0.38	24.75	33.66
D&N HAVELI	0.43	13.79	13.36	10.61	13.32	2.72	26.71	1.77	24.94	41.02
ANDHRA P	375.59	885.01	509.42	69.94	202.24	132.30	85.87	38.08	47.79	689.51
KARNATAKA	200.02	0.70	-199.32	581.34	16.88	-564.46	112.89	21.94	90.95	-672.83
KERALA	58.40	0.00	-58.40	94.02	7.26	-86.76	63.61	43.41	20.20	-124.95
TAMIL NADU	1.53	133.75	132.22	34.71	306.49	271.78	24.42	7.47	16.95	420.95
PONDICHERY	0.00	0.00	0.00	0.00	0.00	0.00	85.65	37.11	48.54	48.54
TELANGANA	43.53	130.44	86.91	30.89	906.93	876.04	6.60	0.90	5.70	968.65
WEST BENGAL	180.92	269.44	88.52	222.58	336.84	114.26	29.44	50.86	-21.42	181.37
ODISHA	63.86	27.83	-36.02	120.38	581.57	461.19	37.26	7.86	29.40	454.56
BIHAR	2.28	167.88	165.60	6.31	530.48	524.17	123.26	3.41	119.85	809.61
JHARKHAND	1.04	112.22	111.17	35.58	0.00	-35.58	106.84	8.02	98.82	174.41
SIKKIM	18.60	0.00	-18.60	41.88	0.00	-41.88	83.77	18.97	64.79	4.32
DVC	307.92	4.21	-303.71	2.43	81.20	78.77	5.10	2.72	2.38	-222.56
ARUNACHAL P	0.00	0.00	0.00	2.20	0.00	-2.20	3.79	9.16	-5.38	-7.58
ASSAM	0.00	53.65	53.65	47.89	75.28	27.39	22.40	12.14	10.26	91.29
MANIPUR	27.06	0.45	-26.60	7.92	1.56	-6.35	2.62	6.26	-3.64	-36.60
MEGHALAYA	3.80	9.49	5.69	52.01	7.68	-44.33	5.46	5.55	-0.09	-38.73
MIZORAM	14.84	0.00	-14.84	16.11	0.00	-16.11	2.26	3.39	-1.13	-32.08
NAGALAND	3.48	0.00	-3.48	1.00	0.00	-1.00	6.51	2.74	3.77	-0.71
TRIPURA	0.00	0.48	0.48	65.08	0.29	-64.79	10.32	7.40	2.92	-61.38
NTPC -NR	0.00	0.00	0.00	11.77	0.00	-11.77	118.55	24.27	94.29	82.52
NHPC STATIONS	0.00	0.00	0.00	0.00	0.00	0.00	9.25	76.31	-67.06	-67.06
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	6.11	12.37	-6.26	-6.26
AD HYDRO	0.00	0.00	0.00	46.20	0.00	-46.20	1.90	1.44	0.45	-45.75
KARCHAM WANGT	0.00	0.00	0.00	28.22	0.00	-28.22	3.90	6.30	-2.40	-30.62
SHREE CEMENT	135.91	0.00	-135.91	79.63	0.00	-79.63	3.28	0.17	3.11	-212.44
LANCO BUDHIL	0.00	0.00	0.00	2.69	0.00	-2.69	3.13	0.97	2.16	-0.53
MALANA	0.00	0.00	0.00	2.42	0.00	-2.42	0.30	0.21	0.09	-2.32
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	0.38	3.74	-3.36	-3.36
SAINJ HEP	0.00	0.00	0.00	35.85	0.00	-35.85	0.00	0.00	0.00	-35.85
NTPC -WR	0.00	0.00	0.00	2.73	0.00	-2.73	116.76	139.10	-22.34	-25.08
JINDAL POWER	5.49	0.00	-5.49	206.64	0.00	-206.64	4.02	4.06	-0.04	-212.17
LANKO_AMK	8.80	0.00	-8.80	0.00	0.00	0.00	1.02	4.49	-3.47	-12.27
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	2.87	1.99	0.88	0.88
ACBIL	33.59	0.00	-33.59	22.02	0.00	-22.02	3.08	1.09	1.99	-53.63
BALCO	0.00	1.49	1.49	0.20	31.36	31.16	7.71	1.94	5.78	38.42
RGPPL (DABHOL)	0.00	0.00	0.00	0.00	0.00	0.00	9.38	0.62	8.75	8.75
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	34.24	2.80	31.43	31.43
DCPP	0.00	0.00	0.00	0.00	0.00	0.00	0.53	1.32	-0.79	-0.79
EMCO	0.00	0.00	0.00	0.73	0.00	-0.73	11.76	4.66	7.10	6.37

*[Handwritten Signature]* 71

**Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), OCTOBER 2018**

Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Drawl from the Grid (DSM)		
	Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid	
Minimum Price								Maximum Price	Average Price**
1-Oct-18	4.25	17.61	7.60	-	-	-	0.00	5.32	2.41
2-Oct-18	3.50	10.70	5.20	6.50	6.50	6.50	0.00	4.91	1.91
3-Oct-18	4.35	18.00	7.15	-	-	-	0.00	3.45	2.23
4-Oct-18	5.00	18.20	7.52	-	-	-	0.36	3.45	2.15
5-Oct-18	4.74	14.55	7.86	-	-	-	0.00	4.91	1.96
6-Oct-18	4.50	17.55	8.16	-	-	-	0.00	5.74	2.02
7-Oct-18	3.50	9.50	5.90	-	-	-	0.00	3.45	2.06
8-Oct-18	5.50	18.00	8.61	-	-	-	0.00	6.36	2.63
9-Oct-18	5.89	14.55	9.00	-	-	-	0.00	4.91	2.28
10-Oct-18	3.74	9.50	5.29	-	-	-	0.36	5.32	2.36
11-Oct-18	4.16	10.03	7.22	-	-	-	0.00	5.95	1.86
12-Oct-18	3.99	10.24	5.57	-	-	-	0.00	5.32	2.08
13-Oct-18	2.87	18.81	5.10	-	-	-	0.00	3.45	1.93
14-Oct-18	2.88	5.27	3.92	-	-	-	0.00	5.32	2.25
15-Oct-18	2.75	17.09	6.06	-	-	-	0.00	6.16	2.26
16-Oct-18	3.03	19.35	5.66	-	-	-	0.00	3.45	2.00
17-Oct-18	2.98	19.88	5.40	-	-	-	0.00	3.45	1.86
18-Oct-18	2.83	17.14	4.58	-	-	-	0.00	3.45	1.82
19-Oct-18	2.68	13.95	4.42	-	-	-	0.00	3.45	1.83
20-Oct-18	3.02	20.00	4.57	-	-	-	0.00	5.74	2.61
21-Oct-18	3.03	5.13	4.06	-	-	-	0.71	6.36	2.91
22-Oct-18	3.59	19.99	6.25	-	-	-	0.36	6.16	3.36
23-Oct-18	3.57	16.00	6.97	-	-	-	0.00	6.36	2.59
24-Oct-18	3.55	17.00	5.18	-	-	-	0.00	3.45	2.13
25-Oct-18	3.56	17.53	6.39	-	-	-	0.00	5.32	1.66
26-Oct-18	3.22	18.29	5.54	-	-	-	0.00	5.32	1.94
27-Oct-18	3.38	12.01	5.26	-	-	-	0.00	5.32	2.12
28-Oct-18	3.21	19.04	4.38	-	-	-	0.00	3.45	1.62
29-Oct-18	3.03	20.00	5.40	-	-	-	0.00	4.91	1.94
30-Oct-18	3.14	14.93	5.06	-	-	-	0.00	4.91	2.59
31-Oct-18	3.06	16.00	5.86	-	-	-	0.00	5.32	2.48
	<b>2.68#</b>	<b>20.00#</b>	<b>6.13</b>	<b>6.50#</b>	<b>6.50#</b>	<b>6.50</b>	<b>0.00#</b>	<b>6.36#</b>	<b>2.19</b>

Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.

\* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.

\*\* Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.

# Maximum/Minimum in the month

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



**Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE)  
(MUs), SEPTEMBER 2018**

Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Pur- chase	Net**	Sale	Pur- chase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	0.00	1181.79	1181.79	738.23	0.00	-738.23	26.91	44.12	-17.21	426.35
HARYANA	90.77	1092.68	1001.91	271.69	26.07	-245.63	60.47	37.89	22.58	778.87
RAJASTHAN	65.70	1.20	-64.50	449.39	20.76	-428.63	105.82	49.54	56.28	-436.84
DELHI	2.22	434.01	431.79	536.59	3.39	-533.20	16.69	34.42	-17.73	-119.14
UTTAR PRADESH	0.10	1287.98	1287.88	346.79	2.12	-344.67	83.30	60.75	22.54	965.75
UTTARAKHAND	195.30	265.42	70.13	45.89	37.07	-8.82	16.74	36.02	-19.28	42.03
HP	664.02	0.00	-664.02	264.62	25.75	-238.87	47.64	8.14	39.50	-863.39
J & K	495.81	0.00	-495.81	15.05	232.20	217.15	22.03	77.46	-55.43	-334.09
CHANDIGARH	0.00	0.00	0.00	25.82	0.80	-25.02	10.15	7.77	2.38	-22.64
MP	880.89	12.93	-867.96	271.43	14.32	-257.10	63.69	37.79	25.90	-1099.17
MAHARASHTRA	73.62	200.70	127.08	45.90	1039.31	993.41	80.92	52.76	28.16	1148.64
GUJARAT	161.96	212.73	50.77	242.94	914.85	671.91	91.93	33.72	58.21	780.88
CHHATTISGARH	0.53	245.66	245.13	37.14	51.49	14.35	34.29	28.09	6.20	265.67
GOA	0.00	26.50	26.50	12.40	20.40	8.00	9.65	4.77	4.88	39.39
DAMAN AND DIU	0.00	0.00	0.00	0.00	21.07	21.07	33.76	0.14	33.61	54.68
D&N HAVELI	0.00	45.84	45.84	0.67	49.47	48.80	33.90	0.50	33.40	128.04
AP	406.87	232.51	-174.36	61.09	239.64	178.55	239.64	61.10	178.54	182.73
KARNATAKA	37.91	2.44	-35.47	238.44	71.16	-167.28	71.15	238.42	-167.27	-370.02
KERALA	53.68	1.42	-52.26	26.70	25.86	-0.84	25.89	26.70	-0.81	-53.91
TAMIL NADU	223.66	39.43	-184.23	20.68	543.31	522.62	543.33	20.72	522.61	861.00
PONDICHERRY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TELANGANA	44.70	458.70	414.00	46.29	312.99	266.70	313.00	46.28	266.72	947.42
WEST BENGAL	187.10	325.94	138.84	27.31	651.19	623.88	113.01	5.73	107.27	870.00
ODISHA	108.36	51.76	-56.60	98.82	361.91	263.08	89.04	12.01	77.03	283.51
BIHAR	0.00	227.00	227.00	0.00	529.53	529.53	54.54	36.02	18.52	775.05
JHARKHAND	0.36	97.95	97.59	42.36	0.00	-42.36	36.00	9.94	26.06	81.29
SIKKIM	33.51	0.00	-33.51	39.65	0.00	-39.65	4.67	2.89	1.78	-71.38
DVC	433.97	15.27	-418.70	3.79	211.72	207.93	158.95	2.44	156.50	-54.26
ARUNACHAL P	0.00	0.00	0.00	0.00	0.00	0.00	3.79	9.16	-5.38	-5.38
ASSAM	0.00	44.12	44.12	18.32	163.91	145.59	22.40	12.14	10.26	199.97
MANIPUR	25.75	0.00	-25.75	6.85	0.06	-6.79	2.62	6.26	-3.64	-36.18
MEGHALAYA	38.04	0.44	-37.60	84.50	14.71	-69.79	5.46	5.55	-0.09	-107.48
MIZORAM	12.21	0.00	-12.21	16.53	0.00	-16.53	2.26	3.39	-1.13	-29.88
NAGALAND	6.66	0.00	-6.66	3.71	0.00	-3.71	6.51	2.74	3.77	-6.60
TRIPURA	0.24	0.00	-0.24	28.59	4.31	-24.29	10.32	7.40	2.92	-21.60
NTPC -NR	0.00	0.00	0.00	7.80	0.00	-7.80	72.33	74.69	-2.36	-10.16
NHPC STATIONS	0.00	0.00	0.00	0.00	0.00	0.00	4.12	61.06	-56.93	-56.93
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	3.09	19.21	-16.12	-16.12
AD HYDRO	29.79	0.00	-29.79	55.54	0.00	-55.54	3.36	10.13	-6.77	-92.10
KARCHAM WANGT	5.11	0.00	-5.11	66.69	0.00	-66.69	0.49	12.38	-11.89	-83.69
SHREE CEMENT	106.25	0.00	-106.25	59.41	0.00	-59.41	2.95	0.48	2.47	-163.18
LANCO BUDHIL	0.00	0.00	0.00	4.71	0.00	-4.71	6.00	3.79	2.21	-2.50
ADANI HVDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MALANA	0.18	0.00	-0.18	5.84	0.00	-5.84	0.65	0.99	-0.34	-6.36
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	0.38	4.99	-4.61	-4.61
SAINJ HEP	0.00	0.00	0.00	62.94	0.00	-62.94	0.00	0.00	0.00	-62.94
KISHAN GANGA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NTPC -WR	0.00	0.00	0.00	3.47	0.00	-3.47	0.00	97.67	-97.67	-101.13
JINDAL POWER	10.57	0.00	-10.57	85.21	0.00	-85.21	2.39	2.39	0.00	-95.77
LANCO_AMK	9.53	0.00	-9.53	0.00	0.00	0.00	0.52	0.52	0.00	-9.53
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	3.27	3.27	0.00	0.00
ACBIL	0.74	0.00	-0.74	47.78	0.00	-47.78	5.74	5.74	0.00	-48.51
BALCO	0.04	0.00	-0.04	0.64	0.00	-0.64	11.35	11.35	0.00	-0.68
RGPL (DABHOL)	0.00	0.00	0.00	0.00	0.00	0.00	12.82	12.82	0.00	0.00
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	23.26	23.26	0.00	0.00

Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), SEPTEMBER 2018									
Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Draw from the Grid (DSM)		
Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid		
							Minimum Price	Maximum Price	Average Price**
1-Sep-18	1.81	7.92	3.05	3.21	3.21	3.21	0.00	3.45	1.91
2-Sep-18	1.75	4.14	2.55	2.41	2.41	2.41	0.00	3.03	1.47
3-Sep-18	2.00	5.37	2.87	-	-	-	0.36	5.32	2.14
4-Sep-18	2.35	5.41	3.08	2.50	2.90	2.75	0.00	5.95	2.08
5-Sep-18	2.68	8.15	3.49	2.85	2.85	2.85	0.00	6.36	2.51
6-Sep-18	2.44	7.58	3.27	3.15	3.15	3.15	0.36	4.91	2.07
7-Sep-18	2.45	8.20	3.58	2.91	2.91	2.91	0.36	6.36	2.34
8-Sep-18	2.82	8.51	3.81	3.10	3.10	3.10	0.36	6.16	2.41
9-Sep-18	2.34	7.92	3.46	2.65	2.65	2.65	0.71	5.95	2.76
10-Sep-18	2.72	9.11	4.01	3.21	3.21	3.21	0.36	6.36	2.51
11-Sep-18	2.95	9.64	4.40	3.21	3.21	3.21	0.00	7.82	2.46
12-Sep-18	2.92	9.50	4.30	-	-	-	0.00	6.16	2.62
13-Sep-18	3.04	9.50	4.42	-	-	-	0.00	6.36	2.50
14-Sep-18	3.20	10.26	4.94	-	-	-	0.00	6.36	2.54
15-Sep-18	3.62	11.06	5.40	-	-	-	0.71	8.03	3.49
16-Sep-18	3.44	11.92	5.27	-	-	-	0.00	6.16	2.89
17-Sep-18	3.99	12.95	6.35	-	-	-	0.00	5.11	1.92
18-Sep-18	3.40	14.08	6.54	6.21	6.21	6.21	0.00	5.11	1.97
19-Sep-18	2.90	9.50	5.42	-	-	-	0.36	6.36	2.62
20-Sep-18	3.70	9.50	5.70	-	-	-	0.00	6.36	2.32
21-Sep-18	4.09	11.00	6.73	-	-	-	0.00	3.45	1.85
22-Sep-18	3.11	6.62	4.44	-	-	-	0.00	5.32	1.94
23-Sep-18	2.79	7.00	3.72	-	-	-	0.00	3.45	1.77
24-Sep-18	3.11	9.50	4.79	-	-	-	0.00	8.24	2.64
25-Sep-18	2.97	9.91	4.94	4.83	4.83	4.83	0.00	5.11	1.89
26-Sep-18	3.50	12.15	6.31	4.93	4.93	4.93	0.00	4.91	1.95
27-Sep-18	3.91	14.25	6.99	5.99	5.99	5.99	0.00	5.95	2.17
28-Sep-18	3.49	15.37	6.71	-	-	-	0.00	7.82	2.72
29-Sep-18	3.50	16.49	6.63	-	-	-	0.00	8.24	2.66
30-Sep-18	2.86	9.50	4.33	-	-	-	0.71	5.32	2.68
	<b>1.75#</b>	<b>16.49#</b>	<b>4.99</b>	<b>2.41#</b>	<b>6.21#</b>	<b>5.35</b>	<b>0.00#</b>	<b>8.24#</b>	<b>2.33</b>

Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.

\* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.

\*\* Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.

# Maximum/Minimum in the month

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

**Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE)  
(MUs), AUGUST 2018**

Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Pur- chase	Net**	Sale	Pur- chase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	0.00	1597.47	1597.47	37.98	4.80	-33.18	25.30	44.11	-18.81	1545.48
HARYANA	5.31	1493.13	1487.82	130.89	54.32	-76.56	92.54	18.26	74.28	1485.54
RAJASTHAN	81.52	99.75	18.23	203.04	138.26	-64.78	114.58	39.44	75.14	28.59
DELHI	7.98	654.34	646.36	287.14	4.85	-282.29	20.06	32.89	-12.83	351.23
UP	1.36	1468.83	1467.47	137.98	3.43	-134.55	101.91	47.67	54.24	1387.16
UTTARAKHAND	230.32	253.42	23.09	44.39	105.46	61.08	12.79	37.43	-24.64	59.53
HP	1136.59	2.69	-1133.90	158.11	32.66	-125.46	70.69	5.46	65.23	-1194.13
J & K	760.61	0.00	-760.61	18.49	244.31	225.83	17.33	68.06	-50.73	-585.52
CHANDIGARH	0.00	0.00	0.00	23.49	0.21	-23.29	13.08	3.98	9.10	-14.19
MP	807.74	7.95	-799.79	177.59	10.14	-167.45	46.73	56.87	-10.14	-977.38
MAHARASHTRA	139.56	209.39	69.83	69.63	304.19	234.56	61.14	91.43	-30.29	274.10
GUJARAT	414.86	276.88	-137.98	26.60	280.16	253.56	49.54	89.81	-40.27	75.31
CHHATTISGARH	0.00	179.04	179.04	21.42	44.25	22.83	36.94	25.98	10.96	212.83
GOA	10.78	4.72	-6.06	4.91	28.93	24.02	7.93	13.95	-6.03	11.94
DAMAN AND DIU	0.00	0.00	0.00	0.00	31.18	31.18	28.25	0.11	28.14	59.32
DADRA & NAGAR	0.00	38.91	38.91	4.79	17.61	12.83	35.64	0.34	35.31	87.05
ANDHRA P	818.20	161.01	-657.19	83.40	142.47	59.07	39.33	62.56	-23.23	-621.35
KARNATAKA	37.88	2.80	-35.08	239.08	147.20	-91.88	70.62	58.94	11.68	-115.28
KERALA	74.57	0.00	-74.57	194.37	26.71	-167.66	18.73	31.20	-12.47	-254.70
TAMIL NADU	380.82	21.48	-359.34	14.32	94.62	80.31	57.58	78.37	-20.79	-299.83
PONDICHERY	0.00	0.00	0.00	0.00	0.00	0.00	6.02	3.88	2.14	2.14
TELANGANA	48.97	474.18	425.21	332.81	301.12	-31.69	66.19	39.74	26.45	419.97
WEST BENGAL	196.39	318.76	122.37	25.89	416.10	390.21	127.51	5.01	122.50	635.08
ODISHA	26.37	98.98	72.61	40.69	649.22	608.53	107.39	4.62	102.77	783.92
BIHAR	0.10	205.89	205.79	1.59	551.32	549.73	53.58	33.08	20.50	776.03
JHARKHAND	0.00	94.80	94.80	1.68	0.00	-1.68	26.77	11.03	15.75	108.86
SIKKIM	23.82	0.00	-23.82	44.80	0.00	-44.80	1.25	6.05	-4.80	-73.42
DVC	236.60	2.72	-233.88	35.95	19.91	-16.04	141.21	4.64	136.57	-113.35
ARUNACHAL P	0.00	0.00	0.00	0.00	0.00	0.00	4.11	10.53	-6.42	-6.42
ASSAM	0.20	93.60	93.40	16.08	145.92	129.84	31.20	8.79	22.41	245.65
MANIPUR	18.91	0.00	-18.91	14.81	0.31	-14.51	1.55	7.14	-5.59	-39.00
MEGHALAYA	69.90	0.00	-69.90	44.47	19.95	-24.52	1.61	9.24	-7.62	-102.04
MIZORAM	10.69	0.00	-10.69	19.02	0.00	-19.02	1.56	5.74	-4.18	-33.89
NAGALAND	10.57	0.00	-10.57	1.44	0.00	-1.44	4.48	4.81	-0.32	-12.33
TRIPURA	0.00	3.01	3.01	25.03	2.54	-22.49	8.46	9.14	-0.67	-20.15
NTPC -NR	0.00	0.00	0.00	11.29	0.00	-11.29	86.08	54.34	31.74	20.45
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	3.68	7.47	-3.79	-3.79
AD HYDRO	28.61	0.00	-28.61	79.83	0.00	-79.83	10.42	7.42	3.00	-105.43
KARCHAM WANGT	118.83	0.00	-118.83	29.34	0.00	-29.34	9.91	9.99	-0.07	-148.24
SHREE CEMENT	107.02	0.00	-107.02	36.69	0.00	-36.69	6.27	1.60	4.68	-139.03
LANCO BUDHIL	0.00	0.00	0.00	4.98	0.00	-4.98	3.26	2.36	0.89	-4.09
MALANA	3.21	0.00	-3.21	8.84	0.00	-8.84	1.06	0.53	0.54	-11.51
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	12.11	2.00	10.10	10.10
SAINJ HEP	18.60	0.00	-18.60	59.31	0.00	-59.31	0.00	0.00	0.00	-77.91
NTPC -WR	0.00	0.00	0.00	0.52	0.00	-0.52	98.34	67.48	30.86	30.34
JINDAL POWER	12.31	0.00	-12.31	10.02	0.00	-10.02	3.42	5.40	-1.98	-24.31
LANCO_AMK	8.93	0.00	-8.93	0.00	0.00	0.00	1.19	5.74	-4.55	-13.47
NSPCL	0.00	0.00	0.00	0.00	0.00	0.00	8.21	3.06	5.15	5.15
ACBIL	0.76	0.00	-0.76	35.32	0.00	-35.32	5.49	2.07	3.42	-32.65
BALCO	0.46	0.00	-0.46	5.12	0.00	-5.12	12.67	2.20	10.47	4.89
RGPPL	0.00	0.00	0.00	0.00	0.00	0.00	11.36	0.92	10.43	10.43
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	36.38	4.78	31.60	31.60
ESSAR STEEL	0.00	174.27	174.27	0.00	157.47	157.47	27.59	23.41	4.18	335.92
KSK MAHANADI	0.00	0.00	0.00	0.00	0.00	0.00	3.32	2.97	0.35	0.35
ESSAR POWER	166.90	0.00	-166.90	63.98	0.00	-63.98	5.20	2.00	3.21	-227.67

*N. BAL...*

**Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), AUGUST 2018**

Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Drawl from the Grid (DSM)			
	Date	Mini- mum ACP	Maxi- mum ACP	Weighted Average Price*	Mini- mum ACP	Maxi- mum ACP	Weighted Average Price*	All India Grid		
								Mini- mum Price	Maxi- mum Price	Average Price**
1-Aug-18	2.57	9.00	3.86	3.16	3.16	3.16	0.00	3.45	1.95	
2-Aug-18	2.33	9.00	3.61	3.17	3.17	3.17	0.00	6.36	2.54	
3-Aug-18	2.66	9.00	3.60	2.92	2.92	2.92	0.00	4.91	2.04	
4-Aug-18	2.90	9.00	3.97	3.12	3.12	3.12	0.00	6.36	2.41	
5-Aug-18	2.25	4.80	3.08	3.01	3.01	3.01	0.00	4.91	1.89	
6-Aug-18	2.90	8.00	3.74	3.20	3.20	3.20	0.00	3.45	2.13	
7-Aug-18	2.95	8.00	3.73	3.42	3.42	3.42	0.00	6.16	2.54	
8-Aug-18	2.40	6.00	3.58	3.46	3.46	3.46	0.00	6.36	2.42	
9-Aug-18	2.90	8.75	4.07	3.35	3.35	3.35	0.00	8.03	2.29	
10-Aug-18	2.86	7.70	3.67	3.35	3.35	3.35	0.71	5.95	2.64	
11-Aug-18	2.90	7.87	3.85	3.51	3.51	3.51	0.00	3.45	1.94	
12-Aug-18	2.44	4.80	3.15	3.51	3.87	3.59	0.00	3.45	1.50	
13-Aug-18	2.57	5.37	3.38	3.65	3.65	3.65	0.00	8.24	1.96	
14-Aug-18	2.59	8.02	3.38	3.65	3.65	3.65	0.00	6.16	2.21	
15-Aug-18	1.87	4.60	2.89	3.31	3.31	3.31	0.00	3.24	1.44	
16-Aug-18	1.79	8.10	3.76	3.45	3.45	3.45	0.00	3.24	1.44	
17-Aug-18	2.44	7.10	3.51	3.35	3.35	3.35	0.00	6.36	1.90	
18-Aug-18	1.75	8.20	3.12	3.45	3.45	3.45	0.00	5.95	2.20	
19-Aug-18	2.25	7.00	2.87	2.85	2.85	2.85	0.00	3.24	1.61	
20-Aug-18	2.44	8.00	3.31	3.35	3.35	3.35	0.00	3.45	1.33	
21-Aug-18	1.75	5.40	2.99	3.35	3.35	3.35	0.00	5.95	1.80	
22-Aug-18	1.90	5.27	2.95	2.89	2.89	2.89	0.00	5.74	2.21	
23-Aug-18	2.34	7.50	3.52	2.69	2.69	2.69	0.00	5.11	2.32	
24-Aug-18	2.74	8.34	3.72	3.20	3.20	3.20	0.00	6.36	2.09	
25-Aug-18	2.65	8.00	3.49	3.20	3.20	3.20	0.00	3.45	1.62	
26-Aug-18	2.19	5.44	2.93	2.75	2.75	2.75	0.00	3.45	1.48	
27-Aug-18	2.30	6.00	3.33	3.20	3.20	3.20	0.00	6.16	2.19	
28-Aug-18	1.75	5.00	2.89	2.85	2.85	2.85	0.00	5.32	2.30	
29-Aug-18	2.30	5.40	3.04	2.65	2.65	2.65	0.00	5.95	2.09	
30-Aug-18	2.35	6.90	3.28	2.65	2.65	2.65	0.00	5.74	2.06	
31-Aug-18	2.66	8.40	3.56	2.65	2.65	2.65	0.00	5.95	1.99	
	<b>1.75#</b>	<b>9.00#</b>	<b>3.43</b>	<b>2.65#</b>	<b>3.87#</b>	<b>3.14</b>	<b>0.00#</b>	<b>8.24#</b>	<b>2.02</b>	

Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.

\* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.

\*\* Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.

# Maximum/Minimum in the month



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

Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE) (MUs), JULY 2018

Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Purchase	Net**	Sale	Purchase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	0.50	1655.67	1655.17	4.40	0.00	-4.40	29.18	57.58	-28.40	1622.37
HARYANA	5.42	1361.40	1355.98	57.27	68.79	11.52	81.90	30.59	51.31	1418.82
RAJASTHAN	46.83	43.00	-3.83	209.55	65.79	-143.76	126.57	37.91	88.66	-58.92
DELHI	4.20	769.57	765.37	168.74	26.31	-142.43	17.82	44.66	-26.85	596.10
UP	3.06	1446.15	1443.08	25.18	115.64	90.46	115.01	47.12	67.90	1601.44
UTTARAKHAND	256.95	144.06	-112.89	0.93	307.73	306.80	44.64	19.38	25.27	219.17
HP	1150.9	5.92	-1145.02	178.81	77.34	-101.47	58.48	8.09	50.40	-1196.09
J & K	843.83	0.00	-843.83	1.12	355.57	354.45	12.99	68.69	-55.70	-545.09
CHANDIGARH	0.00	0.00	0.00	9.20	6.65	-2.55	15.67	2.20	13.48	10.92
MP	869.21	7.29	-861.93	190.82	14.99	-175.83	47.09	61.49	-14.40	-1052.16
MAHARASHTRA	31.31	312.14	280.83	350.78	174.34	-176.43	72.62	100.48	-27.87	76.53
GUJARAT	166.00	151.58	-14.43	53.19	427.82	374.63	72.54	62.36	10.18	370.39
CHHATTISGARH	35.95	138.37	102.42	53.31	18.39	-34.92	32.92	25.81	7.11	74.61
GOA	0.00	0.00	0.00	7.98	21.35	13.37	11.41	8.04	3.37	16.74
DAMAN AND DIU	0.00	0.00	0.00	0.00	16.72	16.72	31.38	0.17	31.21	47.93
D & N HAVELI	0.00	30.45	30.45	4.23	23.31	19.08	25.32	0.43	24.88	74.42
AP	636.79	52.32	-584.47	63.43	183.80	120.37	44.53	58.54	-14.00	-478.11
KARNATAKA	32.97	3.09	-29.88	114.73	154.01	39.28	61.00	75.66	-14.67	-5.26
KERALA	39.50	0.00	-39.50	191.84	27.64	-164.20	25.11	8.28	16.84	-186.86
TAMIL NADU	308.86	87.86	-221.00	12.34	112.64	100.30	51.83	90.59	-38.76	-159.47
PONDICHERRY	0.00	0.00	0.00	0.00	0.00	0.00	4.83	6.67	-1.84	-1.84
TELANGANA	41.11	127.68	86.57	80.36	384.43	304.07	69.13	34.13	35.00	425.64
WEST BENGAL	196.65	68.90	-127.76	11.29	430.08	418.79	110.33	8.73	101.60	392.63
ODISHA	8.32	115.01	106.69	34.61	207.47	172.86	144.17	2.17	142.00	421.55
BIHAR	0.11	133.18	133.07	1.19	527.22	526.03	41.71	45.70	-3.99	655.11
JHARKHAND	1.62	134.77	133.15	9.56	3.00	-6.56	21.28	23.24	-1.96	124.63
SIKKIM	32.01	0.00	-32.01	35.47	0.00	-35.47	0.95	5.38	-4.43	-71.91
DVC	25.99	3.63	-22.36	369.78	6.23	-363.56	34.11	24.56	9.54	-376.37
ARUNACHAL PRA	0.00	0.00	0.00	0.00	0.00	0.00	3.65	9.97	-6.32	-6.32
ASSAM	0.45	48.36	47.91	21.83	113.42	91.59	21.37	16.88	4.49	143.99
MANIPUR	19.16	0.00	-19.16	14.89	0.00	-14.89	1.33	7.44	-6.11	-40.15
MEGHALAYA	76.72	0.00	-76.72	39.82	19.04	-20.78	2.62	8.19	-5.57	-103.07
MIZORAM	7.63	0.00	-7.63	27.37	0.00	-27.37	2.05	6.08	-4.02	-39.02
NAGALAND	3.02	0.00	-3.02	0.87	0.00	-0.87	3.53	4.77	-1.24	-5.13
TRIPURA	0.00	0.00	0.00	35.47	0.22	-35.26	3.12	15.47	-12.35	-47.61
NTPC -NR	0.00	0.00	0.00	2.70	0.00	-2.70	91.71	65.29	26.41	23.71
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.91	-6.91	-6.91
AD HYDRO	12.89	0.00	-12.89	109.43	0.00	-109.43	13.32	6.48	6.84	-115.48
KARCHAM WANG	122.73	0.00	-122.73	19.68	0.00	-19.68	3.01	12.87	-9.86	-152.27
SHREE CEMENT	53.32	0.00	-53.32	31.81	0.00	-31.81	4.65	2.24	2.41	-82.72
LANCO BUDHIL	43.59	0.00	-43.59	5.90	0.00	-5.90	0.65	5.00	-4.35	-53.84
MALANA	0.00	0.00	0.00	7.53	0.00	-7.53	0.18	2.80	-2.62	-10.15
SAINJ HEP	29.76	0.00	-29.76	43.16	0.00	-43.16	0.00	0.00	0.00	-72.92
NTPC -WR	0.00	0.00	0.00	1.00	0.00	-1.00	87.58	78.26	9.32	8.32
JINDAL POWER	53.57	0.00	-53.57	20.79	0.00	-20.79	3.57	5.90	-2.32	-76.69

**Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), JULY 2018**

Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Drawl from the Grid (DSM)			
	Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid		
								Minimum Price	Maximum Price	Average Price**
1-Jul-18	2.28	5.50	2.98	-	-	-	0.00	5.74	1.98	
2-Jul-18	2.73	6.52	3.66	3.20	3.20	3.20	0.00	4.91	1.80	
3-Jul-18	2.37	7.53	3.81	3.50	3.50	3.50	0.00	3.45	1.60	
4-Jul-18	1.80	6.00	3.23	3.10	3.30	3.25	0.00	5.95	1.55	
5-Jul-18	1.79	5.20	2.99	3.20	3.20	3.20	0.00	5.95	2.23	
6-Jul-18	2.04	8.00	3.69	3.15	3.15	3.15	0.00	5.95	2.79	
7-Jul-18	2.59	7.50	3.99	0.35	5.70	3.83	0.00	5.11	2.49	
8-Jul-18	2.30	7.29	3.36	3.50	4.50	3.74	0.00	5.32	2.14	
9-Jul-18	2.82	7.98	4.30	3.25	5.65	3.71	0.00	5.11	2.09	
10-Jul-18	2.75	7.52	4.37	3.75	5.95	4.26	0.00	6.16	2.92	
11-Jul-18	2.77	7.74	3.96	3.75	3.75	3.75	0.00	5.11	1.79	
12-Jul-18	2.45	7.70	3.91	3.50	3.50	3.50	0.00	5.32	2.16	
13-Jul-18	2.46	8.00	4.06	4.10	4.10	4.10	0.00	5.95	1.98	
14-Jul-18	2.41	8.98	4.09	3.50	5.75	4.01	0.00	5.32	2.31	
15-Jul-18	2.50	7.00	3.66	3.45	4.10	3.69	0.00	3.45	1.89	
16-Jul-18	2.32	9.50	3.99	3.45	3.45	3.45	0.00	4.91	1.73	
17-Jul-18	2.32	7.76	3.73	3.45	5.06	3.87	0.00	3.45	1.90	
18-Jul-18	2.32	6.86	3.28	3.45	4.01	3.68	0.36	5.95	2.57	
19-Jul-18	2.45	8.70	3.61	3.45	3.45	3.45	0.36	7.20	2.60	
20-Jul-18	3.00	9.70	3.99	3.40	3.40	3.40	0.00	3.45	1.93	
21-Jul-18	2.79	9.50	3.77	3.40	3.40	3.40	0.00	3.45	1.81	
22-Jul-18	2.13	4.82	2.74	3.40	3.40	3.40	0.00	3.45	1.37	
23-Jul-18	1.81	6.00	2.93	3.10	3.40	3.35	0.00	6.16	2.05	
24-Jul-18	2.17	8.50	3.21	3.10	3.40	3.33	0.00	3.45	1.91	
25-Jul-18	2.32	9.50	3.27	3.00	3.00	3.00	0.00	5.95	1.55	
26-Jul-18	2.20	6.00	3.10	3.30	3.30	3.30	0.00	3.03	1.53	
27-Jul-18	2.11	5.41	2.97	3.10	3.10	3.10	0.00	6.36	2.30	
28-Jul-18	2.33	6.00	3.12	3.10	3.10	3.10	0.00	6.16	2.23	
29-Jul-18	2.25	4.81	2.94	2.85	2.85	2.85	0.00	6.16	2.09	
30-Jul-18	2.46	7.50	3.58	3.10	3.10	3.10	0.00	6.16	2.28	
31-Jul-18	2.90	8.00	3.75	3.10	3.10	3.10	0.00	4.91	1.96	
	<b>1.79#</b>	<b>9.70#</b>	<b>3.59</b>	<b>0.35#</b>	<b>5.95#</b>	<b>3.75</b>	<b>0.00#</b>	<b>7.20#</b>	<b>2.05</b>	

Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.

\* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.

\*\* Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.

# Maximum/Minimum in the month

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

Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE) (MUs), JUNE 2018

Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Purchase	Net**	Sale	Purchase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	0.00	897.93	897.93	0.80	38.40	37.60	27.04	80.93	-53.89	881.64
HARYANA	29.05	664.14	635.09	31.46	40.11	8.66	112.64	32.43	80.21	723.96
RAJASTHAN	37.75	1.71	-36.03	107.66	75.23	-32.43	133.15	42.43	90.71	22.25
DELHI	4.22	791.32	787.10	296.23	20.15	-276.08	11.10	53.27	-42.17	468.86
UP	0.00	1368.35	1368.35	23.04	114.90	91.86	87.81	62.49	25.31	1485.53
UTTARAKHAND	72.50	41.91	-30.58	9.31	117.71	108.41	42.40	22.30	20.11	97.93
HP	865.26	84.37	-780.89	145.72	54.55	-91.17	50.08	18.07	32.01	-840.05
J & K	748.04	2.60	-745.44	0.37	414.23	413.85	32.03	58.02	-25.99	-357.58
CHANDIGARH	0.00	0.00	0.00	1.26	10.66	9.41	22.37	3.23	19.14	28.54
MP	423.11	8.60	-414.50	872.13	8.17	-863.96	28.54	96.40	-67.85	-1346.32
MAHARASHTRA	31.57	202.76	171.19	63.36	413.71	350.35	57.93	107.96	-50.03	471.51
GUJARAT	69.47	264.44	194.97	87.30	1470.47	1383.17	49.13	98.28	-49.15	1528.99
CHHATTISGARH	17.52	124.84	107.32	22.11	8.26	-13.86	36.71	22.59	14.11	107.58
GOA	0.00	11.88	11.88	13.83	17.59	3.76	8.80	12.34	-3.54	12.10
DAMAN DIU	0.00	0.00	0.00	0.00	20.83	20.83	24.82	0.23	24.59	45.41
D&N HAVELI	0.45	0.00	-0.45	1.32	31.59	30.27	15.89	1.43	14.46	44.29
AP	423.68	95.62	-328.06	43.04	159.81	116.77	59.99	63.84	-3.84	-215.13
KARNATAKA	14.40	2.28	-12.12	118.68	135.60	16.92	51.52	97.72	-46.20	-41.40
KERALA	27.88	0.00	-27.88	116.54	31.32	-85.23	28.16	5.66	22.50	-90.61
TAMIL NADU	331.74	42.26	-289.48	14.20	136.29	122.08	79.73	72.21	7.52	-159.88
PONDICHERRY	0.00	0.00	0.00	0.00	0.00	0.00	3.64	7.66	-4.02	-4.02
TELANGANA	46.87	25.50	-21.37	367.78	141.87	-225.92	48.93	50.07	-1.14	-248.43
WEST BENGAL	189.22	254.64	65.42	6.50	388.83	382.33	92.50	16.63	75.88	523.63
ODISHA	7.04	147.76	140.72	69.06	374.28	305.21	116.85	4.55	112.30	558.23
BIHAR	0.03	290.58	290.55	0.13	486.01	485.88	30.49	58.74	-28.26	748.17
JHARKHAND	3.15	121.20	118.06	2.91	21.58	18.67	30.99	12.40	18.59	155.31
SIKKIM	41.24	0.38	-40.87	24.51	0.00	-24.51	1.99	4.50	-2.51	-67.88
DVC	187.11	0.29	-186.82	197.55	0.24	-197.31	42.80	22.45	20.35	-363.78
ARUNACHAL P.	0.00	0.00	0.00	0.00	0.00	0.00	4.74	13.00	-8.26	-8.26
ASSAM	2.08	96.53	94.45	23.92	134.70	110.77	18.32	29.75	-11.43	193.79
MANIPUR	28.15	0.04	-28.11	2.80	0.73	-2.07	2.82	6.62	-3.80	-33.98
MEGHALAYA	53.06	2.16	-50.90	32.23	14.89	-17.34	2.08	9.66	-7.58	-75.83
MIZORAM	7.84	0.00	-7.84	19.47	0.00	-19.47	1.31	9.34	-8.03	-35.34
NAGALAND	9.89	0.32	-9.58	0.01	0.51	0.50	4.70	3.55	1.15	-7.93
TRIPURA	0.00	0.00	0.00	29.52	1.01	-28.52	10.06	9.95	0.11	-28.40
NTPC -NR	0.00	0.00	0.00	4.70	0.00	-4.70	90.28	62.53	27.75	23.04
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	4.93	14.24	-9.30	-9.30
AD HYDRO	12.62	0.00	-12.62	78.01	0.00	-78.01	12.08	5.94	6.15	-84.49
KARCHAM WANG	83.39	0.00	-83.39	18.31	0.00	-18.31	5.62	17.42	-11.80	-113.51
SHREE CEMENT	32.98	0.00	-32.98	62.73	0.00	-62.73	5.34	1.26	4.08	-91.63
LANCO BUDHIL	41.91	0.00	-41.91	5.52	0.00	-5.52	0.00	3.24	-3.24	-50.67
MALANA	0.00	0.00	0.00	5.07	0.00	-5.07	0.26	0.35	-0.08	-5.16
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	0.28	3.03	-2.75	-2.75
SAINJ HEP	0.00	0.00	0.00	32.92	0.00	-32.92	0.00	0.00	0.00	-32.92
KISHAN GANGA	2.60	0.00	-2.60	20.95	0.00	-20.95	0.00	0.00	0.00	-23.54
NTPC -WR	0.00	0.00	0.00	15.25	0.00	-15.25	86.27	80.66	5.61	-9.64
JINDAL POWER	62.97	0.00	-62.97	131.04	0.00	-131.04	3.66	18.91	-15.25	-209.27
LANKO_AMK	9.55	0.00	-9.55	0.00	0.00	0.00	0.82	7.19	-6.36	-15.92
ACBIL	0.74	0.00	-0.74	47.46	0.00	-47.46	4.74	2.08	2.65	-45.55
BALCO	0.13	0.00	-0.13	12.47	0.00	-12.47	5.98	3.83	2.15	-10.46
RGPPL	0.00	0.00	0.00	0.00	0.00	0.00	4.52	1.51	3.01	3.01
CGPL	0.00	0.00	0.00	0.00	0.00	0.00	29.41	5.59	23.81	23.81
DCPP	0.00	0.00	0.00	0.00	0.00	0.00	12.44	0.00	12.44	12.44
EMCO	0.00	0.00	0.00	0.00	0.00	0.00	4.59	2.45	2.14	2.14
ESSAR STEEL	0.00	155.02	155.02	0.00	96.36	96.36	26.26	19.91	6.35	257.73

Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), JUNE 2018									
Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Drawl from the Grid (DSM)		
	Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid	
Minimum Price								Maximum Price	Average Price**
1-June-18	3.62	8.00	5.95	-	-	-	0.00	5.95	1.53
2-June-18	3.20	8.29	4.91	5.60	5.60	5.60	0.00	3.45	1.55
3-June-18	2.46	5.25	3.48	-	-	-	0.00	3.24	1.37
4-June-18	2.25	6.00	3.49	-	-	-	0.00	5.32	2.63
5-June-18	2.26	5.02	3.57	-	-	-	0.00	5.11	2.27
6-June-18	2.25	6.55	3.55	-	-	-	0.00	6.16	1.96
7-June-18	2.25	6.40	3.39	-	-	-	0.00	6.16	2.32
8-June-18	2.38	5.25	3.69	-	-	-	0.00	3.24	1.85
9-June-18	2.38	5.10	3.53	-	-	-	0.00	3.24	1.44
10-June-18	2.26	4.50	3.01	3.50	3.50	3.50	0.00	5.11	1.53
11-June-18	1.99	3.72	2.86	3.50	3.50	3.50	0.00	3.45	1.71
12-June-18	2.05	4.80	3.13	2.25	8.13	3.30	0.00	3.45	1.82
13-June-18	2.08	5.00	2.95	2.25	8.64	3.50	0.00	6.36	2.15
14-June-18	2.21	5.10	3.24	2.25	4.50	2.53	0.00	6.36	2.98
15-June-18	2.15	6.00	3.53	2.38	4.83	3.33	0.00	5.32	2.18
16-June-18	2.20	7.08	3.84	2.54	5.47	3.35	0.00	3.24	1.81
17-June-18	2.08	6.26	3.42	2.75	5.75	3.50	0.00	3.45	1.58
18-June-18	2.25	8.40	3.89	-	-	-	0.00	5.95	2.56
19-June-18	2.70	9.50	4.34	-	-	-	0.36	8.24	3.12
20-June-18	3.10	9.50	4.82	3.60	3.60	3.60	0.71	8.03	3.48
21-June-18	3.10	9.85	5.29	-	-	-	0.00	6.16	3.01
22-June-18	3.30	10.91	5.99	-	-	-	0.00	5.74	2.54
23-June-18	2.64	9.50	5.43	5.36	5.36	5.36	0.00	5.11	2.06
24-June-18	2.23	8.51	3.29	-	-	-	0.00	3.45	1.91
25-June-18	2.26	9.50	3.81	3.60	3.60	3.60	0.00	3.45	1.72
26-June-18	2.05	9.50	3.33	3.50	3.50	3.50	0.00	4.91	1.60
27-June-18	2.02	7.90	3.24	3.50	3.50	3.50	0.00	3.45	1.90
28-June-18	2.30	4.20	3.07	3.30	3.30	3.30	0.00	5.11	1.62
29-June-18	2.13	4.20	3.03	3.25	3.25	3.25	0.00	5.95	2.43
30-June-18	2.17	4.80	2.90	3.20	3.20	3.20	0.00	7.20	2.37
	<b>1.99#</b>	<b>10.91#</b>	<b>3.86</b>	<b>0.00#</b>	<b>8.64#</b>	<b>4.70</b>	<b>0.00#</b>	<b>8.24#</b>	<b>2.10</b>

Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.

\* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.

\*\* Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.

# Maximum/Minimum in the month

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



**Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh), MAY 2018**

Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Draw from the Grid (DSM)		
	Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid	
Minimum Price								Maximum Price	Average Price**
1-May-18	2.25	4.01	2.94	-	-	-	0.00	3.45	1.64
2-May-18	2.49	5.50	3.25	-	-	-	0.00	3.45	1.36
3-May-18	2.48	5.75	3.43	-	-	-	0.00	5.11	1.40
4-May-18	2.78	5.50	3.57	-	-	-	0.00	5.32	2.80
5-May-18	2.78	6.50	3.65	-	-	-	0.00	8.24	3.26
6-May-18	2.25	5.55	3.38	-	-	-	0.00	3.45	2.22
7-May-18	2.00	6.50	3.97	-	-	-	0.00	6.16	2.56
8-May-18	2.50	6.50	4.43	-	-	-	0.00	5.32	2.40
9-May-18	2.63	7.60	4.56	-	-	-	0.00	6.36	2.89
10-May-18	3.49	8.02	4.97	-	-	-	0.00	6.36	3.53
11-May-18	3.90	8.52	5.45	-	-	-	0.00	6.16	2.97
12-May-18	3.25	7.80	5.11	-	-	-	0.00	5.74	2.37
13-May-18	2.12	6.50	4.16	-	-	-	0.00	3.45	1.83
14-May-18	3.25	6.50	4.65	-	-	-	0.00	3.45	1.64
15-May-18	3.25	5.50	4.09	-	-	-	0.00	5.32	2.78
16-May-18	2.47	5.40	4.14	-	-	-	0.00	6.16	3.04
17-May-18	2.90	6.40	4.57	-	-	-	0.00	5.32	2.68
18-May-18	3.21	7.50	5.15	-	-	-	0.00	6.36	3.46
19-May-18	2.90	8.60	5.20	-	-	-	0.00	6.36	3.53
20-May-18	2.24	10.00	5.85	-	-	-	0.00	5.95	2.22
21-May-18	3.49	11.00	6.27	-	-	-	0.00	7.82	2.92
22-May-18	2.70	11.41	6.20	-	-	-	0.00	6.16	3.56
23-May-18	2.56	10.33	6.19	-	-	-	0.00	6.16	2.78
24-May-18	3.28	11.78	5.80	-	-	-	0.00	4.91	2.16
25-May-18	2.70	9.50	5.73	-	-	-	0.00	6.36	2.13
26-May-18	2.25	8.00	4.79	-	-	-	0.00	8.24	3.40
27-May-18	1.95	7.00	4.11	-	-	-	0.00	5.95	2.42
28-May-18	2.90	9.50	4.93	-	-	-	0.00	6.16	2.67
29-May-18	3.25	8.00	5.15	-	-	-	0.00	5.74	1.94
30-May-18	2.63	8.00	4.92	-	-	-	0.00	5.95	2.40
31-May-18	3.40	8.00	4.82	-	-	-	1.00	8.03	3.48
	<b>1.95#</b>	<b>11.78#</b>	<b>4.76</b>	<b>0.00#</b>	<b>0.00#</b>	<b>0.00</b>	<b>0.00#</b>	<b>8.24#</b>	<b>2.59</b>

Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.

\* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.

\*\* Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.

# Maximum/Minimum in the month

Note: No transactions were recorded in PXIL

**Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE)  
(MUs), MAY 2018**

Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Purchase	Net**	Sale	Purchase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	78.00	279.00	201.00	137.60	0.00	-137.60	44.90	44.75	0.15	63.55
HARYANA	53.56	178.40	124.85	2.98	106.63	103.65	131.25	26.97	104.29	332.79
RAJASTHAN	6.09	0.90	-5.19	32.33	182.76	150.44	157.09	43.60	113.49	258.74
DELHI	2.42	407.64	405.22	233.58	35.30	-198.28	20.88	42.88	-22.00	184.94
UP	0.00	1106.69	1106.69	28.74	42.15	13.41	109.12	89.03	20.09	1140.20
UTTARAKHAN	0.00	31.02	31.02	2.62	149.46	146.84	50.43	29.16	21.28	199.13
HP	420.24	97.23	-323.01	114.47	75.57	-38.89	73.44	13.10	60.33	-301.57
J & K	545.97	4.61	-541.35	1.63	320.38	318.75	81.39	48.14	33.25	-189.35
CHANDIGARH	0.00	0.00	0.00	2.28	11.19	8.91	30.73	0.99	29.74	38.66
MP	372.63	10.96	-361.67	189.94	16.03	-173.90	40.66	57.00	-16.34	-551.91
MAHARASHTR	52.17	336.26	284.09	36.63	759.64	723.01	86.57	45.24	41.34	1048.43
GUJARAT	22.07	420.36	398.28	88.20	1125.75	1037.55	46.70	51.63	-4.93	1430.90
CHHATTISGARH	39.01	215.12	176.11	30.11	8.02	-22.09	19.81	28.58	-8.77	145.25
GOA	0.00	16.39	16.39	1.54	42.85	41.30	10.31	14.84	-4.53	53.16
DAMAN DIU	0.00	0.00	0.00	0.00	12.52	12.52	24.08	0.54	23.54	36.06
D&N HAVELI	0.41	0.22	-0.19	5.68	5.21	-0.47	13.95	1.74	12.21	11.55
ANDHRA P	20.20	337.72	317.52	50.72	183.08	132.36	49.59	80.63	-31.04	418.84
KARNATAKA	35.02	394.04	359.02	127.00	108.71	-18.29	43.19	90.02	-46.83	293.90
KERALA	3.09	0.80	-2.29	32.25	16.86	-15.39	31.70	4.03	27.67	10.00
TAMIL NADU	32.92	18.48	-14.44	23.71	199.94	176.23	68.88	66.62	2.26	164.05
TELANGANA	57.90	11.76	-46.14	744.06	63.35	-680.71	34.27	59.84	-25.58	-752.43
WEST BENGAL	206.11	263.88	57.77	29.16	398.85	369.68	84.70	24.92	59.78	487.23
ODISHA	8.44	142.85	134.41	144.99	331.92	186.94	81.87	10.30	71.57	392.92
BIHAR	0.00	216.72	216.72	0.00	557.07	557.07	38.16	62.66	-24.49	749.30
JHARKHAND	4.18	143.78	139.60	0.00	52.73	52.73	36.68	15.66	21.02	213.35
SIKKIM	39.78	8.43	-31.36	17.69	0.01	-17.68	3.97	7.77	-3.80	-52.84
DVC	538.61	0.42	-538.19	64.28	0.00	-64.28	60.06	16.35	43.71	-558.77
ASSAM	0.14	97.45	97.31	51.79	68.56	16.78	21.55	15.78	5.77	119.85
MANIPUR	16.86	0.24	-16.62	7.59	2.84	-4.75	2.73	5.99	-3.26	-24.63
MEGHALAYA	7.88	0.73	-7.15	34.11	9.42	-24.68	1.09	11.51	-10.42	-42.25
MIZORAM	7.30	0.00	-7.30	14.57	0.00	-14.57	1.06	10.64	-9.58	-31.44
TRIPURA	0.00	0.00	0.00	42.71	0.73	-41.98	4.22	19.48	-15.26	-57.24
NTPC -NR	0.00	0.00	0.00	0.00	0.00	0.00	73.57	36.97	36.60	36.60
NHPC STN	0.00	0.00	0.00	0.00	0.00	0.00	6.50	45.59	-39.09	-39.09
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	5.28	16.64	-11.36	-11.36
AD HYDRO	13.44	0.00	-13.44	36.38	0.00	-36.38	4.95	3.90	1.05	-48.77
KARCHAM WA	28.24	0.00	-28.24	9.25	0.00	-9.25	6.54	9.42	-2.88	-40.37
SHREE CEME	82.78	0.00	-82.78	93.08	0.00	-93.08	4.03	1.06	2.97	-172.88
LANCO BUDHI	28.11	0.00	-28.11	3.78	0.00	-3.78	6.02	1.21	4.82	-27.08
MALANA	0.00	0.00	0.00	2.47	0.00	-2.47	0.25	0.12	0.13	-2.35
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	0.13	3.28	-3.14	-3.14
SAINJ HEP	0.00	0.00	0.00	28.15	0.00	-28.15	0.00	0.00	0.00	-28.15
KISHAN GANG	11.51	0.00	-11.51	24.06	0.00	-24.06	0.00	0.00	0.00	-35.57
NTPC -WR	0.00	0.00	0.00	4.44	0.00	-4.44	68.67	79.84	-11.17	-15.61
JINDAL POWE	99.44	0.00	-99.44	117.84	0.00	-117.84	3.81	3.56	0.25	-217.03

82  
N BALRAM

**Table-18: PRICE OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (DAY-WISE)(₹/kWh),  
APRIL 2018**

Market Segment	Day ahead market of IEX			Day ahead market of PXIL			Under Drawl/Over Drawl from the Grid (DSM)		
	Date	Minimum ACP	Maximum ACP	Weighted Average Price*	Minimum ACP	Maximum ACP	Weighted Average Price*	All India Grid	
Minimum Price								Maximum Price	Average Price**
1-Apr-18	2.50	4.32	3.25	-	-	-	0.00	3.45	1.72
2-Apr-18	2.62	5.70	3.58	-	-	-	0.00	5.32	2.30
3-Apr-18	2.86	6.50	3.88	-	-	-	0.00	5.95	3.11
4-Apr-18	3.16	6.75	4.75	-	-	-	0.00	3.45	2.35
5-Apr-18	3.10	7.50	5.05	-	-	-	0.00	3.45	2.09
6-Apr-18	3.10	6.50	4.25	-	-	-	0.00	6.16	2.34
7-Apr-18	3.25	6.50	4.45	-	-	-	0.00	5.95	2.32
8-Apr-18	2.82	4.70	3.53	-	-	-	0.00	3.45	1.81
9-Apr-18	2.70	5.70	3.90	-	-	-	0.00	5.74	2.07
10-Apr-18	2.57	5.00	3.56	-	-	-	0.00	5.32	2.29
11-Apr-18	2.45	5.10	3.30	-	-	-	0.00	5.32	2.51
12-Apr-18	2.66	5.70	3.63	-	-	-	0.00	5.74	2.01
13-Apr-18	2.53	5.70	3.27	-	-	-	0.00	6.16	2.51
14-Apr-18	2.84	6.15	3.75	3.05	5.07	3.36	0.00	5.32	2.28
15-Apr-18	2.63	5.50	3.50	-	-	-	0.00	5.11	2.25
16-Apr-18	2.99	6.72	4.27	-	-	-	0.00	5.74	2.59
17-Apr-18	2.89	6.50	3.92	-	-	-	0.00	6.16	2.53
18-Apr-18	2.80	6.70	4.04	-	-	-	0.00	5.32	2.37
19-Apr-18	2.81	6.50	4.15	-	-	-	0.00	5.74	2.48
20-Apr-18	3.10	6.50	4.47	-	-	-	0.00	5.74	1.94
21-Apr-18	3.01	6.50	4.68	-	-	-	0.00	5.11	2.47
22-Apr-18	2.92	6.50	4.04	-	-	-	0.00	3.45	1.75
23-Apr-18	3.51	6.70	4.70	-	-	-	0.00	6.36	2.85
24-Apr-18	3.12	6.92	4.51	-	-	-	0.00	5.11	2.30
25-Apr-18	2.80	6.50	4.31	-	-	-	0.00	3.45	2.07
26-Apr-18	3.31	6.80	4.47	-	-	-	0.00	5.11	2.23
27-Apr-18	3.00	6.00	4.12	-	-	-	0.00	6.16	2.66
28-Apr-18	2.48	6.00	4.00	-	-	-	0.00	5.95	2.67
29-Apr-18	2.75	5.27	3.49	-	-	-	0.00	3.45	1.95
30-Apr-18	2.47	6.00	3.52	-	-	-	0.00	3.45	1.54
	<b>2.45</b>	<b>7.50</b>	<b>4.03</b>	<b>3.05</b>	<b>5.07</b>	<b>3.36</b>	<b>0.00</b>	<b>6.36</b>	<b>2.28</b>

Source: Data on price of PX transactions from IEX and PXIL and data on DSM Price from NLDC.

\* Weighted average price computed based on Area Clearing Volume (ACV) and Area Clearing Price (ACP) for each hour of the day. Here, ACV and ACP represent the scheduled volume and weighted average price of all the bid areas of power exchanges.

\*\* Simple average price of DSM of 96 time blocks of 15 minutes each in a day. DSM price includes Ceiling DSM Rate +40% additional DSM charge.

# Maximum/Minimum in the month



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

**Table-19: VOLUME OF SHORT-TERM TRANSACTIONS OF ELECTRICITY (REGIONAL ENTITY\*-WISE)  
(MUs), APRIL 2018**

Name of the Entity	Through Bilateral			Through Power Exchange			Through DSM with Regional Grid			Total Net***
	Sale	Purchase	Net**	Sale	Purchase	Net**	Import (Over Drawl)	Export (Under Drawl)	Net**	
PUNJAB	354.00	180.00	-174.00	115.35	0.00	-115.35	40.73	34.29	6.44	-282.91
HARYANA	283.26	68.54	-214.72	27.87	19.45	-8.42	128.04	13.91	114.13	-109.01
RAJASTHAN	6.69	0.60	-6.09	89.39	97.48	8.09	111.90	52.32	59.58	61.58
DELHI	172.12	69.70	-102.42	85.77	37.22	-48.55	16.34	33.60	-17.26	-168.23
UP	0.00	153.27	153.27	0.00	1.69	1.69	112.77	47.20	65.57	220.53
UTTARAKHAND	0.00	17.96	17.96	0.89	275.20	274.31	26.47	29.92	-3.45	288.82
HP	74.44	86.03	11.59	88.23	36.93	-51.30	43.16	9.28	33.88	-5.82
J & K	181.32	0.00	-181.32	3.84	281.10	277.26	41.62	53.24	-11.62	84.32
CHANDIGARH	0.00	0.00	0.00	3.27	6.21	2.94	18.65	0.96	17.70	20.63
MP	456.49	15.35	-441.14	609.23	8.43	-600.80	44.40	69.85	-25.45	-1067.39
MAHARASHTRA	16.60	291.83	275.23	140.25	458.19	317.94	82.56	60.46	22.11	615.27
GUJARAT	5.25	568.19	562.94	20.45	1276.36	1255.9	45.33	59.78	-14.44	1804.40
CHHATTISGARH	5.00	355.50	350.50	84.78	0.10	-84.69	18.87	33.85	-14.99	250.83
GOA	0.00	8.59	8.59	5.68	33.20	27.52	8.84	7.57	1.27	37.38
DAMAN DIU	0.00	0.00	0.00	0.00	25.32	25.32	19.56	0.30	19.26	44.58
D&N HAVELI	0.00	2.35	2.35	10.30	2.58	-7.72	22.51	0.39	22.12	16.75
ANDHRA PR	26.74	481.46	454.72	108.55	45.75	-62.80	38.50	63.79	-25.29	366.64
KARNATAKA	139.62	387.87	248.25	62.77	169.41	106.64	42.61	51.02	-8.42	346.47
KERALA	0.00	0.00	0.00	9.91	16.84	6.94	35.78	2.83	32.95	39.89
TAMIL NADU	3.83	489.85	486.02	22.02	233.01	210.99	74.36	37.39	36.97	733.98
PONDICHERRY	0.00	0.00	0.00	0.00	0.02	0.02	4.32	5.48	-1.16	-1.15
TELANGANA	55.29	460.69	405.40	524.52	98.24	-426.29	24.56	71.10	-46.54	-67.43
WEST BENGAL	122.26	379.12	256.86	70.33	258.33	187.99	61.57	42.74	18.83	463.69
ODISHA	5.15	179.27	174.12	118.59	63.59	-55.00	64.84	9.86	54.98	174.10
BIHAR	0.00	196.26	196.26	0.10	459.71	459.61	35.49	52.67	-17.18	638.70
JHARKHAND	0.00	94.98	94.98	0.00	20.18	20.18	40.93	19.72	21.20	136.37
SIKKIM	0.35	0.00	-0.35	23.27	0.00	-23.27	2.64	5.54	-2.90	-26.52
DVC	518.09	0.90	-517.19	254.51	2.34	-252.17	41.66	24.45	17.21	-752.14
ARUNACHAL PRADESH	0.00	0.00	0.00	0.00	2.24	2.24	20.03	1.75	18.28	20.52
ASSAM	0.30	46.11	45.81	24.07	99.16	75.09	23.93	11.25	12.68	133.59
MEGHALAYA	0.08	4.62	4.54	2.57	13.37	10.80	1.11	7.07	-5.96	9.38
MIZORAM	2.26	0.00	-2.26	5.63	0.00	-5.63	2.23	6.03	-3.80	-11.69
NAGALAND	0.00	0.00	0.00	0.00	7.13	7.13	8.05	2.08	5.98	13.11
TRIPURA	0.00	47.04	47.04	30.66	1.54	-29.13	10.26	12.13	-1.88	16.04
NTPC -NR	0.00	0.00	0.00	17.58	0.00	-17.58	68.18	76.41	-8.23	-25.81
NHPC	0.00	0.00	0.00	0.00	0.00	0.00	12.39	77.92	-65.53	-65.53
NJPC	0.00	0.00	0.00	0.00	0.00	0.00	2.83	7.07	-4.24	-4.24
AD HYDRO	0.00	0.00	0.00	25.85	0.00	-25.85	2.77	2.80	-0.03	-25.88
KARCHAM WA	0.00	0.00	0.00	17.71	0.00	-17.71	11.21	6.55	4.67	-13.04
SHREE CEMENT	88.22	0.00	-88.22	69.95	0.00	-69.95	8.08	1.83	6.26	-151.92
LANCO BUDHI	11.40	0.00	-11.40	1.55	0.00	-1.55	0.00	0.00	0.00	-12.95
MALANA	0.00	0.00	0.00	1.12	0.00	-1.12	0.17	0.12	0.05	-1.07
URI-2	0.00	0.00	0.00	0.00	0.00	0.00	0.51	3.35	-2.84	-2.84
SAINJ HEP	0.00	0.00	0.00	14.20	0.00	-14.20	0.00	0.00	0.00	-14.20
NTPC -WR	0.00	0.00	0.00	27.65	0.00	-27.65	69.94	123.93	-53.99	-81.64

*N. Balram*  
**N. BALRAM, IRS**  
**DIRECTOR (FINANCE)** 84



सत्यमेव जयते

भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केंद्रीय विद्युत प्राधिकरण

Central Electricity Authority

सदस्य (तापीय) कार्यालय

Office of Member (Thermal)

संख्या: CEA/Thermal/TPM/SPARE/GEN-34/2020/

दिनांक: 07.02.2020

सेवा में,

Thermal Power Generating Plants/ Utilities (Public or Private) – As per list

**विषय:- Advisory on Spare Parts Management in Thermal Power Plants - के बारे में.**

महोदय,

During a meeting taken on 01.08.2019 by Hon'ble Minister of State (IC) for Power, New & Renewable Energy on crisis and disaster management plan for power sector, concern was raised on delay observed in arranging spares/ restoration equipment during an eventuality and urgent need to reduce the overall response time and CEA was directed to take up the issue of availability of spares and inventory management with power utilities. Hon'ble Minister also suggested for preparing standard inventory list of minimum spares requirement specific to similar kind of power establishment and setting up a monitoring mechanism for its compliance and ensuring digitization of spares management by all the power plant utilities.

A strong and effective spare parts planning system with consideration of keeping high priority spares in reserve as a contingency for any issues that arise unexpectedly is of high importance for a thermal power station. A typical list of critical spares for coal based TPPs prepared based on inputs collected from some utility is enclosed herewith for reference.

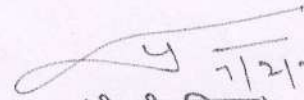
An effective spare parts management plan has the advantages of (i) increased service level of inventory, (ii) improved equipment uptime, and (iii) decreased investment in inventory. Therefore, in order to have an effective spare parts management system in thermal power plants across country, all power plants/ utilities are here by advised as follows:

N. BALRAM, IRS

851

- a) All power plants should identify critical spares and should have critical spare parts list (separate for similar type of units).
- b) Power Plants to ensure adequate inventory levels based on lead time of procurement for various types of spares to counter any eventuality or stoppages and reduce overall response time.
- c) Plants should have their spare parts management system fully digitized.
- d) Plants should identify other power stations having similar type of units supplied by same OEMs in the country and have effective communication to arrange for spares in case of any exigency.

भवदीय,



7/2/2020

(पी. डी. सिवाल)

सदस्य (तापीय), के.वि.प्रा.



**N. BALRAM, IRS**  
**DIRECTOR (FINANCE)**

THE SINGARENI COLLIERIES CO. LTD.,  
KOTHAGUDEM - 507 101.

cxxvi	Support Insulator for ESP	8 Nos.	
cxxvii	Shaft Insulator for ESP	20 Nos.	
cxxviii	Emitting electrode for ESP	500 Nos.	May be pooled
cxxix	Inner arm assy for ESP	30 Nos.	
cxxx	Outer arm assy for ESP	30 Nos.	
cxxxii	Gear box assy for emitting rapping system of ESP	10 Nos.	May be pooled
cxxxiii	Gear box assy for collecting rapping system of ESP	10 Nos.	May be pooled
cxxxiii	Shock bar/anvil for ESP	40 Nos.	
<b>Turbine</b>			
1	KWU Turbine		
<b>A</b>	<b>High Pressure Turbine</b>		
i	MS pipe/casing U-seal ring as per Drawing	2	
ii	MS pipe /casing U-seal ring- Unmachined	2	
iii	Inner/Outer casing U-seal ring as per Drawing	1	
iv	Inner-Outer casing U-seal ring - Unmachined	1	
v	Inner/Outer I-seal ring-Unmachined	1	May be pooled
vi	HPT exhaust Pipe/Casing U-seal ring Unmachined	1	
vii	HPT exhaust Pipe/Casing U-seal ring as per Drawing	1	
viii	CRH NRV flap, hinge pin assembly	1 set	May be pooled
ix	Breach Nut	1 set	May be pooled
x	Rotaing Blades	1 Set	May be pooled
xi	Rotor	1 no.	May be pooled
xii	Stationary Blades	1 set	May be pooled
xiii	Module	1 no.	May be pooled
xiv	Gland seal segments	1 set	
xv	Evacuation valve stem, disc and seat( if applicable)	1	
<b>B</b>	<b>Intermediate Pressure Turbine</b>		
i	Inlet pipe angle ring-Unmachined	1	
ii	Extraction Pipe Angle ring- Unmachined	1	
iii	Rotaing Blades	1 set	May be pooled
iv	Rotor	1	May be pooled
v	Stationary Blades	1 set	May be pooled
vi	Inner/Outer casing-Module	1	May be pooled

vii	Gland seal segments	1 set	
<b>C</b>	<b>LPT</b>		
i	Extraction-1 bellows	1 set	
ii	Extraction-2 bellows	1 set	
iii	Extraction-3 bellows	1 set	
iv	LPT inlet pipe bellows	1 set	
v	LPT casing to gland box bellows	1	May be pooled
vi	Clamping pieces and locking plates for free standing blades	1 set	
vii	Free standing Rotating Blades	1 set	May be pooled
viii	Rotor	1	May be pooled
ix	Stationary Blades	1 set	May be pooled
x	Gland seal segments	1 set	
<b>D</b>	<b>Bearing</b>		
i	Brg. 1 babbited shell with matching support	1 no.	
ii	Brg. 2 babbited shell with matching support and thrust pads	1 set	
iii	Brg. 2 liner	1	
iv	Brg. 3 babbited shell with matching support	1	
v	Brg. 4 babbited shell with matching support	1	
vi	Brg 5 babbited shell and spherical support pads	1	
vii	Brg. 6 babbited shell and spherical support pads	1	
viii	Brg. 7 babbited shell with matching support (if applicable)	1	
<b>E</b>	<b>Jacking Oil system</b>		
i	Jacking oil flexible hoses for each bearing	1 set	
ii	Jacking oil pump assembly	1	
iii	Jacking oil to each bearing NRV	1 set	
iv	Jacking oil header pressure regulating valve assembly	1	
<b>F</b>	<b>Control Oil system and Governing Rack</b>		
i	Hydraulic Governor bellows	1	
ii	Main Trip Valve assembly	1	
iii	All Kinds of "O" rings	1 set	
iv	Filter elements	1 set	
<b>G</b>	<b>Lubricating Oil System</b>		





केन्द्रीय प्रदूषण नियंत्रण बोर्ड  
CENTRAL POLLUTION CONTROL BOARD  
पर्यावरण, वन एवं जलवायु परिवर्तन विभाग  
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA

SPEED POST

B-33014/07/2020/IPC-II/TPP/

12048+52

January 31, 2020

To,

The General Manager  
Singareni Thermal Power Project  
Pegadapalli, Jaipur, Dist. Adilabad- 504 216,  
Telangana

**Sub: Directions under Section 5 of the Environment (Protection) Act, 1986 regarding compliance of emission limit notified vide notification No.S.O.3305 (E) dated 07.12.2015 - reg.**

WHEREAS, taking into consideration pollution from thermal power plants, Ministry of Environment, Forest & Climate Change had issued notification in the year 1984 laying out standards for thermal power plants. Further, the stack height regulation was notified in the year 1989, effluent standard for thermal power plants was notified in the year 1986, revised temperature limit of discharge of cooling water from the plants was notified in the year 1999. Thereafter, MoEF&CC vide Notification No.S.O.3305 (E) dated 07.12.2015 amended emission limit for particulate matter and notified new limits for Sulphur dioxide (SO<sub>2</sub>), Oxides of Nitrogen (NO<sub>x</sub>) and mercury emission, and water consumption limit for coal/lignite based thermal power plants. As per the notification dated 07.12.2015, thermal power plants are required to achieve the notified limit within two years from the date of the notification i.e. by 07.12.2017;

WHEREAS, with the implementation of the amendment in the notification dated 07.12.2015, it is expected that there would be reduction in emission of PM, Sulphur dioxide and oxide of Nitrogen, which in turn will help in improvement in Ambient Air Quality in and around thermal power plants, besides reduction of mercury emission, and reduction in water consumption in the thermal power plants;

WHEREAS, taking into consideration the technical challenges and time requirements for installation of Flue Gas Desulphurization (FGD) and other technologies to meet the new emission limits, the MoEF&CC vide its letter F. No. Q-15017/40/2007-CPW dated 07.12.2017 has directed CPCB to direct all the thermal power plants to ensure compliance with the norms laid down in the 07.12.2015 notification in accordance with the revised Plan submitted by the Ministry of Power letter dated 13.10.2017 as well as NO<sub>x</sub> by 2022;

*Wof*

WHEREAS, IIT, Kanpur in a study on "Air Pollution and Green House Gases (GHGs) in Delhi, January, 2016" indicated that there are 13 thermal power plants (TPP) with a capacity of over 11000 MW in the radius of 300 kms of Delhi, which are expected to contribute to secondary particles. Hence, considering the impact of coal based power plants on ambient air quality in Delhi-NCR, the timelines given by Ministry of Power for thermal power plants located within 300 kms radius of Delhi were revised as December 31, 2019;

WHEREAS, in compliance to MoEF&CC direction dated 07.12.2017 following directions under section 5 of Environment (Protection) Act, 1986, were issued on 11.12.2017 to M/s Singareni Thermal Power Project

- i. That plant shall install/retrofit Electrostatic Precipitators (ESP) immediately to achieve PM emission limit,
- ii. That plant shall install FGD by December 31, 2019 and September 30, 2019 in Units 1 & 2 respectively so as to comply SO<sub>2</sub> emission limit,
- iii. That plant shall take immediate measure like installation of low NO<sub>x</sub> burners, providing Over Fire Air (OFA) etc. and achieve progressive reduction so as to comply NO<sub>x</sub> emission limit by the year 2022.

WHEREAS, the compliance of the directions mentioned above (i to iii) for compliance of PM, SO<sub>2</sub> & NO<sub>x</sub> emission limits were reviewed by CPCB periodically with last such review on 30.12.2019 and M/s Singareni Thermal Power Project has reported unit wise compliance status in respect of PM, NO<sub>x</sub> and SO<sub>2</sub> emission parameters.

WHEREAS, M/s Singareni Thermal Power Project informed that feasibility studies have been completed for installation of FGD for compliance of SO<sub>2</sub> emission.

WHEREAS, M/s Singareni Thermal Power Project has failed to comply the directions issued under Section 5 of the Environment (Protection) Act, 1986 on 11.12.2017 for compliance of emission limit of SO<sub>2</sub>/PM & SO<sub>2</sub> and impacting ambient air quality in and around thermal power plants.

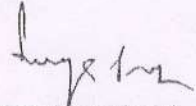

WHEREAS, the Ministry of Environment, Forest & Climate Change, Government of India, vide Notifications No. S. O. 157 (E) of 27.02.1996 and S. O. 730 (E) dated 10.07.2002, has delegated the powers vested under Section 5 of the Environment (Protection) Act, 1986 (29 of 1986) to the Chairman, Central Pollution Control Board, to issue directions to any industry or any local body or any other authority for violation of the standards and rules notified under the Environment (Protection) Rules, 1986 and amendment thereof.

Wxy

  
**N. BALRAM, IRS**

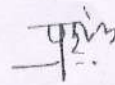
NOW, THEREFORE, in exercise of powers vested under Section 5 of the Environment (Protection) Act, 1986, M/s Singareni Thermal Power Project, is hereby directed to show cause as to why Units 1-2 of the plant should not be closed down and Environmental Compensation be imposed for the continuing non-compliance of the directions.

M/s Singareni Thermal Power Project is given an opportunity to respond to show cause notice within 15 days from issue of the directions, failing which action as deemed fit will be taken under the Environment (Protection) Act, 1986.

  
(SPS Parihar)  
Chairman  
 21/01/10

Copy to:

1. The Chairman  
Telangana State Pollution Control Board  
Plot No A3, Paryavarana Bhawan  
Main Road, Sanath Nagar,  
Hyderabad - 500018
2. The Joint Secretary (CP Division)  
Ministry of Environment, Forests and Climate Change  
Prithvi Wing, 2nd Floor, Room No. 216  
Indira Paryavaran Bhawan, Aliganj,  
Jor Bagh Road, New Delhi - 110003
3. The Joint Secretary (Thermal),  
Ministry of Power,  
Shastri Bhawan, Rafi Marg,  
New Delhi
4. The Regional Director,  
Central Pollution Control Board  
1st & 2nd Floors, Nisarga Bhawan, A-Block,  
Thimmaiah Main Road, 7th D Cross,  
Shivanagar, Bengaluru -560 079
5. The Divisional Head - IT, CPCB

  
(Prashant Gargava)  
Member Secretary



  
N. BALRAM, IRS  
DIRECTOR (FINANCE)