



TELANGANA STATE ELECTRICITY REGULATORY COMMISSION
5th Floor, Singareni Bhavan, Lakdi-ka-pul, Hyderabad 500 004

O. P. No. 71 of 2018

Dated: 02.12.2021

Present

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

Between:

MSR Mega Bio-Power Private Limited ... Petitioner

And

Northern Power Distribution Company of Telangana Limited ... Respondent

M/s MSR Mega Bio-Power Private Limited filed a Petition, under Sections 62, 86 (1)(b), and 86 (1) (e) of the Electricity Act, 2003 for determination of fixed cost tariff for its 7.5 MW Industrial Waste based power plant located at Survey No.177/C, 178/A, 177/D, 179/A Nidigonda Village, Raghunathpally Mandal, Warangal.

The Commission, in exercise of its powers under the Electricity Act, 2003, and after considering Petitioner's submissions, suggestions and objections of Respondent, responses of Petitioner, issues that are raised during the virtual Public Hearing held on 08.11.2021 and all other relevant material, passed the following Order.

ORDER

CHAPTER 1

INTRODUCTION

1.1 Background

1.1.1 The Petitioner, M/s MSR Mega Bio-Power Private Limited, a company incorporated under the Companies Act, 1956, has entered into an agreement

for development of 7.5 MW Industrial Waste based power plant with Non-Conventional Energy Development Corporation of Andhra Pradesh Limited (NEDCAP) dated 24.10.2009. The Petitioner has entered into Power Purchase Agreement (PPA) dated 30.04.2016 (subsequently amended on 01.05.2018) with Northern Power Distribution Company of Telangana Limited (TSNPDCL) for sale of power generated from its 7.5 MW Industrial Waste based power plant.

1.2 Admission of Petition and Regulatory Process

1.2.1 The Petition, after being admitted and numbered as O.P.No.71 of 2018, was heard on 01.02.2021, 22.03.2021, 09.06.2021 and 28.06.2021. The Commission after hearing the parties, decided to undertake the project specific tariff determination through public consultation process.

1.2.2 Overview of Stakeholders' Consultation Process:

(a) **Public Notice**: Petitioner, as directed by the Commission, published a Public Notice (Annexure-1) in two (2) English, two (2) Telugu and one (1) Urdu daily newspapers on 07/09.10.2021 informing all the stakeholders and general public at large that the Petitioner has filed a petition before the Commission and also inviting objections/suggestions together with the supporting material before 25.10.2021. The filings have been made available by the Petitioner at its office for the interested person(s) perusal. The filings were also made accessible on the websites of the petitioner as well as the Commission.

(b) **Response to Public Notice**: In response to the public notice, objections/suggestions were received in time from One (1) stakeholder (Annexure-2).

The Petitioner was directed to give the reply to the stakeholder by 01.11.2021 by sending the same to the respective stakeholder with a copy to the Commission.

The objections/suggestions received and the Petitioner's replies were also posted on the website of the Commission.

(c) **Public Hearing**: The Commission has conducted the virtual Public Hearing on 08.11.2021. The list of stakeholders who attended the virtual Public Hearing is enclosed at Annexure-3. During the Public

Hearing, the Petitioner made a brief submission on its filings and then the Commission heard the Respondent and other stakeholders desiring to be heard. At the end, the Petitioner responded on the issues raised by the objectors.

1.3 Datagaps and Petitioner's responses

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



CHAPTER 2
SUMMARY OF FILINGS

2.1 Petitioner's submissions

2.1.1 The parameters for fixed cost tariff claimed by the Petitioner are as under:

Table 1: Parameters for fixed cost tariff claimed by the Petitioner

Sl. No.	Parameter	Units	Value
1	Installed capacity	MW	7.5
2	Commercial Operation Date	Date	01.06.2016
3	Plant Load Factor (PLF)	%	80%
4	Auxiliary consumption	%	12%
5	Tariff period	Years	20
6	Total Capital Cost	Rs.Lakhs	5036.25
7	Debt	%	70%
8	Equity	%	30%
9	Total Debt amount	Rs.Lakhs	3525.38
10	Total Equity amount	Rs.Lakhs	1510.88
11	Debt repayment period	Years	12
12	Interest rate	%	12.70%
13	Rate of Return on Equity (pre-tax) for first 10 years of operation	%	20.0%
14	Rate of Return on Equity (pre-tax) from 11 th year onwards	%	24.0%
15	Depreciation rate for first 12 years of operation	%	5.8%
16	Depreciation rate from 13 th year onwards	%	2.51%
17	Operation & Maintenance (O&M) expenses for first year of operation	Rs.Lakh/MW	47.26
18	Annual escalation for O&M expenses	%	5.72%
19	Working Capital components		
	<i>O&M expenses</i>	No.of months	1

Sl. No.	Parameter	Units	Value
	Maintenance spares (% of O&M expenses)	%	15%
	Receivables	No.of months	2
20	Rate of interest on working capital	%	13.26%
21	Discount rate	%	10.64%

2.1.2 The fixed cost tariff claimed by the Petitioner is as under:

Table 2: Fixed cost tariff claimed by the Petitioner

Year of operation	Fixed Cost Tariff (Rs./kWh)
1	3.07
2	3.04
3	3.00
4	2.97
5	2.95
6	2.92
7	2.90
8	2.88
9	2.87
10	2.86
11	2.98
12	2.98
13	2.66
14	2.75
15	2.84
16	2.94
17	3.05
18	3.16
19	3.28
20	3.41
Levelised	2.96

CHAPTER 3

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

3.1 Objections / Suggestions made on filings

3.1.1 One (1) stakeholder has filed objections/suggestions on the present Petition. The Petitioner has filed replies on the objections/suggestions received from the stakeholder. For the sake of clarity, the objections/suggestions raised by the stakeholder and responses of the Petitioner have been consolidated and summarised issue-wise. The Commission has concluded all the objections/suggestions of the stakeholder made in writing as well as during the Public Hearing and the responses to them by the Petitioner.

3.2 Capital Cost

Stakeholders' submissions

3.2.1 The Industrial Waste based power projects in the State are treated at par with the Biomass based power projects. The capital cost approved by the Central Electricity Regulatory Commission (CERC) for Biomass based power projects vide its Order dated 29.04.2016 on determination of generic levelised tariff for FY 2016-17 is as under:

Table 3: Capital cost approved by CERC

Biomass Rankine Cycle projects	Capital Cost (Rs.Lakh/MW)
Project (other than rice straw and julifora (plantation) based project) with water cooled condenser	559.03
Project (other than rice straw and julifora (plantation) based project) with air cooled condenser	600.44
For rice straw and julifora (plantation) based project with water cooled condenser	610.80
For rice straw and julifora (plantation) based project with air cooled condenser	652.20

3.2.2 The claimed capital cost of Rs. 671.5 Lakh / MW is on higher side. The Commission may approve the capital cost as per the actual audited costs subject to the ceiling limit of Rs. 559.03 Lakh / MW as approved by CERC.

Petitioner's replies

3.2.3 The Petitioner's project falls under the category of 'Project (other than rice straw and julifora (plantation) based project with air cooled condenser' for which the capital cost determined by CERC for FY 2016-17 is Rs.600.44 Lakh/MW. Though the capital cost for the project has to be considered as Rs.600.44 Lakh/MW, as substantial amount of time has passed since the commissioning of the project and the power bills are being made at the interim tariffs mentioned in the PPA, the Petitioner has no objection to the submissions of TSNPDCL to consider the capital cost of Rs.559.03 Lakh/MW. Therefore, the capital cost may be considered as Rs.559.03 Lakh/MW.

Commission's View

3.2.4 The Commission had not specified the generic principles for determination of tariff for Industrial Waste based power plants commissioned in the year 2016. In terms of Section 61(a) of the Electricity Act, 2003, the principles and methodologies specified by CERC shall be guiding and are not mandatory to be adopted by the Commission. The Commission has approved the capital cost based on the prudence check of the actual cost as per the audited accounts as detailed in Chapter 4.

3.3 Tariff

Stakeholders' submissions

3.3.1 The Industrial Waste based power projects in the State are given similar treatment as that of biomass based power projects. Therefore, the Commission may adopt the tariff parameters approved for biomass based power projects in the tariff determination for the Petitioner.

3.3.2 As project specific tariff is being determined for the Petitioner, the fixed cost tariff determination may be done based on actual audited costs, with the CERC determined norms as ceiling values. The following parameters may be considered in fixed cost tariff determination in light of the Generic Tariff Orders of the Commission as well as CERC:

(a) Plant Load Factor (PLF) may be considered as 80%.

- (b) The auxiliary consumption may be considered as 10%.
- (c) Depreciation may be allowed upto 90% of the capital cost @ 5.83% for first 12 years and 2.51% for the remaining years.
- (d) The normative Debt Equity ratio may be considered as 70:30.
- (e) The interest rate of term loan may be considered as 9%.
- (f) The rate of interest on working capital may be considered as 10.50%.
- (g) Post-tax rate of Return on Equity of 14% may be considered.
- (h) Normative O&M expenses for first year may be considered as 5.5% of the capital cost. The annual escalation of 3.84% may be considered for approving the normative O&M expenses for the subsequent years.
- (i) The discount factor of 8.30% may be considered.
- (j) Station Heat Rate (SHR) may be considered as 4200 kcal/kWh.
- (k) Gross Calorific Value (GCV) of fuel may be considered as 3100 kcal / kg.
- (l) Annual fuel price escalation has been considered as 5%.

3.3.3 The levelised fixed cost for 20 years may be determined considering the above parameters. The fixed cost tariff determined shall be payable for energy export corresponding to PLF of 80%.

Petitioner's replies

3.3.4 The normative auxiliary consumption approved by CERC for projects with air cooled condenser is 12% from second year onwards. Therefore, the auxiliary consumption may be approved as 12%.

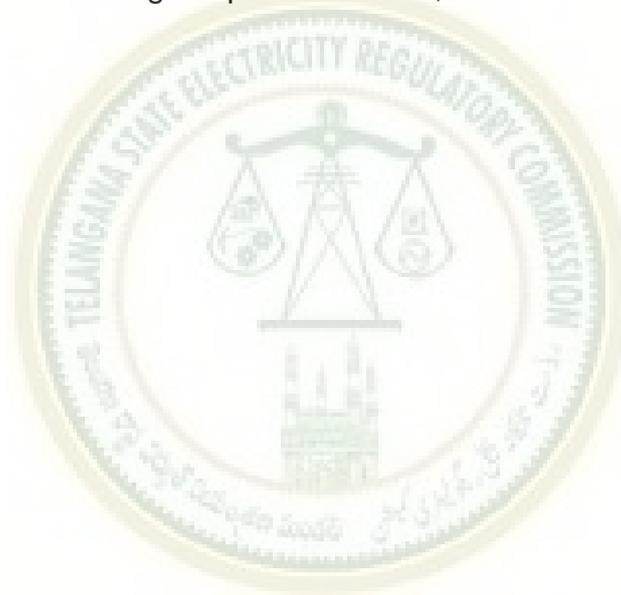
3.3.5 The project has been commissioned in FY 2016-17 and therefore, the generic tariff order of CERC for FY 2016-17 is to be considered rather than the generic tariff order of the Commission dated 22.06.2013 which was applicable for the projects commissioned during the period from FY 2004-05 to FY 2008-09, or the subsisting generic tariff orders of CERC which are applicable for the projects commissioned during the present period. The rate of RoE, interest on term loan, interest on working capital, O&M expenses and discount factor has been claimed in accordance with the CERC generic tariff order for FY 2016-17. The same may be approved by the Commission.

3.3.6 As per the PPA dated 30.04.2016, the fixed charges are payable for a PLF of 80% of energy for export to grid and for the energy exported over and above

the PLF of 80% during a settlement period, the variable cost and incentive of 25 paise per unit are payable.

Commission's View

3.3.7 The tariff claim of Petitioner is based on the provisions of CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2012 ("CERC RE Tariff Regulations, 2012"). The Commission had not specified the generic principles for determination of tariff for Industrial Waste based power plants commissioned in the year 2016. In terms of Section 61(a) of the Electricity Act, 2003, the principles and methodologies specified by CERC shall be guiding and are not mandatory to be adopted by the Commission. Therefore, the Commission has determined the project specific tariff considering the prudent norms, as detailed in Chapter 4.



CHAPTER 4

ANALYSIS AND CONCLUSION ON FIXED COST TARIFF DETERMINATION

4.1 Commercial Operation Date (COD)

4.1.1 As per the agreement dated 24.10.2009 entered into with NEDCAP, the project was to be commissioned within a period of two (2) years from the agreement date viz., by 23.10.2011. Subsequently, the extension of time was granted upto 14.07.2016. The project had achieved COD on 01.06.2016.

4.2 Capital cost

4.2.1 The Petitioner has claimed the capital cost of Rs. 5036.25 Lakh in its Petition which works out Rs. 671.50 Lakh/MW. In reply to queries regarding capital cost, the Petitioner submitted the following:

- (a) The copy of Techno Economic Viability Study dated September 2010.
- (b) Audited accounts for the periods from FY 2009-10 to FY 2014-15 and FY 2016-17 to FY 2019-20.
- (c) Auditor certificate for the year wise details of capitalisation for the period from FY 2016-17 to FY 2019-20.
- (d) The present management had come into the company in the year 2015 and is not in possession of the Detailed Project Report (DPR) of the project.
- (e) The work orders placed for project execution are not available with the present management.
- (f) The break-up of the project cost as on 31.03.2017 is as under:

Table 4: Break-up of project cost as on 31.03.2017 as submitted by the Petitioner

(Rs. Lakh)

Particulars	Amount
Fixed assets (tangible)	3555.53
Capital works in progress	1567.40
Total	5122.93

4.2.2 The estimated capital cost as per the techno economic viability study is Rs. 4255.20 Lakh which works out to Rs. 567.36 Lakh / MW. As regards fiscal

incentives, Para 3.3 of the techno economic viability study is reproduced as under:

“3.3 FISCAL INCENTIVES BY GOVT. OF INDIA

- **Capital Subsidy:** Ministry of Non-conventional Energy Sources (MNES) will provide Rs. 20.00 Lakh per MW as capital subsidy after installation and commissioning of the project.
- **Central Sales Tax:** is exempted for renewable energy devices including raw materials components and assemblies.
- **Preparation of Detailed Project Report (DPR):** MNES provides assistance for preparation of DPR to entrepreneurs up to a ceiling of Rs. 2.00 lakhs or 50% of the actual cost whichever is less.

For Biomass and Industrial Waste Power Projects

- **Accelerated Depreciation:** 80% depreciation in the first year can be claimed for the following equipment required for co-generation systems:
- **Income Tax Holiday:** Ten years tax holidays.
- **Customs Duty:** Concessional customs and excise duty exemption for machinery and components for initial setting up of projects.”

4.2.3 The Petitioner submitted that they have not availed any incentives from Government of India.

4.2.4 The Petitioner, in its replies to the stakeholders, submitted that the capital cost may be considered as Rs. 559.03 Lakh / MW which works out to Rs. 4192.73 Lakh for the project capacity of 7.5 MW.

4.2.5 The Gross Fixed Assets (GFA) as on 31.03.2017 as per the audited accounts is Rs. 3555.53 Lakh. The GFA as per the audited accounts is lower than the estimated capital cost as per the techno economic viability study as well as the claimed capital cost. The Petitioner could not reconcile the claimed capital cost of Rs. 5036.25 Lakh with the GFA as per the audited accounts. Further, the capital works in progress as on 31.03.2017 cannot be considered as GFA for tariff purposes. Therefore, the Commission approves the capital cost of Rs.3555.53 Lakh based on the audited accounts, for tariff determination.

4.3 Means of Finance

4.3.1 The Petitioner has claimed the Debt Equity ratio of 70:30. Accordingly, the Petitioner has claimed the Debt and Equity of Rs. 3525.38 Lakh and Rs. 1510.88 Lakh respectively.

4.3.2 The reconciliation of the equity amount submitted by the Petitioner is as under:

Table 5: Reconciliation of equity amount as submitted by the Petitioner

(Rs. Lakh)

Particulars	Amount
Equity Capital of the Company	793.96
Unsecured Loans by Promoters	716.92
Total	1510.88

4.3.3 The share capital (issued, subscribed and paid up capital) as on 31.03.2017 is Rs. 793.96 Lakh. The Commission does not find merit in Petitioner's treatment of unsecured borrowings as equity capital.

4.3.4 The Commission approves the normative Debt Equity ratio of 70:30. The amount of Rs. 793.96 Lakh is 22.33% of the approved capital cost of Rs.3555.53 Lakh. Therefore, the Commission approves the equity amount as Rs. 793.96 Lakh, the same being less than 30% of the approved capital cost. The Commission approves the balance amount of Rs. 2761.57 Lakh, as debt.

4.3.5 The capital cost and means of finance claimed by Petitioner and approved by the Commission are as shown in the Table below:

Table 6: Capital cost and means of finance

Particulars	Unit	Claimed	Approved
Capital cost	Rs.Lakh	5036.25	3555.53
Debt	%	70%	77.67%
Debt	Rs.Lakh	3525.38	2761.57
Equity	%	30%	22.33%
Equity	Rs.Lakh	1510.88	793.96

4.4 Useful life

4.4.1 The Petitioner has claimed the useful life of 20 years. The Commission approves the same.

4.5 PLF

4.5.1 The Petitioner has claimed the PLF of 80% for tariff computations. Whereas, as per the techno economic viability study, the capacity utilisation factor of the project is 75% in 1st and 2nd years, 80% in 3rd year, 85% in 4th year and 90% in the remaining years. In this regard, the Petitioner submitted that it has considered the PLF based on the CERC Regulations.

4.5.2 The actual PLF submitted by the Petitioner is as under:

Table 7: Actual PLF submitted by the Petitioner

FY	PLF (%)
2016-17	40.00%
2017-18	65.87%
2018-19	67.33%
2019-20	16.23%
2020-21	57.87%
2021-22 (upto Sep. '21)	68.05%

4.5.3 The Commission directed the Petitioner to submit the copies of agreements entered for procurement of fuel for the useful life of 20 years to which the Petitioner submitted that it has not executed any agreements for procurement of fuel. Nevertheless, it is the responsibility of the Petitioner to make arrangements for procurement of adequate fuel for power generation.

4.5.4 The actual PLF during the previous years was lower than the claimed PLF for tariff determination as well as the capacity utilisation factor as per the techno economic viability study. The PLF of 80% claimed by the Petitioner for tariff determination is higher than the capacity utilisation factor for 1st and 2nd years and lower than the capacity utilisation factor from 4th year onwards as per the techno economic viability study. Taking all the factors into consideration, the Commission approves the normative PLF of 80%.

4.6 Auxiliary consumption

4.6.1 The Petitioner has claimed the auxiliary consumption of 12%.

4.6.2 The actual auxiliary consumption submitted by the Petitioner is as under:

Table 8: Actual auxiliary consumption submitted by the Petitioner

FY	Auxiliary consumption (%)
2016-17	10.07%
2017-18	10.07%
2018-19	10.88%
2019-20	11.10%
2020-21	10.27%
2021-22 (upto Sep. '21)	10.10%

4.6.3 The normative auxiliary consumption approved by the Commission for Industrial Waste based power projects in the determination of variable cost is 10%. A different auxiliary consumption cannot be considered for fixed cost determination for the Petitioner. Therefore, the Commission approves the normative auxiliary consumption of 10%.

4.7 Fixed cost tariff components

4.7.1 The Petitioner has claimed the following components of the fixed cost tariff:

- (a) Return on Equity;
- (b) Interest on loan;
- (c) Depreciation;
- (d) Operation and Maintenance expenses;
- (e) Interest on working capital.

4.7.2 The Petitioner's submissions and the Commission's analysis and decision on each of the components of fixed cost is detailed as under.

4.8 Return on Equity (RoE)

4.8.1 The Petitioner has claimed the RoE considering the claimed equity and the rates of RoE of 20% and 24% for first 10 years and from 11th year onwards respectively. The rates of RoE claimed are in accordance with the provisions of the CERC RE Tariff Regulations, 2012.

4.8.2 The rates of RoE specified in the CERC RE Tariff Regulations, 2012 are pre-tax RoE i.e., the base rate of 16% has been grossed-up with MAT Rate and Corporate Tax Rate for first 10 years and from 11th year onwards respectively. For renewable energy based generating plants, the Commission had been allowing RoE on post tax basis with pass through of income tax on actual

basis. Therefore, the Commission deems it prudent to allow the RoE on post-tax basis with pass through of income tax on actual basis, in the present case.

4.8.3 In terms of Section 61(a) of the Electricity Act, 2003, the principles and methodologies specified by CERC shall be guiding and are not mandatory to be adopted by the Commission. The Commission deems it fit to consider the rate of RoE of 14% on post-tax basis.

4.8.4 The Equity and RoE claimed by the Petitioner and approved by the Commission is as shown in the Table below:

Table 9: Equity and RoE

(Rs. Lakh)

Year of operation	Claimed			Approved		
	Equity	Rate of RoE	RoE	Equity	Rate of RoE	RoE
1	1510.88	20%	302.18	793.96	14%	111.15
2	1510.88	20%	302.18	793.96	14%	111.15
3	1510.88	20%	302.18	793.96	14%	111.15
4	1510.88	20%	302.18	793.96	14%	111.15
5	1510.88	20%	302.18	793.96	14%	111.15
6	1510.88	20%	302.18	793.96	14%	111.15
7	1510.88	20%	302.18	793.96	14%	111.15
8	1510.88	20%	302.18	793.96	14%	111.15
9	1510.88	20%	302.18	793.96	14%	111.15
10	1510.88	20%	302.18	793.96	14%	111.15
11	1510.88	24%	362.61	793.96	14%	111.15
12	1510.88	24%	362.61	793.96	14%	111.15
13	1510.88	24%	362.61	793.96	14%	111.15
14	1510.88	24%	362.61	793.96	14%	111.15
15	1510.88	24%	362.61	793.96	14%	111.15
16	1510.88	24%	362.61	793.96	14%	111.15
17	1510.88	24%	362.61	793.96	14%	111.15
18	1510.88	24%	362.61	793.96	14%	111.15
19	1510.88	24%	362.61	793.96	14%	111.15
20	1510.88	24%	362.61	793.96	14%	111.15

4.9 Interest on loan

4.9.1 The Petitioner has claimed the interest on loan considering the following:

- i. The debt portion of the claimed capital cost has been considered as the opening loan.
- ii. The repayment period has been considered as 12 years.
- iii. The repayment for each year has been considered to be equal to the claimed depreciation for the year.
- iv. The interest on loan has been calculated on the average normative loan of the year by applying the interest rate of 12.70%.

4.9.2 The Petitioner submitted the details of long-term loans availed for the project as under:

Table 10: Details of long-term loans as submitted by the Petitioner

Particulars	Loan 1	Loan 2
Name of the Bank/ Financial Institution	Pridhvi Assets Reconstruction Company Ltd	Promoters Loan
Currency	INR	INR
Sanctioned loan amount	Rs. 2065 Lakh	Rs. 640.52 Lakh
Total loan amount drawn upto COD	Rs. 3878.91 Lakh	Rs. 640.52 Lakh
Moratorium period	Nil	NA
Repayment effective from	30.06.2016	On Demand
Repayment frequency	Quarterly	NA
Repayment instalment	Rs. 170.26 Lakh	NA
Repayment period	8 years	After closure of Bank Loan
Interest rate	11%	Nil
Terms of interest rate	Rebate of 1% on prompt payment	NA

4.9.3 The Petitioner also submitted the auditor certified details of financing of the project from FY 2016-17 to FY 2019-20, as under:

Table 11: Auditor certified details of financing submitted by the Petitioner

(Rs. Crore)

FY	Opening balance	Addition	Repayment	Closing balance	Interest
1. Bank/Financial Institution					
2016-17	38.79	-	-	38.79	Not interest provided and paid as ARC took Assignment of Loan from Bank
2017-18	38.79	-	17.99	20.80	
2018-19	20.80	-	1.87	18.93	
2019-20	18.93	-	0.50	18.43	
2. Promoters / Related parties (Unsecured Loans)					
2016-17	4.27	3.03	0.89	6.41	-
2017-18	6.41	1.67	1.99	6.09	0.22
2018-19	6.09	-	0.25	6.34	0.21
2019-20	6.34	0.75	1.52	5.57	0.22

- 4.9.4 The submissions of Petitioner regarding long-term loans availed for the project are not in consonance. Therefore, the Commission deems it fit to approve the interest on loan on normative basis.
- 4.9.5 The Petitioner's claim of interest rate is based on the benchmark of State Bank of India (SBI) Base Rate. As the interest regime had shifted to Marginal Cost Lending Rate (MCLR) w.e.f. 01.04.2016, the Commission deems it fit to consider MCLR as the benchmark for interest rate.
- 4.9.6 The stakeholders have requested the Commission to consider the interest rate based on the CERC RE Tariff Regulations, 2019. The project had achieved COD in the year 2016. Although the benchmark interest rates have reduced with the passage of time, it is prudent to consider the benchmark interest rate prevalent at the time of COD.
- 4.9.7 The Commission has approved the interest on loan considering the following:
- The debt portion of the approved capital cost has been considered as the opening loan.
 - The repayment period has been considered as 12 years.
 - The repayment for each year has been considered to be equal to the approved depreciation for the year.

- iv. The interest on loan has been calculated on the average normative loan of the year by applying the interest rate of 11.20% (SBI 1-year MCLR as on 01.04.2016 i.e., 9.20% + 200 basis points).

4.9.8 The comparison of parameters claimed for computation of interest on loan by the Petitioner and that approved by the Commission is as under:

Table 12: Parameters for computation of interest on loan

Particulars	Units	Claimed	Approved
Opening loan	Rs.Lakh	3525.38	2761.57
Repayment period	No.of years	12	12
Normative repayment	Rs.Lakh	293.61	230.81
Interest rate	%	12.70%	11.20%

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

Table 13: Interest on loan

(Rs.Lakh)

Year of operation	Claimed	Approved
1	429.08	296.37
2	391.79	270.52
3	354.50	244.67
4	317.21	218.82
5	279.92	192.97
6	242.63	167.11
7	205.35	141.26
8	168.06	115.41
9	130.77	89.56
10	93.48	63.71
11	56.19	37.86
12	18.90	12.47
13	0.00	0.00
14	0.00	0.00
15	0.00	0.00
16	0.00	0.00
17	0.00	0.00

Year of operation	Claimed	Approved
18	0.00	0.00
19	0.00	0.00
20	0.00	0.00

4.10 Depreciation

4.10.1 The Petitioner has claimed depreciation considering the rates of 5.83% for the first 12 years and uniform spread of balance depreciation over the remaining useful life. The Petitioner has claimed the depreciation in accordance with the provisions of the CERC RE Tariff Regulations, 2012.

4.10.2 The depreciation rate of 5.83% is derived based on the methodology of equating the depreciation to the loan repayment during the tenure of 12 years. The approved debt amount is 77.67% of the approved capital cost. As depreciation shall be considered as normative repayment, the depreciation rate for debt repayment period i.e., first 12 years has to be worked out accordingly.

4.10.3 The Commission has computed the depreciation considering the following:

- The depreciable value has been considered as 90% of the approved capital cost.
- The depreciation rate of 6.49% has been considered for first 12 years.
- The balance depreciable value has been spread over the remaining useful life.

4.10.4 The depreciation claimed by the Petitioner and approved by the Commission is as shown in the Table below:

Table 14: Depreciation

(Rs.Lakh)

Year of operation	Claimed	Approved
1	293.61	230.81
2	293.61	230.81
3	293.61	230.81
4	293.61	230.81
5	293.61	230.81
6	293.61	230.81

Year of operation	Claimed	Approved
7	293.61	230.81
8	293.61	230.81
9	293.61	230.81
10	293.61	230.81
11	293.61	230.81
12	293.61	230.81
13	126.41	53.78
14	126.41	53.78
15	126.41	53.78
16	126.41	53.78
17	126.41	53.78
18	126.41	53.78
19	126.41	53.78
20	126.41	53.78

4.11 Operation and Maintenance (O&M) expenses

4.11.1 The Petitioner has claimed the O & M expenses of Rs. 47.26 Lakh / MW for 1st year of operation with annual escalation of 5.72%. The Petitioner has claimed the O&M expenses in accordance with the provisions of the CERC RE Tariff Regulations, 2012.

4.11.1 The actual O&M expenses submitted by the Petitioner are as under:

Table 15: Actual O&M expenses as submitted by the Petitioner

(Rs. Crore)

Particulars	2016-17	2017-18	2018-19	2019-20
Raw material consumed	10.53	19.82	20.42	5.53
Wages and salaries	0.66	0.90	0.89	0.63
Depreciation & amortisation	1.88	2.24	2.24	2.25
Administrative & other expenses	0.22	0.70	2.22	1.41
Total	13.29	23.66	25.77	9.82

4.11.2 The Petitioner's consideration of the expenditure towards raw material and depreciation in O & M expenses is incorrect.

4.11.3 The actual O&M expenses as per the audited accounts is as under:

Table 16: Actual O&M expenses as per the audited accounts

(Rs.Lakh)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
Employee cost	65.86	90.26	94.74	62.56
Other expenses	22.53	70.25	215.98	141.47
Total	88.40	160.52	310.73	204.03
Per MW expenses	11.79	21.40	41.43	27.20

4.11.4 As can be seen from the above table, the actual O&M expenses have been in the range of 11.79-41.43 Lakh / MW. The stakeholder requested the Commission to approve the O&M expenses for 1st year @ 5.5% of the capital cost which works out to Rs. 26.35 Lakh / MW considering the approved capital cost of Rs. 3555.53 Lakh. The actual O&M expenses for FY 2017-18 and FY 2019-20 are closer to the normative O&M expenses proposed by the stakeholder. However, the actual PLFs in the previous years has been significantly lower than the normative PLF. The Commission is of the view that the normative O&M expenses have to be commensurate with the normative PLF. Therefore, the Commission approves the normative O & M expenses of Rs. 47.26 Lakh / MW for the 1st year of operation as claimed by the Petitioner.

4.11.5 The Petitioner has claimed the annual escalation factor of 5.72%. The stakeholder requested the Commission to consider the annual escalation factor of 3.84% based on the CERC RE Tariff Regulations, 2019. The normative annual escalation factor for O&M expenses is dependent on the movement of Consumer Price Index (CPI) and Wholesale Price Index (WPI) for the past period. The project had achieved COD in the year 2016. Although the subsequent movements in inflation factors have led to lower escalation rate in the CERC RE Tariff Regulations, 2019, the trend is again on the increasing side. The annual escalation factor shall have to reasonably factor in the upward and downward movements of the inflation factors throughout the useful life of the project and therefore, the Commission accepts the escalation factor of 5.72% as claimed by the Petitioner.

4.11.6 The O&M expenses claimed by the Petitioner and approved by the Commission are as shown in the Table below:

Table 17: O&M expenses*(Rs. Lakh)*

Year of operation	Claimed	Approved
1	354.45	354.45
2	374.72	374.72
3	396.16	396.16
4	418.82	418.82
5	442.78	442.78
6	468.10	468.10
7	494.88	494.88
8	523.18	523.18
9	553.11	553.11
10	584.75	584.75
11	618.20	618.20
12	653.56	653.56
13	690.94	690.94
14	730.46	730.46
15	772.25	772.25
16	816.42	816.42
17	863.12	863.12
18	912.49	912.49
19	964.68	964.68
20	1019.86	1019.86

4.12 Interest on Working Capital (IoWC)

4.12.1 The Petitioner has claimed the working capital components of (i) O&M expenses for 1 month, (ii) Maintenance spares @ 15% of O&M expenses, and (iii) receivables equivalent to 2 months of fixed cost corresponding to normative PLF. The interest on working capital has been claimed considering the interest rate of 13.26%. The normative interest on working capital has been claimed in accordance with the provisions of the CERC RE Tariff Regulations, 2012.

- 4.12.2 The Petitioner submitted that it has not executed any agreements for working capital loans however, part of the funds availed from promoters were utilised for meeting the working capital requirements.
- 4.12.3 It is a settled principle that the interest on working capital has to be allowed on normative basis even if no external funding has been availed for meeting the working capital requirement. The Commission finds merit in the Petitioner's claim of working capital components and hence, approves the same.
- 4.12.4 The Petitioner's claim of interest rate is based on the benchmark of State Bank of India (SBI) Base Rate. As the interest regime has shifted to Marginal Cost Lending Rate (MCLR) w.e.f. 01.04.2016, the Commission deems it fit to consider MCLR as the benchmark for interest rate.
- 4.12.5 The stakeholders have requested the Commission to consider the interest rate based on the CERC RE Tariff Regulations, 2019. The project had achieved COD in the year 2016. Although the benchmark interest rates have reduced with the passage of time, it is prudent to consider the benchmark interest rate prevalent at the time of COD. Accordingly, the Commission approves the rate of interest on working capital as 12.20% (SBI 1-year MCLR as on 01.04.2016 i.e., 9.20% + 300 basis points).
- 4.12.6 The IoWC claimed by the Petitioner and approved by the Commission is as shown in the Table below:

Table 18: IoWC

(Rs. Lakh)

Year of operation	Claimed	Approved
1	42.39	30.91
2	42.64	31.38
3	42.96	31.91
4	43.35	32.50
5	43.81	33.16
6	44.34	33.88
7	44.95	34.68
8	45.64	35.55
9	46.42	36.51
10	47.29	37.55

Year of operation	Claimed	Approved
11	49.63	38.68
12	50.71	39.91
13	48.53	37.84
14	50.67	39.81
15	52.94	41.89
16	55.33	44.09
17	57.87	46.42
18	60.54	48.88
19	63.37	51.48
20	66.37	54.23

4.13 Tariff

4.13.1 The fixed cost tariff claimed by the Petitioner approved by the Commission is as shown in the Table below:

Table 19: Fixed cost tariff

Year of operation	Claimed		Approved	
	Rs.Lakh	Rs./kWh	Rs.Lakh	Rs./kWh
1	1421.70	3.07	1023.69	2.16
2	1404.95	3.04	1018.59	2.15
3	1389.41	3.00	1014.70	2.15
4	1375.17	2.97	1012.11	2.14
5	1362.29	2.95	1010.87	2.14
6	1350.86	2.92	1011.07	2.14
7	1340.96	2.90	1012.79	2.14
8	1332.67	2.88	1016.12	2.15
9	1326.09	2.87	1021.15	2.16
10	1321.31	2.86	1027.98	2.17
11	1380.24	2.98	1036.70	2.19
12	1379.39	2.98	1047.90	2.22
13	1228.49	2.66	893.71	1.89
14	1270.15	2.75	935.20	1.98
15	1314.20	2.84	979.07	2.07

Appendix A
Schedule of Approved tariff

1. The schedule of approved fixed cost tariff is as under:

Year of operation	Rs./kWh
1	2.16
2	2.15
3	2.15
4	2.14
5	2.14
6	2.14
7	2.14
8	2.15
9	2.16
10	2.17
11	2.19
12	2.22
13	1.89
14	1.98
15	2.07
16	2.17
17	2.27
18	2.38
19	2.50
20	2.62

2. The year wise per unit tariff determined in this Order shall be applicable, for the delivered energy corresponding to the normative PLF for the corresponding year approved in this Order.
3. This per unit tariff is exclusive of the income tax. The income tax paid by the Petitioner on the income derived from the power project shall be reimbursed by TSNPDCL on submission of challans of Tax paid to Income Tax Department.

**ANNEXURE 1
PUBLIC NOTICE**

**BEFORE THE HONOURABLE
TELANGANA STATE ELECTRICITY REGULATORY COMMISSION
D.No.11-4-660, 5th Floor, Singareni Bhavan, Red Hills, Hyderabad-500004**

**MSR MEGA BIO POWER PRIVATE LIMITED
PUBLIC NOTICE**

1. Notice is hereby given to all that M/s MSR Mega Bio Power Private Limited filed before the Telangana State Electricity Regulatory Commission (TSERC) the Petition for determination of fixed cost Tariff for its 7.5 MW Industrial Waste based plant at Nidigonda (V), Raghunathpally (M), Warangal. These filings have been taken on record by the Hon'ble Commission in O.P.No. (71 of 2018). 2. Copies of the filings referred are available at (Plot No.9, Flat No. 202, House No. 1-2-48/1/9, Nandishwar Nilayam, Opp to Sangamitra School Lane, Nizampet, Hyderabad-500085) and (Plot No.9, Flat No. 202, House No.1-2-48/1/9, Nandishwar Nilayam, Opp to Sangamitra School Lane, Nizampet, Hyderabad-500085). Interested persons may inspect/ peruse the said filings and take note thereof during office hours at any of the said offices free of cost. These proposals are also available on (msrmegapowerplnt@gmail.com) and the same may be accessed at www.tserc.gov.in. A copy of these filings can be obtained from the above offices from 06.10.2021 onwards on payment of photocopying charges. 3. Objections/suggestions, if any, on the filings, together with supporting material may be sent to the (Plot No.9, Flat No.202, House No.1-2-48/1/9, Nandishwar Nilayam, Opp. to Sangamitra School Lane, Nizampet, Hyderabad-500085) in person or through Registered Post so as to reach on or before 25.10.2021 by 5 pm. A copy of the same must also be filed with the Secretary, TSERC, at the address mentioned above. The objections/suggestions should be duly signed and should carry full name, postal address, email id and contact number of the person(s) sending the objections/suggestions. If the objections/suggestions are filed on behalf of any organization or any category of consumers, it should be clearly mentioned. If the objector also wants to be heard in person it may also be specifically mentioned. The objection/suggestion should accompany the following statement

Name & full address of the Objector along with e-mail id and contact number	Brief details of Objections (s)/ Suggestion(s)	Whether copy of objection & proof of delivery at M/s MSR Mega Bio Power Private Limited office enclosed (Yes/No)	Whether Objector wants to be heard in person(Yes/No)
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**SCHEDULE
PARAMETERS FOR FIXED COST TARIFF CLAIMED BY
M/S MSR MEGA BIO POWER PRIVATE LIMITED**

Sl. No.	Parameter	Units	Value
1	Installed capacity	MW	7.5
2	Commercial Operation Date	Date	01.06.2016
3	Plant Load Factor (PLF)	%	80%
4	Auxiliary consumption	%	12%
5	Tariff period	Years	20
6	Total Capital Cost	Rs. Lakhs	5036.25
7	Debt	%	70%
8	Equity	%	30%
9	Total Debt amount	Rs. Lakhs	3525.38
10	Total Equity amount	Rs. Lakhs	1510.88
11	Debt repayment period	Years	12
12	Interest rate	%	12.70%
13	Rate of Return on Equity (pre-tax) for first 10 years of operation	%	20.0%
14	Rate of Return on Equity (pre-tax) from 11th year onwards	%	24.0%
15	Depreciation rate for first 12 years of operation	%	5.8%
16	Depreciation rate from 13th year onwards	%	2.51%
17	Operation & Maintenance (O&M) expenses for first year of operation	Rs. Lakh/MW	47.26
18	Annual escalation for O&M expenses	%	5.72%
19	Working Capital components		
	O&M expenses	No. of months	1
	Maintenance spares (% of O&M expenses)	%	15%
	Receivables	No. of months	2
20	Rate of interest on working capital	%	13.28%
21	Discount rate	%	10.64%

Year of operation	Fixed Cost Tariff (Rs./kWh)	Year of operation	Fixed Cost Tariff (Rs./kWh)
1	3.07	11	2.98
2	3.04	12	2.98
3	3.00	13	2.66
4	2.97	14	2.75
5	2.95	15	2.84
6	2.92	16	2.94
7	2.90	17	3.05
8	2.88	18	3.16
9	2.87	19	3.28
10	2.86	20	3.41
		Levelised	2.96

(Note: M/s MSR Mega Bio Power Private Limited may include any additional information, as deemed necessary, in the Public Notice)

Place: Hyderabad **S.V. Subba Reddy**
Date: 05.10.2021 **Designation: Director, Contact No: +91-9885104519**

**BEFORE THE HONOURABLE
TELANGANA STATE ELECTRICITY REGULATORY COMMISSION
D.No.11-4-660, 5th Floor, Singareni Bhavan, Red Hills, Hyderabad-500004**

**MSR MEGA BIO POWER PRIVATE LIMITED
ADDENDUM TO PUBLIC NOTICE
PUBLICATION DATED 07-10-2021**

Reference to Our Publication Dated 07-10-2021 in M/s. MSR MEGA BIO POWER PRIVATE LIMITED. Attention to The General Public in our Previous Publication i.e. 07-10-2021 unfortunately Omitted below noted matter. So That general Public Requested to read as below (4 and 5 Points).

4. The gist of the filings of M/s MSR Mega Bio Power Private Limited are indicated in the Schedule below.

5. Telangana State Electricity Regulatory Commission intends to conduct Public Hearing through video conference on 08.11.2021 (Monday) from 11:00 hrs onwards. The stakeholders desiring to be heard in person shall furnish the required details for attending Public Hearing through video conference (refer to proceedings No.TSERC/ Secy/No. Pd/1/ 2020 Dt.9.9.2020 hosted on the website of the Commission www.tserc.gov.in for further details). Remaining All other contents are unchanged.

Place: Hyderabad **S.V. Subba Reddy**
Date: 08.10.2021 **Designation: Director, Contact No: +91-9885104519**

ANNEXURE 2

LIST OF STAKEHOLDERS WHO SUBMITTED THE WRITTEN SUGGESTIONS/ OBJECTIONS

SI. No.	Name and address of the stakeholder
1	Northern Power Distribution Company of Telangana Limited, #2-5-31/2, Vidyut Bhavan, Nakkalagunta, Hanamakonda, Warangal – 506 001

ANNEXURE 3

LIST OF STAKEHOLDERS WHO PARTICIPATED IN VIRTUAL PUBLIC HEARING HELD ON 08.11.2021

SI. No.	Name and address of the stakeholder
1	Northern Power Distribution Company of Telangana Limited, #2-5-31/2, Vidyut Bhavan, Nakkalagunta, Hanamakonda, Warangal – 506 001

