

# KEY HIGHLIGHTS OF THE NERC ORDER ON MANDATORY INTEGRATION OF GRID-CONNECTED GENERATING UNITS INTO SCADA/EMS

## Introduction

The Nigerian Electricity Regulatory Commission (**NERC**), on 22 May 2025, issued a directive mandating the full integration of all grid-connected power plant generating units into the Supervisory Control and Data Acquisition and Energy Management System ("**SCADA/EMS**") of the Transmission Company of Nigeria Plc's (**TCN**). This directive, titled the *Order on the Mandatory Integration of Grid-Connected Generating Units into the New SCADA/EMS for the Nigerian Electricity Supply Industry* (the "**Order**"), aims to establish a structured framework to enhance real-time monitoring of grid operations and ensure compliance with the Grid Code for the Nigerian Electricity Transmission System (the "**Grid Code**").

## Objective of the Order

The Order seeks to strengthen the operational integrity of the national grid by mandating the full integration of all grid-connected generating units into the SCADA/EMS platform. This integration is essential for enabling real-time monitoring and control of power generation, which in turn supports more responsive and efficient grid management.

It also aims to enforce compliance with Sections 12.2 and 20.16 of the Grid Code, which mandate data exchange and communication protocols between Generation Companies (**GenCos**) and the Nigerian Independent System Operator (**NISO**). These protocols would ensure real-time visibility into generation output, support fault detection,

enable automated load dispatch and facilitate automatic generation control – collectively improving grid reliability and minimising system disturbances.

The Order also aims to facilitate efficient market operations by ensuring accurate data for market settlements, forecasting and the provision of ancillary services as well as stable interstate and international grid operations in the emerging multitier electricity market. Ultimately, the Order positions SCADA/EMS integration as a critical enabler of a more stable, transparent, and data-driven electricity market.

## Obligations of Grid-Connected GenCos

All grid-connected GenCos are required to integrate their respective generating units into the SCADA/EMS no later than **31 December 2025**. In connection with the foregoing, these GenCos are required to:

- provide SCADA-compliant data acquisition and control facilities compatible with the SCADA/EMS;
- ensure that the integration allows real-time data transmission of key operational parameters such as active power, reactive power, frequency, voltage and status of circuit breakers and fault alarms.
- ensure that the communication infrastructure is compatible with TCN's SCADA/EMS protocols;
- ensure that relevant field devices are installed and fully functional;
- establish a secure and reliable communication link with the Nigerian Control Centre;
- complete testing of the installation/integration with the NISO before the stipulated deadline; and
- permit the NISO to remotely monitor and control dispatch-related parameters from the new EMS.

## Enforcement Mechanisms

To drive adherence, the Order establishes clear enforcement mechanisms and penalties, signalling a commitment to enforcement and accountability.

- **Compliance Monitoring:** NISO is mandated to oversee the integration status of grid-connected GenCos and submit monthly compliance reports to NERC.
- **Penalty for Failure to Integrate:** Any grid-connected GenCo that fails to integrate its generating unit(s) into the SCADA/EMS by the stipulated deadline will be required to pay a penalty of 1% of the GenCo's total energy invoice for each month of non-compliance. The applicable penalty shall be netted-off by NISO during the monthly market settlement and paid into the ancillary service account.
- **Consequence of Failure to Complete Integration, Transmit Data or Respond to Commands:** Any grid-connected GenCo that fails to complete the SCADA/EMS integration of its generation unit(s) within the stipulated deadline or whose unit(s) fails to transmit real-time data and respond to supervisory commands in accordance with the Grid Code will have its non-compliant unit(s) disconnected from the grid. Any such

disconnection shall remain in effect until the relevant unit(s) is certified by the NISO as fully compliant with the SCADA/EMS integration requirements.

## Conclusion

The Order marks a significant step towards supporting a more efficient electricity market, as it comes at a time when Nigeria seeks to stabilise its power infrastructure and reduce frequency of blackouts and multiple grid collapses, often linked to poor real-time coordination between generation, transmission and distribution network. All grid-connected generating units are mandated to fully integrate into the SCADA/EMS before the stipulated deadline or face stiff financial penalties and possible disconnection from the grid.

***Disclaimer: This publication is not a legal opinion and is not designed to provide legal advice. Should you require legal advice on how the Order could impact your business, do not hesitate to contact us.***

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