

**APGENCO**  
**GENERATING STATIONS TARIFFS**

**for 4<sup>th</sup> Control Period - FY2019-20 to FY2023-24**



**ORDER**

**29<sup>th</sup> April, 2019**

**Andhra Pradesh**  
**Electricity Regulatory Commission**  
**4<sup>th</sup> Floor, Singareni Bhavan, Red Hills, Lakdi-ka-pul, Hyderabad-500 004**



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**ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION  
HYDERABAD**

**MONDAY, THE TWENTY NINTH DAY OF APRIL, TWO THOUSAND AND NINETEEN**

**Present**

**Justice G. Bhavani Prasad, Chairman**

**Dr. P. Raghu, Member**

**Sri P. Rama Mohan, Member**

In the matter of

**Determination of tariffs of APGENCO Generating stations for the  
4<sup>th</sup> Control Period**

(FY 2019-20 to FY 2023-24)

in

**O.P. No. 35 of 2018**

Andhra Pradesh Power Generation Corporation Limited, Vidyut Soudha, Vijayawada

**... Petitioner**

**and**

Eastern Power Distribution Company of A.P. Limited, Visakhapatnam

Southern Power Distribution Company of A.P. Limited, Tirupati

**... Respondents**

The MYT Tariff filings filed by Andhra Pradesh Power Generation Corporation Limited (APGENCO) vide O.P.No.35 of 2018 in respect of its Generating Stations for the 4<sup>th</sup> Control Period (FY2019-20 to FY2023-24) came up for consideration before the Commission. Upon following the procedure prescribed for determination of such tariff under Section 64 of the Electricity Act, 2003 (Central Act No.36 of 2003) and after careful consideration of the material available on record, the Commission, in exercise of the powers vested in it under the said Central Act No. 36 of 2003, the Andhra Pradesh Electricity Reform Act, 1998 (State Act 30 of 1998) and the APERC (Terms and Conditions for determination of Tariff for supply of electricity by a generating company to a distribution licensee and purchase of electricity by distribution licensees) Regulation, 2008, (Regulation 1 of 2008) as amended from time to time, hereby passes following:

**ORDER**  
**CHAPTER - I**  
**INTRODUCTION**

1. Consequent to coming into force of the Andhra Pradesh Reorganization Act, 2014 (Central Act No.6 of 2014) (hereinafter referred to as the Reorganization Act) and in terms of the provisions of Section 92 of the said Act read with Schedule XII (C) (3) and Section 82 of the Electricity Act, 2003, the Government of Andhra Pradesh issued notification in G.O.Ms.No.35, Energy (Power-III) Department, dt.01.08.2014 and constituted the Andhra Pradesh Electricity Regulatory Commission.
2. Andhra Pradesh Power Generation Corporation Limited (hereinafter referred to as “APGENCO” or as the “Petitioner”) was established as a company registered under the Companies Act, 1956, on 01/02/1999 upon the coming into force of the Andhra Pradesh Electricity Reform Act, 1998.
3. In terms of the Andhra Pradesh Electricity Reform (Transfer Scheme) Rules, 1999, notified by the Government of Andhra Pradesh in G.O.Ms. No. 9, Energy (Power-III), dt.29.01.1999 and amended subsequently by notification in G.O.Ms. No. 11, Energy (Power-III), dt.31.01.2000, certain assets, liabilities, personnel and proceedings of the erstwhile Andhra Pradesh State Electricity Board which had vested in the State Government upon coming into force of the Reform Act, stood transferred and vested in APGENCO on the values, terms, conditions and consequences provided therein. The aforesaid transfer and vesting were binding on all, without any exception or recourse to anyone.
4. Thereupon, the APGENCO had been generating and supplying electricity to the Transmission Corporation of Andhra Pradesh so long as it was the distribution licensee or bulk supply licensee, and thereafter to the four distribution licensees of the undivided State of Andhra Pradesh.
5. Pursuant to the coming into force of the Reorganisation Act, a separate company i.e. TSGENCO (Telangana State Power Generation Corporation Ltd) was carved out of APGENCO (a generating company owning power stations in the three regions i.e. Andhra, Rayalaseema and Telangana of the undivided Andhra Pradesh State) on 19.05.2014. The assets, liabilities, etc., of APGENCO pertaining to the generating stations in Telangana State were



provisionally transferred to TSGENCO in terms of the Transfer Scheme notified in G.O. Ms. No. 29 dated 31.05.2014. The transfer valuation is yet to be finalized as at 01.06.2014 considering all relevant factors.

6. The power generated by APGENCO was being supplied to the two distribution licensees of Andhra Pradesh and the two distribution licensees of Telangana State as per the inter-se allocation of the generation to the individual distribution licensees notified by the State Government of the undivided State. Subsequently, as per the approval of GoAP in letter No.1504/power-III/2015-9 dated: 05.06.2017 (Annexure-C), APGENCO has requested APSLDC to regulate power supply to TS power utilities. Accordingly, regulation of power supply to TS power utilities by APGENCO came into effect from 00:00 hrs. of 11.06.2017. Thereupon and thereafter the entire power generated by APGENCO is being supplied only to the two Distribution Licensees of Andhra Pradesh viz Eastern Power Distribution Company of A.P. Limited, Visakhapatnam (APEPDCL) and Southern Power Distribution Company of A.P. Limited, Tirupati (APSPDCL) (hereinafter referred to as “Respondents” or as the “Licensees”).

#### **APERC (Adaptation) Regulation, 2014**

7. In exercise of the power conferred by Section 181 of the Electricity Act, 2003(Central Act No.36 of 2003) and all other powers thereunto enabling, including those conferred by the Andhra Pradesh Electricity Reform Act, 1998 (State Act No.30 of 1998) and the Reorganization Act, 2014, the Commission issued APERC (Adaptation) Regulation, 2014 (Regulation 4 of 2014) and notified that with effect from 01.08.2014, all regulations made by, all decisions, directions or orders of, and all the licenses and practice directions issued by the Commission in existence as on the date of G.O.Ms No.35, dt.01.08.2014 referred to in para 1, shall apply in relation to the State of Andhra Pradesh and shall continue to have effect until duly altered, repealed or amended. The said Regulation 4 of 2014 was published in the Extraordinary Gazette of the State of Andhra Pradesh on 29.11.2014.

#### **Statutory provisions, Filing requirements and permission**

8. Section 64(3) read with Section 62 (a) of the Electricity Act, 2003 stipulates that the Commission shall determine tariff for supply of electricity by a generating company to a distribution licensee.

9. Regulation 1 of 2008 notified by the Commission introduced Multi Year Tariff (MYT) framework and accordingly, the Generating company has to file tariff filing with the Commission for determination of Tariff for its power generating stations for a period of 5 years (called Control Period). The 4<sup>th</sup> Control Period covers five years from FY2019-20 to FY2023-24.
10. The Central Act No.36 of 2003 as well as the Regulation 1 of 2008 mandate that a Generating company shall file for its tariff application in such form and in such manner as specified and in accordance with the guidelines issued by the Commission for the Control Period, not less than 120 days before the commencement of the first year of the Control Period, for approval of the Commission. After the formation of the State of Andhra Pradesh and the Andhra Pradesh Electricity Regulatory Commission, the determination of tariff of APGENCO for the 3<sup>rd</sup> Control Period from 1.04.2014 to 31.03.2019 was made in O.P.3 of 2016 by an order dated 26.03.2016. For the 4<sup>th</sup> Control Period from 01.04.2019 to 31.03.2024, APGENCO has to file its Tariff Filings for its generating stations on or before 30.11.2018 as per Regulation 1 of 2008.
11. By a letter dated 20.11.2018, the Commission has brought to the notice of APGENCO to make its tariff filings before 30.11.2018 as per section 86(1)(a) of Electricity Act, 2003. In response to Commission's letter, APGENCO has requested for extension of time upto 31.12.2018 for its tariff filings. The request of the APGENCO was considered by the Commission.

**Tariff Filings, Public Notice, Public Hearings and SAC & SCF meetings**

12. APGENCO has filed a petition before APERC on 28.12.2018 under Section 62 of the Electricity Act, 2003 and APERC Regulation 1 of 2008 for determination of Tariff for the 4<sup>th</sup> control period (FY 2019-2020 to FY2023-24) for the electricity supplied from its various generating stations to the two Distribution Licensees in the State of Andhra Pradesh.
13. The Tariff application filed by APGENCO was taken on record by the Commission and assigned O.P. No. 35 of 2018 and the filings were uploaded in the Commission's website. Further, the Commission directed APGENCO to issue a Public Notice in English language in two (2) English Newspapers and in Telugu language in two (2) Telugu Daily Newspapers having wide circulation in the State of Andhra Pradesh incorporating tariff schedule of its

generating stations submitted to the Commission, for information and calling for views/objections/suggestions from individuals, representatives of consumer organizations and the other stakeholders to be submitted on or before 21.01.2019 by 5 PM and to upload tariff filings in its official website and to make available the copies of filings at its corporate office and also its offices at various power stations. Further, the Commission also directed the APGENCO to publish the details of the venues and the dates and timings of the public hearings at three different places in the State of Andhra Pradesh at Visakhapatnam, Tirupati (the Head Quarters of both the distribution licensees/respondents) and Vijayawada (The Head Quarters of APGENCO and also the Capital Region of Andhra Pradesh) and at Hyderabad, the place of the Head office of the Commission and the details of joint meetings of State Advisory Committee (SAC) and State Coordination Forum (SCF) on tariff filings along with the proposed tariff schedule in the public notice. It was also informed to notify in the public notice that the views /Objections/suggestions submitted to the Commission upto 5 PM on 01.02.2019 will also be considered while determining the Generating stations' tariff for the 4<sup>th</sup> Control Period.

14. In compliance with the directions of the Commission, APGENCO has caused publication of Public Notices on 01.01.2019 in English language in two (2) English Daily Newspapers and in Telugu language in three (3) Telugu daily Newspapers ( Annexure A1 & A2) incorporating its tariff schedule along with other details as directed, inviting views/objections/suggestions in respect of tariff filings for its generating stations for the 4<sup>th</sup> control period and also informed that all the interested/Associations/Stakeholders/Objectors who want to be heard in person/through authorized representatives may appear before the Commission during public hearings. The filings were also uploaded on the website of the APGENCO.

#### **Response to the Public Notice**

15. In response to the Public notice, the Commission received objections/suggestions/views in writing and/or in person at its office and during public hearings. As directed by the Commission, the APGENCO communicated its written replies to the objections/suggestions/views received from various stakeholders.

## Public Hearings

16. The Commission conducted public hearings at the following places as published in the public notice to have widest consultation possible and benefit of maximum inputs in finalizing the tariff for APGENCO generating stations for 4<sup>th</sup> Control Period (FY2019-20 to FY2023-24).

<b>Sl. No.</b>	<b>Venue/place of Public Hearing</b>	<b>Date of Public Hearing</b>
1	Conference Hall, ATC Building, Corporate Office, APEPDCL, P&T Colony, Seethammadhara, Visakhapatnam.	07-01-2019 (Monday)
2	O/o. SE/Operation/Vijayawada, APSPDCL, Opp. PWD Ground, Beside CM camp office, Vijayawada.	08-01-2019 (Tuesday)
3	Conference Hall, Corporate Office, (Vidyuth Nilayam), APSPDCL, Behind Srinivasa Kalyanamandapams, Sreenivasapuram, Tiruchanoor Road, Tirupati.	09-01-2019 (Wednesday)
4	O/o APERC, 11-4-660, 4th Floor, Singareni Bhavan, Red Hills, Hyderabad - 500 004	18-01-2019 (Friday)
5	O/o APERC, 11-4-660, 4th Floor, Singareni Bhavan, Red Hills, Hyderabad - 500 004	25-01-2019 (Friday)
6	O/o APERC, 11-4-660, 4th Floor, Singareni Bhavan, Red Hills, Hyderabad - 500 004 (Exclusively on tariff application of APGENCO)	01-02-2019 (Friday)

\* Timings for public hearings - 10.00 AM to 1.00 PM and from 2.00 PM till all the interested persons or their authorized representatives are exhausted.

17. The Commission has conducted last public hearing at Hyderabad thereby providing a final opportunity to the stakeholders to submit their views / objections/suggestions in writing as well as in person on Tariff filings of APGENCO.
18. During the public hearings, The Director (Finance & Commercial)/APGENCO made a brief presentation on the tariff filings of APGENCO. Then the participating stakeholders were heard in detail apart from receiving all written representations presented by them. The Director (Finance & Commercial)/APGENCO gave a detailed response to each of the issues/aspects raised by the objectors.
19. After the public hearings, a joint meeting of the State Co-ordination Forum and the State Advisory Committee was held on 10.01.2019 in the Meeting Hall,

Corporate Office, APSPDCL, Tirupati, wherein the views of the members were ascertained on the Tariff filings of APGENCO.

20. The views/objections/suggestions expressed by the stakeholders and/or their representatives (Annexure-B), in writing and/or in person and the replies provided by the APGENCO in writing and/or through oral responses during the public hearings held from 07.01.2019 to 01.02.2019 in respect of APGENCO Tariff filings and the views of the members of State Coordination Forum (SCF) & State Advisory Committee (SAC) have been duly considered in arriving at the appropriate conclusions in this Order, in so far as they relate to the determination of tariff of APGENCO generating stations for the 4<sup>th</sup> Control Period.

## CHAPTER - II

### FILINGS BY APGENCO

21. APGENCO has filed a petition before APERC on 28.12.2018 under Section 62 of the Electricity Act, 2003 and APERC Regulation 1 of 2008 for determination of Tariff for the 4<sup>th</sup> control period (FY2019-20 to FY2023-24) for the electricity supplied from its various generating stations to the two Distribution Licensees in the State of Andhra Pradesh.
22. The summary of the filings are as follows:
23. The APGENCO has filed tariff application for the following generating stations:

**Table No: 2.1**

**Filings: Details of Generating Stations**

PPA Date	Stations	Valid Upto
To be Renewed	Dr NTTPS Stage I, II, III - 1260MW RTPP stage I - 420 MW SRBPH - 770 MW Sileru complex- 725 MW NSRCPH - 90 MW PABR - 20 MW Chettipeta - 1 MW	31/03/2024
22/12/2009	Dr NTTPS IV (1x500 MW)	27/01/2035
22/12/2009	RTPP II (2x210)	28/03/2033
22/12/2009	RTPP III (1x210 MW)	09/02/2036
20/12/2010	NSTPHES – (2x25 MW)	29/01/2052
Under execution	RTPP IV – (1x600 MW)	29/03/2043
	Dr NTTPS V (1x800 MW)	
	Polavaram HES (12x80 MW)	

24. The Station/Stage wise annual fixed charges and annual additional interest on pension bonds estimated by APGENCO for the 4<sup>th</sup> control period are as hereunder:

**Table No: 2.2****Filings: Fixed Charges Station/Stage Wise (Rs. Cr.)**

Station	Capacity in MW	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Sileru Complex</b>	725	227.39	236.82	247.04	258.90	270.91
<b>Nagarjuna Sagar RCPH</b>	90	27.28	28.16	29.12	30.28	31.43
<b>Srisaillam Right bank</b>	770	217.81	223.89	230.62	238.91	247.15
<b>PABR</b>	20	12.90	13.25	13.64	14.09	14.56
<b>Chettipeta</b>	1	1.56	1.64	1.72	1.80	1.89
<b>Dr.NTTPS</b>	1260	815.16	851.32	890.21	890.97	940.96
<b>RTPP-I</b>	420	294.95	306.99	319.95	334.34	349.34
<b>RTPP -II</b>	420	284.04	296.68	310.22	324.73	340.25
<b>Dr NTTPS IV</b>	500	446.90	303.21	311.92	321.41	331.71
<b>RTPP III</b>	210	271.49	267.46	184.78	191.00	197.74
<b>NSTP HES</b>	50	49.64	52.08	51.44	50.84	50.28
<b>RTPP IV</b>	600	1138.44	1101.73	1065.57	1029.99	995.02
<b>Dr NTTPS V*</b>	800	477.73	1432.50	1387.30	1342.88	1299.27
<b>Polavaram HES**</b>	960			119.17	612.30	890.25
<b>TB Dam &amp; Machkund (AP share)</b>	141.6	57.33	61.14	65.20	69.52	74.14
<b>Interest on Pension bonds (Over and above schedule)</b>		991.24	1057.06	1127.25	1382.41	1474.21
<b>Prior period O&amp;M expenses due to pay revision for FY 2018-19</b>		223.75				
<b>RTPP IV 2018-19 Fixed cost #</b>		353.00				
<b>Total</b>	<b>6967.6</b>	<b>5890.60</b>	<b>6233.92</b>	<b>6355.16</b>	<b>7094.36</b>	<b>7509.12</b>

\* Dr. NTTPS-V is considered from December, 2019

\*\* Polavaram HES - 3 units are considered from November 2021 and remaining 9 units are considered with an interval of two months for each unit.

25. The Station wise Energy charges/Variable cost estimated by APGENCO for its thermal generating stations based on the actual landed cost and the Gross

calorific value (GCV) of fuels during the 2<sup>nd</sup> Quarter of FY 2018-19 to be applicable from 1<sup>st</sup> April, 2019 is as hereunder:

**Table No: 2.3**  
**Filings : Energy Charges/Variable cost**

<b>Station/Stage</b>	<b>(Rate / kWh) (Rs.)</b>
Dr NTPPS I-III *	3.67
Dr NTPPS IV	3.15
RTPP – I	3.87
RTPP – II	3.87
RTPP- III	3.87
RTPP- IV	3.64
Dr NTPPS V	2.92

\* The rate for Dr NTPPS I-III with the existing operating norms without revision for vintage and operating conditions would have been Rs. 3.40 per kWh

The initial rates for subsequent periods in the 4<sup>th</sup> control period is stated to be on the same basis depending on the preceding three months' actuals and subject to adjustment for actual landed cost and GCV of fuels.

**Procedure, norms adopted by APGENCO for estimation of different costs**

26. The annual fixed charges shall cover (a) Return on Capital employed; (b) Depreciation; (c) O&M expenses and (d) Taxes on income as per actuals.

**(a) Return on Capital Employed (RoCE)**

The station-wise RoCE is stated to be computed on the basis of Clause 12.1 of the APERC Regulation 1 of 2008.

- (i) The station-wise Opening Gross Fixed Assets as on 01/04/2019, being the original capital cost, is stated to be considered including the capital expenditure incurred on some of the projects during FY 2014-19. The additional capital expenditure comprises payments made, admitted or released towards R&M works on old stations which were necessary and inevitable for the sustainability of the units which have served their life span and/or required for maintaining environmental norms. The details of Gross fixed assets (GFA) station wise are as hereunder:



**Table No: 2.4**  
**Filings: Gross Fixed Assets (Rs. Cr.)**

<b>Station Name</b>	<b>GFA as on 31.3.2009</b>	<b>Additional Capex 2009-14</b>	<b>GFA as on 31.3.2014 (As approved by APERC)</b>	<b>Additional Capex 2014-19</b>	<b>GFA as on 31.3.2019</b>
Sileru Complex	683.08	3.49	686.57	12.04	698.61
NSRCPH	113.6	0	113.6	1.18	114.78
SRBPH	929.59	16.69	946.28	17.48	963.76
PABR PH	56.68	0	56.68	0.00	56.68
Chettipeta	3.55	0	3.55	0.00	3.55
Dr NTTPS	2865.57	96.67	2962.24	144.83	3107.07
RTPP I	1963.58	47.75	2011.33	33.36	2044.69
RTPP II	1872.97	1.49	1874.46	1.25	1875.71
Dr NTTPS IV	2038.67	80.18	2118.85	38.93	2157.78
RTPP III	1170.26	12.16	1182.42	36.72	1219.14

(ii) The station-wise accumulated depreciation allowed in tariff orders up to 31/03/2019 is stated to be subtracted from the station-wise Gross Fixed Assets for estimation of RoCE.

(iii) Station-wise Working Capital is stated to be computed in accordance with Clause 12.4 of Regulation 1 of 2008. The Working Capital estimated is as given hereunder:

**Table No: 2.5****Filings: Summary of Working Capital (Rs. Cr.)**

<b>Name of the Station</b>	<b>Capacity</b>	<b>FY 2019-20</b>	<b>FY 2020-21</b>	<b>FY 2021-22</b>	<b>FY 2022-23</b>	<b>FY 2023-24</b>
<b>SILERU</b>	725	106.43	112.07	118.10	131.30	138.62
<b>NS RCPH</b>	90	13.54	14.20	14.91	16.51	17.38
<b>SRBPH</b>	770	111.00	116.33	122.03	135.31	142.30
<b>PABR</b>	20	4.91	5.12	5.35	5.78	6.05
<b>Chettipeta</b>	1	0.47	0.50	0.52	0.56	0.59
<b>Dr. NTPS</b>	1260	1116.27	1132.08	1148.93	1171.58	1192.33
<b>RTPP-I</b>	420	421.96	428.48	435.39	446.65	454.70
<b>RTPP -II</b>	420	375.08	379.34	383.87	388.67	393.77
<b>Dr NTPS IV</b>	500	395.33	373.52	377.23	381.17	385.37
<b>RTPP III</b>	210	212.43	212.97	200.46	202.83	205.37
<b>NSTP HES</b>	50	11.87	12.44	12.50	12.57	12.66
<b>RTPP IV</b>	600	630.71	627.18	623.87	620.78	617.92
<b>Dr NTPS V</b>	800	723.82	725.85	721.80	718.04	714.59
<b>Polavaram HES</b>	960			212.85	212.38	209.94

(iv) Debt-Equity Ratio (D/E) is taken as 70:30 stated to be considered as per the Clause 10.13 of the Regulation 1 of 2008.

(v) Cost of Debt is taken as 10.2% stated to be considered at the present interest rates charged by PFC and REC. Return on Equity is taken as 15.5% stated to be considered as per the CERC Regulation. Accordingly, the Weighted Average Cost of Capital (WACC) is stated to be computed as 11.8%.

By following the above norms, the RoCE estimated by APGENCO station/stage wise is as given below:

**Table No: 2.6**  
**Filings: Return on Capital Employed (Rs. Cr.)**

<b>Name of the Station</b>	<b>FY 2019-20</b>	<b>FY 2020-21</b>	<b>FY 2021-22</b>	<b>FY 2022-23</b>	<b>FY 2023-24</b>
Sileru	38.12	36.35	34.63	33.75	32.18
Nagarjuna Sagar RCPH	5.33	4.98	4.65	4.41	4.09
Srisailam Right bank	46.61	43.45	40.34	38.12	35.15
PABR	3.49	3.32	3.16	3.02	2.86
Chettipeta	0.29	0.28	0.27	0.27	0.26
Dr.NTTPS	183.11	180.06	177.15	174.91	177.36
RTPP-I	82.91	81.88	80.90	80.43	79.58
RTPP -II	79.37	78.94	78.55	78.19	77.87
Dr NTTPS IV	133.06	111.96	109.57	107.21	104.87
RTPP III	82.97	72.40	60.30	59.09	57.91
NSTP HES	32.71	33.97	32.79	31.62	30.45
RTPP IV	647.12	602.61	558.12	513.66	469.22
Dr NTTPS V	269.86	792.21	735.90	679.64	623.41
Polavarm HES			85.16	437.02	631.26

**(b) Depreciation**

Depreciation is stated to be computed as per Clause 12.2 of Regulation 1 of 2008 on the historical cost of the assets based on a straight-line method over the useful life of the asset at the rates prescribed in MoP notification dated 21/03/1994.

The Depreciation estimated by APGENCO station/stage wise is given below:

**Table No: 2.7**  
**Filings: Depreciation (Rs. Cr.)**

Station	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Sileru</b>	20.62	20.62	20.62	20.62	20.62
<b>Nagarjuna Sagar RCPH</b>	3.58	3.58	3.58	3.58	3.58
<b>Srisaillam Right bank</b>	32.09	32.09	32.09	32.09	32.09
<b>PABR</b>	1.61	1.61	1.61	1.61	1.61
<b>Chettipeta</b>	0.08	0.08	0.08	0.08	0.08
<b>Dr.NTTPS</b>	41.59	41.59	41.59	0.00	0.00
<b>RTPP-I</b>	15.23	15.23	15.23	15.23	15.23
<b>RTPP II</b>	7.85	7.85	7.85	7.85	7.85
<b>Dr NTTPS IV</b>	156.98	23.97	23.97	23.97	23.97
<b>RTPP III</b>	90.11	90.11	12.57	12.57	12.57
<b>NSTP HES</b>	9.35	10.03	10.03	10.03	10.03
<b>RTPP IV</b>	373.71	373.71	373.71	373.71	373.71
<b>Dr NTTPS V</b>	156.12	473.08	473.08	473.08	473.08
<b>Polavaram HES</b>			23.60	121.62	179.71

**(c) Operation & Maintenance Expenses**

APGENCO has stated to have computed the O&M expenses as per the procedure adopted in CERC 2014 Regulation in accordance with clause 10 of Regulation 1 of 2008 as described below:

**(i) Hydrel Stations:**

The actual O & M expenses for FY2014-15, FY2015-16 and FY2016-17 is escalated by 6.04% year-on-year upto FY2017-2018 to arrive at normalized O&M expenses. The average of the normalized O&M expenses for FY 2014-15 to FY 2017-18 was computed and escalated by 6.64% and a further 20% to take into effect of pay revision to arrive at the normalized O & M expenses for FY 2018-19. The O&M Expenses estimated for FY 2018-19 are escalated by 6.64% year on year to arrive at the O&M expenses for each year of the 4<sup>th</sup> control period. The escalation factor 6.64% was adopted as per the CERC 2014 tariff regulations.

**(ii) Thermal Stations:**

The O&M expenses approved by the Commission for the FY2018-19 vide its order dated 26.03.2016 in O.P. 3 of 2016 is taken as the basis for estimation of O&M expenses. Additional 20% is applied to the approved O&M expenses for FY 2018-19 to take into effect of pay revision in FY 2018-19 to arrive at the O&M expenses for base year. The O&M expenses for each year of the 4<sup>th</sup> control period is estimated with annual escalation of 6.64% by year on year. The escalation factor 6.64% was adopted as per the CERC 2014 tariff regulations.

The estimated O & M expenses station/stage wise are given below:

**Table No: 2.8**  
**Filings: O&M Expenses (Rs. Cr.)**

<b>Name of the Station</b>	<b>FY 2019-20</b>	<b>FY 2020-21</b>	<b>FY 2021-22</b>	<b>FY 2022-23</b>	<b>FY 2023-24</b>
<b>Sileru</b>	168.65	179.85	191.79	204.53	218.11
<b>Nagarjuna Sagar RCPH</b>	18.37	19.59	20.89	22.28	23.76
<b>Srisaillam Right bank</b>	139.11	148.35	158.20	168.70	179.90
<b>PABR</b>	7.80	8.32	8.87	9.46	10.09
<b>Chettipeta</b>	1.20	1.28	1.36	1.45	1.55
<b>Dr.NTTPS</b>	590.46	629.66	671.47	716.06	763.61
<b>RTPP-I</b>	196.81	209.88	223.82	238.68	254.53
<b>RTPP II</b>	196.81	209.88	223.82	238.68	254.53
<b>Dr NTTPS IV</b>	156.86	167.28	178.39	190.23	202.86
<b>RTPP III</b>	98.41	104.94	111.91	119.34	127.26
<b>NSTP HES</b>	7.58	8.08	8.62	9.19	9.80
<b>RTPP IV</b>	117.60	125.41	133.74	142.62	152.09
<b>Dr NTTPS V</b>	51.75	167.22	178.32	190.16	202.79
<b>Polavaram HES</b>			10.41	53.66	79.28
<b>Total</b>	<b>1751.43</b>	<b>1979.75</b>	<b>2121.62</b>	<b>2305.04</b>	<b>2480.16</b>

**(d). Income Tax**

There is no claim in the present filings. APGENCO has stated that the income tax will be claimed on the basis of actual payment from time to time.

**Additional Interest on Pension Bonds**

27. The liability of Rs 4,386.95 crores towards meeting the pension liability of the following was vested in the APGENCO in terms of the statutory First Transfer Scheme dated 30/01/2000 notified by the State Government under the AP Electricity Reform Act, 1998 -

- (a) The pensioners / family pensioners of the erstwhile APSEB as on 31/01/1999 and
- (b) The employees of the erstwhile APSEB as on 31/01/1999 allocated to APGENCO, APTRANSCO and the DISCOMs as per transfer scheme.

An exclusive master trust was established for handling the pension liability as stated above. The obligation entrusted to Master Trust is to pay 100% of the pension commitments of pensioners as on 31/01/1999 and 74% of the pension commitment of employees as on 31.1.1999 and working in unbundled utilities who retired after 01/02/1999. The balance 26% is being funded by the separate P&G Trusts of the APGENCO, APTRANSCO and the DISCOMs.

In this regard, the APGENCO had issued 2 bonds (i.e. Bond I for Rs 1320.43 Cr. towards i.(a) and Bond II for Rs 3066.52 Cr. towards i.(b)) in favour of the Master Trust. Hence APGENCO is required to make the following annual payments as per the bond schedule –

- (a) An amount towards repayment of the principal as per the bonds schedule
- (b) Interest on the outstanding liability as per the bonds schedule
- (c) Additional interest, being the actual amount of pension payment in a year in excess of the aggregate for that year of the scheduled repayment and interest aforesaid as per the bonds schedule.
  - i. The additional interest has been recognized and allowed in the tariff of APGENCO by the erstwhile APERC in the PPA order dated 24.03.2003, tariff order for FY 2006-09 dated 04.07.2013 and also

in its order dated 26.03.2016 in OP 3 of 2016 for the 3<sup>rd</sup> control period (FY2014-15 to FY2018-2019).

- ii. Subsequent to the AP Reorganization Act, 2014, by a transfer scheme notified by the State Government in G.O.Ms.29 dated 31.05.2014 under the provisions of the A.P. Electricity Reform Act, 1998, 58.32% of the outstanding pension liability (i.e. bonds issued to the Master Trust) as on 31.03.2014 was vested in the APGENCO.
- iii. Accordingly, the additional interest is stated to be estimated subject to adjustment for actuals on a year on year basis.

**Table No: 2.9**  
**Filings: Additional Interest on Pension Bonds (Rs. Cr.)**

	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Additional interest on Pension Bonds</b>	991.24	1057.06	1127.25	1382.41	1474.21

28. **Energy Charges / Variable Costs**

APGENCO has stated the following with respect to computation of energy charges/variable costs:

- ii. The Variable costs for the energy supplied from the thermal generating stations, other than the Dr NTTPS Stages I, II & III, are computed on the basis of the operating norms specified in clause 11 and in accordance with the procedure prescribed in Clause 13.1 of the Regulation 1 of 2008 considering the actual landed cost and the GCV of fuels during the 2<sup>nd</sup> quarter of 2018-19.
- iii. Dr NTTPS Stages I, II and III have served for 40 years, 30 years and 25 years respectively. The standard operating life prescribed by CEA for thermal stations is 25 years. In addition to the ageing of units, most of the times the units are running at partial loads on account of increased must-run non-conventional energy generation in the State and the consequent backing down instructions issued by the SLDC. On account of backing down, the percentage auxiliary consumption is also increasing.

The operating parameters of Stages I, II & II were tested by 3<sup>rd</sup> party (Annexure-I) and the average SHR is found to be 2530 kCal/kWh at full load and 2650 kCal/kWh at 65% load. In view of the above, revised norms are adopted in computation of energy charges/variable costs. The details of existing norms and revised norms are as given below:

**Table No: 2.10**

**Filings: Operating norms for Dr NTTPS O&M**

	<i>Existing Norm</i>	<i>Revised Norm</i>
Station Heat Rate	2500 kCal/kWh	2650 kCal/kWh
Auxiliary Consumption	8.75%	10.5%

29. **Incentives & Secondary Energy Charges**

There is no claim in the present filings on incentives and secondary energy charges. APGENCO has stated that the incentives for generation beyond the Target Plant Load Factor for Thermal generating stations and the secondary energy charges for generation beyond the design energy for Hydel generating stations will be claimed annually at the rates specified in the Regulation.

30. **Tungabhadra Dam & Machkund Hydro Power**

APGENCO has stated that it is operating TB Dam HES and Machkund HES partly and the State's share of power generated from these projects is being utilized by the Discoms. The AP Discoms are required to proportionally reimburse their respective share of the actual operating expenses and the fixed charges payable to the State Government.

31. **Conclusion**

The Commission has decided to consider the tariff filings submitted by the APGENCO, which are mentioned in brief in this Chapter, as the basis for determination of tariff for its generating stations for each year of the 4<sup>th</sup> Control Period with due weight being given to views/objections/suggestions of stakeholders, as discussed in Chapter III of this order.



### **CHAPTER - III**

#### **OBJECTIONS, RESPONSES AND COMMISSION'S VIEWS**

32. Sri M. Venugopala Rao, Senior Journalist and Convener, Center for Power Studies, Hyderabad has stated the following:

**Determination of fixed charges without PPAs is improper**

- (i) APGENCO has sought payment of fixed charges for 14 of its power projects and AP's share in inter-State power for a total capacity of 6967.6 MW for the 4<sup>th</sup> control period at Rs.5890.60 Cr. for FY2019-20, Rs.6233.92 Cr. for FY2020-21, Rs.6355.16 Cr. for FY2021-22, Rs.7094.36 Cr. for FY2022-23 and Rs.7509.12 Cr. for FY2023-24. Out of these projects, some are under execution and PPAs need to be signed. Each PPA needs to be examined thoroughly, with all relevant data, through the process of public hearing to ensure transparency and accountability. Without signing PPAs and submitting the same to the Commission for determining the need for purchasing power from the projects concerned, permissible capital costs and tariffs, and without holding public hearings on the same, seeking variable and fixed charges for such projects through the subject filings is improper. The terms and conditions in PPAs need to be examined to fix obligations of the parties to the PPAs in the light of applicable regulations for determination of scheduled date of operation, capital cost and tariff, covering a wide gamut of factors. Due to delay in execution of projects, the Discoms are constrained to purchase power from other sources, including power exchanges, at higher tariffs. The practice of entering into PPAs after declaration of COD, without any schedule for declaration of COD and provision for liquidated damages for delay in declaring COD, when implementation of projects concerned got delayed by several months or even years, resulting in abnormal increase in capital cost even up to 50%, would bail out the developer of the project concerned to go scot-free without paying liquidated damages.

**APGENCO's Response:** APGENCO is entering into PPAs for old stations from time to time duly assessing the balance life of plant. The details of PPAs entered with Discoms for old stations (Dr NTTPS O&M, RTPP I, Sileru complex, SRBPH, NSRCPH, PABR, Chettipeta, Interstate Hydel) are as follows:

	1 <sup>st</sup> PPA period	2 <sup>nd</sup> PPA period	3 <sup>rd</sup> PPA Period	4 <sup>th</sup> PPA Period	5 <sup>th</sup> PPA Period
From	01.02.1999	01.04.2001	01.04.2002	10.06.2005	01.04.2006
To	31.03.2001	31.03.2002	09.06.2005	31.03.2006	31.03.2019

The capital cost for the above projects was already approved by the Commission in its earlier orders. The amended PPA with two Discoms (Respondents) for the period FY2019-20 to FY2023-24 is under execution and the same will be filed before the Commission by Discoms for approval, shortly. Regarding RTPP IV, the PPA was entered with four distribution companies of undivided State and submitted for approval of the Commission in 2011. The PPA was returned by erstwhile Commission. The amended PPA with two Discoms (Respondents) was entered on 28.01.2019 and the same will be filed before the Commission by Discoms for approval shortly.

**Commission's view:** Those generating stations which are under execution and in respect of which no Power Purchase Agreements are in place, leave alone their being approved are not taken into consideration in determining the MYT Tariff of APGENCO. Only those generating stations which have approved or renewed power purchase agreements are taken into consideration, taking due note of the objection.

**Determining capital cost simply based on set parameters is not desirable**

- (ii) Fixing adhoc tariff in the tariff orders or for a Control Period of five years periodically for purchase of power from projects, without insisting on the Discoms and developers of concerned power plants to submit PPAs, holding public hearings and issuing orders thereon by the Commission, is not a desirable practice. When developers take a few years for completion of their projects, there need not be any difficulty in entering into PPA with the Discoms and submit the same to the Commission for its consent in time after holding public hearings. The Commission is requested to direct the Discoms and APGenco to submit their PPAs, including all relevant provisions, subject to need for procuring power from those projects, well in advance before declaration of commercial operation date (COD), hold public hearings and issue its orders thereon, determining capital cost, tariff, etc. Determining capital cost, etc., simply based on set parameters is not desirable, especially

when it is abnormal, for various reasons. The procedures adopted for competitive bidding, selection of EPC contractors, the way in which the projects are implemented, how capital cost is getting increased, sources of allocation of fuels, their costs, mode of transportation, etc., need to be examined project-wise thoroughly and prudent expenditures need to be determined, pointing out unwarranted expenditure and manipulations, if any, in detail in the orders to be issued by the Commission. In this connection, relevant reports of the Comptroller and Auditor General of India, if any, need to be examined.

**APGENCO's Response:** The PPA for RTPP IV was entered with four distribution companies and submitted for approval of the Commission in 2011. The PPA was returned by erstwhile Commission. The amended PPA with two Discoms was entered on 28.01.2019 and the same will be filed before the Commission by Discoms for approval shortly.

APGENCO awarded contracts duly calling tenders under competitive bidding and APGENCO will provide all the required information sought by the Commission.

**Commission's view:** While approval of the Power Purchase Agreements before the declaration of the Commercial Operation Date including about the tariff is a desirable situation, when only the Commission is confronted with generation and supply of power to the utilities being made even before a Power Purchase Agreement was entered into or placed before the Commission or approved by it, fixation of adhoc tariff is becoming unavoidable so as to not keep valuable public resources of generation of power idle to the detriment of public and consumer interest and protect the power procurement plans of the DISCOMs. It has been the general experience that regular tariff whenever fixed was higher than the adhoc tariff fixed and paid at any time.

### **Orderly development of the power sector**

- (iii) Irrespective of demand growth, availability of power and substantial surplus power, need for adding installed capacities periodically based on requirement of power for meeting growing demand, the GoAP has been forcing the Discoms to enter into PPAs indiscriminately with new power plants, especially of non-conventional energy, at very high generic tariffs determined by the

Commission and the latter has been giving its approvals for the same. As a result, plants of AP Genco are being backed down. In the subject filings, AP Genco has pointed out that “in addition to the ageing of units, most of the times the units are running at partial loads on account of increased must-run non-conventional energy generation in the State and the consequent backing down instructions issued by the SLDC. On account of backing down, the percentage of auxiliary consumption is also increasing” (8.2 of volume 1 of 2). If the GoAP continues its misadventure of forcing the Discoms to enter into PPAs to purchase unwarranted power, both non-conventional and thermal, at higher tariffs and unrelated to requirement to meet demand, the problems of surplus power and avoidable burdens related thereto and of AP Genco will get intensified, leading to anarchy in the power sector. Therefore, the Commission is requested to exercise its legitimate regulatory authority to check the anarchy and ensure orderly development of the power sector and supply of power to the consumers at reasonable tariffs.

**APGENCO’s Response:** The load forecast studies are not in purview of APGENCO and APGENCO is planning projects duly considering peak demand and future power requirements with the approval of GoAP.

Regarding backing down, the scenario in the country is that the PLF of thermal generating stations in the year 2009-10 is 77.5% and the same was 59.68% as per information provided at clause 5.2.1 of CERC discussion paper. There will be an impact on operating parameters at lower PLFs and also being an older station. APGENCO requested for relaxed norms for Dr NTTPS I, II, III. APGENCO not proposed any relaxed norms for other stations.

**Commission’s view:** The well-considered advice will be undoubtedly kept in view by the Commission in exercise of its legitimate regulatory authority, which in its humble view was exercised even in the past to ensure orderly development of the power sector and supply of power to the consumers at reasonable tariff.

**Consideration of Fixed charges without PPAs consent does not arise**

- (iv) Regarding fixed charges, AP Genco has submitted that Dr NTTPS V is considered from December, 2019 and the fixed cost for RTPP stage IV for the year FY2018-19 is not claimed in 3<sup>rd</sup> control period (FY2014-15 to FY2018-19) and hence the same is claimed now @ 25% availability as a prior

period cost. Till declaration of COD, any generation achieved by any power plant with whom the Discoms enter into a PPA should be treated as infirm power. No PPAs for these two projects are submitted for the consideration of the Commission and there is no consent for the same. Therefore, considering these projects for payment of fixed charges does not arise. When such is the case, there is no basis for AP Genco to claim fixed cost for RTPP stage IV for FY2018-19 @ 25% availability as a prior period cost.

**APGENCO's Response:** The PPAs for RTPP IV and Dr NTPPS V were entered with four distribution companies of undivided state and submitted for approval of the Commission in 2011. The PPAs were returned by erstwhile Commission on 11.08.2014. The amended PPAs with two Discoms are under execution and the same will be filed before the Commission for approval shortly.

The power generation between date of synchronization of unit and date of COD will be termed as infirm power and entitled for variable cost only. APGENCO claimed fixed cost from date of COD only and not claimed any fixed cost for infirm power.

**Commission's view:** The Commission did not consider grant of any fixed cost for RTPP-IV for FY2018-19 in view of the absence of any Power Purchase Agreement.

### **Examine the prices paid for imported coal and transportation of Coal**

- (v) APGenco (and NTPC) is adopting a contrived bidding process for importing coal confining it to a few selected marketing agencies, without calling for international competitive bids giving scope for actual producers of foreign coal and their Indian suppliers to participate in the bidding. In response to these issues in connection with the true up claims of the Discoms for the second control period, APSPDCL explained that "AP Genco has been inviting conventional mode of limited tenders" from seven public sector undertakings out of which only five companies participated in various tenders called for the second control period. The companies participated in those tenders are all marketing agencies, not producers of coal. SPDCL also informed that "depending on the urgency and other contingencies, the orders exiting during that time, were also extended at the same rate, terms and conditions." It is necessary to examine the prices paid by AP Genco for imported coal of same

grade in comparison with international prices of coal prevailing at the relevant periods, both for orders given and orders extended. Similarly, it is also necessary to examine the mode of transportation of coal and the charges paid for the same comparing them with other transactions relating to transportation of coal by other plants from the same points of despatch.

**APGENCO's Response:** APGENCO is not using imported coal in its thermal stations. APGENCO is transporting coal from SCCL through all Rail Route and whereas from MCL mines through Rail made and Rail-cum-Sea-cum-Rail mode by calling tenders.

**Commission's view:** If there is no use of imported coal as claimed by APGENCO, the objection has no relevance.

- (vi) AP Genco is claiming station heat rate of 2650 kCal per kWh against the existing norm of 2500 kCal per kWh and auxiliary consumption of 10.5% against the existing norm of 8.75% for stages I, II and III of Dr NTTPS at 65% load.

**APGENCO's Response:** The scenario in the country is that the PLF of thermal generating stations in the year 2009-10 is 77.5% and the same was 59.68% as per information provided at clause 5.2.1 of CERC discussion paper. There will be an impact on operating parameters at lower PLFs and also being an older station. APGENCO requested for relaxed norms for Dr NTTPS I, II, III. APGENCO not proposed any relaxed norms for other stations.

**Commission's view:** APGENCO explained the reasons for deviation from the norms.

#### **Impact of pay revision on tariffs needs to be regulated**

- (vii) AP Genco has claimed that the pay scales of the employees were revised with effect from 1.4.2018 and that it has adopted the HRA, CCA and gratuity revised by the GoAP to its employees. AP Genco has submitted that the effect of the aforesaid pay revision to the tune of Rs.223.75 Cr. for FY2018-19 was not included in the tariff for FY2014-15 to FY2018-19 and that the same is being claimed in FY2019-20 as prior period expenses. The O&M charges claimed by APGenco for FY2019-20 to FY2023-24 annually are Rs.1751.43 Cr. (FY2019-20), Rs.1979.75 Cr. (FY2020-21), Rs.2121.62 Cr. (FY2021-22), Rs.2305.04 Cr. (FY2022-23) and Rs.2480.16 Cr. (FY2023-24). The

Commission has been allowing the financial impact of periodical wage revision for the employees of AP Genco and other power utilities of the State Government, though the rates of revision tended to be higher, irrespective of permissible parameters of O&M expenses. While pay revision for its employees is being decided and the impact of pay revision is being borne by GoAP, the impact of pay revision for employees of the power utilities is being passed on to the consumers of power as a part and parcel of the tariffs to be paid by them as determined by the Commission. As such, under this regulatory regime, the impact of pay revision on tariffs needs to be regulated as a part and parcel of determining total O&M expenditure as per applicable parameters.

**APGENCO's Response:** APGENCO has been formed as per the provisions of AP Reform Act, 1998. The existing benefits to the employees transferred from erstwhile APSEB to successor companies should not be inferior when compared to the provisions during APSEB regime. Hence, all power utilities of AP including APGENCO extending PRC benefit to its employees once in four years. In addition to regular employees, the wages of contract employees are being enhanced as per the provisions of minimum wages prescribed. APGENCO is claiming 20% enhancement towards wage commitment as approved by the Commission in its earlier orders.

**Commission's view:** As the APGENCO restricted its claim to 20% enhancement of wage commitment in tune with the practice adopted by the Commission in its earlier orders and did not claim the actual expenditure due to wage revision, the same is considered reasonable and accepted by the Commission.

**Additional capital cost shall not be permitted**

(viii) APGenco has claimed additional capital expenditure of Rs.258.43 Cr. for FY2009-2010 to FY2013-14 and Rs.285.79 Cr. for FY2014-15 to FY2018-19 for some of the projects. Clause 10.8 of Regulation No.1 of 2008 of APERC says: "Capital cost: Subject to prudence check by the Commission based on information filed by the generating company, licensees, evidence from other Commissions, generating companies, licensees and international experience etc. the Commission shall determine the Capital Cost of the project. The Capital Cost as determined above, shall also include further capital

expenditure incurred if any up to the first financial year closing one year after the date of commercial operation of the last unit of the project, its stage or the unit, as the case may be is admitted by the Commission.” Additional capital costs claimed by AP Genco can be permitted subject to this clause. After declaration of COD, in which year, how much amount was incurred, for what purpose under additional capital expenditure, and under which provisions it is permissible is not explained by AP Genco for the 3rd control period and to be incurred for the 4th control period of FY2019-20 to FY2023-24. Similarly, for old plants additional capital expenditure during FY2014-15 to FY2018-19 cannot be permitted. When PPAs for projects under execution are not signed and no consent of the Commission is sought, the question of considering additional capital cost in advance does not arise.

**APGENCO’s Response:** The Commission has approved 258.43 Cr. for the period from FY2009-2010 to FY2013-14 towards capital expenditure incurred in its order dated 26.03.2016 in OP 3 of 2016.

Similarly, APGENCO has filed Rs 285.79 Cr. towards actual additional capital expenditure incurred during FY2014-15 to FY 2017-18. APGENCO not claimed any capital expenditure to be incurred for the control period FY2019-20 to FY2023-24.

The above expenditure is necessary for sustainability of older units and maintenance of generating stations. APGENCO has claimed actual capital expenditure duly certified by auditors for the purpose of tariff.

The claim of APGENCO for a period of 5 years on 2810 MW thermal capacity and 1797.6 MW hydel stations is reasonable.

**Commission’s view:** The claimed capital expenditure was subjected to a rigorous prudence check by the Commission which approved only Rs.215 Cr. under this head as against the claim of Rs. 285.79 Cr. by the APGENCO.

**Advise GoAP to take over the liability of additional interest on pension bonds**

- (ix) AP Genco is seeking additional interest on pension bonds and contribution to P&G Trust, as explained in its filing, as pass through. AP Genco has claimed thousands of crores of Rupees towards interest on pension bonds (over and



above schedule) - Rs.991.24 Cr. (FY2019-20), Rs.1057.06 Cr. (FY2020-21) Rs.1127.25 Cr. (FY2021-22), Rs.1382 Cr. (FY2022-23) and Rs.1474.21 Cr. (FY2023-24). While approving the first transfer scheme, the Commission had permitted revaluation of the assets of AP Genco to provide for pension reserve funds which the erstwhile APSEB had not provided and maintained. The Commission had been liberal in allowing additional interest on a year to year basis in the earlier tariff orders. Pension funds are supposed to be provided by the contributions of employees and managements and interest thereon earned periodically. As such, it is not fair to continue to impose such interest burdens on the consumers by allowing them as pass through periodically. The erstwhile APSEB failed in discharging its responsibility. In the transfer schemes, while unbundling the erstwhile APSEB, additional burdens in terms of pension liabilities had been imposed on APGenco. Moreover, in the initial three-year period after unbundling, APGenco was denied, as a matter of policy by the GoAP, about Rs.1800 Cr. @ Rs.600 Cr. per annum, from the permissible tariffs to it, thereby forcing it to cross-subsidize the consumers and reducing the subsidy to be provided by the Government. As the Commission is aware, the State Government has been taking over 75% liabilities of AP Discoms under Ujjwal Discoms Assurance Yojana (UDAY) which is signed by the Government of India, GoAP and its Discoms. In view of the above explained submissions, the Commission is requested to give a piece of advice to the Government of A.P. to take over the pension liabilities of AP Genco, unrelated to UDAY, and settle the issue permanently, instead of continuing to impose unjust burdens on the consumers of power in the form of interest on pension bonds every year.

**APGENCO's Response:** The pension liability was vested in APGENCO two decades back through transfer scheme. APGENCO has issued bonds in the year 2002 which are redeemable over a period of 30 years as per provisions of G.O. Ms. No.11, dt.30.01.2000 and 20 years is already completed.

**Commission's view:** The additional interest on pension bonds was accepted to the extent found provisionally admissible on due verification by the Commission. However, the request of the objector that the Government of Andhra Pradesh shall bear the additional burden be extracted and communicated to the Principal Secretary, Energy, GoAP for favourable consideration.

**Operating Parameters need to be examined**

- (x) Different parameters for operation of the plants need to be examined. For example, while the Commission determined a PLF of 85% for Sri Damodaram Sanjeevayya Thermal Power Plant with super critical technology, APGenco has proposed a PLF of 80% only for Dr. NTTPS-V with super critical technology in the subject filings.

**Reply of APGENCO:** As per clause 2.1. (q) of APERC regulation 1 of 2008, Generating company should declare availability duly considering availability of fuel.

As per CEA guidelines, Ministry of coal is sanctioning linkage only for 90% of Coal required for achieving 85% PLF. i.e. equaling to 76.5%PLF.

Further, 76.5% linkage quantity will be based on invoice grade at source, whereas the actual coal consumption is based on as fired basis. Therefore, the linkage quantity is sufficient only to achieve about 70% PLF.

Further, there are transportation constraints to achieve 100% materialization of linkage quantity.

Therefore, APGENCO has to procure premium coal either by MOU or through imports to achieve normative PLF of 80%.

CERC in the discussion paper on draft tariff regulations for FY2019-2020 to FY2023-24 at clause 23.1 discussed the difficulties in coal procurement in the country. At clause 23.2, CERC suggested for procurement of imported coal and e-Auction coal to meet the coal shortages to achieve the normative PLF.

The energy charges will increase on account of procurement of coal from sources other than linkages.

**Commission's view:** The suggestion will be kept in view as and when either the Power Purchase Agreement and/or Tariff determination concerning this project comes up before the Commission.

33. In response to APGENCO replies to his objections, Sri M. Venugopala Rao, has further submitted, inter-alia, the following points for consideration by the Commission.

- i. While approving the PPAs for RTPP IV and Dr NTTPS V, the Commission is requested to examine the legal tenability for avoiding signing PPAs with the two Discoms of Telangana and also the views of the Discoms shall be ascertained in this regard.
- ii. Commission is requested to direct the Discoms to enter into PPA with APGENCO and submit the same project-wise for its consideration.
- iii. Since AP Genco has contended that it is taking up new projects as approved by GoAP, a condition should be incorporated in the PPAs of new projects that the Discoms shall take power from these projects to the extent required and subject to merit order dispatch and that for backing down no fixed charges shall be paid by them. Genco can sell the balance surplus power in the market or to any other State, if possible. The fixed charges for backing down shall be paid by GoAP to AP Genco.
- iv. The Commission is requested not to give its consent to PPAs, if any, entered into by AP Discoms with any private power project/s, both conventional and NCE, till power from the projects of AP Genco is fully utilized by the Discoms.
- v. There should be long-term PPAs with the projects of AP Genco and consent of the Commission be given once for all, without any need to approach it once in every quinquennium for determination of tariffs afresh.
- vi. Govt. of India should impose a condition on the companies supplying fuels like indigenous coal and natural gas that they should not sell their fuels to others, either through e-auction or otherwise, until and unless they fulfil their commitments to power plants and other sectors as per allocations made by it. Violation of such a condition should result in imposition of hefty penalty on those companies. The coal and gas companies also should not enter into fresh fuel supply agreements unless and until they honor their commitments fully under the existing FSAs. Further, the GoI should not make fresh allocations of fuels like indigenous coal and natural gas till the companies supplying the same as per allocations made by it met fully.

**Commission's View:** These suggestions be communicated to the State Government, APPCC, APGENCO, AP Transco and the DISCOMs to be kept in view when such issues arise before them. The Commission will also have due regard to these suggestions while considering such issues.

34. Sri P. Siva Rao, Standing Counsel on behalf of APDISCOMs, has stated the following:

**Adoption of CERC norms**

- (i) APGENCO selectively adopted certain CERC norms only like norms for O&M expenses, ROE etc. This selective adoption of norms is not acceptable. The Commission is requested to consider other CERC norms also such as norms for SHR, Auxiliary Energy consumption, Oil consumption, target availabilities, target PLFs, GCVs of coal on received basis for billing purpose etc. while determining the tariff. Further, CERC is likely to issue new Tariff Regulations for FY2019-20 to FY 2023-24 in February, 2019. Hence, the latest norms specified in the above Regulation may be considered.

**APGENCO's Response:** APGENCO has made tariff filings as per Regulation 1 of 2008 issued by the Commission. At clause 10 of the said Regulation, the amendments made by CERC from time to time to its tariff regulations are applicable on adoption by the Commission. The Commission has considered O&M costs, O&M escalation and RoE as per CERC Regulations, 2014 in its order dated 26.03.2016 in OP 3 of 2016 while determining tariff for APGENCO stations. Hence, APGENCO considered the same for tariff filings for the 4<sup>th</sup> control period.

**Commission's view:** When APGENCO followed CERC norms to the extent adopted by this Commission, it is in tune with Regulation 1 of 2008.

**Truing up of working Capital**

- (ii) APGENCO is not able to maintain the coal stock as considered in the working capital. Hence, provision may be made in the tariff order for subsequent truing up of working capital based on the actual coal stock.

**APGENCO's Response:** Interest on working capital will be on normative basis as per clause 12.4 of APERC Regulation 1 of 2008. If actuals are to

be considered, Discoms are over due by 3 months in addition to the 2 months allowed. Hence 5 months receivables are to be considered in working capital instead of 2 months.

**Commission's view:** There is no provision for truing up of working capital.

**Prudent check of additional capital expenditure**

- (iii) The additional capex claimed by APGENCO for FY 2014-15 to FY 2018-19 may be prudently checked. Any liquidated damages, penalties collected from the suppliers, contractors may be deducted from the capex.

**APGENCO's Response:** APGENCO has incurred additional capital expenditure for sustainability of the units and on need basis. APGENCO will provide all the information required by the commission for prudence check.

**Commission's view:** Prudence check was made.

**Capital cost determination for new projects based on benchmark**

- (iv) The capital costs of new projects (whose capital costs are yet to be determined) may be compared to the benchmark capital costs of similar projects while determining the tariff. For delays in the commissioning of the new projects, IDC may be disallowed for the delayed period.

**APGENCO's Response:** APGENCO will provide all the information required by the commission for prudence check. IDC may be allowed after examining the valid reasons for delay.

**Commission's view:** Item-wise prudence check is project specific by the Commission in the relevant proceedings before it.

**Monthly submission of Fuel Cost Adjustment bills**

- (v) APGENCO may be directed to submit Fuel Cost adjustment (FCA) every month (instead of every quarter) along with the regular bills as is being done by NTPC to avoid distortion of merit order system.

**APGENCO's Response:** Will comply with the directions of the Commission.

**Commission's view:** APGENCO may furnish their views on the feasibility

of monthly submission of FCA to the Commission and the DISCOMs within a fortnight and the DISCOMs may furnish their views on the same to the Commission and APGENCO within a fortnight therefrom on which the Commission will take a decision on merits.

**Exclusion of pay revision from O&M expenses**

- (vi) Since APERC Regulation 1 of 2008 or CERC Tariff Regulations for FY2014-15 to FY2018-19 or draft Tariff Regulation for FY2019-20 to FY2023-24 do not have a provision for pay revision, the same may be excluded from O&M expenses.

**APGENCO's Response:** Pay revision is once in 10 years for the central generating stations. CERC is providing for pay revision commitment in its Regulation as and when revision of scales was due for central generating stations. Accordingly, pay revision of 50% was provided in CERC tariff Regulations for the period FY2009-10 to FY2013-14.

For the State power utilities, pay revision is due once in four years as per the Tripartite agreement entered with Unions and Associations. Accordingly, the Commission has approved the pay revision commitment of 2002, 2006, 2010 & 2014 while determining the tariff of APGENCO stations. On similar grounds APGENCO filed for inclusion of 2018 PRC commitment in tariff determination for the 4<sup>th</sup> Control Period.

**Commission's view:** Regulation 1 of 2008 defined operation and maintenance expenses or O&M expenses as including the expenditure on manpower and whatever extra expenditure has to be incurred due to pay revision at any given point of time is part of the expenditure on manpower at that time and has to be taken into consideration as clause 10.5 of Regulation 1 of 2008 lays down that the annual fixed charges of a thermal or hydro power generating station shall consist of recovery of O&M expenses also among other things. The mere absence of specific reference to the word 'pay revision' makes no difference.

**Defer tariff determination for old stations**

- (vii) The composite PPA for old stations is going to expire by 31.03.2019. APGENCO has proposed to renew the PPA for 5 more years i.e. upto 31.03.2024 and submitted draft composite PPA to DISCOMs a few days

back only. The same is under examination. Further, the Commission in its order dated 13.12.2017 directed APDISCOMs not to enter into any fresh Power Purchase Agreements with any power developer using any source or fuel for power generation, without prior intimation to and permission from the Commission until further orders from the Commission depending upon any change of circumstances or exigencies of the power sector in the State. Therefore, the Commission is requested to defer the tariff determination process of old stations for the fourth control period i.e. FY 2019-20 to FY2023-24 till a decision is taken on the renewal of the composite PPA.

**APGENCO's Response:** The stations referred were transferred from erstwhile APSEB and vested with APGENCO vide GOMs No.11 dated 30.01.2000. APGENCO had entered into PPA with Discoms which is valid upto 31.03.2019. APGENCO has proposed for renewal of PPA on 12.07.2018. In response to APGENCO's proposal, APPCC has sought for additional information on 26.07.2018. APGENCO has provided the information on 21.08.2018 and requested for meeting to finalize the issues. Based on the discussion of the meeting, APGENCO has communicated final draft on 09.01.2019. In addition to the above, APGENCO has sought confirmation regarding power procurement from APGENCO old stations on 11.12.2018 in order to make tariff filings before the Commission. The APPCC has given its confirmation vide letter dated 27.12.2018 for procurement of power. The tariff filings were made duly mentioning the same at para no.1.8 in volume I. Further, the pension commitment of Master Trust in respect of all AP power Utilities is recovered through tariff from the old stations as per the transfer scheme ordered vide G.O. Ms. No.11 dt.30.01.2000.

**Commission's view:** Now that the Power Purchase Agreements between the parties specifying the agreed tariff also are before the Commission for consideration, this request becomes redundant.

35. Sri Ch. Subba Rao, Guntupalli, Krishna (Dt) during the public hearing on 01.02.2019 held at Hyderabad has stated that APGENCO is disposing Dr. NTTPS plant waste through the water canals. As a result, the agricultural lands around Dr. NTTPS plant are not useful for cultivation. Hence, APGENCO has to buy the lands around Dr. NTTPS plant.

**APGENCO's Response:** APGENCO is disposing 100% fly ash to the external agencies as per the guidelines provided by MoE&F and in case of any undisposed wet ash is being transferred to ash pond. There is no possibility to release waste into the canals.

**Commission's View:** The learned objector may bring the issue to the notice of the AP Pollution Control Board for necessary remedial action.

36. Sri Ch. Venugopal Rao, AP Federation of Farmers' associations, during the public hearing on 01.02.2019 held at Hyderabad, has stated that:

- The green belt has not been properly maintained near APGENCO thermal plants.
- APGENCO shall dispose 100% fly ash.
- APGENCO has not made it clear how the CSR funds were spent.

**APGENCO's Response:**

- The green belt is being maintained at all its thermal plants as per environmental norms.
- APGENCO is putting all best efforts for 100% ash disposal.
- The CSR funds are being spent through the respective district collector's where the plant is located and amount of expenditure spent are available in books of records that are available on its website.

**Commission's view:** The assertions of the objector are denied by APGENCO and no view can be expressed by the Commission.

37. Dr. K. Babu Rao, Senior Scientist (Rtd.), Hyderabad during the public hearing on 01.02.2019 held at Hyderabad has orally stated that the environmental pollution effect and its effect on people health surrounding the thermal plants are not taken into account while determining the tariff for thermal power stations by any Commission. Therefore, the Commission is requested to discourage the expansion of thermal power plants, close down the old thermal power plants which have served their useful life and encourage renewable energy in large scale.

**APGENCO's response:** APGENCO is putting all best efforts to maintain the emission from its thermal plants within the prescribed limits as specified by



Pollution Control Board (PCB) and MoE&F. The power requirement to the extent of 60% to 70% is being met from thermal plant. The share of power procurement from NCE sources is increasing rapidly year on year. APGENCO has also taken up 400 MW solar plant near Tadipatri and commissioned it recently.

**Commission's View:** Restricting or dispensing with thermal power generation is a matter of State policy and the objection be communicated to the Principal Secretary, Energy, GoAP for appropriate action.

38. Sri R. Shiv Kumar, FTAPCCI and APSMA, during the public hearing on 01.02.2019 held at Hyderabad has stated that:

- a. The performance of APGENCO is deteriorating. Its PLF has come down from 85% in the past, to 63% now.
- b. The PLF of RTPP IV is being observed at 10.34%.
- c. Details of Plant availability were not mentioned in the filings.
- d. Overall PLF projected for APGENCO plants is 55% and claimed full fixed charges corresponding to 80% PLF.

**APGENCO's Response:**

- a. The PLF of thermal stations are in downward trend due to increasing power generation from NCE sources throughout the country and AP is not an exceptional. However, the Plants availability is being maintained at more than 80%. Which is normative availability fixed by Commission for claiming 100% Fixed charges.
- b. The power procurement from RTPP IV by the Discoms is on need basis since PPA is yet to be approved by the Commission.
- c. The plant wise availability along with other technical information was provided in volume II of tariff filings. The filings are available in APGENCO and Commission's website.
- d. The fixed charges will be claimed and paid based on normative availability of 80% as per Regulation 1 of 2008 as provided in PPA. All APGENCO plants are expected to achieve 80% normative availability and the PLF depends on grid requirement and merit order dispatch.

**Commission's View:** Nothing more to add.

39. Sri Vijay Gopal Reddy, AP Ferro Alloys Producers Association, during the public hearing on 01.02.2019 held at Hyderabad has stated that:

- APGENCO Thermal plants are causing pollution.
- Ministry of Power guidelines on flexibility of bundling renewable energy with existing thermal power for dispatch as per the existing PPAs may need to be examined to establish renewable power plants (Solar & Wind) in a big way by APGENCO.

**APGENCO's response:**

- APGENCO is putting all best efforts to maintain the emission from its thermal plants within the prescribed limits as specified by Pollution Control Board (PCB) and MoE&F. The power requirement to the extent of 60% to 70% is being met from thermal plant.
- The share of power procurement from NCE sources is increasing rapidly year on year. APGENCO has also taken up 400 MW solar plant near Tadipatri and commissioned it recently. APGENCO will examine the suggestion made by the objector regarding flexibility of bundling renewable energy with thermal power.

**Commission's view:** Nothing more to add.

## **CHAPTER - IV**

### **DETERMINATION OF FIXED CHARGES**

40. In this chapter, the Commission has examined tariff filings with respect to fixed charges made by the APGENCO for its generating stations for the fourth control period. The Commission, while examining the tariff filings with respect to fixed charges, has reckoned/ considered all the views/objections/suggestions expressed by the stakeholders in writing during public hearings, which have been elaborated in chapter III, to the extent they are relevant to the subject matter.
41. APGENCO has filed tariff filings for its generating stations viz. Dr NTTPS I-III (1260 MW ), RTPP I (420 MW), Dr NTTPS IV (500 MW) RTPPII (420 MW), RTPP III (210 MW), RTPP IV (600 MW), Dr NTTPS V (800 MW) thermal stations, SRBPH (770 MW), Sileru complex (725 MW), NSRCPH (90 MW), PABR (20 MW), NSTPHES (50 MW), Chettipeta (1MW), Polavaram HES (960 MW) and Machkund HES (84 MW) & TB dam HES (57.6 MW) hydel stations.
42. The Commission has not determined the tariff for Dr NTTPS V (800 MW), RTPP IV (600 MW) and Polavaram HES (960 MW) at present as the PPAs for these projects are not yet approved by the Commission. After consent to the PPAs following the prescribed procedure by the Commission and on filing of application by APGENCO, the Commission will determine tariff for these projects following the due procedure.
43. The composite PPA is going to expire by 31.03.2019 for Dr NTTPS I-III(1260 MW ), RTPP I (420 MW), thermal stations, SRBPH (770 MW), Sileru complex (725 MW), NSRCPH (90 MW), PABR (20 MW), Chettipeta (1MW) and Machkund HES (84 MW) & TB dam HES (57.6 MW) hydel stations and is stated to be under execution as per the filings. Subsequently, the respondent Discoms have submitted their proposal to procure power from these projects for the period from 01.04.2019 to 31.03.2024 to the Commission by renewing the existing composite PPA. This is under consideration of the Commission and hence the tariff for these stations for the fourth control period has been determined along with the other stations which have valid PPAs.

44. As per the clause 10.5 of regulation 1 of 2008, the annual fixed charges of a thermal generating station or of a hydro power generating station, as the case may be, shall consist of recovery of the following:
- a) Return on Capital Employed (RoCE);
  - b) Depreciation;
  - c) O&M Expenses;
  - d) Income tax as per actuals;

**Determination of Gross Fixed Assets (GFA)**

45. As a prelude to determine the annual fixed charges, the Commission has determined the Gross Fixed Assets (GFA) as on 31.03.2019 on the basis of its order dated 26.03.2016 in OP. No.3 of 2016 in the matter of determination of tariff for APGENCO generating stations for the 3<sup>rd</sup> control period and order dated 07.04.2018 in the matter of consent of PPA for NSTPHES. In addition to the above, the Commission has taken into consideration the additional capital expenditure incurred by APGENCO during the period FY2014-15 to FY2017-18 for the stations which are considered for tariff determination at present.

With reference to capital cost determination of NSTPHES whose PPA was approved by the Commission on 07.04.2018, the audited certificate (Annexure-G) is obtained subsequently which certified that the capital expenditure upto cutoff date (31.03.2018) was Rs. 293.67 Cr. and capital expenditure incurred during FY2018-19 was Rs. 3.90 cr. The Commission has approved the capital expenditure incurred upto cutoff date as per the Regulation 1 of 2008.

Further, the Commission has examined the item wise expenditure of additional capital works based on the audited certificate obtained by the Commission subsequently (Annexure - D) with reference to Clause 10.9.(iv) of Regulation 1 of 2008 which is produced below.

*“Any additional works / services that became necessary for efficient and successful operation of the generating station, but not included in the original project cost”*

Keeping the above in view, the additional capital expenditure incurred to the tune of Rs 214.53 Cr. has been approved as against Rs 285.79 Cr. filed. Some brief details of capital works approved are as follows:

- i. Construction of Administrative block, Guest house, Hospital building, School building and quarters for CE and SE at Srisailam Right bank power House which are necessary since the above facilities are not available.
- ii. Construction of staff quarters for employees working in NSRCPH after bifurcation of state and replacement of trash rack elements after serving over a period of 25years is found necessary.
- iii. Construction of staff quarters, Hospital building, Dam woks and construction of concrete retaining wall on power canal in Sileru complex.
- iv. The capital works which are essential to improve the performance and efficiency of thermal power plants etc.

With the above changes to the filings, the GFA has been computed by the Commission. GFA computed by APGENCO and the Commission are given in the tables below:

**Table No: 4.1**  
**Filings: Gross Fixed Assets (GFA) (Rs. Cr.)**

<b>S. No.</b>	<b>Station Name</b>	<b>GFA as on 31.3.2014 as approved in OP 3 of 2016</b>	<b>Additional Capital expenditure during 2014-19</b>	<b>GFA as on 31.3.2019</b>
1	Sileru Complex	686.57	12.04	698.61
2	NSRCPH	113.6	1.18	114.78
3	SRBPH	946.28	17.48	963.76
4	PABR PH	56.68	0.00	56.68
5	Chettipeta	3.55	0.00	3.55
6	Dr NTTPS	2962.24	144.83	3107.07
7	RTPP I	2011.33	33.36	2044.69
8	RTPP II	1874.46	1.25	1875.71
9	Dr NTTPS IV	2118.85	38.93	2157.78
10	RTPP III	1182.42	36.72	1219.14
11	NSTPHES	-	-	275.42
	<b>Total</b>		<b>285.79</b>	

**Table No: 4.2****Approved: Gross Fixed Assets (GFA) (Rs. Cr.)**

<b>S.No.</b>	<b>Station Name</b>	<b>GFA as on 31.3.2014 as approved in OP 3 of 2016</b>	<b>Additional Capital expenditure during 2014-19</b>	<b>GFA as on 31.3.2019</b>
1	Sileru Complex	686.57	10.3	696.87
2	NSRCPH	113.6	1.02	114.62
3	SRBPH	946.28	15.92	962.20
4	PABR PH	56.68	0	56.68
5	Chettipeta	3.55	0	3.55
6	Dr NTTPS	2962.24	105.66	3067.90
7	RTPP I	2011.33	28.91	2040.24
8	RTPP II	1874.46	1.02	1875.48
9	Dr NTTPS IV	2118.85	17.83	2136.68
10	RTPP III	1182.42	33.87	1216.29
11	NSTPHES	-	-	293.67
	<b>Total</b>		<b>214.53</b>	

**Determination of Depreciation:**

46. As per the clause 12.2 (b) of Regulation 1 of 2008, for the purpose of tariff, depreciation shall be computed in the following manner namely:

- i. *The value base for the purpose of depreciation shall be historical cost of the asset;*
- ii. *Depreciation shall be calculated annually, based on straight line method over the useful life of the asset and at rates prescribed in Ministry pf power notification dated 21-03-1994, as amended till date.*

*The residual life of the asset shall be considered as 10% and depreciation shall be allowed upto a maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing the historical cost of the asset.*

- iii. On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.
- iv. Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

The depreciation amounts station wise have been computed as per the procedure stated above on the Gross Fixed assets approved by the Commission in this order and based on the accumulated depreciation approved by the Commission in OP.No.3 of 2016. The depreciation computed by the Commission for the 4<sup>th</sup> control period is Rs 890.07 Cr. as against 1050.36 Cr. filed. The depreciation filed by the APGENCO and approved by the Commission are given in the tables below.

**Table No: 4.3**  
**Filings: Depreciation (Rs. Cr.)**

S. No.	Station name	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	4 <sup>th</sup> Control Period
1	Sileru complex	20.62	20.62	20.62	20.62	20.62	103.10
2	Nagarjuna Sagar RCPH	3.58	3.58	3.58	3.58	3.58	17.91
3	Srisailam Right bank	32.09	32.09	32.09	32.09	32.09	160.45
4	PABR	1.61	1.61	1.61	1.61	1.61	8.04
5	Chettipeta	0.08	0.08	0.08	0.08	0.08	0.40
6	Dr.NTTPS	<b>41.59</b>	41.59	41.59	0.00	0.00	124.77
7	RTPP-I	<b>15.23</b>	15.23	15.23	15.23	15.23	76.15
8	RTPP II	7.85	7.85	7.85	7.85	7.85	39.27
9	Dr NTTPS IV	156.98	23.97	23.97	23.97	23.97	252.86
10	RTPP III	90.11	90.11	12.57	12.57	12.57	217.93
11	NSTP HES	9.35	10.03	10.03	10.03	10.03	49.47
	Total	379.10	246.76	169.23	127.63	127.63	1050.36

**Table No. 4.4**  
**Approved: Depreciation (Rs. Cr.)**

S. No	Station name	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	4 <sup>th</sup> Control Period
1	Sileru complex	20.62	20.62	20.62	20.62	20.62	103.10
2	Nagarjuna Sagar RCPH	3.58	3.58	3.58	3.58	3.58	17.91
3	Srisaillam Right bank	32.09	32.09	32.09	32.09	32.09	160.45
4	PABR	1.61	1.61	1.61	1.61	1.61	8.04
5	Chettipeta	0.08	0.08	0.08	0.08	0.08	0.40
6	Dr.NTTPS	17.91	17.91	17.91	17.90	17.90	89.53
7	RTPP-I	14.43	14.43	14.43	14.43	14.43	72.15
8	RTPP II	7.32	7.32	7.32	7.32	7.32	36.60
9	Dr NTTPS IV	70.17	28.49	28.49	28.49	28.49	184.13
10	RTPP III	90.11	32.89	16.22	16.22	16.22	171.66
11	NSTP HES	9.22	9.22	9.22	9.22	9.22	46.10
	Total	267.14	168.24	151.57	151.56	151.56	890.07

**Determination of O&M expenses:**

47. APGENCO in its filings sought pay revision commitment for its employees at 20% of O&M expenses. The erstwhile Commission considered the impact of pay revisions in 2006 and 2010 while approving the tariff of APGENCO Stations for the first and second control periods i.e. FY 2006-07 to FY 2008-09 and FY2009-10 to FY2013-14. The present Commission also approved the pay revision commitment of 20% while approving the tariff of APGENCO stations for the third control period FY2014-15 to FY2018-19 in OP. No. 3 of 2016 as periodic pay revisions and/or statutory wage increases are unavoidable to the extent they are prudent. The tripartite agreements entered into between GoAP, APSEB and unions/associations in terms of the AP Electricity Reform Act, 1998 provide for wage revisions of the employees. Further, even CERC has also been allowing the impact pay revisions in its tariff orders whenever such revisions take place. The Commission has examined the actual pay revision impact based on the actuals figures upto September,2018 which are obtained subsequently and found that it is more than 30% and therefore, the impact of pay revision at 20% in 2018 as sought by APGENCO has been considered



as in its earlier orders while computing the O&M expenses for FY 2019-20 to FY2023-24.

APGENCO has followed the procedure adopted by the CERC in computation of O&M expenses for hydel stations and the O&M norm per MW as approved in OP.No.3 of 2016 for FY 2018-19 has been taken as the basis for computation of O&M expenses for thermal stations. The escalation factor has also been taken as per the CERC tariff Regulations 2014 to arrive at year on year expenses in the fourth control period.

The Commission has computed the O&M expenses as per the CERC procedure and its tariff Regulations 2019 and in accordance with clause 12.3.1 of Regulation 1 of 2008. The O&M expenses arrived at based on Regulation 1 of 2008 are substantially higher than O&M expenses arrived at based on CERC procedure and Regulation. Therefore, the O&M expenses computed based on the CERC procedure and Regulation have been approved.

Accordingly, the Commission has approved the O&M expenses Rs. 7535.21 Cr. for the fourth control period as against Rs. 9032.96 Cr. filed. The details of O&M costs filed and approved are given in the tables below:

**Table No. 4.5**  
**Filings : O&M expenses (Rs. Cr.)**

S. No	Station name	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	4 <sup>th</sup> Control Period
1	Sileru complex	168.65	179.85	191.79	204.53	218.11	962.94
2	Nagarjuna Sagar RCPH	18.37	19.59	20.89	22.28	23.76	104.91
3	Srisailem Right bank	139.11	148.35	158.20	168.70	179.90	794.26
4	PABR	7.80	8.32	8.87	9.46	10.09	44.54
5	Chettipeta	1.20	1.28	1.36	1.45	1.55	6.84
6	Dr.NTTPS	590.46	629.66	671.47	716.06	763.61	3371.26
7	RTPP-I	196.81	209.88	223.82	238.68	254.53	1123.73
8	RTPP II	196.81	209.88	223.82	238.68	254.53	1123.73
9	Dr NTTPS IV	156.86	167.28	178.39	190.23	202.86	895.62
10	RTPP III	98.41	104.94	111.91	119.34	127.26	561.86
11	NSTP HES	7.58	8.08	8.62	9.19	9.80	43.27
	<b>Total</b>	<b>1582.07</b>	<b>1687.12</b>	<b>1799.15</b>	<b>1918.61</b>	<b>2046.01</b>	<b>9032.96</b>

**Table No: 4.6**  
**Approved: O&M Expenses (Rs. Cr.)**

S. No	Station name	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	4 <sup>th</sup> Control Period
1	Sileru complex	171.02	179.18	187.72	196.68	206.06	940.66
2	Nagarjuna Sagar RCPH	16.50	17.29	18.11	18.98	19.88	90.76
3	Srisailam Right bank	142.55	149.35	156.47	163.94	171.76	784.07
4	PABR	7.89	8.27	8.66	9.07	9.51	43.40
5	Chettipeta	1.29	1.35	1.41	1.48	1.55	7.08
6	Dr. NTTPS	498.36	515.85	533.95	552.70	572.10	2672.95
7	RTPP-I	166.12	171.95	177.98	184.23	190.70	890.98
8	RTPP II	166.12	171.95	177.98	184.23	190.70	890.98
9	Dr NTTPS IV	135.06	139.80	144.71	149.79	155.04	724.40
10	RTPP III	83.06	85.97	88.99	92.12	95.35	445.49
11	NSTP HES	8.08	8.47	8.87	9.29	9.74	44.44
	<b>Total</b>	<b>1396.04</b>	<b>1449.42</b>	<b>1504.88</b>	<b>1562.50</b>	<b>1622.38</b>	<b>7535.21</b>

#### **Determination of Return on Capital Employed (RoCE)**

48. As per clause 12.1 (a) of Regulation 1 of 2008, RoCE is equal to sum of

- a. *Original Capital Cost less Accumulated depreciation, and;*
- b. *Working Capital approved by the Commission as per this Regulation,*

*multiplied with the Weighted Average Cost of Capital (WACC)*

*The WACC for this purpose will be determined as per the procedure given below:*

$$WACC = [D/E / (1+D/E)] rd + [1 / (1+D/E)] re$$

*D/E is the Debt to Equity Ratio and shall be determined at the beginning of the Control Period after considering Generating Company's previous years' D / E mix, market conditions and other relevant factors.*

*rd is the Cost of Debt and shall be determined at the beginning of the Control Period after considering Generating Company's proposals, present cost of debt, market conditions and other relevant factors.*

*re is the Return on Equity and shall be determined at the beginning of the Control*

*Period after considering CERC norms, Generating Company's proposals, previous years' D/E mix, risks associated with generating business, market conditions and other relevant factors*

and as per Clause 12.4 (a)

*In case of coal -based/ oil-based/ lignite-fired generating stations, working capital shall cover:*

- (i) Cost of coal or lignite for one-and-a-half months for pit-head generating stations and two months for non-pit-head generating stations, corresponding to target availability;*
- (ii) Cost of oil for two months corresponding to target availability;*
- (iii) Cost of secondary fuel oil for two months corresponding to target availability;*
- (iv) Operation and Maintenance expenses for one month;*
- (v) Maintenance spares @ 1 per cent of the historical cost as per indexation of O&M norms; and*
- (vi) Receivables for sale of electricity equivalent to two months of the sum of annual fixed charges and energy charges calculated on target availability;*

*Minus*

*Payables for fuel (including oil and secondary fuel oil) to the extent of one month of the cost of fuel calculated on target availability.*

and as per Clause 12.4 (c)

*In case of hydro power generating stations, working capital shall cover:*

- (i) Operation and maintenance expenses for one month;*
- (ii) Maintenance spares at 1 per cent of the historical cost as per indexation of O&M norms ; and*
- (iii) Receivables for sale of electricity equivalent to two months of the annual fixed charges calculated on normative capacity index.*

Accordingly, the Commission has computed the RoCE as detailed below:

#### **i. Working Capital**

The Working Capital has been computed based on the approved Fixed charges and Energy charges in this order. The year wise Working Capitals estimated are shown in the Annexures J1 to J5. The Working Capital approved for the fourth control period is given in the table below:

**Table No: 4.7**  
**Approved: Working Capital (Rs. Cr.)**

S.No	Station name	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	4 <sup>th</sup> Control Period
1	Sileru complex	69.81	72.22	74.75	77.41	80.22	374.41
2	Nagarjuna Sagar RCPH	8.44	8.69	8.95	9.23	9.52	44.83
3	Srisailem Right bank	72.36	74.45	76.66	78.99	81.46	383.92
4	PABR	3.90	4.01	4.13	4.25	4.38	20.67
5	Chettipeta	0.44	0.46	0.48	0.50	0.52	2.4
6	Dr.NTTPS	849.96	856.42	863.13	870.09	877.33	4316.93
7	RTPP-I	354.08	357.34	360.74	364.27	367.95	1804.38
8	RTPP II	330.09	332.57	335.14	337.81	340.58	1676.19
9	Dr NTTPS IV	336.50	330.46	332.43	334.49	336.66	1670.54
10	RTPP III	189.37	179.26	177.24	178.45	179.71	904.03
11	NSTP HES	12.30	12.33	12.37	12.43	12.49	61.92
	<b>Total</b>	2227.28	2228.20	2246.00	2267.91	2290.81	11260.2

**ii. Determination of Weighted Average Cost of Capital (WACC),**

**a) D/E (Debt/Equity) Ratio**

The Commission has approved a D/E mix of 70:30 for the fourth control period as filed by APGENCO.

**b) Return on Equity**

The Commission has approved the Return on Equity as 15.5% as filed by APGENCO.

**c) Cost of Debt:**

The Commission has approved rate of 10.2% as filed by APGENCO which is less than the weighted average cost of debt of actual loan portfolio (**ANNEXURE – E1 & E2**).

Based on the above, the WACC (Weighted Average Cost of Capital) has been computed at 11.8% as per the formula stated supra.

### **ROCE (Return on Capital Employed)**

As per the procedure and formula described above, the RoCE has been computed with the approved working capital, Gross Fixed assets, Depreciation and WACC in this order.

The RoCE computed by the Commission for the 4<sup>th</sup> control period is Rs.2863.58 Cr. as against Rs.3171.47 Cr. filed. The RoCE approved computations year wise are shown in the Annexures K1 to K5. The RoCE filed by the APGENCO and approved by the Commission are given in the tables below.

**Table No: 4.8**

#### **Filings: Return on Capital Employed (RoCE) (Rs. Cr.)**

<b>S. No.</b>	<b>Station name</b>	<b>FY 2019-20</b>	<b>FY 2020-21</b>	<b>FY 2021-22</b>	<b>FY 2022-23</b>	<b>FY 2023-24</b>	<b>4<sup>th</sup> Control Period</b>
1	Sileru complex	38.12	36.35	34.63	33.75	32.18	175.03
2	Nagarjuna Sagar RCPH	5.33	4.98	4.65	4.41	4.09	23.46
3	Srisaillam Right bank	46.61	43.45	40.34	38.12	35.15	203.67
4	PABR	3.49	3.32	3.16	3.02	2.86	15.85
5	Chettipeta	0.29	0.28	0.27	0.27	0.26	1.37
6	Dr.NTTPS	183.11	180.06	177.15	174.91	177.36	892.59
7	RTPP-I	82.91	81.88	80.90	80.43	79.58	405.7
8	RTPP II	79.37	78.94	78.55	78.19	77.87	392.92
9	Dr NTTPS IV	133.06	111.96	109.57	107.21	104.87	566.67
10	RTPP III	82.97	72.40	60.30	59.09	57.91	332.67
11	NSTP HES	32.71	33.97	32.79	31.62	30.45	161.54
	<b>Total</b>	<b>687.97</b>	<b>647.59</b>	<b>622.31</b>	<b>611.02</b>	<b>602.58</b>	<b>3171.47</b>

**Table No: 4.9****Approved: Return on Capital Employed (RoCE) (Rs. Cr.)**

<b>S.No</b>	<b>Station name</b>	<b>FY 2019-20</b>	<b>FY 2020-21</b>	<b>FY 2021-22</b>	<b>FY 2022-23</b>	<b>FY 2023-24</b>	<b>4<sup>th</sup> Control Period</b>
1	Sileru complex	33.59	31.44	29.31	27.19	25.09	146.62
2	Nagarjuna Sagar RCPH	4.71	4.31	3.92	3.53	3.15	19.62
3	Srisaillam Right bank	41.86	38.32	34.80	31.29	27.79	174.06
4	PABR	3.37	3.19	3.02	2.84	2.67	15.09
5	Chettipeta	0.28	0.28	0.27	0.26	0.25	1.34
6	Dr.NTTPS	147.06	145.71	144.39	143.10	141.84	722.1
7	RTPP-I	74.37	73.05	71.75	70.46	69.20	358.83
8	RTPP II	74.03	73.46	72.90	72.35	71.82	364.56
9	Dr NTTPS IV	123.63	114.63	111.50	108.38	105.28	563.42
10	RTPP III	79.92	68.09	63.97	62.20	60.43	334.61
11	NSTP HES	34.83	33.75	32.67	31.59	30.51	163.35
	<b>Total</b>	617.65	586.24	568.49	553.19	538.01	2863.58

**Machkund dam HES & TB Dam HES:**

49. Hydel Power Stations of Machkund and Tungabhadra (including Hampi) are inter- government projects. AP's share of power in these projects is supplied to the DISCOMs. APGENCO collects AP's share of fixed charges of these projects from the DISCOMs, retains the salaries of APGENCO staff working in Machkund Hydel Station and passes on the rest to the Govt. of AP. APGENCO has estimated these charges for the fourth control period based on the approved figures by the Commission for FY2018-19 with an escalation factor of 6.64% to arrive at year on year charges. The Commission, after examination of the filings with reference to the audited figures for the previous four years, approved the charges by applying escalation factor of 4.77% for the charges approved in FY 2018-19 in OP.NO.3 of 2016 and directs it to carry out true up exercise at the end of each year after actual figures are available.

The escalation factor 4.77% considered for hydel stations has been taken from the CERC tariff Regulations 2019.

The charges approved by the Commission are given in the table below:

**Table No: 4.10****Approved: Machkund HES & TB Dam HES charges (Cr.)**

FY2019-20	FY2020-21	FY2021-22	FY2022-23	FY2023-24
56.32	59.01	61.83	64.77	67.86

**Additional interest on pension bonds:**

50. APGENCO claimed additional interest on pension bonds in its filings. The Commission recognizes the fact that the obligation to meet the pension liability of the APSEB employees was vested in APGENCO in terms of the statutory First Transfer Scheme dated 30.01.2000 notified by the State Government under the AP Electricity Reform Act, 1998. The G.O. Ms.No.29 (Transfer Scheme) issued on 31.05.2014 in terms of AP Electricity Reform Act, 1998 and AP Reorganization

Act, 2014 also provides for payment of pension liabilities by APGENCO. At the time of bifurcation of erstwhile APSEB in to APGENCO and APTRANSCO on 01.02.1999, the pension liabilities of employees who already retired in APSEB and of those employees who were on the payrolls on the date of bifurcation to the extent of their service in APSEB, were transferred to APGENCO. In order to service the pension liabilities, a Master Trust was formed and APGENCO issued two types of bonds to the Trust, the first one for an amount of Rs. 1320.43 Cr. to meet the full pension liabilities of employees who were already retired as on 01.02.1999 and the second one for an amount of Rs. 3066.52 Cr. to meet past pension liabilities of the employees who were on pay rolls in APSEB as on 01.02.1999. The future pension liabilities of the latter are to be met by the respective companies. APGENCO has to meet the above pension liabilities that arise each year, through repayment of principal amounts and interest on bonds. The redemption of the first type of bonds will be completed by the year 2033 and the second type by the year 2029 by which time the entire bond amounts along with interest will be repaid to the Trust. To service the bonds, liabilities of APGENCO were increased by an amount of Rs. 4386.95(1320.43 + 3066.52) Cr. with a corresponding increase in the amount of assets. APGENCO was expected to service the bonds from part of the depreciation and part of the Return on equity earned on the value of the total assets.

Erstwhile APERC in the order dt.24.03.2003 in O.P. No. 402/2002 estimated

the pension liabilities for each year up to 2033 under columns 5(which include repayment of pension bonds) and 6(c) of the order and allowed the same as part of the Tariff. Further, erstwhile APERC considered the possibility of higher pensions and extended longevity of the pensioners and accordingly permitted liability on account of actual interest on pension bonds in excess of that specified under column 6(c) as pass through in the tariff on a year to year basis. Similarly, any actual fall in the liability on this account is to be adjusted in the tariffs on a year to year basis. Based on the above order, APGENCO claimed and received the excess interest on pension bonds over and above the amounts allowed in order dt.24.03.2003 up to FY2009.

Moreover, the PPAs entered in to by APGENCO with DISCOMs which were consented by the erstwhile APERC have a provision for pass-through of additional interest on pension bonds in the tariff. Keeping the above in view, the Commission has allowed additional interest on pension bonds for the third control period i.e. FY 2014-15 to FY 2018-19. Accordingly, as in its earlier orders, the Commission provisionally approves the amounts based on actuals provided by APGENCO Master trust **(ANNEXURE – F1)** towards additional interest on pension bonds for the fourth control period i.e. FY2019-20 to FY2023-24.

The estimated Interest on pension bonds over and above scheduled commitments for the Control Period FY2019-20 to FY 2023-24 approved by the Commission is given in the table below:

**Table No: 4.11**

**Approved: Additional Interest on Pension Bonds**

FY2019-20	FY2020-21	FY2021-22	FY2022-23	FY2023-24
888.30	921.50	954.30	987.70	1020.10

The amounts indicated in the above table are estimates only and any excess or shortfall compared to the provisionally approved figures is a pass-through to Discoms at the end of each year when the details of actual amounts payable are available. The details of Estimation of additional interest on pension bonds are shown in the ANNEXURE - F2.

**Prior Period costs**

51. APGENCO has claimed fixed costs for the year 2018-19 for RTPP IV as a prior



period cost. The same has not been approved in this order since the PPA of the project is not yet approved by the Commission.

52. APGENCO has also claimed pay revision commitment for the year FY2018-19 as prior period cost for the fourth control period. The same has not been considered since the pay revision impact was considered while determining fixed charges for the 3<sup>rd</sup> control period.

**Fixed charges:**

53. As detailed above the annual fixed charges estimated by the Commission for the fourth control period are Rs 16370.57 Cr. as against Rs 19614.25 Cr. filed. The detailed breakup of annual fixed charges approved are shown in the Annexures L1 to L5. The details of the annual fixed charges filed and approved are given in the tables below:

**Table No: 4.12**

**Filing: Fixed charges for the 4<sup>th</sup> Control Period**

S. No	Station name	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	4 <sup>th</sup> Control Period
1	Sileru complex	227.39	236.82	247.04	258.90	270.91	1241.07
2	Nagarjuna Sagar RCPH	27.28	28.16	29.12	30.28	31.43	146.28
3	Srisailam Right bank	217.81	223.89	230.62	238.91	247.15	1158.37
4	PABR	12.90	13.25	13.64	14.09	14.56	68.43
5	Chettipeta	1.56	1.64	1.72	1.80	1.89	8.61
6	Dr.NTTPS	815.16	851.32	890.21	890.97	940.96	4388.62
7	RTPP-I	294.95	306.99	319.95	334.34	349.34	1605.57
8	RTPP II	284.04	296.68	310.22	324.73	340.25	1555.92
9	Dr NTTPS IV	446.90	303.21	311.92	321.41	331.71	1715.14
10	RTPP III	271.49	267.46	184.78	191.00	197.74	1112.47
11	NSTP HES	49.64	52.08	51.44	50.84	50.28	254.28
	Machkund HES & TB Dam HES	57.33	61.14	65.20	69.52	74.14	327.33
	Additional interest on Pension Bonds	991.24	1057.06	1127.25	1382.41	1474.21	6032.17
	<b>Total</b>	<b>3697.69</b>	<b>3699.69</b>	<b>3783.11</b>	<b>4109.20</b>	<b>4324.57</b>	<b>19614.25</b>

**Table No: 4.13****Approved: Fixed charges for the 4<sup>th</sup> control period**

<b>S. No</b>	<b>Station name</b>	<b>FY 2019-20</b>	<b>FY 2020-21</b>	<b>FY 2021-22</b>	<b>FY 2022-23</b>	<b>FY 2023-24</b>	<b>4<sup>th</sup> Control Period</b>
1	Sileru complex	225.23	231.24	237.65	244.49	251.76	1190.37
2	Nagarjuna Sagar RCPH	24.79	25.19	25.62	26.09	26.61	128.30
3	Srisaillam Right bank	216.50	219.76	223.36	227.31	231.64	1118.58
4	PABR	12.87	13.07	13.28	13.52	13.78	66.52
5	Chettipeta	1.65	1.70	1.76	1.82	1.88	8.82
6	Dr.NTTPS	663.33	679.47	696.25	713.69	731.83	3484.57
7	RTPP-I	254.92	259.43	264.17	269.13	274.32	1321.97
8	RTPP II	247.47	252.73	258.20	263.90	269.83	1292.14
9	Dr NTTPS IV	328.86	282.92	284.70	286.66	288.81	1471.95
10	RTPP III	253.09	186.96	169.18	170.54	172.00	951.77
11	NSTP HES	52.13	51.44	50.76	50.10	49.46	253.89
	Machkund HES & TB Dam HES	56.32	59.01	61.83	64.77	67.86	309.80
	Additional interest on Pension Bonds	888.30	921.50	954.30	987.70	1020.10	4771.90
	<b>Total</b>	3225.46	3184.41	3241.06	3319.73	3399.91	16370.57

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

## **CHAPTER - V**

### **DETERMINATION OF VARIABLE COST**

55. In this chapter, the Commission has examined tariff filings with respect to energy / variable charges made by the APGENCO for its generating stations for the fourth control period. The Commission, while examining the tariff filings with respect to energy / variable charges, has reckoned / considered all the views/objections/suggestions expressed by the stakeholders in writing during public hearings, which have been elaborated in chapter III, to the extent they are relevant to the subject matter.
56. APGENCO has considered the following operating norms for computation of variable cost
- a) Station Heat rate
- The station heat rate considered for 210/500 MW thermal stations is as per Regulation 1 of 2008.
- But 2650 kCal/kWh for Dr NTTPS O&M (6x210 MW) is considered due to ageing of the units and Backing down of the thermal stations with the increase of energy from non-conventional energy sources.
- b) Auxiliary consumption
- The Auxiliary consumption for 210/500 MW thermal stations is considered as per Regulation 1 of 2008.
- c) Specific oil consumption
- The Specific oil consumption for all thermal units is considered as per Regulation 1 of 2008.
- d) Landed cost of coal
- The landed cost of coal is arrived at based on Coal price, Freight charges, Coal related cost and normative transit & windage & Shrinkage loss of 0.8% as per Regulation 1 of 2008.
57. Based on the above parameters, the variable cost estimated by APGENCO station wise/stage wise is as shown below:

**Table No: 5.1****Filings: Energy charges/Variable rates**

<i>Station</i>	<i>(Rs / kWh)</i>
Dr NTTPS I-III *	3.67
Dr NTTPS IV	3.15
RTPP – I	3.87
RTPP – II	3.87
RTPP- III	3.87
RTPP- IV	3.64
Dr NTTPS V	2.92

*\*\* The rate for Dr NTTPS I-III with the existing operating norms without revision for vintage and operating conditions would have been 3.40 per kWh*

The initial rates for subsequent periods would be on the same basis depending on the preceding three months' actuals and subject to adjustment for actual landed cost and GCV of fuels.

58. As per the clause 13.1 of Regulation 1 of 2008, the energy charges shall be computed for thermal generating stations as stated below:

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

*Energy Charges (Rs.) = Rate of Energy Charges in Rs/kWh X Ex-bus energy*

*sent out corresponding to scheduled generation for the month in kWh*

*Where,*

*Rate of Energy Charges (REC) shall be the sum of the cost of normative quantities of primary and secondary fuel for one kWh of ex-bus energy sent out corresponding to scheduled generation and shall be computed as under:*

$$REC = \frac{100\{P_p \times (Q_p)_n + P_s \times (Q_s)_n\}}{(100-(AUX_n))} \quad (Rs. / kWh)$$

*Where,*

$P_p$  = Landed cost of primary fuel namely coal or lignite or gas or liquid fuel in Rs/Kg or Rs/cubic-meter (m<sup>3</sup>) or Rs. /litre, as the case may be

$(Q_p)_n$  = Quantity of primary fuel required for generation of one kWh of electricity at generator terminals in Kg or litre or m<sup>3</sup>, as the case may be, and shall be computed on the basis of normative Gross Station Heat Rate (less heat contributed by secondary fuel oil for coal/lignite based generating stations) and gross calorific value of coal/lignite or gas or liquid fuel as fired.

$P_s$  = Landed cost of Secondary fuel oil in Rs. /ml

$(Q_s)_n$  = Normative Quantity of Secondary fuel oil in ml/kWh as per clause 11.1.4, as the case may be, and

AUX<sub>n</sub> = Normative Auxiliary Energy Consumption as percentage of gross generation as per clause 11.2.2, as the case may be.

b. Adjustment of rate of energy charge (REC) on account of variation in price or heat value of fuels. Initially, gross calorific value of coal/lignite or gas or liquid fuel shall be taken as per actuals of the preceding three months. Any variation shall be adjusted on month to month basis on the basis of gross calorific value of coal/lignite or gas or liquid fuel received and burnt and landed cost incurred by the Generating Company for procurement of coal/lignite, oil, or gas or liquid fuel, as the case may be. In case of any dispute, an appropriate application in accordance with the Conduct of Business Regulations shall be made before the Commission.

c. Landed Cost of fuel

The landed cost of fuel shall include price of fuel corresponding to the grade/quality of fuel inclusive of royalty, taxes and duties as applicable, transportation cost by rail/ road/ pipeline or any other means, and, for the purpose of calculation of energy charges, shall be arrived at after considering transit losses as per clause 11.1.5.

### **Computation of Energy Charges/Variable cost by the Commission**

59. The Commission has considered the following operating norms for computation of variable cost.

a) Station Heat rate

The station heat rate 2500 kCal/kWh and 2450 kCal/kWh has been considered for all 210MW and 500MW thermal stations respectively as per Clause 11.1.3 of Regulation 1 of 2008.

The Commission has considered 2550 kCal/kWh for all 210 MW units of Dr NTTPS O&M keeping in view the submissions made by APGENCO in this regard.

b) Auxiliary consumption

The Auxiliary consumption of 9% and 7.5% has been considered for all 210MW and 500MW thermal stations respectively as per Clause 11.1.2 of Regulation 1 of 2008.

c) Specific oil consumption

The Specific oil consumption of 2 ml/kWh has been considered for all thermal units as per Clause 11.1.4 of Regulation 1 of 2008.

d) Landed cost of coal

The landed cost of coal has been arrived at based on Coal price, Freight charges, Coal related cost and normative transit & windage & Shrinkage loss of 0.8% as per Regulation 1 of 2008.

Accordingly, the landed cost of coal considered is Rs 3450 per MT, Rs 3800 per MT and Rs 4100 per MT for the Dr NTTPS O&M, Dr NTTPS IV and RTPP I, II, III stages respectively.

e) GCV of Coal

The GCV of coal considered is 3420 kCal/kWh, 3768 kCal/kWh and 3420 kCal/kWh on as fired basis for the Dr NTTPS O&M, Dr NTTPS IV and RTPP I, II, III stages respectively.

Based on the above parameters and in accordance with the formula specified in the Regulation 1 of 2008 as stated above, the energy charges have been computed (Annexure-M) as shown in the table below:

**Table No: 5.2****Approved: Base Energy Charges/Variable Rates**

<b>Station</b>	<b>(Rs / kWh)</b>
Dr NTTPS I-III	2.90
Dr NTTPS IV	2.74
RTPP – I	3.36
RTPP – II	3.36
RTPP- III	3.36

Energy charges for RTPP IV and Dr NTTPS V have not been determined since the PPAs for these projects are not yet approved by the Commission. The energy charges so computed above are taken into consideration while computing the working capital requirement for estimation of annual fixed charges.

60. The charges computed in para no.59 are only indicative and the licensees shall pay the monthly bills based on above charges. Further if there is any increase in landed cost of coal due to notification by coal companies or freight charges by railways, the indicative prices shall be increased in proportion to such percentage of hike notified in the notifications.
61. The fuel cost adjustment bills in accordance with Regulation 1 of 2008 shall be paid subject to variation of 15%. Variation over and above 15% is subject to scrutiny and approval of the Commission for payment and the payment should be limited to 15% until the Commission approves such an excess variation.
62. The Commission has directed the licensees to establish systems for verification of GCV of coal, based on which the coal price is being billed to the generating station, in order to have prudence in variable cost, at para no. 317 in Retail Supply Tariff Order for FY2019-20. In this regard, APGENCO is directed to ensure to obtain billed grade coal by collecting samples as per the standards at source duly ensuring the presence of its officials/third party as per the joint protocol. All such sampling and test reports shall be verified by the licensees in comparison with grades received at generating station end and if there is any significant variation in quality of grade, all such cases shall

be brought to the notice of the Coal companies by APGENCO for appropriate action and the APGENCO shall take all possible action for enforcement of its contractual rights regarding the same. The Commission shall be kept informed to enable it to invoke its regulatory jurisdiction in this regard whenever called for.

63. With reference to sampling and testing of GCV at receiving end of generating stations the CERC directions as produced below shall be strictly complied.

*“As per the directions of the Hon'ble High Court of Delhi, the CERC vide its order dated 25.1.2016 in Petition No. 283/GT/2014 has decided as under:*

*(a) There is no basis in the Indian Standards and other documents relied upon by NTPC etc. to support their claim that GCV of coal on as received basis should be measured by taking samples after the crusher set up inside the generating station, in terms of Regulation 30(6) of the 2014 Tariff regulations.*

*(b) The samples for the purpose of measurement of coal on as received basis should be collected from the loaded wagons at the generating stations either manually or through the Hydraulic Auger in accordance with provisions of IS 436(Part1/Section1)-1964 before the coal is unloaded. While collecting the samples, the safety of personnel and equipment as discussed in this order should be ensured. After collection of samples, the sample preparation and testing shall be carried out in the laboratory in accordance with the procedure prescribed in IS 436(Part1/Section1)-1964 which has been elaborated in the CPRI Report to PSERC.”*

64. The GCV shall be calculated at the receiving generating station for the computation of energy charges/variable cost as per the above sampling procedure duly considering the minimum margin recommended (Annexure-H) for loss of GCV measured at wagon top at unloading point till the point of firing in boiler. In this regard, APGENCO is directed to establish the third-party sampling and testing system and the licensees shall cross check such third-party sampling and testing system periodically. All such periodical inspection reports with their remarks shall be submitted to the Commission every month from 1<sup>st</sup> September 2019 onwards for a review by the Commission.



65. As per the information provided by APGENCO in the filings, the coal linkages with the existing fuel supply agreements are not sufficient to meet the normative availability as per the Regulation 1 of 2008. Therefore, APGENCO is procuring the shortfall coal through MOU route at a maximum premium of 44% over the notified prices and thus increasing the variable cost. In order to overcome the shortage of coal due to linkage materialization and transportation constraints, APGENCO is directed to explore long-term contracts with coal producing companies through International competitive bidding (ICB) route ensuring that the landed price of coal received at generating stations shall not increase the indicative prices of energy charges with the margins specified in this order. In this regard, the views of the licensees and APGENCO shall be submitted to the Commission within a month from the date of this order. In this regard, APGENCO shall keep in view the observations of C&AG in their audit reports.
66. It has been noticed as pointed out by the licensees that APGENCO is not maintaining coal stocks at generating stations as per norms for whatever reasons. This is leading to purchase of costlier power in exchanges by the licensees as and when they require power to meet the demand when APGENCO stations are not able to operate their units to their full capacity to meet the demand due to shortage/quality of coal. It is the responsibility of the APGENCO to maintain the required coal stocks at their respective stations as per the norms. Accordingly, the working capital requirement has been allowed in this order while computing the Return on Capital Employed. Maintenance of minimum coal stocks required on the average for uninterrupted generation for 15 days is the widely accepted norm in planning the maintenance and running of thermal generating stations. The APGENCO shall hereafter treat adherence to such minimum norm as a direction from the Commission under Section 142 of the Electricity Act, 2003, the contravention of which will make the APGENCO liable for a penalty of Rs. 1 Lakh for each contravention and additional penalty of Rs. 6000/- per day during the continuance of the period of failure after each contravention. The APGENCO shall submit monthly compliance reports by 10<sup>th</sup> of every succeeding month commencing from May, 2019 about compliance of this requirement and the distribution licensees or any other stakeholder are at liberty to bring to the notice of the Commission any non-compliance with the direction at any time. The APGENCO is at liberty

to satisfy the Commission through its monthly reports or otherwise about the failure to comply with the direction at any time being for reasons beyond its control on which the Commission may waive the liability to pay such penalty.

67. The APGENCO in-coordination with the licensees shall optimize the variable cost by following the guidelines issued by the Central Electricity Authority (CEA) by its letter dated 08.06.2016 on methodology for flexibility in utilization of domestic coal for reducing the cost of power generation. Any diversion of coal from station to station shall be strictly in accordance to the guidelines communicated by the CEA but not on unplanned basis which will increase the landed cost of coal. If diversion of coal is done without following the guidelines of CEA, all such cases shall be brought to the notice of the Commission explaining the circumstances, necessity and price implication on variable cost due to such unplanned diversions. In this regard, APGENCO shall keep in view the observations of C&AG in their audit reports.
68. APGENCO is the State generating company known for its benchmark performance in O&M and construction and completion of new projects well within the scheduled dates in the past. Even now APGENCO is one of the best performing utilities in the country in spite of the fluctuations in coal supplies, hydel generation being dependent on vagaries of nature and forced backing down of its generating units due to priority for non-conventional must-run generating units. The Commission feels it appropriate to place on record its appreciation for the involvement and dedication of each and every employee of APGENCO right from an outsourced worker to the Managing Director which is responsible for still keeping the flag of APGENCO high in the National Power Sector. In fact, the APGENCO is able to keep some of its generating units normally productive though technically they reached the end of their useful lives due to efflux of time. The Commission notes that all the thermal generating stations of APGENCO are non-pit head stations and cost control is a challenging task. In view of large-scale integration of renewable energy sources into the grid in the country as well as in the State of Andhra Pradesh, the PLF of thermal generating stations is inevitably gradually coming down. Operating the thermal units at reduced PLFs without increase in operating norms is another challenging task. In this context, the Commission advises the APGENCO to revisit the strategies / planning / approaches / procedures / practices to further upgrade the performance to create new bench marks for

others to follow and to minimize the O&M and energy charges. Hopefully each and every employee of APGENCO will rise to the occasion in this endeavor as earlier.

69. All the directions issued by the Commission in this order should be treated as within the meaning of Sections 142 and 146 of the Electricity Act, 2003.
70. APGENCO is entitled to recover the tariff as determined in this order from the respondents in proportion to the power supplied to them.
71. Sri D.V.S. Someswara Rao, Senior Accounts Officer and Sri H. Chandra Sekhar, Deputy Executive Engineer of APGENCO are with the Deputy Director, Tariff Engineering of the Commission, Sri D. Ramanaiah Setty assisted by Smt. P. V. Padmaja, Private Secretary in the elaborate exercise of the study of the filings, the analysis of the vast data, research of all relevant material and arriving at the appropriate conclusions for preparation of the draft MYT order for about two months. The Commission gratefully acknowledges the hard work and contribution of all the four in making a reasonable and reasoned tariff order possible. The Commission desires that this record of appreciation by the Commission be placed in the personal files of the four officers by the Managing Director of APGENCO and the Secretary of the Commission respectively.

This Original Petition No.35 of 2018 is ordered accordingly.

This order is signed on this day of 29<sup>th</sup> April, 2019.

Sd/-  
P. Rama Mohan  
Member

Sd/-  
Dr. P. Raghu  
Member

Sd/-  
Justice G. Bhavani Prasad  
Chairman

## ANNEXURE A1

## THE HINDU (AP EDITION) &amp; FINANCIAL EXPRESS, DT:01-01-2019

 <b>ANDHRA PRADESH POWER GENERATION CORPORATION LIMITED</b>											
<b>"BEFORE THE HONOURABLE</b> <b>ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION (APERC)</b> D.No.11-4-660, 4th Floor, Singareni Bhawan, Red Hills, Hyderabad - 500 004. <b>ANDHRA PRADESH POWER GENERATION CORPORATION LIMITED (APGENCO)</b> <b>PUBLIC NOTICE</b>											
<p>(1) Notice is hereby given to all that the Andhra Pradesh Power Generation Corporation Limited (APGENCO), has on 28-12-2018, filed before the Andhra Pradesh Electricity Regulatory Commission (APERC), the Tariff application for its power stations for 4th Control Period (FY2019-20 to FY2023-24). This tariff application has been taken on record by the Hon'ble Commission in O.P.No.35 of 2018. (2) Copies of the tariff application are available in the Office of the Chief Engineer (Commercial) APGENCO, Vidyut Soudha, Gunadala/Vijayawada, the Chief Engineer/ DNTTPS/O&amp;M/ Brahmapatnam/ Krishna(D), the Chief Engineer/ Rayalaseema Thermal Power Project/ VV Reddy Nagar/ YSR Kadapa (DL) and the Chief Engineer/SRSPH/Srisailem Project/Kurnool(D). Interested persons may inspect/peruse the said Tariff application and take note thereof during office hours at any of the said offices at free of charge. This tariff application is also available on <a href="http://www.apgenco.gov.in">www.apgenco.gov.in</a> and the same may also be accessed at <a href="http://www.aperc.gov.in">www.aperc.gov.in</a>. A copy of the tariff application, can be obtained from the above offices from the date of publication on payment of Rs.100/- in the form of Demand Draft from any Nationalized/Scheduled bank drawn in favor of "The Pay Officer, APGENCO, Vidyut Soudha, Vijayawada" payable at Vijayawada. Also a summary of tariff application of APGENCO stations in English and Telugu can be separately obtained on payment of Rs.10/- in the form of Demand Draft from any Nationalized/Scheduled bank drawn in favor of "The Pay Officer, APGENCO, Vidyut Soudha, Vijayawada" payable at Vijayawada. (3) Views/objections/suggestions, if any, on the tariff applications of APGENCO stations for 4th Control Period, together with supporting material may be sent to the Chief Engineer (Commercial), APGENCO, Vidyut Soudha, Gunadala, Vijayawada in person or through Registered Post so as to reach on or before 21-01-2019 by 5-PM. A copy of the same must also be filed with the Commission Secretary, APERC at the address mentioned above. The views/objections/suggestions should be duly signed and should carry full name and postal address of the person(s) sending the views/objections/suggestions. If the views/objections/suggestions are filed on behalf of any organization or any category of consumer, it should be so mentioned. If the objector also wants to be heard in person, it may also be specifically mentioned accordingly. The views/objections/suggestion should accompany the following statement as an overleaf.</p> <table border="1"> <tr> <td>Name &amp; full address of the Objector with contact Number</td> <td>Brief details of View(s)/ Objection(s) / Suggestions(s)</td> <td>Whether copy of objection &amp; proof of delivery at APGENCO's office enclosed (Yes/No)</td> <td>Whether Objector wants to be heard in person (Yes/No)</td> </tr> </table>								Name & full address of the Objector with contact Number	Brief details of View(s)/ Objection(s) / Suggestions(s)	Whether copy of objection & proof of delivery at APGENCO's office enclosed (Yes/No)	Whether Objector wants to be heard in person (Yes/No)
Name & full address of the Objector with contact Number	Brief details of View(s)/ Objection(s) / Suggestions(s)	Whether copy of objection & proof of delivery at APGENCO's office enclosed (Yes/No)	Whether Objector wants to be heard in person (Yes/No)								
4. The tariff schedule of APGENCO power stations for 4th Control Period (FY2019-20 to FY2023-24) as filed is given below:											
<b>"SCHEDULE"</b>											
S. No	Station	Capacity in MW	Variable cost (Rs/kwh)	Fixed charges (Rs in Crs)							
				2019-20	2020-21	2021-22	2022-23				
1	Sileru Complex	725	-	227.39	226.82	247.04	256.90				
2	Nagarjuna Sagar RCPH	90	-	27.28	28.16	29.12	30.28				
3	Srisailem Right bank	775	-	217.81	223.89	236.62	238.91				
4	RASR	20	-	12.96	13.25	13.64	14.09				
5	Chaitanya	1	-	1.56	1.64	1.72	1.80				
6	Dr.NTTPS	1200	3.67	815.16	851.32	886.21	896.97				
7	RTTP-I	420	3.87	294.95	305.99	319.95	334.34				
8	RTTP-II	420	3.87	284.04	296.68	310.22	324.73				
9	Dr NTTPS IV	500	3.15	448.90	303.21	311.92	321.41				
10	RTTP-III	210	3.87	271.49	267.46	184.78	191.00				
11	NSTP-HES	50	-	49.64	52.08	51.44	50.84				
12	RTTP-IV	600	3.64	1138.44	1101.73	1065.57	1029.99				
13	Dr NTTPS V	800	2.90	477.73	1432.50	1367.30	1342.88				
14	Polavaram HES	960	-	-	-	119.17	612.30				
	Interstate Power (AP share)	141.6	-	57.33	61.14	65.20	69.52				
	Interest on Pension bonds (Over and above schedule)			991.24	1057.06	1127.25	1382.41				
	Prior period O&M expenses due to pay revision for FY 2018-19			223.75							
	RTTP-IV 2018-19 Fixed cost			353.00							
	<b>Total</b>	<b>8967.6</b>		<b>5890.60</b>	<b>6233.92</b>	<b>6355.16</b>	<b>7094.36</b>				
5. Hon'ble Commission will conduct Public hearings on said tariff application of APGENCO stations for 4th Control Period (FY2019-20 to FY2023-24) along with ARR and FPT proposals on Retail Supply Business and MYT proposals of DISCOMs and MYT proposals of APTRANSCO. But, Public Hearing on 01-02-2019 at Hyderabad is exclusively meant for tariff application of APGENCO stations. The schedule is as follows: <b>Venue/place of Public Hearing:</b> (1) Conference Hall, ATC Building, Corporate Office, APEPOCL, P&T Colony, Seethammadhara, Visakhapatnam - 530 013. Date of Public Hearing: <b>07-01-2019 (Monday)</b> . (2) O/o. SE/Operation/Vijayawada, APSPOCL, Opp. PWD Ground, Beside CMF camp office, Vijayawada. Date of Public Hearing: <b>08-01-2019 (Tuesday)</b> . (3) Conference Hall, Corporate Office, (Vidyuth Nilayam), APSPOCL, Behind Srinivasa Kalayamandapam, Sreenivasapuram, Truchanoor Road, Tirupati. Date of Public Hearing: <b>09-01-2019 (Wednesday)</b> . (4) O/o.APERC, 11-4-660, 4th Floor, Singareni Bhawan, Red Hills, Hyderabad - 500 004. Date of Public Hearing: <b>18-01-2019 (Friday)</b> . (5) O/o APERC, 11-4-660, 4th Floor, Singareni Bhawan, Red Hills, Hyderabad - 500 004. Date of Public Hearing: <b>25-01-2019 (Friday)</b> . (6) O/o.APERC, 11-4-660, 4th Floor, Singareni Bhawan, Red Hills, Hyderabad - 500 004. [Exclusively on tariff application of APGENCO] Date of Public Hearing: <b>05-02-2019 (Friday)</b> . * Hearings for public hearings - 10:00 AM to 1:00 PM and from 2:00 PM to 5:00 PM. All the interested persons who desire to be heard in person or through their authorized representatives are exhausted. All the interested persons / associations / stakeholders / objectors who want to be heard in person / through authorized representatives may appear before the Hon'ble Commission on the above mentioned dates and submit their views / objections / suggestions in respect of the said Tariff application submitted by APGENCO for its power stations for 4th Control Period (FY2019-20 to FY2023-24). The views / Objections/suggestions submitted to the Hon'ble Commission up to 5PM on 01-02-2019 beyond the stipulated date 21-01-2019, the date of the last public hearing exclusively on tariff application of APGENCO, will also be taken into consideration while determining tariff of APGENCO stations for 4th Control Period. & The Hon'ble Commission will also conduct the 13th Joint Meeting of State Advisory Committee (SAC) and 8th State Coordination Forum on 10-01-2019 (Thursday) at Conference Hall, Corporate Office, APSPOCL, Tirupati on tariff application of APGENCO stations along with ARR and FPT proposals on Retail Supply Business and MYT proposals of DISCOMs and MYT proposals of APTRANSCO for 4th Control Period.											
Date: 01.01.2019 Place: Vijayawada				MANAGING DIRECTOR APGENCO							
For more details please visit our website <a href="http://www.apgenco.gov.in">www.apgenco.gov.in</a>											



## ANNEXURE - A2

ANDHRA JYOTHI, EENADU &amp; SAKSHI (AP EDITIONS) DT:01-01-2019

**ఆంధ్రప్రదేశ్ పవర్ జనరేషన్ కార్పొరేషన్ లిమిటెడ్**  
**ఆంధ్రప్రదేశ్ పవర్ జనరేషన్ కార్పొరేషన్ లిమిటెడ్ (APGENCO)**  
 గౌరవ ఆంధ్ర ప్రదేశ్ ఎలక్ట్రిసిటీ రెగ్యులేటరీ కమిషన్ (APERC)  
 D.No.11-4-G60, 4వ అంతస్తు సింగరేణి భవన్, రెడ్ హిల్స్, హైదరాబాద్-500004  
 నమస్కారం

**ఆంధ్రప్రదేశ్ పవర్ జనరేషన్ కార్పొరేషన్ లిమిటెడ్ (APGENCO)**  
**బహిరంగ ప్రకటన**

(1) ఆంధ్రప్రదేశ్ పవర్ జనరేషన్ కార్పొరేషన్ లిమిటెడ్ (APGENCO) 28-12-2018న ఆంధ్రప్రదేశ్ ఎలక్ట్రిసిటీ రెగ్యులేటరీ కమిషన్ (APERC) నమస్కారం తన పవర్ స్టేషన్ కోసం 4వ కంట్రోల్ కాలానికి (FY2019-20 నుంచి FY2023-24 వరకు) కోసం టారిఫ్ దరఖాస్తు దాఖలు చేసినందున ఇందుమూలంగా అందరికీ తెలియజేయబడుతుంది. ఈ టారిఫ్ దరఖాస్తు O.P. నంబరు 35 ఆఫ్ 2018లో గౌరవ కమిషన్ చే రికార్డులోకి తీసుకోబడింది. (2) టారిఫ్ దరఖాస్తు కాపీలు చీఫ్ ఇంజనీర్ (కమర్షియల్) కార్యాలయం/APGENCO/విద్యుత్ సౌధ/గుణదల/విజయవాడ, చీఫ్ ఇంజనీర్/Dr.NTTTS (O&M)/బ్రాహ్మం పట్నం/కృష్ణా (జిల్లా), చీఫ్ ఇంజనీర్/రాయలసీమ ధర్మల్ పవర్ ప్రాజెక్ట్/వివి రెడ్డి నగర్/వైఎస్ఆర్ కడప (జిల్లా) మరియు చీఫ్ ఇంజనీర్/SRBPH/శ్రీశైలం ప్రాజెక్ట్/కర్నూలు (జిల్లా) కార్యాలయంలో లభిస్తాయి. ఆసక్తిగల వ్యక్తులు సదరు టారిఫ్ దరఖాస్తు ను ఉచితంగా సదరు ఏవేని కార్యాలయాల యొక్క కార్యాలయాల పనివేళలలో తనిఖీచేసుకొని/పరిశీలించవచ్చును మరియు దానిని గమనించవచ్చును. సదరు టారిఫ్ దరఖాస్తు [www.apgenco.gov.in](http://www.apgenco.gov.in)లో కూడా లభిస్తుంది మరియు దానిని [www.aperc.gov.in](http://www.aperc.gov.in)లో కూడా పొందవచ్చును. టారిఫ్ దరఖాస్తు కాపీని, పైన తెలిపిన కార్యాలయాల నుంచి ఈ ప్రకటన ప్రచురించిన తేదీ నుంచి విజయవాడ వద్ద చెల్లింపబడేలా "ది పీ ఆఫీసర్, APGENCO, విద్యుత్ సౌధ, విజయవాడ" పేరున ఏదేని జాతీయ/షెడ్యూల్డ్ బ్యాంక్ నుంచి పొందిన డిమాండ్ డ్రాఫ్ట్ రూపంలో రూ.100/- చెల్లింపు పై పొందవచ్చును మరియు ఇంగ్లీషు మరియు తెలుగులో APGENCO యొక్క టారిఫ్ దరఖాస్తు సమ్మరీని కూడా విడివిడిగా పొందవచ్చును. ఇందు కుగాను విజయవాడ వద్ద చెల్లింపబడేలా "ది పీ ఆఫీసర్, APGENCO, విద్యుత్ సౌధ, విజయవాడ" పేరున ఏదేని జాతీయ/షెడ్యూల్డ్ బ్యాంక్ నుంచి పొందిన డిమాండ్ డ్రాఫ్ట్ రూపంలో రూ.10/- చెల్లింపాలి. (3) సపోర్టింగ్ మెటీరియల్తోపాటు 4వ కంట్రోల్ కాలానికి APGENCO స్టేషన్ యొక్క టారిఫ్ దరఖాస్తులపై ఏవేని అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను చీఫ్ ఇంజనీర్ (కమర్షియల్) APGENCO, విద్యుత్ సౌధ, గుణదల, విజయవాడ వారికి స్వయంగా లేదా రిజిస్టర్డ్ పోస్ట్ ద్వారా 21-01-2019న లేదా ఆలోగా సా.5 గం.లలోగా చేరేలా పంపవలెను. దాని కాపీని పైన తెలిపిన చిరునామాలోని కమిషన్ సెక్రటరీ, APERCకి కూడా దాఖలుచేయాలి. అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపే వ్యక్తి (వ్యక్తులు) పూర్తిపేరు మరియు తపాలా చిరునామా వ్రాసి, తగు విధంగా సంతకంచేసి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపవలెను. ఏదేని సంస్థ లేదా వినియోగదార్ల కేటగిరీ తరపున అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను దాఖలు చేసినట్లయితే, వాటిపై ఆ విధంగా పేర్కొనవలెను. అభ్యంతరం తెలిపే వ్యక్తి స్వయంగా విచారణకు హాజరు కాదలిస్తే ఆ ప్రకారం నిర్దిష్టంగా పేర్కొనవలెను. అభిప్రాయాలు/అభ్యంతరాలు/నూచనలతోపాటు తరువాతి పుట (overleaf)లో దిగువ తెలిపిన స్టేట్మెంట్ను జతచేయాలి.

అభ్యంతరం తెలిపే వ్యక్తి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపే వ్యక్తి (వ్యక్తులు) పూర్తిపేరు మరియు తపాలా చిరునామా వ్రాసి, తగు విధంగా సంతకంచేసి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపవలెను. ఏదేని సంస్థ లేదా వినియోగదార్ల కేటగిరీ తరపున అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను దాఖలు చేసినట్లయితే, వాటిపై ఆ విధంగా పేర్కొనవలెను. అభ్యంతరం తెలిపే వ్యక్తి స్వయంగా విచారణకు హాజరు కాదలిస్తే ఆ ప్రకారం నిర్దిష్టంగా పేర్కొనవలెను. అభిప్రాయాలు/అభ్యంతరాలు/నూచనలతోపాటు తరువాతి పుట (overleaf)లో దిగువ తెలిపిన స్టేట్మెంట్ను జతచేయాలి.		అభ్యంతరం తెలిపే వ్యక్తి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపే వ్యక్తి (వ్యక్తులు) పూర్తిపేరు మరియు తపాలా చిరునామా వ్రాసి, తగు విధంగా సంతకంచేసి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపవలెను. ఏదేని సంస్థ లేదా వినియోగదార్ల కేటగిరీ తరపున అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను దాఖలు చేసినట్లయితే, వాటిపై ఆ విధంగా పేర్కొనవలెను. అభ్యంతరం తెలిపే వ్యక్తి స్వయంగా విచారణకు హాజరు కాదలిస్తే ఆ ప్రకారం నిర్దిష్టంగా పేర్కొనవలెను. అభిప్రాయాలు/అభ్యంతరాలు/నూచనలతోపాటు తరువాతి పుట (overleaf)లో దిగువ తెలిపిన స్టేట్మెంట్ను జతచేయాలి.		అభ్యంతరం తెలిపే వ్యక్తి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపే వ్యక్తి (వ్యక్తులు) పూర్తిపేరు మరియు తపాలా చిరునామా వ్రాసి, తగు విధంగా సంతకంచేసి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపవలెను. ఏదేని సంస్థ లేదా వినియోగదార్ల కేటగిరీ తరపున అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను దాఖలు చేసినట్లయితే, వాటిపై ఆ విధంగా పేర్కొనవలెను. అభ్యంతరం తెలిపే వ్యక్తి స్వయంగా విచారణకు హాజరు కాదలిస్తే ఆ ప్రకారం నిర్దిష్టంగా పేర్కొనవలెను. అభిప్రాయాలు/అభ్యంతరాలు/నూచనలతోపాటు తరువాతి పుట (overleaf)లో దిగువ తెలిపిన స్టేట్మెంట్ను జతచేయాలి.	
అభ్యంతరం తెలిపే వ్యక్తి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపే వ్యక్తి (వ్యక్తులు) పూర్తిపేరు మరియు తపాలా చిరునామా వ్రాసి, తగు విధంగా సంతకంచేసి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపవలెను. ఏదేని సంస్థ లేదా వినియోగదార్ల కేటగిరీ తరపున అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను దాఖలు చేసినట్లయితే, వాటిపై ఆ విధంగా పేర్కొనవలెను. అభ్యంతరం తెలిపే వ్యక్తి స్వయంగా విచారణకు హాజరు కాదలిస్తే ఆ ప్రకారం నిర్దిష్టంగా పేర్కొనవలెను. అభిప్రాయాలు/అభ్యంతరాలు/నూచనలతోపాటు తరువాతి పుట (overleaf)లో దిగువ తెలిపిన స్టేట్మెంట్ను జతచేయాలి.	అభ్యంతరం తెలిపే వ్యక్తి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపే వ్యక్తి (వ్యక్తులు) పూర్తిపేరు మరియు తపాలా చిరునామా వ్రాసి, తగు విధంగా సంతకంచేసి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపవలెను. ఏదేని సంస్థ లేదా వినియోగదార్ల కేటగిరీ తరపున అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను దాఖలు చేసినట్లయితే, వాటిపై ఆ విధంగా పేర్కొనవలెను. అభ్యంతరం తెలిపే వ్యక్తి స్వయంగా విచారణకు హాజరు కాదలిస్తే ఆ ప్రకారం నిర్దిష్టంగా పేర్కొనవలెను. అభిప్రాయాలు/అభ్యంతరాలు/నూచనలతోపాటు తరువాతి పుట (overleaf)లో దిగువ తెలిపిన స్టేట్మెంట్ను జతచేయాలి.	అభ్యంతరం తెలిపే వ్యక్తి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపే వ్యక్తి (వ్యక్తులు) పూర్తిపేరు మరియు తపాలా చిరునామా వ్రాసి, తగు విధంగా సంతకంచేసి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపవలెను. ఏదేని సంస్థ లేదా వినియోగదార్ల కేటగిరీ తరపున అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను దాఖలు చేసినట్లయితే, వాటిపై ఆ విధంగా పేర్కొనవలెను. అభ్యంతరం తెలిపే వ్యక్తి స్వయంగా విచారణకు హాజరు కాదలిస్తే ఆ ప్రకారం నిర్దిష్టంగా పేర్కొనవలెను. అభిప్రాయాలు/అభ్యంతరాలు/నూచనలతోపాటు తరువాతి పుట (overleaf)లో దిగువ తెలిపిన స్టేట్మెంట్ను జతచేయాలి.	అభ్యంతరం తెలిపే వ్యక్తి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపే వ్యక్తి (వ్యక్తులు) పూర్తిపేరు మరియు తపాలా చిరునామా వ్రాసి, తగు విధంగా సంతకంచేసి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపవలెను. ఏదేని సంస్థ లేదా వినియోగదార్ల కేటగిరీ తరపున అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను దాఖలు చేసినట్లయితే, వాటిపై ఆ విధంగా పేర్కొనవలెను. అభ్యంతరం తెలిపే వ్యక్తి స్వయంగా విచారణకు హాజరు కాదలిస్తే ఆ ప్రకారం నిర్దిష్టంగా పేర్కొనవలెను. అభిప్రాయాలు/అభ్యంతరాలు/నూచనలతోపాటు తరువాతి పుట (overleaf)లో దిగువ తెలిపిన స్టేట్మెంట్ను జతచేయాలి.	అభ్యంతరం తెలిపే వ్యక్తి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపే వ్యక్తి (వ్యక్తులు) పూర్తిపేరు మరియు తపాలా చిరునామా వ్రాసి, తగు విధంగా సంతకంచేసి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపవలెను. ఏదేని సంస్థ లేదా వినియోగదార్ల కేటగిరీ తరపున అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను దాఖలు చేసినట్లయితే, వాటిపై ఆ విధంగా పేర్కొనవలెను. అభ్యంతరం తెలిపే వ్యక్తి స్వయంగా విచారణకు హాజరు కాదలిస్తే ఆ ప్రకారం నిర్దిష్టంగా పేర్కొనవలెను. అభిప్రాయాలు/అభ్యంతరాలు/నూచనలతోపాటు తరువాతి పుట (overleaf)లో దిగువ తెలిపిన స్టేట్మెంట్ను జతచేయాలి.	అభ్యంతరం తెలిపే వ్యక్తి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపే వ్యక్తి (వ్యక్తులు) పూర్తిపేరు మరియు తపాలా చిరునామా వ్రాసి, తగు విధంగా సంతకంచేసి అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను పంపవలెను. ఏదేని సంస్థ లేదా వినియోగదార్ల కేటగిరీ తరపున అభిప్రాయాలు/అభ్యంతరాలు/నూచనలను దాఖలు చేసినట్లయితే, వాటిపై ఆ విధంగా పేర్కొనవలెను. అభ్యంతరం తెలిపే వ్యక్తి స్వయంగా విచారణకు హాజరు కాదలిస్తే ఆ ప్రకారం నిర్దిష్టంగా పేర్కొనవలెను. అభిప్రాయాలు/అభ్యంతరాలు/నూచనలతోపాటు తరువాతి పుట (overleaf)లో దిగువ తెలిపిన స్టేట్మెంట్ను జతచేయాలి.

4. 4వ కంట్రోల్ కాలానికి (FY2019-20 నుంచి FY2023-24) కోసం దాఖలుచేసిన విధంగా APGENCO పవర్ స్టేషన్ టారిఫ్ షెడ్యూలు దిగువ ఇవ్వబడింది.

**షెడ్యూలు**

క్ర. సం.	స్టేషన్	సామర్థ్యం MWలో	మారుచెందే వ్యయం (రూ.kwh)	ఫిక్స్డ్ ఛార్జీలు (రూ.కోట్లలో)				
				2019-20	2020-21	2021-22	2022-23	2023-24
1	నీలేరు కాంప్లెక్స్	725	-	227.39	236.82	247.04	258.90	270.91
2	నాగార్జున సాగర్ RCPH	90	-	27.28	28.16	29.12	30.28	31.43
3	శ్రీశైలం కుడి గట్టు	770	-	217.81	223.89	230.62	238.91	247.15
4	PABR	20	-	12.90	13.25	13.64	14.09	14.56
5	చెల్లిపేట	1	-	1.56	1.64	1.72	1.80	1.89
6	Dr. NTTPS	1260	3.67	815.16	851.32	890.21	890.97	940.96
7	RTPP-1	420	3.87	294.95	306.99	319.95	334.34	349.34
8	RTPP-II	420	3.87	284.04	296.68	310.22	324.73	340.25
9	Dr. NTTPS IV	500	3.15	446.90	303.21	311.92	321.41	331.71
10	RTPP III	210	3.87	271.49	267.46	184.78	191.00	197.74
11	NSTP HES	50	-	49.64	52.08	51.44	50.84	50.28
12	RTPP IV	600	3.64	1138.44	1101.73	1065.57	1029.99	995.02
13	Dr. NTTPS V	800	2.92	477.73	1432.50	1387.30	1342.88	1299.27
14	పోలవరం HES	960	-			119.17	612.30	890.25
	అంతర్ రాష్ట్ర విద్యుత్ (ఆం.ప్ర. వాటా)	141.6		57.33	61.14	65.20	69.52	74.14
	పెన్షన్ బాండ్లపై వడ్డీ (షెడ్యూలుకు అదనంగా)			991.24	1057.06	1127.25	1382.41	1474.21
	FY 2018-19 కోసం పీ రివిజన్ కారణంగా గత కాలపు O&M వ్యయాలు			223.75				
	RTPP IV 2018-19 ఫిక్స్డ్ వ్యయం			353.00				

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**ANNEXURE - B**  
**LIST OF OBJECTORS**

<b>S.No</b>	<b>Objector</b>	<b>Address</b>
1	Sri M. Venugopala Rao	Senior Journalist and Convenor, Centre for Power Studies, H.No.7-1-408to 413, F-203, Sri Sai Darshan Residency, Balkampet Road, Ameerpet, Hyderabad – 500016.
2.	APDISCOMS/Respondents	APEPDCL, Visakapatnam & APSPDCL, Tirupati
3	Sri CH Subba Rao	Guntupalli, Ibrahimpatnam Mandal, Krishna (Dt)- 521 241
4	Sri Cherukuri Venugopala Rao	Federation of Farmers Association of Andhra Pradesh, H.No.1-191, Railway Wagon Work Shop Road, Guntupalli, Ibrahimpatnam Mandal, Krishna District – 521 241, Andhra Pradesh
5	Sri R. Shiv Kumar	FTAPCCI & AP Spinning Mills Association (APSMA), Sai Plaza, 1 <sup>st</sup> Floor, 1 <sup>st</sup> Line, Chendramouli Nagar, Gudur – 522 007.
6	Dr K Babu Rao	H. No 4-1-50/2, road No 3 , Snehapuri Colony , Hyderabad - 500076
7	Sir P Vijay Gopal Reddy	AP Ferro Alloys Producers Association, Flat No.101, Sai Brundavan Apartments, Dwarakapuri Colony, Punjagutta, Hyderabad – 82.

**ANNEXURE – C****GOAP LETTER DT.05.06.2017**

GOVERNMENT OF ANDHRA PRADESH  
ENERGY, INFRASTRUCTURE & INVESTMENT (POWER-III) DEPARTMENT

LETTER No.1504/Power-III/2015-9.

From  
The Principal Secretary to Government,  
Energy, Infrastructure & Investment Department,  
A.P.Secretariat, 2<sup>nd</sup> Building, Ground Floor,  
VELAGAPUDI - 522 237, Tulluru Mandal,  
GUNTUR DISTRICT

To  
The Managing Director,  
APGENCO, Vidyut Soudha,  
Khairatabad,  
HYDERABAD-500 082

VELAGAPUDI, DATED: 05-06-2017

Sir,

Sub:- Energy, I&I (Power-III) Dept - APGENCO - Non-payment of power supply bill dues of Rs.4847.59 crores after netting off dues payable by APPCC to TSGENCO - Regarding.

Ref:- 1. Your Lr.No.MD/APGENCO/FA&CCA(R&A)/Power Bills/D.No.31/17, dated 10/04/2017.  
2. Govt.Letter No.1504/Power-III/2015-8, Energy, I&I (Pr-III) Dept, dated 26/04/2017.  
3. Your Letter No.MD/APGENCO/FA&CCA(R&A)/Power Bills/D.No.38/2017, dated 22/05/2017.

\*\*\*\*\*

I am to invite your attention to the references cited and inform you that Government after careful consideration of the matter permit APGENCO to discontinue the power supply to TSDISCOMs, till the time the dues are cleared by them as TSDISCOMs are not even paying the regular monthly bills despite continuous follow up and the arrears are going on accumulating. MD, APGENCO is requested to take further necessary action in the matter.

Yours faithfully,

*V. Srinivasa Rao*

for PRINCIPAL SECRETARY TO GOVERNMENT



**ANNEXURE - D****AUDITORS CERTIFICATE ON ADDITIONAL CAPITALISATION**

**GALLA SRIKANTH & ASSOCIATES**  
**CHARTERED ACCOUNTANTS**

Mobile: 9581797232  
8142232284

Date : 24.01.2019

**CERTIFICATE**

This is to certify that M/S. Andhra Pradesh Power Generation Corporation Limited (APGENCO) Vijayawada, has incurred Capital Expenditure (Capex) on its power stations during the years 2014-19 as mentioned below:

(Rupees in Crores)		
S.No.	Station Name	Additional Capex 2014-19 (Up to 30.11.2018)
1.	Sileru Complex	12.04
2.	SRBPH	17.48
3.	Dr.NTTPS	144.83
4.	RTPP- I	33.36
5.	Dr.NTTPS-IV	38.93
6.	RTPP-II	1.25
7.	RTPP-III	36.72
8.	NSRCPH	1.18

This certificate is given based on the records and information produced and at the request of the company for onward submission to APERC.

For Galla Srikanth & Associates  
Chartered Accountants  
*Srikanth*  
CA. SRIKANTH GALLA  
Proprietor M.No: 246067





## ANNEXURE – E1

## PFC INTEREST RATES STATEMENT

Run Date: 07/01/2019 19:22:42

पावर फाइनेंस कॉर्पोरेशन लिमिटेड  
POWER FINANCE CORPORATION LIMITED

INTCALA4

Executed Loan

ऋण प्रबंधन प्रणाली  
LOAN MANAGEMENT SYSTEM

पृष्ठ सं/Page No.:10

Identified Loan

--Interest Calculation Report--

ई म सं./Sl.No	दिनांक/Date	चैक सं/Chq. No.	विवरण/Particulars	आधार राशि/Base Amount	दिन Days	दर/Rate	ब्याज राशि Int. Amount
230	15/12/2018	0.00	Opening Balance	8,47,189	33	10.20	7,813
233	15/12/2018	0.00	Opening Balance	48,93,225	33	10.20	45,125
234	15/12/2018	0.00	Opening Balance	94,40,746	33	10.20	87,062

देय तिथि ऋण शेष राशि/Due Date Loan Balance : 3,427,726,649

3,16,10,216

ऋण योग/LOAN TOTAL

3,42,77,26,649 ( 10.20)

ऋण सं/Loan No.: 31301016 APGENCO

RAYALSEEMA STAGE IV, UNIT 6 (1X600 MW) TPP

देय तिथि/Due Date : 17/01/2019

5	15/10/2018	0.00	Opening Balance	71,25,02,784	94	10.20	1,87,16,375
5	15/10/2018		BEING AN AMOUNT RECEIVED FROM	-60,21,33,329	94	10.20	-1,58,17,135
6	15/10/2018	0.00	Opening Balance	2,26,45,753	94	10.20	5,94,870
7	15/10/2018	0.00	Opening Balance	5,06,43,209	94	10.20	13,30,321
8	15/10/2018	0.00	Opening Balance	10,16,52,586	94	10.20	26,70,260
9	15/10/2018	0.00	Opening Balance	7,51,93,079	94	10.20	19,75,209
10	15/10/2018	0.00	Opening Balance	22,12,614	94	10.20	58,122
11	15/10/2018	0.00	Opening Balance	7,62,91,470	94	10.20	20,04,062
12	15/10/2018	0.00	Opening Balance	11,06,306	94	10.20	29,061
13	15/10/2018	0.00	Opening Balance	8,05,50,749	94	10.20	21,15,947

## ANNEXURE – E2

## REC INTEREST RATES CIRCULAR

ANNEXURE "A"  
(LPC No. 002/2018 dated June 19, 2018)

**RURAL ELECTRIFICATION CORPORATION LIMITED**  
Lending Rates effective from June 19, 2018, till further notification.

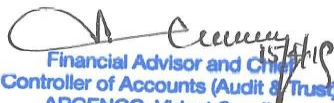
I - a TERM LOANS - (With reset after every 3 years)					(Rates in %)				
Sl. No.	Category of Loans / Schemes	State Sector Borrowers (Category "A++") Identified CPSUs and AAA Rated Companies	State Sector Borrowers (Category "A+")	State Sector Borrowers (Category "A" & "B"), Central Sector Borrowers (other than identified CPSUs & AAA Rated Companies)	With Integrated Rating of IR-1	(a) With Integrated Rating of IR-2 (b) Entity Grade: I & II	(a) With Integrated Rating of IR-3 (b) Entity Grade: III & IV (c) DISCOM Grade- A	With Integrated Rating of IR-4	(a) With Integrated Rating of IR-5 (b) Entity Grade: V (c) DISCOM Grade- B (d) Non Graded
<b>A.</b>	<b>Term Loan/Schemes</b>								
1	Conventional Generation	11.15	11.40	11.65	11.65	12.15	12.40	12.65	12.90
2	R&M and R&U of Generation Projects	11.15	11.40	11.65	11.90	12.40	12.65	12.90	13.15
3	Non-Conventional Generation – a) Renewable Energy Projects except Biomass Projects (within purview of MNRE)	9.85	10.00	10.25	10.00	10.25	10.50	10.75	11.25
	b) Biomass Projects	10.75	11.00	11.25	11.25	11.50	11.75	12.00	12.25
4	a) Transmission Schemes b) Transmission Scheme (Only for Inter State Transmission schemes/projects awarded through TBCB route) – Pre-CoD	10.75 -	11.00 -	11.25 -	12.00 10.75	12.25 11.00	12.50 11.25	12.75 11.50	13.00 11.75
5	Distribution & other Schemes	-	10.75	11.00	11.50	11.75	12.00	12.25	12.50
6	Funding Against Regulatory Assets	11.40	11.65	11.90	12.15	12.40	12.65	12.90	13.15
7	Computerization	11.90	11.90	12.15	-	-	-	-	-
<b>B.</b>	<b>Loan to Equipment Manufacturers</b>								
1	Upto 1 year	12.00	12.25	12.50	12.75	13.00	13.25	13.50	13.75
2	More than 1 year and up to 3 years	11.65	11.90	12.15	12.40	12.65	12.90	13.15	13.40
<b>I - b TERM LOANS - (With reset after every 1 year)</b>									
1	Non-Conventional Generation – Renewable Energy Projects except Biomass Projects (within purview of MNRE)	9.75	9.75	10.00	9.75	10.00	10.25	10.50	11.00

(P.T.O)

3

**ANNEXURE – F1****ADDITIONAL INTEREST ON PENSION BONDS FOR FY2018-19 ACTUALS**

STATEMENT SHOWING THE DETAILS OF EXPENDITURE FOR THE PERIOD FROM APRIL 2018 TO MARCH 2019 (Provisional)				
S.No.	Name of the Company	Prior to 01.02.1999 (100%)	After 01.02.1999 (74%)	TOTAL
1	APGENCO	163635993	1244265007	1407901000
	APTRANSCO	60354547	519902453	580257000
	APEPDCL	875134371	2265601329	3140735700
	APSPDCL	1474703132	4378350168	5853053300
	<b>TOTAL</b>	2573828043	8408118957	10981947000
2	Less:i) Pension paid upto 30-06-2018 to pensioners and family pensioners who retired prior to 01-06-2014 and subsequently transferred to TSGENCO w.e.f 01-07-2018			147270436
	Less: ii) Scheduled commitments as per Bonds			2224600000
3	<b>Net: Over and above Schedule amount [(1) - (2)]</b>			<b>8610076564</b>

  
 Financial Advisor and Controller of Accounts (Audit & Trust)  
 APGENCO, Vidyut Soudha,  
 Gunadala, Vijayawada - 520 004.

**ANNEXURE – F2****ADDITIONAL INTEREST ON PENSION BONDS COMPUTATION**

Approved: Additional interest on pension bonds (Rs.Cr.)					
year	Estimated Pension commitments for pensioners retired prior to 01.02.1999	Estimated Pension commitments for pensioners retired after 01.02.1999	Total Pension Commitments	Scheduled Commitment	Additional interest Estimated
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)=(4)-(5)
2019-20	257.38	859.12	1116.50	228.18	888.3
2020-21	257.38	893.49	1150.87	229.34	921.5
2021-22	257.38	929.23	1186.61	232.32	954.3
2022-23	257.38	966.40	1223.78	236.05	987.7
2023-24	257.38	1005.05	1262.43	242.29	1020.1
Total					4771.9



**ANNEXURE – G****CAPITAL COST FOR NSTP HES- AUDITORS CERTIFICATE**

**GALLA SRIKANTH & ASSOCIATES**  
**CHARTERED ACCOUNTANTS**

Mobile: 9581797232  
8142232284

TO WHOM SO EVER IT MAY CONCERN

This is to certify that M/s. Andhra Pradesh Power Generation Corporation Limited (APGENCO), Vijayawada, Andhra Pradesh has incurred Capital Expenditure up to 31.03.2018 of Rs.293.67 Crores and during the year 2018-19 of Rs. 3.90 Crores total amounting to **Rs. 297.57 Crores** for its power project at Nagarjunasagar Tail Pond Dam(NSTPD), Satrasala, Jettipalem(V), Guntur District, Andhra Pradesh.

Further, APGENCO has incurred an amount of Rs. 91.52 Crores towards Dam Works which is not claimed in the Tariff petition.

This is given at the request of the Company for onward submission to APERC for filing of tariff petition, as per the information, Papers, Books and Records produced.



For Galla Srikanth & Associates  
Chartered Accountants

*Srikanth*  
CA. SRIKANTH GALLA  
Proprietor M.No: 246067

**ANNEXURE – H**  
**MOP NOTIFICATION ON COAL DT 18.10.2017**



भारत सरकार  
 Government of India  
 विद्युत् मंत्रालय  
 Ministry of Power  
 केन्द्रीय विद्युत् प्राधिकरण  
 Central Electricity Authority  
 तापीय परियोजना योजना एवं विकास प्रभाग  
 Thermal Project Planning & Development Division

**Sub: Issue of measurement of Coal GCV on "as received" basis as per the 2014 Tariff Regulation – Corrigendum to CEA letter no. 228/MISC/TPP&D/CEA/2017/1432 dated 17.10.2017 .**

In reference to MoP letter no. 3/2/2017-Th-I Dated 28.06.2017 on the above subject, CEA has furnished comments vide letter even no. dated 17.10.2017. In respect to this letter the following corrigendum is issued.

The last para of the letter may be read as below:

CEA has also examined the views taken by various state regulators for considering such loss for the purpose of tariff allowed to generators. However, as the margin would vary from plant to plant, season to season and varying coal characteristics, CEA is of the opinion that a margin of 85-100 kCal/Kg for a pithead station and a margin of 105-120 kCal/kg for a non-pithead station may be considered as a loss of GCV measured at wagon top **at unloading point** till the point of firing of coal in boiler.

(Phool Chandra)  
 Chief Engineer (TPPD)

Joint Secretary, Min of Power

No. 228/MISC/TPP&D/CEA/2017/1432

Date 18.10.2017



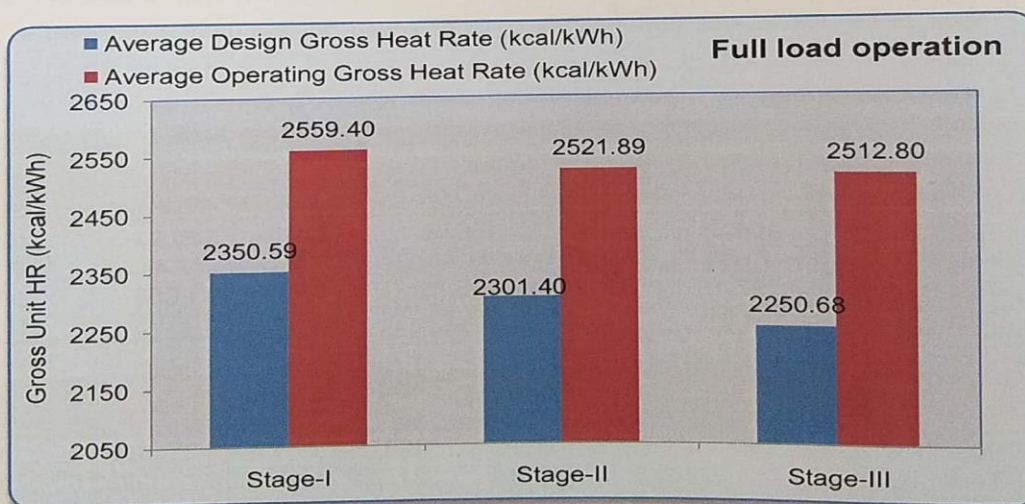
**ANNEXURE - I****THIRD PARTY I.E. STEAG REPORT ABSTRACT ON SHR**

## Performance Test Report

Boiler efficiency	Value [%]					
	Unit-1	Unit-2	Unit-3	Unit-4	Unit-5	Unit-6
Design	87.68	87.68	86.53	86.53	88.48	88.48
Test 1-Actual	82.25	83.30	82.22	82.91	83.70	84.25
Test-1 Corrected*	84.94	84.97	80.76	81.81	83.96	84.23
Test-2- Actual	83.80	83.94	83.33	83.86	84.81	85.09
Test -2 Corrected*	85.92	85.75	81.32	82.38	84.30	84.60

\*Boiler efficiency corrected for design fuel and ambient condition

Unit Heat Rate (UHR) / Station heat rate(SHR)				
Units	Test 1		Test 2	
	Load [MW]	UHR[kcal/kWh]	Load [MW]	UHR[kcal/kWh]
Unit-1	151.03	2653.83	187.13	2567.27
Unit-2	148.17	2652.14	188.34	2551.54
Unit-3	150.00	2641.48	195.75	2539.70
Unit-4	153.41	2620.41	211.31	2504.07
Unit-5	150.93	2656.56	211.58	2524.90
Unit-6	151.00	2642.89	210.98	2500.71
Station heat rate (SHR) (weighted avg) (stage-I to III)				2530.16
Station Heat rate (SHR) (design)				2300.89
Increase in Test SHR				9.96 %



**ANNEXURE – J1**

<b>Approved: Working Capital for FY2019-20 (Rs.Cr.)</b>							
<b>Sl.No</b>	<b>Name of the Station</b>	<b>Capacity</b>	<b>Cost of Fuel (30 days)</b>	<b>O&amp;M (1Month)</b>	<b>Spares (Escalated @4%)</b>	<b>Receivables (2 Months)</b>	<b>Total Working Capital</b>
1	SILERU	725	0.00	14.25	18.02	37.54	69.81
2	NS RCPH	90	0.00	1.38	2.93	4.13	8.44
3	SRBPH	770	0.00	11.88	24.40	36.08	72.36
4	PABR	20	0.00	0.66	1.10	2.14	3.90
5	Chettipeta	1	0.00	0.11	0.06	0.28	0.44
6	Dr. NTPS	1260	213.39	41.53	57.70	537.34	849.96
7	RTPP-I	420	82.41	13.84	50.51	207.31	354.08
8	RTPP -II	420	82.41	13.84	27.76	206.07	330.09
9	Dr NTPS IV	500	80.01	11.26	30.41	214.83	336.50
10	RTPP III	210	41.21	6.92	16.65	124.60	189.37
11	NSTP HES	50	0.00	0.67	2.94	8.69	12.30

**ANNEXURE – J2**

<b>Approved: Working Capital for FY2020-21 (Rs.Cr.)</b>							
<b>Sl.No</b>	<b>Name of the Station</b>	<b>Capacity</b>	<b>Cost of Fuel (30 days)</b>	<b>O&amp;M (1Month)</b>	<b>Spares (Escalated @4%)</b>	<b>Receivables (2 Months)</b>	<b>Total Working Capital</b>
1	SILERU	725	0.00	14.93	18.74	38.54	72.22
2	NS RCPH	90	0.00	1.44	3.05	4.20	8.69
3	SRBPH	770	0.00	12.45	25.37	36.63	74.45
4	PABR	20	0.00	0.69	1.15	2.18	4.01
5	Chettipeta	1	0.00	0.11	0.06	0.28	0.46
6	Dr. NTPS	1260	213.39	42.99	60.01	540.03	856.42
7	RTPP-I	420	82.41	14.33	52.53	208.07	357.34
8	RTPP -II	420	82.41	14.33	28.87	206.95	332.57
9	Dr NTPS IV	500	80.01	11.65	31.63	207.17	330.46
10	RTPP III	210	41.21	7.16	17.31	113.57	179.26
11	NSTP HES	50	0.00	0.71	3.05	8.57	12.33



**ANNEXURE – J3**

<b>Approved: Working Capital for FY2021-22 (Rs.Cr.)</b>							
<b>Sl.No</b>	<b>Name of the Station</b>	<b>Capacity</b>	<b>Cost of Fuel (30 days)</b>	<b>O&amp;M (1Month)</b>	<b>Spares (Escalated @4%)</b>	<b>Receivables (2 Months)</b>	<b>Total Working Capital</b>
1	SILERU	725	0.00	15.64	19.49	39.61	74.75
2	NS RCPH	90	0.00	1.51	3.17	4.27	8.95
3	SRBPH	770	0.00	13.04	26.39	37.23	76.66
4	PABR	20	0.00	0.72	1.19	2.21	4.13
5	Chettipeta	1	0.00	0.12	0.07	0.29	0.48
6	Dr. NTTPS	1260	213.39	44.50	62.41	542.83	863.13
7	RTPP-I	420	82.41	14.83	54.63	208.86	360.74
8	RTPP -II	420	82.41	14.83	30.03	207.86	335.14
9	Dr NTTPS IV	500	80.01	12.06	32.89	207.47	332.43
10	RTPP III	210	41.21	7.42	18.01	110.61	177.24
11	NSTP HES	50	0.00	0.74	3.18	8.46	12.37

**ANNEXURE – J4**

<b>Approved: Working Capital for FY2022-23 (Rs.Cr.)</b>							
<b>Sl.No</b>	<b>Name of the Station</b>	<b>Capacity</b>	<b>Cost of Fuel (30 days)</b>	<b>O&amp;M (1Month)</b>	<b>Spares (Escalated @4%)</b>	<b>Receivables (2 Months)</b>	<b>Total Working Capital</b>
1	SILERU	725	0.00	16.39	20.27	40.75	77.41
2	NS RCPH	90	0.00	1.58	3.30	4.35	9.23
3	SRBPH	770	0.00	13.66	27.44	37.89	78.99
4	PABR	20	0.00	0.76	1.24	2.25	4.25
5	Chettipeta	1	0.00	0.12	0.07	0.30	0.50
6	Dr. NTTPS	1260	213.39	46.06	64.90	545.74	870.09
7	RTPP-I	420	82.41	15.35	56.82	209.68	364.27
8	RTPP -II	420	82.41	15.35	31.23	208.81	337.81
9	Dr NTTPS IV	500	80.01	12.48	34.21	207.79	334.49
10	RTPP III	210	41.21	7.68	18.73	110.84	178.45
11	NSTP HES	50	0.00	0.77	3.30	8.35	12.43

**ANNEXURE – J5**

<b>Approved: Working Capital for FY2023-24 (Rs.Cr.)</b>							
<b>Sl.No</b>	<b>Name of the Station</b>	<b>Capacity</b>	<b>Cost of Fuel (30 days)</b>	<b>O&amp;M (1Month)</b>	<b>Spares (Escalated @4%)</b>	<b>Receivables (2 Months)</b>	<b>Total Working Capital</b>
1	SILERU	725	0.00	17.17	21.08	41.96	80.22
2	NS RCPH	90	0.00	1.66	3.43	4.44	9.52
3	SRBPH	770	0.00	14.31	28.54	38.61	81.46
4	PABR	20	0.00	0.79	1.29	2.30	4.38
5	Chettipeta	1	0.00	0.13	0.07	0.31	0.52
6	Dr. NTTPS	1260	213.39	47.67	67.50	548.76	877.33
7	RTPP-I	420	82.41	15.89	59.09	210.55	367.95
8	RTPP -II	420	82.41	15.89	32.48	209.80	340.58
9	Dr NTTPS IV	500	80.01	12.92	35.58	208.15	336.66
10	RTPP III	210	41.21	7.95	19.48	111.08	179.71
11	NSTP HES	50	0.00	0.81	3.44	8.24	12.49

**ANNEXURE – K1**

Approved: Return on Capital Employed (RoCE) for FY2019-20 (Rs.Cr.)										
S.No	Name of the Station	G.F.A. as on 31.3.19	30% Equity on 31.3.19 GFA.	70% loan	Accumulated depreciation as on 31.3.19	Net Equity	Net Loans.	Working Capital	Capital Employed	RoCE
1	Sileru	696.87	209.06	487.81	482.02	209.06	5.79	69.81	284.66	33.59
2	Nagarjuna Sagar RCPH	114.62	34.39	80.23	83.16	31.46	0.00	8.44	39.90	4.71
3	Srisailem Right bank	962.20	288.66	673.54	679.79	282.41	0.00	72.36	354.77	41.86
4	PABR	56.68	17.00	39.68	32.04	17.00	7.64	3.90	28.54	3.37
5	Chettipeta	3.55	1.07	2.49	1.60	1.07	0.89	0.44	2.39	0.28
6	Dr.NTTPS	3067.90	920.37	2147.53	2671.58	396.32	0.00	849.96	1246.28	147.06
7	RTPP-I	2040.24	612.07	1428.17	1764.06	276.18	0.00	354.08	630.26	74.37
8	RTPP -II	1875.48	562.64	1312.84	1578.18	297.30	0.00	330.09	627.39	74.03
9	Dr NTTPS IV	2136.68	641.00	1495.68	1425.51	641.00	70.17	336.50	1047.67	123.63
10	RTPP III	1216.29	364.89	851.40	728.40	364.89	123.00	189.37	677.26	79.92
11	NSTP HES	293.67	88.10	205.57	10.76	88.10	194.81	12.30	295.21	34.83
	Total	12464.18	3739.25	8724.93	9457.10	2604.79	402.29	2227.28	5234.36	617.65

**ANNEXURE – K2**

Approved: Return on Capital Employed (RoCE) for FY2020-21 (Rs.Cr.)										
S.NO.	Name of the Station	G.F.A. as on 31.3.19	30% Equity on 31.3.19 GFA.	70% loan	Accumulated depreciation as on 31.3.20	Net Equity	Net Loans.	Working Capital	Capital Employed	RoCE
1	Sileru	696.87	209.06	487.81	502.64	194.23	0.00	72.22	266.45	31.44
2	Nagarjuna Sagar RCPH	114.62	34.39	80.23	86.74	27.88	0.00	8.69	36.57	4.31
3	Srisailem Right bank	962.2	288.66	673.54	711.88	250.32	0.00	74.45	324.77	38.32
4	PABR	56.68	17.00	39.68	33.65	17.00	6.03	4.01	27.04	3.19
5	Chettipeta	3.55	1.07	2.49	1.68	1.07	0.80	0.46	2.33	0.28
6	Dr.NTTPS	3067.90	920.37	2147.53	2689.49	378.41	0.00	856.42	1234.83	145.71
7	RTPP-I	2040.24	612.07	1428.17	1778.49	261.75	0.00	357.34	619.09	73.05
8	RTPP -II	1875.48	562.64	1312.84	1585.50	289.98	0.00	332.57	622.55	73.46
9	Dr NTTPS IV	2136.68	641.00	1495.68	1495.68	641.00	0.00	330.46	971.46	114.63
10	RTPP III	1216.29	364.89	851.40	818.51	364.89	32.89	179.26	577.04	68.09
11	NSTP HES	293.67	88.10	205.57	19.98	88.10	185.59	12.33	286.02	33.75
	Total	12464.18	3739.25	8724.93	9724.24	2514.63	225.32	2228.20	4968.14	586.24

**ANNEXURE – K3**

Approved: Return on Capital Employed (RoCE) for FY2021-22 (Rs.Cr.)										
S.No	Name of the Station	G.F.A. as on 31.3.19	30% Equity on 31.3.19 GFA.	70% loan	Accumulated depreciation as on 31.3.21	Net Equity	Net Loans.	Working Capital	Capital Employed	RoCE
1	Sileru	696.87	209.06	487.81	523.26	173.61	0.00	74.75	248.36	29.31
2	Nagarjuna Sagar RCPH	114.62	34.39	80.23	90.32	24.30	0.00	8.95	33.25	3.92
3	Srisaillam Right bank	962.2	288.66	673.54	743.97	218.23	0.00	76.66	294.89	34.80
4	PABR	56.68	17.00	39.68	35.26	17.00	4.42	4.13	25.55	3.02
5	Chettipeta	3.55	1.07	2.49	1.76	1.07	0.72	0.48	2.27	0.27
6	Dr.NTTPS	3067.90	920.37	2147.53	2707.40	360.50	0.00	863.13	1223.63	144.39
7	RTPP-I	2040.24	612.07	1428.17	1792.92	247.32	0.00	360.74	608.06	71.75
8	RTPP -II	1875.48	562.64	1312.84	1592.82	282.66	0.00	335.14	617.80	72.90
9	Dr NTTPS IV	2136.68	641.00	1495.68	1524.17	612.51	0.00	332.43	944.94	111.50
10	RTPP III	1216.29	364.89	851.40	851.40	364.89	0.00	177.24	542.13	63.97
11	NSTP HES	293.67	88.10	205.57	29.20	88.10	176.37	12.37	276.85	32.67
	Total	12464.18	3739.254	8724.926	9892.479269	2390.183164	181.517567	2246.0003	4817.7011	568.48872

**ANNEXURE – K4**

Approved: Return on Capital Employed (RoCE) for FY202-23 (Rs.Cr.)										
S.No	Name of the Station	G.F.A. as on 31.3.19	30% Equity on 31.3.19 GFA.	70% loan	Accumulated depreciation as on 31.3.22	Net Equity	Net Loans.	Working Capital	Capital Employed	RoCE
1	Sileru	696.87	209.06	487.81	543.88	152.99	0.00	77.41	230.40	27.19
2	Nagarjuna Sagar RCPH	114.62	34.39	80.23	93.91	20.71	0.00	9.23	29.94	3.53
3	Srisaillam Right bank	962.2	288.66	673.54	776.06	186.14	0.00	78.99	265.13	31.29
4	PABR	56.68	17.00	39.68	36.87	17.00	2.81	4.25	24.06	2.84
5	Chettipeta	3.55	1.07	2.49	1.84	1.07	0.64	0.50	2.21	0.26
6	Dr.NTTPS	3067.90	920.37	2147.53	2725.31	342.59	0.00	870.09	1212.68	143.10
7	RTPP-I	2040.24	612.07	1428.17	1807.35	232.89	0.00	364.27	597.16	70.46
8	RTPP -II	1875.48	562.64	1312.84	1600.14	275.34	0.00	337.81	613.15	72.35
9	Dr NTTPS IV	2136.68	641.00	1495.68	1552.66	584.02	0.00	334.49	918.51	108.38
10	RTPP III	1216.29	364.89	851.40	867.62	348.67	0.00	178.45	527.12	62.20
11	NSTP HES	293.67	88.10	205.57	38.42	88.10	167.15	12.43	267.68	31.59
	Total	12464.18	3739.25	8724.93	10044.05	2249.52	170.61	2267.91	4688.04	553.19

**ANNEXURE – K5**

Approved: Return on Capital Employed (RoCE) for FY203-24 (Rs.Cr.)										
S.No	Name of the Station	G.F.A. as on 31.3.19	30% Equity on 31.3.19 GFA.	70% loan	Accumulated depreciation as on 31.3.23	Net Equity	Net Loans.	Working Capital	Capital Employed	RoCE
1	Sileru	696.87	209.06	487.81	564.50	132.37	0.00	80.22	212.59	25.09
2	Nagarjuna Sagar RCPH	114.62	34.39	80.23	97.49	17.13	0.00	9.52	26.66	3.15
3	Srisailem Right bank	962.2	288.66	673.54	808.15	154.05	0.00	81.46	235.51	27.79
4	PABR	56.68	17.00	39.68	38.47	17.00	1.20	4.38	22.59	2.67
5	Chettipeta	3.55	1.07	2.49	1.92	1.07	0.56	0.52	2.14	0.25
6	Dr.NTTPS	3067.90	920.37	2147.53	2743.21	324.69	0.00	877.33	1202.02	141.84
7	RTTP-I	2040.24	612.07	1428.17	1821.78	218.46	0.00	367.95	586.41	69.20
8	RTTP -II	1875.48	562.64	1312.84	1607.46	268.02	0.00	340.58	608.60	71.82
9	Dr NTTPS IV	2136.68	641.00	1495.68	1581.15	555.53	0.00	336.66	892.19	105.28
10	RTTP III	1216.29	364.89	851.40	883.84	332.45	0.00	179.71	512.16	60.43
11	NSTP HES	293.67	88.10	205.57	47.64	88.10	157.93	12.49	258.52	30.51
	Total	12464.18	3739.25	8724.93	10195.61	2108.87	159.70	2290.81	4559.38	538.01

**ANNEXURE – L1****Approved: Fixed Charges for FY2019-20 (Rs.Cr.)**

S.No	Station	RoCE	Depreciation	O&M	Fixed charges
1	Sileru Complex	33.59	20.62	171.02	225.23
2	Nagarjuna Sagar RCPH	4.71	3.58	16.50	24.79
3	Srisaillam Right bank	41.86	32.09	142.55	216.50
4	PABR	3.37	1.61	7.89	12.87
5	Chettipeta	0.28	0.08	1.29	1.65
6	Dr.NTTPS	147.06	17.91	498.36	663.33
7	RTPP-I	74.37	14.43	166.12	254.92
8	RTPP -II	74.03	7.32	166.12	247.47
9	Dr NTTPS IV	123.63	70.17	135.06	328.86
10	RTPP III	79.92	90.11	83.06	253.09
11	NSTP HES	34.83	9.22	8.08	52.13
	Interstate Power (AP share)				56.32
	Interest on Pension bonds (Over and above schedule)				888.30
	<b>Total</b>	<b>617.65</b>	<b>267.14</b>	<b>1396.04</b>	<b>3225.46</b>

**ANNEXURE – L2****Approved: Fixed charges for FY2020-21 (Rs.Cr.)**

S.No	Station	RoCE	Depreciation	O&M	Fixed charges
1	Sileru Complex	31.44	20.62	179.18	231.24
2	Nagarjuna Sagar RCPH	4.31	3.58	17.29	25.19
3	Srisaillam Right bank	38.32	32.09	149.35	219.76
4	PABR	3.19	1.61	8.27	13.07
5	Chettipeta	0.28	0.08	1.35	1.70
6	Dr.NTTPS	145.71	17.91	515.85	679.47
7	RTPP-I	73.05	14.43	171.95	259.43
8	RTPP -II	73.46	7.32	171.95	252.73
9	Dr NTTPS IV	114.63	28.49	139.80	282.92
10	RTPP III	68.09	32.89	85.97	186.96
11	NSTP HES	33.75	9.22	8.47	51.44
	Interstate Power (AP share)				59.01
	Interest on Pension bonds (Over and above schedule)				921.50
	<b>Total</b>	<b>586.24</b>	<b>168.24</b>	<b>1449.42</b>	<b>3184.41</b>

**ANNEXURE – L3****Approved: Fixed charges for FY2021-22 (Rs.Cr.)**

S.No	Station	RoCE	Depreciation	O&M	Fixed charges
1	Sileru Complex	29.31	20.62	187.72	237.65
2	Nagarjuna Sagar RCPH	3.92	3.58	18.11	25.62
3	Srisaillam Right bank	34.80	32.09	156.47	223.36
4	PABR	3.02	1.61	8.66	13.28
5	Chettipeta	0.27	0.08	1.41	1.76
6	Dr.NTTPS	144.39	17.91	533.95	696.25
7	RTPP-I	71.75	14.43	177.98	264.17
8	RTPP -II	72.90	7.32	177.98	258.20
9	Dr NTTPS IV	111.50	28.49	144.71	284.70
10	RTPP III	63.97	16.22	88.99	169.18
11	NSTP HES	32.67	9.22	8.87	50.76
	Interstate Power (AP share)				61.83
	Interest on Pension bonds (Over and above schedule)				954.30
	<b>Total</b>	<b>568.49</b>	<b>151.57</b>	<b>1504.88</b>	<b>3241.06</b>

**ANNEXURE – L4****Approved: Fixed charges for FY2022-23 (Rs.Cr.)**

S.No	Station	RoCE	Depreciation	O&M	Fixed charges
1	Sileru Complex	27.19	20.62	196.68	244.49
2	Nagarjuna Sagar RCPH	3.53	3.58	18.98	26.09
3	Srisaillam Right bank	31.29	32.09	163.94	227.31
4	PABR	2.84	1.61	9.07	13.52
5	Chettipeta	0.26	0.08	1.48	1.82
6	Dr.NTTPS	143.10	17.90	552.70	713.69
7	RTPP-I	70.46	14.43	184.23	269.13
8	RTPP -II	72.35	7.32	184.23	263.90
9	Dr NTTPS IV	108.38	28.49	149.79	286.66
10	RTPP III	62.20	16.22	92.12	170.54
11	NSTP HES	31.59	9.22	9.29	50.10
	Interstate Power (AP share)				64.77
	Interest on Pension bonds (Over and above schedule)				987.70
	<b>Total</b>	<b>553.19</b>	<b>151.56</b>	<b>1562.50</b>	<b>3319.73</b>

**ANNEXURE – L5****Approved: Fixed charges for FY2023-24 (Rs.Cr.)**

S.No	Station	RoCE	Depreciation	O&M	Fixed charges
1	Sileru Complex	25.09	20.62	206.06	251.76
2	Nagarjuna Sagar RCPH	3.15	3.58	19.88	26.61
3	Srisaillam Right bank	27.79	32.09	171.76	231.64
4	PABR	2.67	1.61	9.51	13.78
5	Chettipeta	0.25	0.08	1.55	1.88
6	Dr.NTTPS	141.84	17.90	572.10	731.83
7	RTPP-I	69.20	14.43	190.70	274.32
8	RTPP -II	71.82	7.32	190.70	269.83
9	Dr NTTPS IV	105.28	28.49	155.04	288.81
10	RTPP III	60.43	16.22	95.35	172.00
11	NSTP HES	30.51	9.22	9.74	49.46
	Interstate Power (AP share)				67.86
	Interest on Pension bonds (Over and above schedule)				1020.10
	<b>Total</b>	<b>538.01</b>	<b>151.56</b>	<b>1622.38</b>	<b>3399.91</b>

**ANNEXURE - M**

Approved: Variable Cost computation								
Sl.No	Station	Station Heat Rate	GCV	Auxiliary consumption	Landed coal cost	oil cost	Coal cost	VC
		Kcal/Kwh	Kcal/Kg	%	RS/MT	Rs/Kwh	Rs/Kwh	Rs/Kwh
1	Dr NTTPS O&M	2550	3420	9	3450	0.07	2.83	2.90
2	Dr NTTPS IV	2450	3768	7.5	3800	0.07	2.67	2.74
3	RTPP I,II,III	2500	3420	9	4100	0.07	3.29	3.36



**ACRONYMS AND ABBREVIATIONS**

<b>APERC</b>	Andhra Pradesh Electricity Regulatory Commission
<b>APTEL</b>	Appellate Tribunal for Electricity
<b>APGENCO</b>	Generation Corporation of Andhra Pradesh
<b>APPCC</b>	AP Power Co-ordination Committee
<b>APTRANSCO</b>	Transmission Corporation of Andhra Pradesh Limited
<b>ARR</b>	Aggregate Revenue Requirement
<b>C&amp;AG</b>	Comptroller and Audit-General
<b>CAPEX</b>	Capital Expenditure
<b>CERC</b>	Central Electricity Regulatory Commission
<b>COD</b>	Commercial Operation Date
<b>DISCOMs</b>	Distribution Companies
<b>GCV</b>	Gross Calorific Value
<b>GFA</b>	Gross Fixed Assets
<b>GoAP</b>	Government of Andhra Pradesh
<b>GoI</b>	Government of India
<b>IDC</b>	Interest During Construction
<b>kW</b>	Kilo-watt
<b>MW</b>	Mega-watt
<b>MYT</b>	Multi Year Tariff
<b>NSRCPH</b>	Nagarjuna Sagar Right Canal power House
<b>NSTPHES</b>	Nagarjuna Sagar Tail Pond Hydro Electric Station
<b>NTTPS</b>	Narla Tata Rao Thermal Power Station
<b>O&amp;M</b>	Operating and Maintenance
<b>O.P. No.</b>	Original Petition Number
<b>PABR</b>	Penna Ahobilam Balancing Reservoir
<b>PFC</b>	Power Finance Corporation
<b>P&amp;G</b>	Pension & Gratuity
<b>PPA</b>	Power Purchase Agreement
<b>PSU</b>	Public Sector Undertaking
<b>R&amp;M</b>	Repair and Maintenance
<b>RAC</b>	Regulatory Affairs Cell
<b>RE</b>	Revised Estimate
<b>RoCE</b>	Return on Capital Employed
<b>RoE</b>	Return on Equity
<b>RTPP</b>	Rayalaseema Thermal Power Project
<b>SAC</b>	State Advisory Committee
<b>SCF</b>	State Coordination Forum
<b>SHR</b>	Station Heat Rate
<b>SRBPH</b>	Sri Sailam Right Bank Power House
<b>SRLDC</b>	The Southern Regional Load Dispatch Centre
<b>SRPC</b>	Standing Committee in Southern Regional Power Committee

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