



ONGC Tripura Power Company Limited

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Ref. No: OTPC/COMML/T-13/2023-24/715

20th February, 2024

The Secretary,
Central Electricity Regulatory Commission (CERC),
3rd and 4th Floor, Chander Lok Building,
36, Janpath, New Delhi-110001

Sub: OTPC Palatana Project – Comments on Draft Tariff Regulations for FY 24-29

Sir,

In exercise of power conferred under Section 178 of the Electricity Act, 2003 (the Act), the Commission had prepared the draft notification of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for the tariff period commencing from 01.04.2024 and invited comments from stakeholders within 20th February 2024.

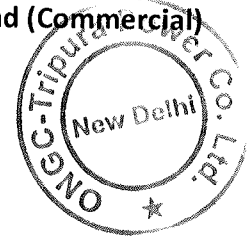
We are accordingly submitting comments of OTPC Palatana Project on the draft tariff regulations for FY 24-29. We are submitting 3 hard copies plus one soft copy over the email to secy@cercind.gov.in and tariffreg@cercind.gov.in and as advised we have also uploaded the comments on Saudamini portal.

Thanking you.

Yours faithfully,

Amit Dabas

Head (Commercial)



OTPC Palatana Project Comments – Draft Tariff Regulations 2024-29

ONGC Tripura Power Company (OTPC) is a single plant company successfully operating the 726.6 (2 x 363.3) MW gas based combined cycle Palatana Project situated in Udaipur, Tripura. The project uses advanced class high efficiency 9FA GE gas turbines and supplies power to all the seven North East states of India. Some salient points about the project are as below:

- a. The plant is located in remote location in North East India
- b. The plant can operate only in combined cycle mode
- c. Open cycle mode of operation is not possible
- d. The plant sources its fuel gas from isolated gas fields in Tripura grid
- e. Tripura gas grid is not connected to mainland gas grid
- f. It is one of the few performing gas stations in India
- g. Palatana station supplies nearly 20% of power demand in NE region
- h. The plant has very competitive tariff of nearly Rs 3.30 per unit
- i. The plant operates as a base load plant as its power is fully scheduled by beneficiary states
- j. Service/Repair of equipment is tedious due to transportation issues and availability of skilled manpower challenges in remote area

In view of the above details, we are submitting our comments on the draft tariff regulations as below:

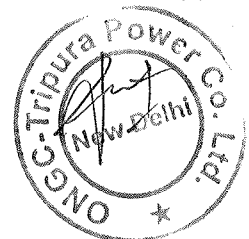
1. Auxiliary Energy Consumption (AEC):

Hon'ble Commission had allowed OTPC an AEC in various tariff periods as below:

Tariff Period	AEC Allowed as per CERC Tariff Regulations	AEC recommended for Palatana by CEA	AEC allowed for Palatana by CERC
FY 14-19	2.5%	-	3.5%
FY 19-24	2.75%	3.5%	3.3%
FY 24-29	2.75%	3.5%	3.5%

Hon'ble Commission had taken cognizance of high AEC of Palatana due to use of electric driven GBC and allowed an AEC of 3.5% to Palatana in 2014-19 period. However, Commission had allowed an AEC of 3.3% for 2019-24 period despite there being CEA recommendation of 3.5% AEC for Palatana. During 2024-29 period, Commission has allowed an AEC of 3.5%, in line with CEA recommendations for Palatana.

We would like reiterate that Palatana is located in isolated gas grid and cannot procure gas from mainland gas grid. The fuel supplier has been unable to supply full gas due to force majeure situation of adverse behavior of gas reservoirs. As a result, Palatana is unable to operate at full capacity, due to reasons beyond its control, and plant operates with high AEC. In such a situation and being a single plant company, we request support



from the regulator to alleviate our losses at least on account of normative parameters of AEC.

Therefore, the actual AEC figures for Palatana are even higher and the station has been praying for higher AEC over the tariff periods. The simple average AEC of Palatana since COD has been nearly 4%. This loss due to AEC to a single plant company is considerable amounts to nearly 10 Crore every year. The AEC details over the years are as shown below:

2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
3.85%	3.76	4.15%	4.23%	4.6%	4.1%	3.9%	3.9%	4.2%	3.86%	4.09

We request Hon'ble Commission to allow a higher AEC of 4% to Palatana as per actuals.

2. Station Heat Rate (SHR):

Hon'ble Commission has allowed an SHR of 1754.24 kCal/kWh for Palatana as per the formula in tariff regulations as below:

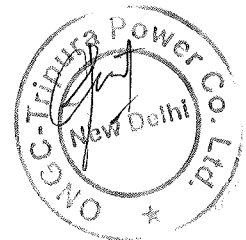
For Natural Gas, $SHR = 1.050 \times \text{Design Heat Rate of the unit/block}$,

Where the **Design Heat Rate** of a unit shall mean the **guaranteed heat rate for a unit at 100% MCR and at site ambient conditions**; and the Design Heat Rate of a block shall mean the guaranteed heat rate for a block at 100% MCR, site ambient conditions, zero percent make up, design cooling water temperature/back pressure.

During the tariff determination for 2014-15 period, Hon'ble Commission had allowed a heat rate of 1823.68 kCal/Kwh to Palatana. However, during the subsequent tariff periods Commission had lowered it to 1754 kCal/kWh.

We have been regularly submitting to the Hon'ble Commission that the **design heat rate for Palatana has been guaranteed as weighted average of heat rate at 100%, heat rate at 80% and heat rate at 60%**. OEM has not given a guaranteed design heat rate at 100% alone for Palatana. However, Hon'ble Commission has only considered the heat rate at 100% and provided an SHR of 1754 kcal/kWh for Palatana.

We had enclosed the Combined Cycle Heat Rate correction curves for degradation provided by the EPC contractor wherein it can be seen that the heat rate of such advanced class machines deteriorates very quickly. We had also requested to compare SHR of Palatana with other stations using advanced class machines wherein SHR of Palatana was lowest.



Palatana	Sugen Torrent	Pragati-III	GSEG Hazira	DGEN Torrent	UnoSugen (Sugen-40)
1823.682	1850 (Sugen petition)	1845.14 (from Tariff petition)	1850 (From registered CDM document of GSEG Hazira)	1831.63 (1.05*1744.41) (from Tariff petition of DGEN)	1853.88 (1.05*1765.60) (from Tariff petition of SUGEN-40)

The actual heat rate for Palatana as per guaranteed design heat rate (which is weighted average of heat rate at various loads) would be 1823.68 kCal/kwh which is still lower than the SHR allowed for other stations using advanced class machines.

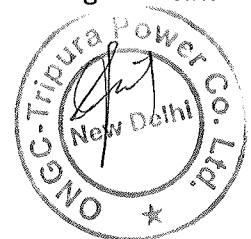
We would also like to reiterate that Palatana is located in isolated gas grid and cannot procure gas from mainland gas grid. The fuel supplier has been unable to supply full gas due to force majeure situation of adverse behavior of gas reservoirs. As a result, Palatana is unable to operate at full capacity, due to reasons beyond its control, and plant operates with high heat rate. In such a situation and being a single plant company, we request support from the regulator to alleviate our losses at least on account of normative parameters of SHR.

We request Hon'ble Commission to allow an SHR of 1823.68 kCal/kwh to Palatana in line with SHR details guaranteed by OEM.

3. Operation and Maintenance (O&M):

While framing the approach paper on tariff regulations 24-29, Hon'ble Commission had rightly noted that O&M expenses towards the upkeep of systems in the North Eastern and hilly regions of India entail additional costs due to logistical challenges as well as the inadequate infrastructure growth of the region. Several representations have been made by various entities seeking additional O&M expenses for transmission licensees that are operating in these regions.

Palatana Project has faced these logistical challenges while setting up the plant and while transporting rotor for repair to mainland India. We have also made several requests to the Hon'ble Commission to allow higher O&M expenses in line with provisions for Hydro projects in our tariff petitions. As such we request Hon'ble Commission to treat Palatana Project as a special case along with transmission system projects and allow a higher O&M expenses than projects situated in mainland.



Further attention is invited to special cases of gas based plants like Palatana which is one of the only gas stations in the country operating successfully with a high PLF of about 80%. Most of the gas stations in the country are stranded assets or are struggling with PLFs of 10-20%. Running plants like Palatana incur higher O&M costs due to regular maintenance and LTSA cost at particular Factored Fire Hours of the gas turbines. Palatana tariff being very competitive, the station gets fully scheduled with hardly any difference in PLF and PAF. Whereas other gas stations have very high PAFs and poor PLFs. As such Hon'ble Commission is requested to consider the special case of Palatana Project and allow a higher O&M normative figure for Palatana.

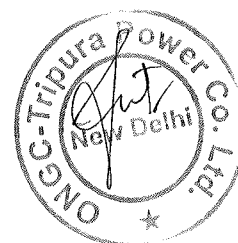
We would like to stress that Palatana Plant has been one of the few stations running continuously in Gas Plant Segment, as such it requires to undergo Hot Gas Path Inspection (HGPI) in 2024-25 as per the Factored Fire Hours of gas turbines. The cost of HGPI shall be substantial and may lead to procurement of additional services and spares for Gas turbines.

Further, Palatana shall undergo a major inspection (MI) in FY 2027-28. During MI the units shall be opened and rotors shall be transported to Singapore facility of GE for refurbishment and repairs. As this complete process of rotor refurbishment takes a time of nearly 18- 20 months, OTPC shall undertake Major Inspection of its units alternately with sufficient gap during FY 27-28 and ensuing period.

The OEM (GE) has also intimated that serviceable life of rotors shall finish after 144000 Factored Fire Hours and Palatana should plan to procure an additional spare rotor during the MI in FY 27-28 to avoid outage of station. OEM has suggested that as it takes nearly 3 years for GE to deliver a fresh rotor, Palatana should start planning this expense before the MI in 2027-28. The OEM has submitted that an estimated cost of a new rotor shall be Rs 320 Crores. Hence, the O&M expenses of Palatana shall increase considerably during the FY 24-29 control period as an additional spare rotor and repair of existing rotors shall add upon the O&M costs for the plant.

As such, we request that the O&M expenses for Palatana may please be considered favorably as has been done in draft regulation 36, clause 3 for transmission system, by multiplying 1.50 to the normative O&M expenses prescribed .

We request Hon'ble Commission that some additional O&M may be allowed for Palatana, over and above the norms specified for advanced class machines in drat tariff regulations, in line with the focus of CERC on transmission and hydro projects in difficult terrains/NE region.



4. **Initial Spares:**

The norms for Initial spares were 4% of project cost in 2009-14 regulations (during COD of Palatana project) and were reduced to 4% of Plant and machinery cost in 2014-19 regulations. The change in norms led to a disallowance to capitalize initial spares of nearly Rs 80 Crs for Palatana Project. Such disallowance owing to a change of regulatory norms may be done away with through some formal process as developer's place orders for equipment and spares in one control period and COD generally spills over to next control period. The disallowed initial spares are used in the plant in one form or another. If disallowed as initial spares due to regulatory control period, the same may be allowed to developers under capital spares to prevent such massive capitalization losses.

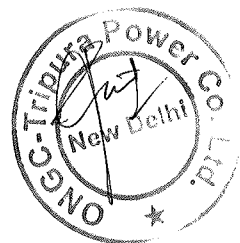
Draft Regulations provides the ceiling limit for capitalization of Initial Spares. However, such capitalization of Initial Spares is restricted up to cut-off date. It is to be noted that Initial Spares are crucial part of project. Capitalization of spares like other additional capitalization also dependent on many uncertainties such as spares availability, vendor negotiation, funding, delivery time, etc. The procurement of Initial spares should not be restricted for capitalization up to cut-off date. The relaxation of cut-off date should be allowed for Initial spares. **We request Hon'ble Commission to allow the capitalization of initial spares beyond cut-off date.**

5. **Capital Spares:**

Setting a limit on amount of Capital spares does not seem to be prudent. Any items that cost below Rs. 1 (one) lakhs, in the nature of minor items such as tools and tackles, and pertain to Capital Spares may be allowed only as part of O&M expenses and may not be considered as part of additional capitalization in case of both thermal and hydro generating stations. Items above Rs One Lakhs may be considered under the capital spares. This is because of the fact that CERC has already considered the same figure while calculating the capital spares in our tariff petitions.

As submitted above, we would request Hon'ble Commission to treat spares with value of Rs 1 Lakh and above as Capital spares in line with the treatment meted out to the spares in our MYT tariff petition for 19-24 to the Hon'ble Commission.

This will preserve a uniformity of regulations and developers like Palatana shall not have to bear another disallowance of major capital spares as already suffered to the treatment of initial spares during change of regulatory control period.



6. **Additional-Capitalization:**

Hon'ble Commission has included any additional capital expenditure which has become necessary for efficient operation of generating station in the list of Ad-cap beyond cut-off date and that is a welcome step.

However, **the imposition of a minimum limit of Rs 20 lacs on Ad-cap items may be done away with.** This is due to the fact that stations have to undertake several small ticket expenses in control room, cooling tower, lighting systems and AHU units that are crucial but may be just below the cut-off set for Ad-cap.

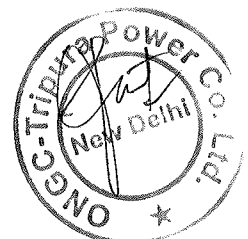
7. **Ramp-Rate:**

The regulation state that rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate as specified under Regulation 45(9) of IEGC Regulations, 2023 .i.e. 3%.

Palatana has been highlighting its concerns regarding the ramp-rate requirements ever since the publishing of the IEGC 2023 draft regulations. Being one of the biggest units NE region with most competitive tariff, Palatana consumes about 60% of total gas produced in this gas grid. As such Palatana gets scheduled as a base load station and has been operating at high PLF. Further, as the gas fields are located in remote locations the gas supply to Palatana cannot be varied widely under a short notice to ramp up/down generation up to 3% of ex-bus capacity.

A Ramp rate of 3% of installed capacity corresponds to 163 MW/unit/15 minutes' time block for one unit and 326 MW/15 minutes' time block for Palatana station. Such a huge load variation requires drastic variation in gas supply flow that will destabilize the entire Tripura gas grid and may even lead to cascade tripping of all stations connected to the same gas grid. Therefore, Palatana while scheduling power has been declaring a ramp rate of 1% instead of 3% as stipulated in the IEGC regulations.

We had highlighted these concern to Hon'ble Commission even during the submission of comments on the draft IEGC regulations and vide our request letter to CERC on dated 26th August 2022. We had again highlighted these concerns to the Hon'ble Commission during the meeting of gas based generators at CERC on 15th December 2023 and vide our letter dated 18th Dec'23. However, our concerns regarding ramp-rate were not addressed in the suo-moto order issued by Hon'ble Commission after conducting this discussion session.



We had therefore again raised this issue during the recently held 209th OCC meeting of NERPC. The forum agreed with the concerns raised by OTPC and asked OTPC to take up the matter with CERC.

We request Hon'ble Commission to allow a relaxation in ramp rate declaration from 3% to 1% for Palatana Project while scheduling power.

8. Interest on Working Capital (IOWC):

Hon'ble Commission has reduced the coverage of IOWC in fuel cost from 30 days to 15 days for gas stations but has maintained it for other stations. This will have a considerable impact of around Rs 25-30 crores on the AFC of the gas based project like Palatana over a span of 5 years.

We request Hon'ble Commission to maintain the fuel cost for 30 days in the IOWC for gas stations.

9. Rate of Interest on Working Capital:

In the present draft CERC has reduced the spread of 350 basis point to 325 basis points, observing the stable and predictable financial environment. For reduction of interest rate, the Commission has not undertaken any benchmarking study or analysis of data of actual short-term loans availed by the generating company or transmission licensee. The reduction is without any basis and arbitrary. Further, the Commission has ignored the continuous financial risk increasing in the market for thermal power companies. As the market is getting more inclined towards clean energy, risk for thermal generating station is increased from lenders perspective. **Accordingly, we request Hon'ble Commission to retain the spread of 350 basis point for calculation of Interest on Working Capital.**

10. Capacity Charge:

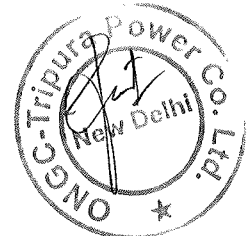
Hon'ble Commission has done away with high demand/low demand season and has retained the concept of peak/off-peak for calculation of capacity charge.

CERC has introduced that thermal generating station shall be allowed an incentive of up to 1 % of AFC approved for a given year, which shall be billed monthly as below:

$$\text{Incentive} = (1.00\% \times \beta \times \text{CCy})/12$$

Where,

β = Average Monthly Frequency Response Performance for that generating station, as



certified by RPCs, which shall be computed by considering primary response as per the methodology prescribed by the NLDC and shall range between 0 to 1.

CCy= Capacity Charges for the Year

CERC has also increased incentive for Peak hours' performance above NAPLF, from 65 paisa/unit to 75 paisa/unit and has maintained incentive for off-peak at 50 paisa/unit.

We welcome this step as high demand and low demand seasons varied across beneficiary states and were difficult to predict by RLDC. However, we request hon'ble commission to raise the incentive for peak performance to at least Rs 1/unit.

11. Plant Availability Factor (PAF):

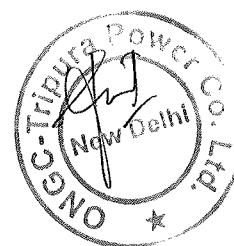
Palatana station has been performing consistently with the available gas supplies from the Tripura gas grid. However, as Tripura gas grid supplies have not been as anticipated, we have not been able to perform upto the desired NAPAF levels and are incurring losses every year. Lately the gas supplies have again been affected due to adverse behavior of gas wells which is evident from the actual PAF-PLF figures of plant as shown below:

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
PAF	85.0%	77.3%	56.0%	66.8%	64.0%	74.7%	62.7%	81.5%	64.9%	77.58%	72.59%
PLF	81.3%	79.5%	54.6%	65.2%	62.8%	73.3%	60.6%	79.5%	64.2%	77.03%	72.09%

Hon'ble Commission had allowed us a one-time relaxation for NAPAF during the 2015-18 period. However, the gas supplies only improved for a while and have again reduced due to adverse behavior of gas reservoirs. Palatana is again facing reduced gas supplies and our PAF has gone down to 64% in February 2024.

Being situated in isolated gas grid Palatana cannot procure gas from mainland gas grid. There has been inadequate fuel gas supply to force majeure situation of adverse behavior of gas reservoirs. As a result, Palatana is unable to operate at full capacity, due to reasons beyond its control, and plant has been operating at various loads as per gas supply. In such a situation, we request support from the Hon'ble Commission to recover our AFC. Other gas stations in mainland India can at least procure alternative fuels (LNG etc) and declare full DC to recover their fixed cost despite the fact that they are not scheduled by beneficiaries due to high tariffs.

Being a single plant company and one of the few performing gas stations in India, **we request support from Hon'ble Commission and request Hon'ble Commission to allow a NAPAF of 70% for Palatana station on the lines of NEEPCO ABGPP project.**



12. Return on Equity (ROE):

Hon'ble Commission has been supporting projects in NE and difficult terrains. In the approach paper for tariff regulations, Hon'ble Commission had contemplated giving higher RoE to new/existing projects and projects located in remote locations including NER.

On the same lines, **we request Hon'ble Commission to allow a higher RoE of 16% for Palatana station as the station has been commissioned after much challenges.**

13. RoE on Additional-Capitalization:

Return on equity in respect of additional capitalization beyond the original scope, including additional capitalization on account of the emission control system, Change in Law, and Force Majeure are beyond the control of generating stations and therefore original RoE of 15.5% should be allowed on it. Further, as OTPC Palatana station is running its Gas Based Power station at high PLF,(much above the national average), scheduled maintenance of the plant is imperative. Additional capitalization at regular intervals is very much essential as the fund is required for efficient operation of the plant. Also being situated in remote location, our cost of acquiring the ad-cap items is more than plants in mainland India. Therefore, capping of RoE on ad-cap will have a negative impact on financials.

We request Hon'ble Commission to maintain the RoE on Ad-cap at 15.5%.

14. CEA Part Load Degradation Factors:

CEA Part Load Degradation factors, especially regarding the SHR/AEC Rate need to be included in the Regulations. CEA's norms are arrived based on the degradation factor recommended along with it by CEA but Draft Regulations have not incorporated the same. Implementation of new norms without the corresponding part load compensation will result in further operational losses. **Hence, we request Hon'ble Commission to include the CEA part load degradation factors in the tariff regulations for FY 24-29.**

