



TOPE ADEBAYO LP

Guidelines on the Procedures for Technical Audit of the Transmission System and Network Data Validation 2026

Introduction

Nigeria's transmission network remains the backbone of the Nigerian Electricity Supply Industry ("NESI"), serving as the critical link between the generation and distribution segments of the value chain. Despite recent investments in transmission infrastructure, a significant gap persists between the network's installed (nameplate) capacity¹ and its actual wheeling capability, with recurring grid disturbances underscoring the need for improved asset integrity, operational visibility, and data accuracy. Notably, according to NERC's Quarterly Reports, the Nigerian National Grid recorded 41 system collapses between 2019 and the first quarter of 2026², exclusive of numerous other system disturbances and operational incidents recorded during the period.

Against this backdrop, the Nigerian Electricity Regulatory Commission ("NERC") has issued the **Guidelines on the Procedures for Technical Audit of the Transmission System and Network Data Validation, 2026** ("Guidelines")³, pursuant to sections 34(1)(e) and 226(1) of the Electricity Act 2023, and section 7.2.2 of the Nigerian Grid Code.

Effective from **20 July 2026**⁴, the Guidelines establish a uniform and transparent framework for conducting periodic technical audits of Nigeria's transmission system and validating transmission network data.

The objective is to strengthen grid reliability, improve operational efficiency, support evidence-based transmission planning, and enhance the safety and security of the national electricity grid.

Key Features Of The Guidelines

1. SCOPE AND APPLICABILITY

The Guidelines apply to the Nigerian Independent System Operator ("NISO") and all licensed Transmission Service Providers ("TSPs") operating within the NESI⁵. The framework places primary responsibility on NISO to coordinate the engagement of an independent consultant to undertake comprehensive technical audit of Nigeria's 330kV and 132kV transmission network, while imposing corresponding obligations on TSPs to facilitate unrestricted access to transmission assets, operational data, and other relevant information as may be required in connection with the audit⁶. By specifically mandating the engagement of independent consultants, the Guidelines seek to promote the credibility and transparency of the technical audit process.

2. FREQUENCY OF AUDITS

Technical audits are required to be conducted at least once every five years, or at such other intervals as may be directed by NERC⁷. Beyond the mandatory five-year audit cycle, the Guidelines also vest NERC with broad discretionary powers to direct special technical audits where recurring system failures, major accidents, evidence of asset deterioration, regulatory non-compliance or such other circumstances as may be deemed by NERC to exist warrant additional scrutiny⁸.

¹ Nameplate transformation capacity of 12,574MVA at the 330/132kV level and 20,885MVA at the 132/33kV level (TCN System Planning Report, 2024)

² Comprising 11 collapses in 2019, 4 in [2020](#), 4 in 2021, 6 in [2022](#), 3 in [2023](#), 9 in [2024](#), 2 in [2025](#) and 2 in [Q1 2026](#).

³ Clause 1 of the Guidelines on Procedure for Technical Audit of the Transmission System and Network Data Validation 2026 hereinafter ("the Guidelines")

⁴ Clause 10 of the Guidelines

⁵ Clause 2 of the Guidelines

⁶ Clause 6C of the Guidelines

⁷ Clause 6A of the Guidelines

⁸ Clause 6B of the Guidelines

3. COMPETENCY REQUIREMENTS FOR CONSULTING FIRM⁹

The Guidelines prescribe minimum competency requirements for consulting firms to be engaged in technical audits. The lead consulting firm must be duly registered with either the Council for the Regulation of Engineering in Nigeria or the Chartered Institute of Power Engineers of Nigeria and possess at least 10 years' experience in engineering consultancy services relating to power system operations and maintenance. In addition, the firm must demonstrate experience in executing at least three comparable mandates involving technical audits, network planning, or the rehabilitation of high-voltage transmission systems.

The Guidelines also require that consulting firms consist of a multidisciplinary team comprising, an Operations and Maintenance Engineer, a Power System Planning Engineer, and Electrical Power System Engineer, each possessing a minimum of 15, 10 and 5 years of relevant professional experience, respectively.

4. SCOPE OF WORK AND METHODOLOGY

Beyond prescribing minimum competency requirements, the Guidelines define the scope of work¹⁰ of the technical audit. This includes reviewing existing transmission network data and historical operational records; conducting desk studies, physical inspections, and condition surveys; updating network performance data; assessing the adequacy of protection and safety systems; evaluating the functionality of the Supervisory Control and Data Acquisition/Energy Management System; documenting required interventions; and preparing an investment plan and project implementation plan.

The Guidelines also prescribe the methodology¹¹ for engaging consulting firms and implementing the audit. Among other requirements, it mandates compliance with the procurement procedures of the Bureau of Public Procurement and the preparation of a comprehensive Request for Proposal aligned with the objectives of the Guidelines.

Collectively, these requirements are intended to standardise audit quality and ensure consistency across successive audit exercises.

⁹ Schedule I of the Guidelines

¹⁰ Schedule II of the Guidelines

¹¹ Schedule III of the Guidelines

5. REPORTING¹²

The Guidelines prescribe a structured reporting framework throughout the audit process. Before commencing the audit, NISO is required to submit an Inception Report to NERC for review and approval. The report is to set out the scope of the audit, the proposed methodology, implementation timeline, and resources to be deployed.

During the audit, NISO is required to submit an Interim Report outlining the preliminary findings of the exercise. Upon completion of the audit, NISO must submit a Final Report containing the audit findings and updated transmission network data. The Final Report is also required to include a comprehensive Action Plan identifying priority performance improvement projects, policy recommendations, and operational changes necessary to enhance the reliability and efficiency of the transmission network.

6. IMPLEMENTATION OF TECHNICAL AUDIT REPORT

Following completion of the audit, each TSP is required to prepare an updated Performance Improvement Plan ("PIP") addressing the deficiencies identified during the audit¹³. Upon approval by NERC, TSPs must submit annual progress reports detailing corrective measures undertaken, expenditure incurred, measurable performance improvements achieved, and outstanding implementation challenges¹⁴.

NISO is further required to incorporate validated network data into future power system studies¹⁵, while NERC is to update the Transmission Company of Nigeria ("TCN") asset register and asset valuation based on the audit findings¹⁶.

7. REGULATORY OVERSIGHT

To preserve the integrity of the exercise, NERC reserves the power to appoint independent experts to verify audit findings and conduct spot checks where necessary¹⁷.

This oversight mechanism reinforces regulatory accountability and provides an additional layer of assurance regarding the accuracy of technical assessments.



¹² Clause 6D of the Guidelines

¹³ Clause 8A of the Guidelines

¹⁴ Clause 8B of the Guidelines

¹⁵ Clause 8C of the Guidelines

¹⁶ Clause 8D of the Guidelines

¹⁷ Clause 9 of the Guidelines



Implications For Stakeholders

Through the Guidelines, NERC seeks to improve the credibility of transmission planning, strengthen investment prioritisation, enhance regulatory oversight of transmission network performance and support the ongoing integration of renewable energy and battery energy storage systems onto the national grid.

For NISO, the Guidelines introduce clear criteria relating to procurement, project management and reporting in connection with technical audit exercises. For TSPs, they impose enhanced obligations regarding operational transparency, asset documentation, and implementation of corrective measures through Performance Improvement Plans.

Accordingly, NISO and TSPs should familiarise themselves with their respective obligations under the Guidelines and establish appropriate internal processes to ensure effective participation in the audit process and compliance with the prescribed requirements.

Conclusion

The introduction of the Guidelines complements ongoing efforts to strengthen Nigeria's electricity transmission network, particularly by promoting data-driven investment and planning. By institutionalising periodic independent technical audits and standardising transmission data validation, NERC seeks to establish a more reliable technical foundation for transmission planning, asset management and regulatory decision-making. If effectively implemented, the framework has the potential to improve network reliability, optimise capital deployment, and support the long-term stability and expansion of Nigeria's electricity transmission system.

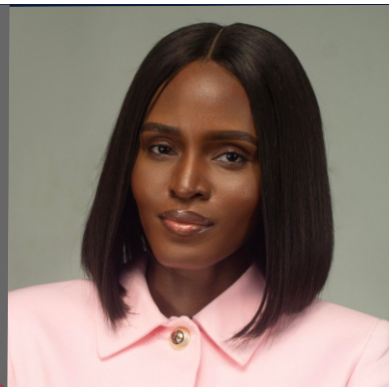
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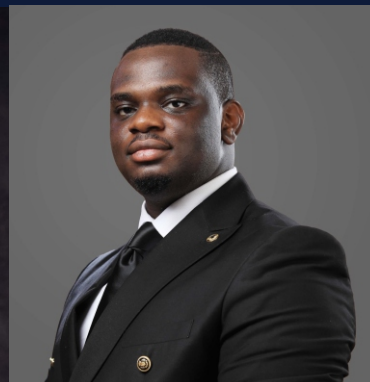
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