ORDER NO: NERC/2026/026

BEFORE THE NIGERIAN ELECTRICITY REGULATORY COMMISSION ORDER ON REGIONAL TRANSMISSION LOSS FACTOR REPORTING FOR ENHANCED GRID TRANSPARENCY AND EFFICIENCY

Title

1. This regulatory instrument may be cited as the **Order on Regional Transmission Loss Factor Reporting for Enhanced Grid Transparency and Efficiency.**

Commencement

2. This Order shall take effect from 13 April 2026 and shall remain in force until amended or revoked by a subsequent order issued by the Nigerian Electricity Regulatory Commission ("NERC" or the "Commission").

Legal Basis

3. The Commission is mandated under section 34(1)(a) of the Electricity Act 2023 ("EA" or the "Act") *"to create, promote and preserve efficient electricity industry and market structures, and to ensure optimal utilisation of resources for the provision of electricity services".*

4. Section 34(2)(f) of the Act further empowers the Commission *"to monitor the operation of the electricity markets and sanction licensees in deserving circumstances in accordance with the provisions of this Act and other subsidiary legislation".*

5. Section 66(1)(a) of the Act mandates a transmission licensee *"to construct, maintain and operate an efficient, coordinated, economical and integrated smart grid interconnection in Nigeria and other neighbouring countries".*

Context

6. Transmission network losses represent the portion of electrical energy that is dissipated during conveyance of electricity through the transmission network due to inherent physical characteristics of the grid, including resistance in transmission lines, transformer losses and other operational inefficiencies. While a certain level of loss is technically unavoidable, effective network planning, maintenance, and operational optimisation can minimise these losses.

7. In monitoring the efficiency of the transmission network, Transmission Loss Factor ("TLF") is used as a key metric for assessing the level of energy within the system. TLF represents the proportion of electrical energy lost within the transmission network between points of energy injection into the grid and points of energy off-take from the grid. It is calculated as the difference between the total energy injected into the transmission system and the energy delivered at transmission exit points, expressed as a percentage of the total energy injected.

8. TLF therefore serves as a critical performance indicator for assessing grid efficiency, operational integrity of the transmission network and the effectiveness of energy accounting within the grid. Elevated transmission losses may arise from a number of factors, including ageing or inefficient network equipment, degraded infrastructure and suboptimal operational practices.

9. The Commission has observed that as grid operations are becoming increasingly complex and geographically diverse, there is a need to strengthen the efficiency, transparency and accountability of transmission losses through more structured and detailed monitoring mechanisms.

10. Data from the Nigerian Independent System Operator's ("NISO") report indicates that the national average TLF stood at 8.71% in 2024 and 7.24% in 2025 both of which exceed the Multi-Year Tariff Order ("MYTO") benchmark of 7% approved by the Commission.

11. The Commission notes these variances and considers it necessary to introduce a regional TLF reporting framework to provide improved visibility into transmission losses across different regions of the transmission network. Regional reporting will enable the identification of loss-intensive corridors, facilitate targeted operational and infrastructure interventions and support improved monitoring of transmission system performance.

12. The adoption of a regional TLF reporting will enhance regulatory oversight, strengthen transparency in energy accounting, and support more informed planning and investment decisions aimed at improving the efficiency, reliability and sustainability of the transmission network in NESI.

Objectives

13. This Order seeks to –

a. Drive efficiency in transmission infrastructure planning by providing locational loss data that aids optimal investment decisions and network optimisation.

b. Enhance regulatory oversight, accountability, and system planning by enabling performance benchmarking across different regions and facilitating targeted interventions in identified high-loss areas.

c. Improve efficiency and transparency in the allocation of transmission losses by transitioning from a national to a regionally disaggregated TLF reporting.

d. Promote alignment with international best practices and promote long-term system efficiency, cost savings, and equitable tariff structures through more accurate measurement and management of transmission losses.

THE COMMISSION HEREBY ORDERS AS FOLLOWS –

A. NISO shall install smart meters at all boundary regional interconnection points by 31 December 2026 to accurately measure energy inflows and outflows for each region of the transmission network.

B. NISO shall measure and document energy flow in and out of power transformers at all transmission substations to evaluate the compliance of the allowable loss value of the transformers in compliance with section 2.3.4.1(b) of the Nigerian Electricity Supply and Installation Standards Regulations 2015.

C. NISO shall file quarterly reports on TLF to the Commission on a regional basis no later than 30 June 2026 using the template provided in the Schedules to this Order.

D. TCN shall file a comprehensive action plan by 31 July 2026 on the reduction of TLF to a value within the approved benchmarks in regions where the TLF exceeds the allowable limits for approval.

E. TCN shall ensure that TLF across all transmission regions in NESI shall not exceed 6.5% by 31 December 2026, in compliance with MTYO 2024 for TCN.

F. Non-compliance with the provisions of this Order shall attract appropriate regulatory measures as prescribed in the Terms and Conditions of the defaulting Licensee's Licence and other applicable regulations or orders of the Commission.

Dated this 8th day of April 2026

08/04/2026

Musiliu Oseni
Chairman

Dafe C. Akpeneye
Commissioner
Legal, Licencing & Compliance

SCHEDULE I - TLF REPORTING TEMPLATE

Monthly Transmission Loss Factor (TLF) Report								
	Region	Energy Imported (MWh)	Energy Exported (MWh)	TLF (%)	MoM Change (pp)	Observations	Action Taken	Status

*MoM (Month Over Month)

SCHEDULE II:
TLF TECHNICAL AUDIT TEMPLATE

SCHEDULE 2A: INTRA-REGIONAL TRANSMISSION LINE LOSS
REGION:

	Transmission Line ID	Voltage Level (kV)	Line Length (km)	Peak Load (MW)	Energy Sent (MWh)	Energy Received (MWh)	Line Loss (MWh)	TLF (%)	Remarks

SCHEDULE 2B: INTRA-REGIONAL TRANSFORMATION LOSS
REGION:

	Substation Name	Transformer ID	Voltage Rating (kV/kV)	Transformer Capacity (MVA)	Load Factor (%)	Nameplate % loss data	Primary Energy Input (MWh)	Secondary Energy Output (MWh)	Loss (MWh)	% Transformation Loss	Remarks

SCHEDULE 2C: INTRA-REGIONAL SUB-STATION LOSS
REGION:

	Substation Name	(A) Total Incoming Energy (MWh)	(B) Total Outgoing Energy (MWh)	(C) Aggregated Transformer Loss (MWh)	(D) Auxiliary Load (MWh)	Net Substation Loss (MWh)	% Loss	Remarks
						A-B-C		