

Public Hearing on Draft IEGC Regulations 2022

PPT Submission by ONGC Tripura Power Company

Valve Wide Open (VWO)Operation

- OTPC Palatana is a combined cycle plant and there is no provision for by pass stack.
- At Palatana, Steam Turbine (ST) is operated on VWO mode to extract maximum energy from HRSG i.e. on boiler follow mode. Keeping the machines on pressure control i.e. turbine follow mode can cause instability in ST.
- GT load is controlled and the ST is operated for smooth plant operations.
- Requested to Hon'ble Commission to allow VWO operation for Palatana Combined Cycle Plant as the PFR control must be limited to GT only.

Secondary Control Operation

- Palatana plant operates in a localized gas grid with instantaneous gas supply and consumption as there is no storage facility for fuel gas being supplied to the plant.
- The fuel gas supply can only be controlled by the fuel supplier and not by Palatana station.
- Remote operation of gas supply is not possible at Palatana
- Presently Palatana plant is not included in the SRAS providers list and due to reasons substantiated above
- Pray to Hon'ble Commission to not consider OTPC Palatana station in SRAS providers list and as such allow exemption from setting up the bi-directional communication system with RLDC.

OUTAGE PLANNING

- The outage plan of hydro generation plant, wind and solar generation plant with a view to extract maximum generation from these sources.
- The high hydro season generally is the same or overlaps with the High Demand Season in NER
- outage of thermal units will be given during rich hydro period (also high demand season). This will lead to a situation where thermal stations shall be subject to an irrecoverable AFC loss.
- Request Hon'ble Commission that outage of thermal units may be planned by respective RPCs in a way that the outage may not fall during high demand period. Further, if high demand period falls during high hydro period or overlapping the same, RPCs may be directed to consider suitable alternative so that stations do not suffer AFC loss.

Ramping Rate to be Declared for Scheduling

- Palatana machines are capable of desired ramp up and ramp down rate
- As per draft regulations, applicable ramp rate of 3% will lead to a variation of 163 MW/unit/time-block and 326 MW/time-block for two units. This will necessitate a huge variation in gas flow requirements to the plant.
- the plant is located in remote location and is using gas from isolated gas fields. The gas supply to the plant can not be varied under short notice to ramp up/down generation upto 3% of ex-bus capacity.
- We are connected to small localize gas grid and are consumer of nearly 60% of total gas produced in our gas grid. Such variation of gas flow may lead to tripping of all the plants connected to gas grid.
- In view of the above, we request Hon'ble Commission to exempt Palatana from the requirements of a ramp rate of 3% of ex-bus capacity corresponding to MCR on bar per minute.

Minimum turndown level for thermal generating stations

- OTPC Palatana Plant is stable at a technical minimum load of > 62 % i.e. in PM mode of operation.
- While operating at below 60 %, the plant is subject to changeover from PM to PPM mode and during the changeover the machines are prone to tripping.
- Operation at loads below 65% also leads to high NOx emissions from Palatana plant and plant shall not be able to operate due to pollution control board regulations.
- OTPC has already submitted a detailed petition (278-MP-2019) to Hon'ble Commission substantiating these facts and with a prayer to relax the technical minimum for Palatana to 65%.
- Gas turbine maintenance factor increased in PPM mode operation, which can result early & frequent maintenance requirement.
- In view of the above, we request Hon'ble Commission to exempt Palatana from a minimum turndown level of 55% and allow a technical minimum of 65%

Draw power from ISTS during non-generation hours

- Presently plants draw power under the deviation settlement mechanism and it has been an effective and convenient mechanism for such power requirements.
- Plants draw power for startup or for restarts after shutdowns/trippings. The activities during startup and shutdowns/trippings are subject to exigencies and as such power requirements may be urgent and may not be planned well in advance. Drawal of power through contracts/IEX shall take time as the process is somewhat longdrawn. The deviation mechanism addresses such needs effectively and may be continued as the power drawl mechanism by plants.
- In view of the above, we request Hon'ble Commission to continue with the present mechanism of Deviation Settlement for power drawal needs of stations.

SECURITY CONSTRAINED UNIT COMMITMENT (SCUC)

- Palatana station faces instability and high NOx emissions at loads below 65% and has therefore requested CERC for a relaxation of technical minimum for Palatana.
- Under the proposed regulations Palatana shall have to arrange power for its seven beneficiary states as it will have to take shutdown under proposed minimum turn down level of 55%.
- Attention is invited to the fact that Palatana plant tariff at around Rs 3.25 per unit is one of the most competitive tariffs in the market. The prevailing power prices for power to be sourced for the beneficiaries shall therefore be mostly higher than Palatana tariff and will lead to commercial losses for the plant. There will be a double implication on the plant as it will be subject to shutdown and have to arrange costlier power for the beneficiaries from the market.
- Further, the process of taking requirements of power and approvals from seven beneficiary states is time consuming and the proposed process shall not be an effective mechanism. Under such shutdowns, the beneficiary states can rather procure power themselves directly from the market as per their requirements.
- In view of the above, we request Hon'ble Commission to exempt generators from this responsibility.

Margins for primary response

- Palatana shall not be able to avoid operation of Steam Turbine in VWO due to reliability of steam turbine. However, all the PFR requirement will be met by Gas turbine and Steam turbine.