

**STAKEHOLDER COMMENT**

Regulation No. : L-1/8/2022/CERC

Reference No. : 9/2022

**Regulation Details**

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Regulation Type : New Regulation  
Regulation Title : Draft Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2022.  
Subject : Draft Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2022.

**Comment Details**

Type : Stakeholder Comment  
Stakeholder Name : ONGC Tripura Power Company (OTPC)  
Order Date / Direction of Commission / Compliance Date : 31/08/2022  
31/08/2022  
Brief of Comments/Objections/Suggestions : Our Detailed Comments on the Draft Regulations are enclosed herewith

**Attachment**

Document Type	Description	File Name
Comment		<a href="#">OTPC Palatana Project - Comments on Draft CERC Regulations (IEGC) 2022.pdf</a>
Comment		<a href="#">OTPC Commens on Draft CERC Regulations (IEGC Code) 2022.docx</a>

## OTPC Palatana Project – Comments on Draft CERC (IEGC) Regulations 2022

### Clause 10:

(i) The normal governor action shall not be suppressed in any manner through load limiter, Automatic Turbine Run-up System (ATRS), turbine supervisory control or coordinated control system and no time delays shall be deliberately introduced.

j) The thermal and hydro generating units shall not resort to Valve Wide Open (VWO) operation to make available margin for providing governor action.

### Comment:

**OTPC Palatana is a combined cycle plant and there is no provision for by pass stack. Plant can not be operated in open cycle mode. 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. In Pressure Control mode we need to adjust ST inlet pressure every time according to variations in Gas Turbine (GT) load. Failing to achieve the same or delay in response may cause sudden variation of ST CV position. Therefore, the GT load is controlled and the ST is operated for smooth plant operations.**

**In view of above, it is requested to Hon'ble Commission to allow VWO operation for Palatana Combined Cycle Plant as the PFR control must be limited to GT only.**

Clause: 11 (Secondary Control)

b) Secondary Control shall be provided by a generating station as Secondary Reserve Ancillary Service (SRAS) Provider, as specified in the Ancillary Services Regulations

c) Secondary control signals shall be automatically generated from NLDC and shall be transmitted to SRAS Providers through the concerned RLDC exercising the control area jurisdictions for desired automated response when the Area Control Error (ACE) goes beyond the minimum threshold limit of  $\pm 10$  MW,

Provided that as and when bi-directional communication system of SRAS providers with RLDCs is fully established, secondary control signals shall be automatically generated from the respective RLDC.

### Comment:

**Stations included in the SRAS list shall need to set up the bi-directional communication system with RLDC.**

**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. So a remote operation of gas supply is not possible at Palatana. The plant furnishes its DC on the basis of gas supply committed by the fuel supplier.**

**The bi-directional communication system required for SRAS providers with RLDCs can be implemented at Palatana. However, it shall not be able to achieve the desired result due to above explained reasons. Further, the secondary signals for load up & down from RLDC may cause plant instability due to variation in gas pressure. Due to localized gas grid, the Gas Booster Compressor (GBC) pressure control at Palatana is done manually. Secondary signals may also cause sudden variation in fuel gas supply.**

**Presently Palatana plant is not included in the SRAS providers list and due to reasons substantiated above, we 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.**

j) The SRAS Providers shall start responding to SRAS signals within thirty (30) seconds and shall be capable of providing the entire SRAS capacity obligation within fifteen (15) minutes and sustaining at least for the next thirty (30) minutes. The secondary reserves shall be gradually replaced by tertiary reserves within 30 minutes.

k) The positive and negative secondary reserve capacity for any control area for a financial year shall be equal to 99 percentile of positive and negative ACE respectively of that control area during the previous financial year or The secondary reserves capacity for any control area shall be equal to the 110 % of largest unit size in the respective regional control area or state control area plus load forecast error plus wind forecast error plus solar forecast error during the previous financial year.

t) All thermal and hydro generating stations shall make arrangements to enable automatic operation of plant from the appropriate load despatch centre by integrating the controls and tele-metering features of their system into the automatic generation control.

**Comment:**

**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. So a remote operation of gas supply is not possible at Palatana. The plant furnishes its DC on the basis of gas supply committed by the fuel supplier.**

**The bi-directional communication system required for SRAS providers with RLDCs can be implemented at Palatana. However, it shall not be able to achieve the desired result due to above explained reasons. Further, the secondary signals for load up & down from RLDC may cause plant instability due to variation in gas pressure. Due to localized gas grid, the GBC pressure control at Palatana is done manually. secondary signals may also cause sudden variation in fuel gas supply.**

**Presently Palatana plant is not included in the SRAS providers list and due to reasons substantiated above above, we 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.**

v) SRAS shall have bi-directional communication system along with metering and SCADA telemetry in place as per the requirement stipulated in the Detailed Procedure issued under Ancillary Service Regulations.

**Comment:**

**In view of the above explained reasons, we pray to Hon'ble Commission to not consider OTPC Palatana station in SRAS providers list due to operational issues and as such allow exemption from setting up the bi-directional communication system with RLDC.**

Regulation: 32 (OUTAGE PLANNING)

Clause:2 Annual outage plan shall be prepared as follows:

c) The outage plan of hydro generation plant, wind and solar generation plant and its associated evacuation network shall be prepared with a view to extract maximum generation from these sources.

**Comment:**

**As CEA is considering that outage plan of hydro generation plant, wind and solar generation plant and its associated evacuation network shall be prepared with a view to extract maximum generation from these sources, there shall be impact on availability and capacity charge recovery for conventional plants.**

**The high hydro season generally is the same or overlaps with the High Demand Season for conventional generating stations like Palatana. Conventional plants like Palatana avoid taking shutdown in the high demand season as the AFC loss due to low PAF in high demand season can not be compensated by high PAF in Low Demand season.**

**So to extract maximum generation from renewable plants (hydro), 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.**

**In view of the above, we 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.**

Regulation: 34 (SYSTEM RESTORATION)

Clause:5 The thermal and nuclear generating stations shall be prepared for house load operation as per design. Concerned user and SLDC shall report the performance of house load operation of a generating station in the event where such operation was required.

**Comment:**

**OTPC GT can run on house load. However, ST can not run on house load. Palatana plant can operate only under combined cycle mode (due to absence of diverter damper). So when GT comes on house load, load on GT can only be increased after synchronization of ST.**

Chapter-7 (Scheduling & dispatch code)

Regulation: 45 (GENERAL PROVISIONS)

Clause: 2 The regional entity generating stations must be capable of receiving the load setpoint signals from the RLDCs/NLDC as per CEA Technical Standards for Connectivity.

**Comment:**

**In view of the reasons explained above, we pray to Hon'ble Commission to not consider OTPC Palatana station in SRAS providers list due to operational issues and as such allow exemption from setting up the bi-directional communication system with RLDC.**

Clause: 08 Declaration of Declared Capacity by Regional entity generating stations

a) The regional entity generating station shall declare ex-bus Declared Capacity, limited to 100% MCR, on day ahead basis

b) The regional entity generating stations may be required to demonstrate the declared capacity of their generating stations as and when directed by the concerned RLDC. RLDC shall ask each generating station, at least once in a year, to demonstrate the declared capacity

c) In case the generating station fails to demonstrate the declared capacity, it shall be treated as mis-declaration for which charges shall be levied on the generating station by RPC as follows

i. first mis-declaration for a block or multiple blocks, charges corresponding to two days fixed charges at normative availability.

ii. second mis-declaration, the charges shall be corresponding to four days fixed charges at normative availability and for subsequent mis-declarations, the charges shall increase in a geometric progression over a period of a month.

**Comment:**

**Palatana can demonstrate the DC whenever required.**

Clause: 9 Ramping Rate to be Declared for Scheduling:

a) Gas power plants shall declare a ramp up or ramp down rate of not less than 3% of ex-bus capacity corresponding to MCR on bar per minute;

**Comment:**

Palatana machines are capable of desired ramp up and ramp down rate of 1%. Also the desired ramp rate is applicable during stable operation i.e above 65 % load and corresponds to 35 MW/unit/time-block & 70 MW/time-Block with two units. The time block here is 15 minute interval of plant operation.

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.

However, 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.

Clause: 12 Minimum turndown level for thermal generating stations.

The minimum turndown level for operation in respect of a unit of a regional entity thermal generating station shall be 55% of MCR of the said unit:

**Comment:**

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%. The petition is pending for hearing and disposal due to covid pandemic and for CEA expert comments on the issue. CERC has also granted 62 % Technical minimum to Dabhol/NLC plant.

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% under the petition 278-MP-2019.

Clause: 15 A generating station including renewable energy generating station shall be allowed to draw power from ISTS during non-generation hours, whether before COD or after COD, only after obtaining schedule for such drawal of power in accordance with a valid contract entered into by it with a seller or distribution licensee or through power exchange.

**Comment:**

**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 draw 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.**

Regulation: 46 SECURITY CONSTRAINED UNIT COMMITMENT (SCUC)

Clause: 4 (h)

- i) The generating stations or units thereof shall have the option to operate at a level below the minimum turn down level or to go under Unit Shut Down (USD).
- ii) In case a generating station, or unit thereof, opts to go under unit shut down (USD), the generating company owning such generating station or unit thereof shall fulfil its obligation to supply electricity to its beneficiaries who had made requisition from the said generating station prior to it going under USD, by entering into a contract(s) covered under the Power Market Regulation or by arranging supply from any other generating station or unit thereof owned by such generating company subject to honouring of rights of the original beneficiaries of the said generating station or unit thereof from which supply is arranged.

**Comment:**

**As explained earlier, 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.

Regulation: 47 PROCEDURE FOR SCHEDULING AND DESPATCH FOR INTER-STATE TRANSACTIONS

Clause: 2 Additional factors to be considered while finalising schedule

b) Margins for primary response:

For the purpose of ensuring primary response, RLDCs and SLDCs, as the case may be, shall not schedule the generating station or unit(s) thereof beyond exbus generation corresponding to 100% of the Installed capacity of the generating station or unit(s) thereof. The generating station shall not resort to Valve Wide Open (VWO) operation of units, whether running on full load or part load, and shall ensure that there is margin available for providing governor action as primary response.

**Comment:**

**As explained under earlier comments, 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.**