



NERC Issues
Regulations for
Mini-Grids 2023

INTRODUCTION

In light of the acknowledged importance of off-grid developments in enhancing electricity access in Nigeria, as outlined in the Rural Electrification Strategy and Implementation Plan (**RESIP**), the Nigerian Electricity Regulatory Commission (**NERC**) issued the Mini-grids Regulations 2016. The aim was to attract investments, particularly for underserved and unserved areas, and promote the development of mini-grids, which have proven instrumental in bolstering electricity supply.¹

While the Mini-Grid Regulations 2016 achieved success, industry stakeholders advocated for a review to address licensing challenges and extend coverage to areas not adequately addressed by the said Regulations. Recognizing the need for a comprehensive update, NERC initiated a review process in 2022 by issuing a Consultation Paper on the Proposed Review of Mini-grids Regulation 2016.

One year following the review and seven years after the issuance of the Mini-Grid Regulations 2016, NERC has now issued the Mini-grids Regulations of 2023 (or the **Regulations**). The expectation is that the Regulations will effectively tackle the challenges encountered with the implementation of the Mini-Grid Regulations 2016 and further contribute to the expansion and improvement of the mini-grid sector in Nigeria.

This newsletter will delve into the key provisions of the Regulations, offering a comparative analysis with the Mini-Grid Regulations 2016 to highlight the changes and advancements in the regulatory framework.



SCOPE OF THE MINI-GRID REGULATIONS

The Mini-Grid Regulations 2023 will apply to all mini-grids with generation capacity of up to 1MW per site, the owners of such mini-grids, mini-grid permit holders, mini-grid operators, and customers served by mini-grids as well as all other private or public stakeholders such as the distribution licensees.²

In recognition of the decentralized nature of the Nigerian Electricity Supply Industry (**NESI**) with its propensity towards having state laws enacted for mini-grids by each State House of Assembly in Nigeria further to the Fifth Alteration Act No. 33,³ the Mini-Grid Regulations 2023 provides that the Regulations is issued without prejudice to the provisions of section 2(2), section 63(2)(b), and section 230 of the Electricity Act 2023 (**EA**).

Thus, the Regulations do not invalidate any laws enacted by State Houses of Assembly with respect to various aspects of the electricity industry within a state including, on the construction, ownership, or operation of a mini-grids within that state of the federation. Accordingly, while applicable through Nigeria, the Regulations cease to have effect where a state law has been/is enacted to deal with the regulation of mini-grids within that state(s).

1. See Mini-Grid Regulations 2016

2. Regulation 4 of the 2023. By contrast, the Mini-Grid Regulations 2016 did not recognize the federal structure of the Nigerian Electricity Supply Industry. It applies to all Mini-Grids with Generation Capacity of up to 1MW, the owners, operators and users of the Mini-Grids as well as all other private or public stakeholders such as the Distribution Licensees or any federal or state institution or agency as the case may be interacting with Mini-Grid owners, operators and users in Nigeria. See Regulations 4

3. Devolution of Powers (National Grid System)

To forestall creating a gap in the law in state regulation of mini-grids, and avoid a conflict of laws situation whether or not the Mini-Grid Regulations 2023 will apply to a state which has enacted an electricity law to regulate electricity generation, transmission and distribution within that state, it is important that state law addresses this important area of law or create an inclination towards the state regulator issuing mini-grid regulations to deal with mini-grids.

In summary, the scope of application for the Mini-Grid Regulations will be contingent on whether a state has enacted an electricity law which deals with mini-grids or gives the state electricity regulator powers to issue regulations on mini-grids. Under such circumstances, the state law and/or regulation on mini-grids will apply. For states without electricity laws, the Mini-Grid Regulations 2023 will apply. Along similar lines, the Regulations will apply to mini-grids that are used for inter-state distribution of electricity. This is in sharp contrast to the Mini-Grid Regulations 2016 which applied uniformly throughout the federation.

KEY HIGHLIGHTS OF THE REGULATIONS

01

Introduction of New Definitions and Amendment to the Definitions Section

When NERC issued its Consultation on Proposed Review of Regulations for Mini-Grids 2016, it proposed to include the definitions of: (a) portfolio of interconnected mini-grids and (b) portfolio of isolated mini-grids; while amending the definition of (c) mini-grid permit.

Portfolio of Interconnected Mini-Grids

The Mini-Grid Regulations introduces a new key concept- portfolio of interconnected mini-grids- which it defines as “a set of interconnected mini-grids as determined by the mini-grid developer, for tripartite agreements with the same Distribution Licensee have been signed and filed simultaneously with the Commission for approval.”⁴

Portfolio of Isolated Mini-Grids

In the same vein, the Regulations define portfolio of isolated mini-grids “as a set of isolated mini-grids as determined by the mini-grid developer, which is filed with the Commission for approval simultaneously.”⁵

Mini-Grid Permit

A mini-grid permit is now defined as a permit granted by NERC to a mini-grid operator.⁶ This definition makes it clear that mini-grid permits may be issued for interconnected mini-grid operator, not just to isolated mini-grid operators, which the definition in the Mini-Grid Regulations 2016 had limited it to.⁷

4. "Portfolio of Interconnected Mini-Grids" means a set of interconnected mini-grids as determined by the mini-grid developer, for which tripartite agreements with the same Distribution Licensee have been signed and filed simultaneously with the Commission for approval.

5. "Portfolio of Isolated mini-grids" means a set of isolated mini-grids as determined by the mini-grid developer, which is filed with the Commission for approval simultaneously.

6. Regulation 3

7. See Regulation 3 of the Mini-Grid Regulations 2016 which defines mini-grid permit as "a permit granted by the Commission to an Isolated Mini-Grid Operator, who applied, for the construction, operation and/or maintenance and where applicable ownership of a Mini-Grid."

02

Permit/Approval/Registration Regime

Under the EA there is an exemption from the licensing requirement for electricity generation that does not exceed 1MW in aggregate at a site. This exemption implies that licensing is not required for the construction or operation of mini-grids with a generation capacity of 1MW or less.⁹ In view of the fact that the Mini-Grid Regulations 2023 apply to any isolated or interconnected mini-grid generating between 0kW and 1 MW of generation capacity per site, it is excluded from the licensing regime under the EA.

Even though exempted from the licensing regime, mini-grid operators still must undergo a simple registration process or obtain a permit from NERC to operate. This requirement would depend on whether the mini-grid is isolated or interconnected and whether the distribution facility connected with the generation plant is up to or less than 100KW or exceeds 100KW. Like its predecessor, the Mini-Grid Regulations 2023 categorizes mini-grids into-- isolated mini-grid and interconnected mini-grid.¹⁰



Threshold for Permit/Approval/Registration

The Mini-Grid Regulations 2023 maintain the threshold capacity for either obtaining a permit or undergoing a simple registration process, as established in the Mini-Grid Regulations 2016. Depending on the form of the mini-grid,¹¹ a mini-grid developer may be required to obtain either a permit or undergo a simple registration process with NERC.

For isolated mini-grids exceeding 100KW of distributed power and up to 1MW of generation capacity, developers are mandated to obtain a permit from NERC. On the other hand, for isolated mini-grids with distributed power not exceeding 100KW, developers have the flexibility to choose between obtaining a permit or opting for a simplified registration process with NERC.¹³


In the case of interconnected mini-grids, the regulatory process involves submitting a tripartite contract, signed by the mini-grid developer, the community, and the Distribution Company (**DisCo**), to NERC for approval. Additionally, if the interconnected mini-grid falls within the specified capacity threshold, obtaining a permit¹⁴ from NERC is also a requirement.¹⁵

8. Regulation 63 (1)
9. This is also the position under the repealed Electric Power Sector Reform Act (2005)
10. Regulation 5 of the 2023 Regulations
11. "Mini-Grid Developer" means a legal entity established under Nigerian law that has applied for registration or a permit with NERC for the operation of an isolated or interconnected mini-grid.
12. Regulation 7 of the Mini-Grid Regulations 2023.
13. Regulation 8 of the Mini-Grid Regulations 2023.
14. We note that under the Mini-Grid Regulations 2016, the requirement of Permit was not extended to Interconnected mini grids.
15. Regulation 9 of the Mini-Grid Regulations 2023.


Conditions for Obtaining Permit


The conditions for obtaining a permit for isolated mini-grids under the Mini-Grid Regulations 2023 are less stringent and provide greater clarity compared to the Mini-Grid Regulations 2016. While some conditions are similar, there have been modifications and other conditions have been removed. The conditions for obtaining a permit for mini-grids under the Mini-Grid Regulations 2023 are as follows:¹⁶





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The application has met all the necessary criteria for obtaining a permit to operate the mini-grid in the proposed location;
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the mini-grid investment in the specified unserved area must not disrupt the DisCo network expansion plans outlined in the Performance Improvement Plan (PIP)/investment plan submitted with the most recent tariff review application to the Commission. Alternatively, a written consent from the DisCo is required for the proposed mini-grid if the project area is part of the DisCo's approved expansion plan approved by NERC;
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the proposed location for developing the mini-grid is an unserved area which has not been assigned to an IEDNO or any other mini-grid developer;
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filing of executed agreement between the community and mini-grid developer for registration by NERC in the form contained in schedule 11 or as mutually agreed between the parties;
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submission of the verifiable coordinates for the geographic location where the mini-grid shall be installed and where its network shall cover, having acquired all other necessary permits in respect of the location from all relevant authorities;
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the end-user tariff is calculated based on the Multi Year Tariff Order (MYTO) methodology and approved by NERC; and
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the health and safety confirmation form in schedule 6 to the Mini-Grid Regulations 2023 have been executed and submitted to NERC.

For interconnected mini-grids, NERC may register the tripartite contract and grant the mini-grid permit, where the following conditions are met¹⁷

16. *Ibid.*, Regulation 7(1)



the proposed retail tariff is calculated using the MYTO methodology and agreed by the mini-grid developer, the distribution licensee and connected community, and approved by the NERC;



the tripartite agreement shall cover the following arrangements –



right to access the DisCo's network infrastructure for the purposes of interconnection;



construction and ownership right for additional infrastructure, where applicable;



tariff for electricity generated by the mini-grid and fed into the distribution licensee's network as applicable;



availability of stable voltage and effective system protection at the connection point of the generator facility with the DisCo's network as applicable;



tariff for the purchase of electricity from the distribution licensee's network as applicable; and



consent of the connected community to purchase electricity from the mini-grid at the defined tariffs.

In circumstances where either the community or the mini-grid developer has identified an area and notified NERC of the potential development of an interconnected mini-grid, an additional requirement is imposed. The mini-grid developer is obligated to submit a technical and investment proposal¹⁸ to the DisCo.¹⁹



Deemed Consent Regime

To streamline the process of applying for a permit and eliminate unnecessary bottlenecks, the Mini-Grid Regulations 2023 stipulates that the confirmation or consent that may be required from the DisCo as part of the conditions for obtaining a mini-grid permit must be provided by the DisCo within fifteen (15) business days upon receiving the request from the mini-grid developer. In cases where the DisCo neglects, fails, or refuses to respond within the specified fifteen (15) business days after being served the request for confirmation or consent by the mini-grid developer, it shall be considered as deemed consent.²⁰

18. The Mini-Grid Regulations 2016 only provides for a proposal without specifying the nature or type of the proposal.

19. Regulation 9(3) Mini-Grid Regulations 2023

20. Ibid Regulation 7(2)

04

Transfer of Permit and Business

A notable addition in the Mini-Grid Regulations 2023 is the provision that a mini-grid permit holder is prohibited from transferring, assigning, or selling, in any manner, the permitted business conducted under the mini-grid permit without the prior written consent of NERC.²¹ This implies that before a mini-grid permit holder can transfer the permit to another party, he must first seek and obtain a written consent from NERC. It is noteworthy, however, that this provision does not prevent a mini-grid permit holder from using the permit as security interest for lenders. In essence, while the permit cannot be transferred without NERC's consent, it can be utilized as collateral for financial arrangements with lenders subject to the specific terms and conditions agreed upon in the finance documents.

05

Environmental Protection

Another notable provision in the Mini-Grid Regulations 2023 is the introduction of consequences for non-compliance with environmental laws impacting the operations of mini-grids in Nigeria. In cases of non-compliance, the mini-grid permit holder may face either suspension or termination of the mini-grid permit²², with the severity of the penalty determined by the gravity of the infraction. This represents a marked improvement of the Mini-Grid Regulations 2016 which only required mini-grid permit holders to adhere to environmental legislation without specifying penalties for non-compliance. The clarity provided by the Mini-Grid Regulations 2023 in outlining the repercussions for failing to comply with relevant environmental laws is an important development for regulatory precision and enforcement.

06

Compensation of Mini-Grid Permit Holders

The Mini-Grid Regulations 2023 have introduced changes in the compensation provisions, particularly in defining the options available to a mini-grid permit holder and outlining the calculation methodology when a DisCo extends its network to an isolated mini-grid. In a situation where the DisCo extends its network to isolated mini-grids, the mini-grid permit holder of the isolated mini-grid now has three options.²³

The first option is to convert to an interconnected mini-grid operator, secondly, the mini-grid permit holder can opt to transfer all the distribution assets of the mini-grid to the DisCo, receiving compensation in return. Alternatively, after transferring distribution assets, the mini-grid permit holder may, if mutually agreed, deploy its generation asset as an embedded generator to the DisCo or become an emergency supplier to niche customers during DisCo supply outages.

21. Regulation 14 2023 Regulations

22. Regulation 18 2023 Regulations

23. Regulations 20(3) Mini-Grid Regulations 2023

Importantly, any compensation must be settled before the handover of the assets to the DisCo.²⁴

In cases where the mini-grid permit holder chooses to transfer distribution assets to the DisCo, the compensation to be paid comprises: (a) the book value of depreciated network assets (based on historical acquisition cost, including construction and development costs) as defined during tariff definition by NERC; (b) an equivalent of the pre-tax profit the mini-grid developer earned from the mini-grid, starting 24 months prior to the handover date.²⁵ However, it is important to highlight that the capital costs and asset depreciation period fixed with the tariff approval shall also apply, and the costs of assets not covered in the rate base will not be refunded to the mini-grid operator.

07

Monitoring and Evaluation

There are monitoring and evaluation requirements imposed on mini-grid operators by the Mini-Grid Regulations 2023. These operators are obligated to carry out periodic monitoring and evaluation of their operations and submit monitoring and evaluation reports to NERC.²⁶ However, there is no provision as to the frequency at which the monitoring and evaluation report should be submitted.

08

Tariffs and Charges

There are some adjustments on the mechanisms for the determination of tariffs and charges by mini-grid permit holders under the Mini-Grid Regulations 2023. While retaining the position that MYTO shall be used to determine the tariffs or by agreement between the mini-grid operator and the community (represented by customers consuming not less than 60% of the electrical output of the mini-grid), however, technical and non-technical losses are now subject to a cap of four per cent (4%) and three per cent (3%) respectively²⁷- a significant reduction from the cap of ten per cent (10%) as contained in the Mini-Grid Regulations 2016.

Importantly also, the Mini-Grid Regulations 2023 now provides an option for a mini-grid permit holder to submit a single tariff application covering all sites within a portfolio of isolated or interconnected mini-grids. Alternatively, the permit holder may file individual tariff applications for each site within the portfolio. The tariff control period under the MYTO model for mini-grid permit holders is set at five (5) years.²⁸

For registered mini-grids, operators have the flexibility to determine retail tariffs and charges either through the MYTO or through an agreement with the community. The community, represented by customers consuming a minimum of sixty per cent (60%) of the electrical output, may enter into such agreements. It is important to note that NERC retains the authority to intervene and review any tariffs agreed upon with the community.²⁹

24. *Ibid.* Regulation 20(3)(i) 2023

25. *Ibid.* Regulation 20(3)(b)

26. *Ibid.* Regulation 21

27. *Ibid.* Regulation 22(3)

28. *Ibid.* Regulation 22(4)

29. Regulations 22(5) 2023 Regulations

OUR THOUGHTS

The Mini-Grid Regulations 2023 is indeed a commendable subsidiary piece of legislation particularly in light of the decentralised nature of the NESI. It nevertheless has some shortcomings in meeting the aspirations of Nigerians for increased access to renewable based electricity. Indeed, a number of the issues raised with the Mini-Grid Regulations 2016 have not been sufficiently addressed, and the Mini-Grid Regulations 2023 might lacks some drive to encourage or incentivize investors in the mini-grids sector. We have identified several key issues that, if considered, should further improve the effectiveness of the Regulations.



Timeline for Approval

The Mini-Grid Regulations 2023 do not have provisions which specify timelines for NERC to grant mini-grid permits and review/approve tripartite contracts. Prolonged review and approval process at NERC may significantly impede the progress of mini-grid development. The absence of clear timelines may lead to unnecessary bottlenecks in the review and issuance of permits. Establishing specific timeframes within the regulations could help expedite the process and mitigate delays in advancing the development of mini-grid projects.



Tariff Structure

We note that whilst the Mini-Grid Regulations 2023 provides that mini-grid tariffs may be determined by MYTO or by agreement between the mini-grid operator and the community (represented by customers consuming not less than 60% of the electrical output of the mini-grid), technical and non-technical losses have been significantly reduced to a cap of four per cent (4%) and three per cent (3%) respectively for the 10% contained in the Mini-Grid Regulations 2016.

The Aggregate Technical, Commercial and Collection (**ATC&C**) loss refers to the total amount of billing losses incurred by the mini-grid operator. These losses occur when the mini-grid operator is unable to bill customers for the full amount of energy delivered or unable to collect payment for the electricity used to customers. The ATC&C loss is an important factor in determining tariffs, as it represents the acceptable level of loss that a mini-grid operator can recover from customers in an efficient manner.

It leaves much to be desired that mini-grid operator are permitted to incur only a minimal amount of loss in supplying consumers when, for instance, the allowed loss efficient target for DisCo in Nigeria applied in the computation of the tariffs in the MYTO is 20.06%, and in the third quarter of 2023, DisCos incurred a total ATC & C loss of 39.45% comprising - technical and commercial loss (20.91%) and collection loss (23.44%). It is surprising then that mini-grid operators will be required to operate at a much higher threshold.

CONCLUSION

The issuance of the Mini-grids Regulations of 2023 by NERC represents a significant step in addressing some of the shortcomings of the Mini-Grid Regulations 2016. The Mini-Grid Regulations 2023 aims to foster the development of mini-grids, particularly in underserved and unserved areas in Nigeria, and provide a more comprehensive and refined regulatory framework for the sector. While the Regulations represent a commendable step forward, there is room for continued refinement and improvement to fully unlock the potential of the mini-grid sector and achieve broader electrification goals in the country.

For More Information, Please Contact : _____



Wolemi Esan
Deputy Manager Partner
wesan@ofaniwunajayi.net



Ibi Ogunbiyi
Partner
iogunbiyi@ofaniwunajayi.net



Chinenye Ayayi
Managing Associate & Team Lead
cayayi@ofaniwunajayi.net



Osamede Osasu
Associate
oosasu@ofaniwunajayi.net



Zion Odinaka
Associate
zodinaka@ofaniwunajayi.net