


APPDCL ANDHRA PRADESH
POWER DEVELOPMENT COMPANY LIMITED
(A subsidiary of APGENCO)

Tariff Filing

Sri Damodaram Sanjeevaiah Thermal Power Station (2 x 800 MW)

For the control period 2019-2024

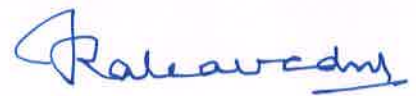
Plot No. 29 Road No.1 Central Excise Colony, Andhra Lovola College Road, VIJAYAWADA-520008



CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8

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CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8

**BEFORE THE
ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION
AT HYDERABAD**

O.P. 53 of 2019

In the matter of:

Determination of Tariff for the control period FY 2019-2024 under Section 62 of the Electricity Act, 2003 for the electricity supplied by APPDCL from SDSTPS to the Distribution Licensees in Andhra Pradesh.

And in the matter of:

**Andhra Pradesh Power Development Company Limited,
Vidyut Soudha, Vijayawada 520004.**

Applicant

And

1. **Southern Power Distribution Company of Andhra Pradesh Ltd.,
Tiruchanoor Road, Kesvayana Gunta, Tirupati-517 501**
 2. **Eastern Power Distribution Company of Andhra Pradesh Ltd.,
P&T Colony, Seethammadhara, Visakhapatnam 530020**
- Respondents

**APPLICATION U/S 62 / 64 ELECTRICITY ACT 2003
FOR DETERMINATION OF TARIFF FOR THE CONTROL PERIOD
FY 2019-2024**



**CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8**

1. Factual Background

- 1.1 Andhra Pradesh Power Development Company Limited (hereinafter referred to as “APPDCL” or as the “**Applicant**”) was established as a company registered under the Companies Act, 1956, on 01/03/2006 as a Special Purpose Vehicle to establish and operate the **Sri Damodaram Sanjeevaiah Thermal Power Station (2 x 800 MW)** (hereinafter referred as “**SDSTPS**”) wherein 51% equity is held by APGENCO and the balance 49% equity is held by the State Government and the four Distribution Companies of the undivided Andhra Pradesh.
- 1.2 An Amended and Restated Power Purchase Agreement dated 24/08/2016 (hereinafter referred to as the “**PPA**”) was entered into between the Applicant APPDCL and the two distribution companies in Andhra Pradesh for 90% of the power generation capacity of the SDSTPS for a period of 25 years up to 23/08/2041.
- 1.3 The two distribution companies of Andhra Pradesh have filed O.P. No. 21 of 2016 for the consent of the Hon’ble Commission to the aforesaid PPA, and the same was approved in principle by the Hon’ble Commission by order dated 13.07.2018 subject to the parties reviewing certain clauses. The issues on such terms have been discussed between the parties, and on difference of opinion, the matter is pending before the Hon’ble Commission.
- 1.4 The Petitioner filed O.P. No. 47 of 2017 for the determination of tariff for the period from 05.02.2015 up to 31.03.2019. The Hon’ble Commission has passed an order dated 02.03.2019 determining the tariff. A review application has been filed by the Petitioner with respect to the



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determination of capital cost, and the same is pending before the Hon'ble Commission.

2. Scope of Present Application

- 2.1 This application is for the determination of tariff for the electricity generated by APPDCL at the SDSTPS situated in Andhra Pradesh and supplied to the distribution licensees at the generating station bus within Andhra Pradesh for the control period of FY 2019-2024, i.e from 01.04.2019 to 31.03.2024.
- 2.2 The proposal comprises annual fixed costs / capacity charge, energy charges based on the operating norms, and certain terms and conditions of supply.
- 2.3 This application for determination of tariff is made in terms of the Andhra Pradesh Electricity Regulatory Commission (Terms and conditions for determination of tariff for supply of electricity by a generating company to a distribution licensee and purchase of electricity by distribution licensee) Regulation, 2008, being Regulation 1 of 2008, which is in force as the applicable Regulation of this Hon'ble Commission in terms of the adaptation Regulation notified by this Hon'ble Commission.



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PARAMETERS OF TARIFF DETERMINATION

3. Return on Capital Employed (RoCE)

- 3.1 The station-wise RoCE are computed on the basis of Clause 12.1 of the Regulation as follows.
- 3.2 Working Capital is computed in accordance with Clause 12.4 of Regulation 1 of 2008 and the details are in Annexure A-1 hereto.
- 3.3 Debt-Equity Ratio (D/E) is taken as 70:30 considering Clause 10.13 of the Regulation and applied to the Capital Cost as allowed by the Commission in its order dated 02.03.2019 and considering also the additions sought in the review petition filed by the Petitioner.

Cost of Debt is taken as rate of 10.20% considering present interest rates charged by PFC and REC.

Return on Equity is taken as 15.5% considering the CERC Regulation for 2019-2024 as referred to in APERC Regulation 1/2008.

Accordingly, the Weighted Average Cost of Capital (WACC) is computed and the same is 11.8%, The rate of RoCE is on par with rate of RoCE ordered by Hon'ble Commission in O.P.No. 35/2018 for the control period 2019-24 for APGENCO.

- 3.4 The summary of the station-wise computation of RoCE is furnished at Annexure A-2.



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4. Depreciation

- 4.1 Depreciation is computed as per Company Act rates as approved by Hon'ble Commission in its order dated 02.03.2019 in O.P. No. 47/2017.
- 4.2 The summary of the proposed Depreciation is furnished at Annexure A-3.

5. Operation & Maintenance Expenses

- 5.1 The O&M expenses provided in the Regulation was based upon the CERC 2004 Regulation as amended in 2006 for the control period 2004-2009. That methodology is not applicable or relevant for control period of FY 2019-2024. Clause 10 of the APERC Regulation 1 of 2008 provides for the application of further amendments to the CERC Regulation upon adoption by the Hon'ble Commission by special or general order. Moreover, there are no norms in APERC Regulation 1/2008 for power plants of such high capacity.
- 5.2 The CERC has subsequently issued revised Regulation in 2009 for the control period of FY 2009-2014 which, inter alia, provided also for allowing pay revision as the pay revision was due for Central PSUs during that period. The CERC has also issued a further revised Regulation for the control period 2019-2024.
- 5.3 It is therefore necessary that this Hon'ble Commission may consider and adopt the methodology of the CERC 2019 Regulation with respect to O&M expenses and year-on-year escalation thereof and allow such expenses on such basis.



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5.4 The pay scales of the employees were revised with effect from 01/04/2018. Further, the State Government has revised the HRA, CCA and Gratuity which has been adopted by the APGENCO also as the same allowances as applicable to State Government employees are payable as per the service regulations. The staff of APPDCL are substantially employees of APGENCO on deputation.

5.5 Accordingly, the O & M expenses are considered in this application on the following basis.

The per-MW expenses specified in the CERC 2019 Regulations plus an additional 20% thereof towards effect of pay revision is computed as the O&M expenses for FY 2019-20, being the 1st year of the control period 2019-2024.

The O & M expenses for the 2nd and subsequent years of the control period are computed by escalating the 1st year O & M expenses by 3.51% year-on-year.

The Water Charges, Security Expenses and Capital Spares for thermal generating stations are claimed additionally.

5.6 The summary of the computation of O&M expenses as above are furnished at Annexure A-4.

6. Income Tax

6.1 The Income tax paid is to be allowed at actuals as an additional pass-through in terms of Clause 12.5 of the Regulation, and will be claimed on the basis of actual payment from time to time.



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7. Energy Charges / Variable Costs

- 7.1 The Variable costs for the energy supplied are to be computed, in the first instance for monthly billing, on the basis of the operating norms specified in the Regulation and in accordance with the provisions of Clause 13.1 of the Regulation considering the actual landed cost and the GCV of fuels during the preceding three months.

The variable costs claimed on a month to month basis as above shall be adjusted to account for variation in the actual landed cost of fuels and the actual GCV of the fuels in accordance with the provisions of Clause 13.1b of the Regulation.

Having regard to the order of the Hon'ble Commission in O.P. No. 35 of 2018 for APGENCO, the Hon'ble Commission may direct the licensees to admit up to 15% variation straightaway for payment; and if the variation is over 15% the variation may be limited to 15% for the purposes of payment subject to the scrutiny and approval of the Hon'ble Commission in respect of the variation exceeding 15%.

- 7.2 The benefits of super critical technology is realized only when a unit of the power station operates at a capacity of 660 MW or above. If the unit is operates below 660 MW, due to non-despatch and/or backing down (however within the limit provided in the PPA, the benefits of super critical technology will not be realized. The operational parameters when operating at above 660 MW (super critical parameters) and below 660 MW (sub-critical parameters) are summarized as follows :



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Parameter	Sub Critical	Super Critical
Station Heat Rate	2450	2302
Aux. Power Consumption	7.5 %	6.5 %
Sp. Oil Consumption	2.0 ml/KWH	2.0 ml/KWH
Availability	80 %	80 %

7.3 The Regulation 1 of 2008 has prescribed operating norms only for plants up to 500 MW. The operating norms as per the Regulation are considered applicable for sub-critical operation below 660 MW. For operation above 660MW, the operating norms would be those for super critical operation as above.

7.4 Moreover, when operating below 574 MW, the extra cost of additional secondary fuel oil required to sustain operation at such low levels would be extra at actuals.

7.5 Accordingly, the energy charges / variable cost would be computed as follows :-

- (a) When operation of a unit is under a dispatch / schedule above 594 MW, the variable cost would be computed as per Regulation 1 of 2008 but with operating norms as for super critical operation stated above; and
- (b) When operation of a unit is under a dispatch / schedule between 516 to 594 MW, the variable cost would be computed as per Regulation 1 of 2008 but with operating norms as for sub-critical operation stated above; and



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(c) When operation of a unit is under a dispatch / schedule between below 516 till as low as technically feasible, the variable cost would be computed as per Regulation 1 of 2008 but with operating norms as for sub-critical operation stated above, and in addition the extra cost of additional secondary fuel oil required to sustain operation at such low levels would be extra at actuals.

7.6 In the Hon'ble Commission's order dated 02.03.2019 in O.P. 47 of 2017, the Hon'ble Commission has approved the variable cost on the basis of super critical operation, leaving the issue of differential fixed cost open and to be agreed upon between the parties. The issue remains open, therefore, for this control period also.

8. Incentives

8.1 The incentives for generation beyond the Target 80% Plant Load Factor shall be claimed annually at the rates specified in the Regulation.

9. Proposed Generation Tariff

The Tariff Proposed by the Applicant is summarized as follows :-

9.1 Fixed charges :-

The year-wise Annual Fixed charges for the contracted capacity, being 90% of the total installed capacity is as follows:-



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Station	(MW)	Annual Fixed Cost – Rs crores				
		2019-20	2020-21	2021-22	2022-23	2023-24
SDSTPS	1440	1822.01	1801.97	1781.19	1760.82	1740.91

The summary of the components of the fixed charges is at Annexure A-5.

9.2 Energy Charges / Variable Charges

Energy charges / variable cost would be computed as follows :-

- When operation of a unit is under a dispatch / schedule above 594 MW, the variable cost would be computed as per Regulation 1 of 2008 but with operating norms as for super critical operation stated above; and
- When operation of a unit is under a dispatch / schedule between 516 to 594 MW, the variable cost would be computed as per Regulation 1 of 2008 but with operating norms as for sub-critical operation stated above; and
- When operation of a unit is under a dispatch / schedule between below 516 till as low as technically feasible, the variable cost would be computed as per Regulation 1 of 2008 but with operating norms as for sub-critical operation stated above, and in addition the extra cost of additional secondary fuel oil required to sustain operation at such low levels would be extra at actuals.



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Variable cost for 3 months immediately preceding the control period are as follows subject to adjustment for actual landed cost and GCV of fuels.

<i>Station</i>	<i>Month</i>	<i>(Rate / Kwh) (Paise)</i>
2X800MW-SDSTPS	Jan-2019	284
	Feb-2019	280
	Mar-2019	283

It is submitted that variable Cost proposed for the Units generated from 2X800MW-SDSTPS as **Rs. 2.85 per kWh** (Super Critical) & **Rs. 3.03 per kWh** (Sub Critical) with the following parameters.

Parameter	Super Critical	Sub Critical
Station Heat Rate	2302 kcal/ kWh	2450 kcal/ kWh
Aux. Power Consumption	6.5 %	7.5 %
Sp. Oil Consumption	2.0 ml/kWh	2.0 ml/kWh
Availability	80 %	80 %
Weighted Avg Cost of Coal	Rs. 4,700 per MT	Rs. 4,700 per MT
Weighted Avg Cost of Oil	Rs. 41,000 per kl	Rs. 41,000 per kl
GCV of Coal	4,150 kcal/kg	4,150 kcal/kg
GCV of Oil	10,000 kcal/Ltr	10,000 kcal/Ltr
Variable Cost per kWh	Rs. 2.85	Rs. 3.03



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9.3 Conditions

- (a) All taxes, duties, cess, fees payable to Government on the generation and/or supply of electricity and/or auxiliary consumption shall be extra and payable at actuals.
- (b) Revolving Letter of Credit to be opened by the beneficiary for an amount of one month's receivable, and thereupon the applicable rebate be allowed.
- (c) Delayed payment surcharge at 1.25% per month will be applicable.
- (d) All other terms and conditions as per the PPA will also be applicable.

10. Payment of Application Fee :-

- 10.1 The Applicant is separately submitting a cheque for Rs 100 lakhs towards the fee for this application.

11. Prayer

- 11.1 For the above reasons and for such other and/or further reasons and grounds as may be urged at the time of hearing, the Applicant prays that the Hon'ble Commission may be pleased to –

- (a) Accept and take on record the Application for determination of tariff for control period 2019-2024 under sections 62/64 of Electricity Act 2003; and



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- (b) Direct the Applicant to publish the application by notice as required by section 64, as per the draft annexed at Annexure A-6 to the Application, or in such other form as may be specified by the Hon'ble Commission, in two English and two Telugu daily news papers as may be specified by the Hon'ble Commission; and
- (c) Consider and adopt the normative Operation & Maintenance Expenses and year-on-year escalation thereof in respect of generating stations as requested; and
- (d) Determine the tariff for the control period 2019-2024, i.e. from 01.04.2019 to 31.03.2024, for the supply of electricity generated by the Applicant from SDSTPS to the Respondent Distribution Licensees at the rates proposed by the Applicant and/or as otherwise determined by the Hon'ble Commission in accordance with law in the facts and circumstances of the case.

Date: 02-08-2019
At Vijayawada



Chief General Manager
APPDCL

Signature of the Applicant.

CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8

**BEFORE THE
ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION
AT HYDERABAD**

O.P. **53** of 2019

In the matter of:

Determination of Tariff for the control period 2019-2024 under Section 62 of the Electricity Act, 2003 for the electricity supplied by APPDCL to Distribution Licensees in Andhra Pradesh.

And in the matter of:

Andhra Pradesh Power Development Company Limited

Applicant

And

1. **Southern Power Distribution Company of Andhra Pradesh Ltd.**

2. **Eastern Power Distribution Company of Andhra Pradesh Ltd.**

Respondents

AFFIDAVIT VERIFYING THE APPLICATION

I, J. Raghavendra Rao, son of J. Satyamamba, working for gain at Andhra Pradesh Power Development Company Ltd., do solemnly affirm and say as follows:

- a) I am the Chief General Manager of Andhra Pradesh Power Development Company Ltd, being a company in the business of generating electricity in Andhra Pradesh. I am competent and duly authorized by Andhra Pradesh Power Development Company Ltd. to affirm, swear, execute and file this affidavit in the present proceedings.
- b) I have read and understood the contents of the accompanying filing of proposals for determination of tariff for supply of electricity by Andhra Pradesh Power Development Company Ltd. for the control period 2019-2024. The statements made in the paragraphs of the accompanying application now shown to me are true to my knowledge derived



Raghavendra

**CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8**

from the official records made available to me and are based on information and advice received which I believe to be true and correct.

Solemnly affirmed before me at Vijayawada
on this 02 August 2019

Rahavudny

Deponent
CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8

Notary



VERIFICATION:

I, the above-named Deponent, solemnly affirm, at Vijayawada on this 02nd August 2019, 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.

G. Rao 2/8/19
GANANABOINA. NAGESWARA RAO
B.Com: B.L.
Advocate & Notary
77-70-8, A.V.S. Reddy Road,
Prakashnagar, VIJAYAWADA-15. A.P. India

Rahavudny

Deponent
CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8

Annexure A-1**WORKING CAPITAL****(On Annual Basis)***(All the Rupees in Crores)*

S.No.	Description	2019-20	2020-21	2021-22	2022-23	2023-24
1	Cost of Coal stock for 1 month	273.49	273.49	273.49	273.49	273.49
2	Cost of Oil for 2 months	4.30	4.30	4.30	4.30	4.30
4	O&M Expenses for 1 month	29.17	30.19	31.25	32.35	33.48
5	Maintenance spares-1% of historical cost	125.89	130.92	136.16	141.61	147.27
6	Sales receivables 2 months	851.23	859.46	856.67	853.53	850.48
7	Total Working Capital	1284.07	1298.36	1301.87	1305.27	1309.03
8	90% of Total Working Capital	1155.67	1168.53	1171.68	1174.75	1178.12



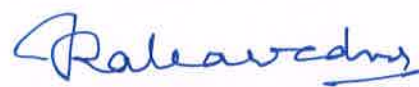
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Annexure A-2**RETURN ON CAPITAL EMPLOYED (RoCE)***RoCE Amount (Rs. In Cr.)*

S.No.	Description	2019-20	2020-21	2021-22	2022-23	2023-24
1	Original Capital Cost	10761.4	10761.4	10761.4	10761.4	10761.4
2	Additional Capitalisation	554.33	554.33	554.33	554.33	554.33
3	Less accumulated Depreciation	1148.49	1459.67	1770.86	2082.04	2393.23
4	Working Capital	1284.07	1298.36	1301.87	1305.27	1309.03
5	<i>Total</i>	11451.31	11154.42	10846.74	10538.96	10231.53
6	Rate of RoCE	11.80%	11.80%	11.80%	11.80%	11.80%
7	<i>RoCE (Annual Basis)</i>	1351.25	1316.22	1279.92	1243.60	1207.32
8	<i>ROCE Claimed</i>	1351.25	1316.22	1279.92	1243.60	1207.32
9	90% of ROCE Claimed	1216.13	1184.60	1151.92	1119.24	1086.59

Rates of RoCE


Year	Debt	Equity	Rate of Interest	Return on equity	WACC
2019-20	70%	30%	10.2%	15.5%	11.8
2020-21	70%	30%	10.2%	15.5%	11.8
2021-22	70%	30%	10.2%	15.5%	11.8
2022-23	70%	30%	10.2%	15.5%	11.8
2023-24	70%	30%	10.2%	15.5%	11.8



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Annexure A-3**DEPRECIATION**

SL. No.	Particulars	Amount (Rs. in Cr.)				
		2019-20	2020-21	2021-22	2022-23	2023-24
1	Depreciation	311.18	311.18	311.18	311.18	311.18
2	90% of Depreciation Claimed	280.07	280.07	280.07	280.07	280.07



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A.P. Power Development Company Ltd.
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Annexure A-4
OPERATION & MAINTENANCE CHARGES

SL. No.	Description	2019-20	2020-21	2021-22	2022-23	2023-24
1	Capacity	800 MW	1600 MW	1600 MW	1600 MW	1600 MW
2	O&M Charges/ MW (Rs Lakhs)	21.88	22.64	23.44	24.26	25.11
3	<i>Total O&M</i> (Rs Crores)	350.02	362.30	375.02	388.18	401.81
4	Water Charges plus Security Charges	12.00	12.48	12.98	13.50	14.04
5	<i>Total O&M Expense including water & Security</i>	362.02	374.78	388.00	401.68	415.84
6	90% of Total O&M Charges (Rs Crores)	325.81	337.30	349.20	361.51	374.26



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Annexure A-5**ANNUAL FIXED CHARGES***Amount (Rs. in Cr.)*

Sl. No.	Description	2019-20	2020-21	2021-22	2022-23	2023-24
1	RoCE	1351.25	1316.22	1279.92	1243.60	1207.32
2	Depreciation	311.18	311.18	311.18	311.18	311.18
3	Annual O&M expenses	362.02	374.78	388.00	401.68	415.84
4	<i>Total Annual Fixed Charges</i>	2024.46	2002.19	1979.10	1956.46	1934.35
5	90% of Total Annual Fixed Charges	1822.01	1801.97	1781.19	1760.82	1740.91



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Annexure A-6


**BEFORE THE
ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION
4th FLOOR, SINGARENI BHAVAN, RED HILLS, HYDERABAD**

PUBLIC NOTICE

Notice is hereby given to all that the **Andhra Pradesh Power Development Company Ltd.** ("APPDCL"), a company in the business of generation of electricity, has submitted an Application for Determination of Tariff for supply of electricity generated at the **Sri Damodaram Sanjeevaiah Thermal Power Station (2 x 800 MW)** ("SDSTPS") to the Distribution Licensees of Andhra Pradesh for the control period 2019-2024 which has been taken on record by the Hon'ble Commission in OP No _____ of 2019.

A copy of the Application together with all annexures thereto is available on the website of the APERC at www.aperc.gov.in. Copies of the Application may be obtained on e-mail or written application from the Chief General Manager, APPDCL, Plot No: 29, Road No. 1, Central Excise Colony, Andhra Loyola College Road, Vijayawada- 520008 by e-mail free of cost or as hard copy on payment of the cost of photo-copying and postage if any. The Application may also be inspected at the aforesaid office.

Objections or suggestions, if any, on tariffs proposed by APPDCL, together with supporting material may be filed with the Secretary, APERC, at the address mentioned above, in person or through Registered Post, so as to reach him on or before _____, along with proof of service of the same on Chief General Manager, APPDCL, Plot No:29, Road No#1, Central Excise Colony, Andhra Loyola College Road, Vijayawada – 520 008. The objections/suggestions should be filed duly signed and should carry full name and postal address of the person(s) sending the objections/suggestions. If the objections are filed on behalf of any organization or any category of consumers, it should be so mentioned and if the objector also wants to be heard in person, it may also be



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A.P. Power Development Company Ltd.
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specifically mentioned so.

After perusing the objections/suggestions received, the Hon'ble Commission may notify the dates for hearing as it considers appropriate.

BY ORDER OF THE COMMISSION

**CHIEF GENERAL MANAGER
APPDCL**

Vijayawada, (Date)



**CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8**

Name of the Company **ANDHRA PRADESH POWER DEVELOPMENT COMPANY LIMITED**Name of the Power Station: **2X800 MW- Sri Damodaram Sanjeevaiah Thermal Power Station (SDSTPS)**State: **ANDHRA PRADESH,** District: **SPSR Nellore**

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1.1	RoCE	1351.25	1316.22	1279.92	1243.60	1207.32
1.2	Depreciation	311.18	311.18	311.18	311.18	311.18
1.3	Annual O&M expenses	362.02	374.78	388.00	401.68	415.84
1.4	Total Annual Fixed Charges	2024.46	2002.19	1979.10	1956.46	1934.35
1.5	90% Total Annual Fixed Charges	1822.01	1801.97	1781.19	1760.82	1740.91

2. Calculation of Rate of Energy Charges (Rs./kWh)

Parameter	Sub Critical 660 MW below	Super Critical 660MW and above
(Rate / kWh) (Paise)	303	285
Station Heat Rate	2450	2302
Aux. Power Consumption	7.5 %	6.5 %
Sp. Oil Consumption	2.0 ml/KWH	2.0 ml/KWH
Availability	80 %	80 %

Raveendry
CHIEF GENERAL MANAGER
 A.P. Power Development Company Ltd.
 Central Excise Colony, Vijayawada-8

Plant Characteristics

Form-2

Name of the Company	ANDHRA PRADESH POWER DEVELOPMENT COMPANY LIMITED		
Name of the Power Station	2X800 MW- Sri Damodaram Sanjeevaiah Thermal Power Station (SDSTPS)		
Basic characteristics of the plant ¹	Coal based plant using super critical technology		
Special Features of the Plant			
Site Specific Features ²	Coastal based power plant using Sea water as raw water		
Special Technological Features ³	The steam generator will be sliding pressure supercritical, once-through type, utilizing a Tangential Firing System for NOx control. Boiler is a single reheat, variable pressure operation, with balanced draft furnace conditions. The unit is capable of firing wide range of pulverized coals as main fuel		
Environmental Regulation related features ⁴	The high efficiency electrostatic precipitators having collection efficiency of 99.89% will limit the outlet dust emission to 50 mg/Nm ³ at ESP outlet with one field out of service while the boiler is operating at its BMCR		
Any other special features	boilers have demonstrated low NOx production		
Fuel Details ⁵	Primary Fuel	Secondary Fuel	Alternate Fuels
	Coal	HFO & LDO during start ups and for unit stabilisation	
Details	Module number or Unit number		
(1)	(2)		
2X800MW-SDSTPS	Unit-1	Unit-2	(3)
Installed Capacity (IC)	800 MW	800 MW	
Date of Commercial Operation (COD)	05.02.2015	24.08.2015	
Type of cooling system ⁶	sea water cooling		
Type of Boiler Feed Pump ⁷	2Nos Turbo driven Boiler Feed pumps & 1No Motor Driven Boiler Feed Pump		

Normative parameters considered for tariff computations

Form-3

Name of the Company **ANDHRA PRADESH POWER DEVELOPMENT COMPANY LIMITED**

Name of the Power Station **2X800 MW- Sri Damodaram Sanjeevaiah Thermal Power Station (SDSTPS)**

Particulars	Unit	As per Filings 2019-24	As per APERC Norms (Sub Critical)	As per APERC Norms (Super Critical)
	(1)	(2)	(3)	(4)
Rate of Return on Equity	%	11.8	11.8	11.8
Target Availability	%	80.00	80.00%	80.00%
Target PLF	%	80.00%	80.00%	80.00%
Auxiliary Energy Consumption	%	6.5	6.5	6.5
Gross Station Heat Rate	kCal/kWh	2302	2450	2302
Specific Fuel Oil Consumption	ml/kWh	2	2	2
O&M Cost	Rs.Lakh/MW			
Cost of Coal/Lignite for WC ¹	Rs/MT			
Cost of Secondary Fuel Oil for WC ¹	Rs/ KL			
Fuel Cost for WC ²	in Months	2 Months	2 Months	2 Months
Liquid Fuel Stock for WC ²	in Months			
O & M Expenses for WC	in Months	One Month	One Month	One Month
Maintenance Spares for WC	%	1.0	1.0	1.0
Receivables for WC	in Months	2 Months	2 Months	2 Months
Prime lending Rate as on	%	11.8	11.8	11.8
Incentive Rate	Paise / kWh	25 Paise	2 Months	2 Months

Name of the Company ANDHRA PRADESH POWER DEVELOPMENT COMPANY LIMITED

Name of the Power Station 2X800 MW- Sri Damodaram Sanjeevaiah Thermal Power Station (SDSTPS)

Capital Cost as admitted by APERC	Rs. 10761.40 Crs
Capital cost admitted as on _____	31.03.2019
(Give reference of the relevant APERC Order with Petition No. & Date)	O.P.No:47/2017, & I.A. No: 28/2017, Dt: 02.03.2019
Foreign Component, if any (In Million US \$ or the relevant Currency)	-
Domestic Component (Rs. Cr.)	-
Foreign Exchange rate considered for the admitted	-
Total Capital cost admitted (Rs. Cr)	Rs. 10761.40 Crs



PETITIONER

CHIEF GENERAL MANAGERA.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8

Details of Project Specific Loans

Form-7

Name of the Company

ANDHRA PRADESH POWER DEVELOPMENT COMPANY LIMITED

Name of the Power Station 2X800 MW- Sri Damodaram Sanjeevaiah Thermal Power Station (SDSTPS)

Particulars	Package1	Package2
1	2	3
Source of Loan ¹	PFC	KFW
Currency ²	INR(Lakh)	Million EUROS
Amount of Loan sanctioned	9345.72	281.06
Amount of Gross Loan drawn upto 31.03.2019/COD <small>3,4,5,13,15</small>	9345.72	281.06
Interest Type ⁶	Floating	Fixed
Fixed Interest Rate, if applicable		
Base Rate, if Floating Interest ⁷		
Margin, if Floating Interest ⁸	Yes/No	Yes/No
Are there any Caps/Floor ⁹		
If above is yes, specify caps/floor		
Moratorium Period ¹⁰	89 months	30 months
Moratorium effective from	29-08-2008	30-11-2009
Repayment Period ¹¹	15 Years	33 Years
Repayment effective from	15.01.2016	30.06.2012
Repayment Frequency ¹²	Quarterly	Half yearly
Repayment Instalment ^{13,14}	14623	159.52
Base Exchange Rate ¹⁶		80.0280


CHIEF GENERAL MANAGER
 A.P. Power Development Company Ltd.
 Central Excise Colony, Vijayawada-5

Statement of Depreciation

Form-11

Name of the Company ANDHRA PRADESH POWER DEVELOPMENT COMPANY LIMITED
Name of the Power Station 2X800 MW- Sri Damodaram Sanjeevaiah Thermal Power Station (SDSTPS)

SL.No.	Particulars	Amount (Rs. In Cr.)				
		2019-20	2020-21	2021-22	2022-23	2023-24
1	Depreciation	311.18	311.18	311.18	311.18	311.18
	Accumulative Depreciation	1148.49	1459.67	1770.86	2082.04	2393.23



CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8

Calculation of Weighted Average Rate of Interest on Actual Loans

Form-13

Name of the Company

ANDHRA PRADESH POWER DEVELOPMENT COMPANY LIMITED

Name of the Power Station 2X800 MW- Sri Damodaram Sanjeevaiah Thermal Power Station (SDSTPS)

(Rupees in lakhs)

Sl.No.	Particulars	Existing 2018-19	1st year 2019-20	2nd year 2020-21	3rd year 2021-22	4th year 2022-23	5th Year 2023-24
	PFC						
1	Gross loan - Opening	928337	934572	934572	934572	934572	934572
2	Cumulative repayments of Loans upto previous year	140661	173181	205701	238221	270741	303261
3	Net loan - Opening	787676	761391	728871	696351	663831	631311
4	Add: Drawal(s) during the Year	6235	0	0			
5	Less: Repayment (s) of Loans during the year	32520	32520	32520	32520	32520	32520
6	Net loan - Closing	761391	728871	696351	663831	631311	598791
7	Average Net Loan	761391	728871	696351	663831	631311	598791
8	Rate of Interest on Loan						
9	Interest on loan	10.20%	10.20%	10.20%	10.20%	10.20%	10.20%
10							
11	KFW(Foreign currency Loan)						
12	Gross loan - Opening	218746	218746	218746	218746	218746	218746
13	Cumulative repayments of Loans upto previous year	124256	131050	134523	137996	141469	144942
14	Net loan - Opening	94490	87696	84223	80750	77277	73804
15	Add: Drawal(s) during the Year						
16	Less: Repayment (s) of Loans during the year	6794	3473	3473	3473	3473	3473
17	Net loan - Closing	87696	84223	80750	77277	73804	70331
18	Average Net Loan	87696	84223	80750	77277	73804	70331
19	Rate of Interest on Loan						
20	Interest on loan	696	696	696	696	696	696

Calculation of Return on Capital Employed

Form-13A

Name of the Company **ANDHRA PRADESH POWER DEVELOPMENT COMPANY LIMITED**

Name of the Power Station **2X800 MW- Sri Damodaram Sanjeevaiah Thermal Power Station (SDSTPS)**

(Amount in Rs. Crores.)

S.No.	Description	2019-20	2020-21	2021-22	2022-23	2023-24
1	WACC	11451.31	11154.42	10846.74	10538.96	10231.53
2	Rate of RoCE	11.80%	11.80%	11.80%	11.80%	11.80%
3	RoCE (Annual Basis)	1351.25	1316.22	1279.92	1243.60	1207.32



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A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8

Working Capital

Form-14

Name of the Company ANDHRA PRADESH POWER DEVELOPMENT COMPANY LIMITED
Name of the Power Station 2X800 MW- Sri Damodaram Sanjeevaiah Thermal Power Station (SDSTPS)

(Amount in Rs. in Crores.)

S.No.	Description	2019-20	2020-21	2021-22	2022-23	2023-24
1	Cost of Coal stock for 1 month	273.49	273.49	273.49	273.49	273.49
2	Cost of Oil for 2 months	4.30	4.30	4.30	4.30	4.30
3	O&M Expenses for 1 month	29.17	30.19	31.25	32.35	33.48
4	Maintenance spares-1% of historical cost	125.89	130.92	136.16	141.61	147.27
5	Sales receivables 2 months	851.23	859.46	856.67	853.53	850.48
6	Total Working Capital	1284.07	1298.36	1301.87	1305.27	1309.03



CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8

Name of the Company **ANDHRA PRADESH POWER DEVELOPMENT COMPANY LIMITED**

Name of the Power Station **2X800 MW- Sri Damodaram Sanjeevaiah Thermal Power Station (SDSTPS)**

(Amount in Rs.)

Sl. No.	Month	Unit	For proceeding 3rd Month (Jan-19)	For proceeding 3rd Month (Feb-19)	For proceeding 3rd Month (March-19)
1	Quantity of Coal /lignite supplied by Coal /Lignite Company	(MMT)	427964.24	228014	390784.89
2	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MMT)	-	-	-
3	Coal supplied by Coal/Lignite Company (1+2)	(MMT)	-	-	-
4	Normative Transit & Handling Losses (For coal /Lignite based Projects)	(MMT)	-	-	-
5	Net coal / Lignite Supplied (3-4)	(MMT)	427964.24	228014	390784.89
6	Amount charged by the Coal / Lignite Company	(Rs.)	866106523	622800171	1190951309
7	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0	0	0
8	Total amount charged (6+7)	(Rs.)	866106523	622800171	1190951309


CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8

9	Transportation charges by rail/shop/road transport	(Rs.)	1139579799	429275831	672640677
10	Adjustment (+/-) in amount charged made by railways/Transport Company	(Rs.)	0	0	0
11	Demurrage Charges, if any	(Rs.)	0	0	0
12	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	0	0	0
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)	1139579799	429275831	672640677
14	Total amount Charged for coal/lignite supplied including Transportation (8+13)	(Rs.)	2005686322	1052076001	1863591986
15	Weighted Average Cost of coal	Rs./MT	4687	4614	4769
16	Weighted average GCV of coal/lignite as fired (kCal/kg)(Bunker front sample)	kcal/kg	4166	4188	4208

Ralevarthy

CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8

Details/Information to be submitted in respect of Fuel for Computation of Energy Charges

Form-18

Name of the Company **ANDHRA PRADESH POWER DEVELOPMENT COMPANY LIMITED**

Name of the Power Station **2X800 MW- Sri Damodaram Sanjeevaiah Thermal Power Station (SDSTPS)**

(Amount in Rs.)

S.NO	DESCRIPTION	Jan-19			Feb-19			Mar-19		
		MT	LTS		MT	LTS		MT	LTS	
		HFO	HSD		HFO	HSD		HFO	HSD	
1	QTY OF OIL SUPPLIED BY OIL CO	2004.45	451		2152.182	349		1796.3	286	
2	ADJUSTMENTS(+,-),IF ANY				0	0				
3	OIL SUPPLIED BY OIL CO. INCLUSIVE OF OPENING STOCK				0	0				
4	NORMATIVE TRANSIT & HANDLING LOSSES				0	0				
5	NET OIL SUPPLIED INCLUSIVE OF OP STOCK	2004.45	451		2152.182	349		1796.3	286	
6	AMOUNT CHARGED BY OIL CO.INCLUSIVE OF OP STOCK VALUE	82083531.35	22865867.67		85691712.5	17226158.2		74559501	14046681.1	
7	ADJUSTMENTS(+,-),IF ANY	0			0					
8	TOTAL AMOUNT CHARGEDE INCLUSIVE OP.STOCK	82083531.35	22865867.67		85691712.5	17226158.2		74559501	14046681.1	
9	TRANSPORTATION CHARGES BY RAIL/SHIP ETC	0			0					
10	ADJUSTMENTS(+,-),IF ANY	0			0					
11	DEMURAGES CHARGES IF ANY	0			0					
12	COST DIESEL IN TRANS.	0			0					
13	TOTAL TRANSPORTATION CHARGES	82083531.35	22865867.67		85691712.5	17226158.2		74559501	14046681.1	

13A	ORS		0		0				
14	TOTAL AMOUNT CHARGED FOR OIL	82083531.35	22865867.67	85691712.5	17226158.2	74559501		14046681.1	
15	LANDED COST OF OIL	82083531.35	22865867.67	85691712.5	17226158.2	74559501		14046681.1	
16	BLENDING RATIO								
17	WEIGHTED AVG.COST OF OIL	40956.65	50700.37	39816.202	49358.62	41507.27		49114.27	
18	GCV OF HFO OIL AS PER BILL OF OIL COMPANY								
19	GCV OF HSD AS PER BILL OF OIL COMPANY								
20	WEIGHTED AVG. GCV OF OIL AS BILLED (AS PER TEST REPORT)								
21	GCV OF HFO OIL AS RECIVED AT STATION	9996	10258	10004	10278	9500		10281	
22	GCV OF HSD AS RECEIVED AT STATION	9996	10258	10004	10278	9500		10281	
23	WEIGHTED AVG. GCV OF OIL AS RECEIVED AT STATION								

Palavada

CHIEF GENERAL MANAGER
A.P. Power Development Company Ltd.
Central Excise Colony, Vijayawada-8