REVIEW OF THE DRAFT MINI-GRID REGULATION BY NERC

PowerUpNG

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Backgroud

While the Federal Government of Nigeria's effort at ensuring all parts of the country is reached with electricity, and while it is also agreed that establishment of mini-grids would go a long way in driving this goal, it should not be overlooked however the germane issues and drawbacks of such, and be mitigated duly.

This document therefore, after studying the draft mini grid regulation as published by the Nigeria Electricity Regulatory Commission, NERC, and similar Mini-grids regulations in some selected countries, and taking into cognizance our peculiar terrain and business environment, coupled with the provisions earlier made by the Electric Power Sector Reform Act, aims to highlight some observations, comments on provisions made by this mini grid regulation, and advice on way forward.

African countries like Ghana, Kenya and South Africa, who has made progress in the Mini-Grid regulation and implementation were chosen as references.

Federal Government Projects, and the Act that sets up Rural Electrification Agency was also referenced.

Benefits of Mini-grids

The evidence from surveys and research is that rural electrification improves quality of life, increases economic activity and is necessary for rural economic development.

Rural electrification in general acts as:

- An enabler of socio-economic development (through provision of basic electricity services for households)

Impact evaluations8 have shown that electric lights alone bring benefits such as extended hours for small businesses, benefits for education and health, as well as greater security. Some say that the "primary story to tell about the impact of electricity is not lighting, but communication:television, mobile phones and the

internet" (IOB,2013). After all, around half of electrified households in rural areas have a television or a radio, and around 253 million people had a mobile phone in Sub-Saharan Africa in June 2013. The use of television, radio, and mobile phones results in improved access to news, business information, and distance education. People in rural areas often already use these services but at exorbitant fees (majorly using Generators), so they clearly appreciate the benefits of these services and are willing to pay for them.

- A facilitator for the delivery of public services (through the electrification of social institutions) Rural electrification can also improve education through better lighting in schools and at home and can improve better health care through better lights and more reliable use of medical appliances (e.g. vaccine refrigerators).
- An enabler of rural industrial development (through enabling productive use of electricity for SMEs) Another important part of the rural electrification story is that it can drive economic development and improve household incomes by enabling households to establish micro home enterprises and by providing existing SMEs the possibility to switch to a cheaper, cleaner more convenient form of energy for their motors. However, this depends on higher voltage services and thus on grid or mini-grid access (IOB, 2013).

Mini-grids have multiple specific benefits in comparison to other electrification options. These include the possible speed of deployment, additional private sector growth, and flexibility of technical and operational models.

International Experiences with Mini-grids

The development of mini-grids is driven by different national priorities and takes various forms around the world. Mini-grid operating models are constantly improving as lessons are shared and governments are gradually opening up to alternatives to extension of the national grid.

African Experience

In the past, most national governments in Sub-Saharan Africa have prioritised the grid extension approach for rural electrification. However, progress often

remained very slow due to the remoteness of many areas and the costly investment required for grid extension and large-scale central power plant development. In some cases, the rate of electrification was even lower than population growth (Bhattacharyya, 2013). Mini-grids are therefore seeing a surge in interest as governments and private developers take stock of the socio-economic implications of large unelectrified rural populations, national grid extension costs and the potential for innovative public-private partnerships to deliver commercially sustainable, effective, reliable, 'green' power to improve rural livelihoods.

The following examples highlight the progress that has been made in the recent past in several countries that have introduced national rural electrification policies and recognize mini-grids as an important pillar of electrification.

Kenya has traditionally set up diesel-powered mini-grids in off-grid areas of commercial or strategic importance. These are managed by the national utility. Political pressure to continue expanding electricity access to the entire population has led to a revised policy framework under which the national Rural Electrification Authority now handles development of mini-grid sites throughout the country. These activities are carried out by the Kenya Power company, a for-profit corporation majority-owned by the government, which implements this public sector model. Meanwhile, the high cost of diesel is driving the development of hybrid renewable-diesel mini-grids in a number of remote areas. Currently 7 hybrid mini-grids exist, and 12 of the existing diesel-based mini-grids are planned to be hybridised. In 2013, 27 new PV and wind Green Mini-grids were planned (IED, DFID, 2013). **More details are given in the MGPT Kenya Case Study.**

Mali has had probably more success than any other country in Africa when it comes to promoting isolated mini-grids. More than 200 mostly small diesel mini-grids are in operation in the country, around 60 of those are privately run and a significant number are in the process of hybridisation. Most of these mini-grids received initial capital cost subsidies (of about 570 EUR per new connection) from AMADER, Mali's REA, to connect new customers. AMADER, makes all major

decisions concerning mini-grids which is a key success factor of Mali´s mini-grid roll-out. The current electricity tariff in mini-grids for households is about 0.44 EUR/kWh. This is considered high compared to the tariff for grid-connected customers, which is 0.11 EUR/kWh (Eberhard et al., 2011) and has caused "tariff envy", leading to the rapid extension of the national grid to seven mini-grids sites located close to the national utility's concession area (Tenenbaum et al., 2014).

This example shows that mini-grids can act as a valuable intermediate step towards grid electrification for communities, and that it is important to select mini-grid locations far from the main grid for mini-grid operators (who do not want to connect to the main grid).

Namibia has a well-defined grid and off-grid electrification master plan (the REDMP and OGEMP). In these plans, areas that are off-grid are clearly identified, and are to be supplied by the government with standalone solutions and mini-grids. Up to now only a small number of pilot mini-grid projects are in operation. These pilot-projects have shown that mini-grid systems are viable in Namibia, especially solar, biomass and solar/diesel hybrids. Tsumkwe village is a good example of a large and economic mini-grid as all customers connected to the solar/diesel hybrid system pay cost covering tariffs for stable electricity (24h). (RECP/EUEI PDF, 2014).

Senegal has a well-regulated, two-pronged concession approach for private sector involvement. On the one hand, concessions for large areas are granted to private utility-type companies receiving up to 80% upfront investment subsidies for a mix of grid extension and offgrid electrification. On the other hand, "mini-concessions" for so called ERIL projects (Electrification Rurale d'Initiative Locale – Locally Initiated Rural Electrification) are issued to private micro-utilities for the implementation and operation of stand-alone mini-grids for individual remote communities. Political and regulatory responsibilities are shared between three authorities which in the past created a certain level of complexity regarding the implementation of the framework. ERIL operators are accompanied by the Senegalese Rural Electrification Agency ASER (Agence Sénégalaise d'Electrification Rurale) to apply for a renewable contract with a 15-year licence for electricity sales and a 25-year concession for electricity distribution which is issued by

the Senegalese Ministry of Energy and the Development of Renewable Energies. Based on a well-defined tariff scheme, the national regulator CRSE (Commission de Régulation du Secteur de l'Electricité) sets the maximum tariffs for each project individually (which leads to different tariffs in different projects), allowing an IRR of 12% on the private investment. As in all standalone power supply systems, the off-grid tariffs applied in Senegal are significantly higher than the national utility tariffs. Numerous private operators are active in Senegal with approx. 30 systems currently in operation and a portfolio of several hundred mini-grids in the pipeline. Up to now, only one project has been issued with an ERIL licence/concession: the wind-solar-diesel mini-grid implemented and operated by the company ENERSA S.A. in the village Sine Moussa Abdou. Different approaches with different financial models and tariff schemes are applied in Senegal by different operators, which has proven a crucial success factor in Senegal. **More information can be found in the MGPT Senegal**

Case Study.
Tanzania's policy allows small power producers to supply electricity from both grid-connected and off-grid power supply systems. The Tanzanian Rural Energy Agency created TEDAP (Tanzania Energy Development and Access Project), which is funded by the World Bank and channels funds into subsidies, special collateral financing, preferential interest rates and technical assistance for grid-tied and off-grid projects. Small Power Producers (SPPs) with generation capacity of less than 1 MW are exempted from obtaining a licence but required to register with the national regulatory author

REVIEW

PREFACE

This Mini Grid Regulation is specifically designed to accelerate electrification in areas without any existing distribution grid (Unserved areas) and areas with an existing but poorly electrified or nonfunctional distribution grid (Underserved areas), especially but not limited to rural areas. The Regulation shall promote the engagement of the private sector, communities, Non-Governmental Organizations and other stakeholders in achieving nationwide electrification, and it seeks to minimize major risks associated with Mini Grid investments such as:

(1) Sudden tariff changes, as tariffs would have been agreed in advance by the relevant parties; and

(2) Stranded Mini-Grid Operator investments due to the connection of the main grid to Mini-Grid in circumstances where the main grid has been extended to cover the Mini-Grid area.

In such cases, a fair compensation mechanism would be applied for Mini-Grid Operators that choose to exit.

Observation: How", and Who do you define "fair in this statement? NERC? Or Operator?? This should be stated clearly, and framework established and agreed to by all parties

Observation:

a) The above Preface made no mention of the Act that sets up the Rural Electrification Policy and Plan as highlighted by Section 88(11) of the Electric Power Sector Reform Act. How is this regulation going to relate with this section?
b) The Preface also states that the Regulation also seek to minimize major risks associated with Mini-Grid Investments without clearly stating how it aims to achieve this. Is there another document that contains this in particular?

In such cases, a fair compensation mechanism would be applied for Mini-Grid Operators That choose to exit.

The Regulation provides for permit and tariff approval procedures which will ease the administrative burden on the Mini-Grid Operator and ensure the process of obtaining the permit in a timely manner with minimal requirements from NERC. The Distributed Power of the Mini-Grid determines the regulatory procedure to be followed. For Distributed Power of up to 100kW, a permit is optional for the Mini-Grid Operator; while for Distributed Power of over 100kW and installed Generation Capacity of up to 1MW a permit, will be required. Beyond that limit, a full licence is required which is outside of the scope this regulation and is taken care of by other already existing regulations.

To encourage Mini-Grid development, cost reflective retail tariffs will be utilised. The tariffs are expected to be higher than the current Electricity Distribution Company(DisCo) retail tariffs. However, they will be lower than any electricity supply of the same quality generated from conventional sources in these areas.

This regulation is suitable for any business model or technology that Mini-Grid Operators may wish to implement.

The DisCos stand to benefit from Mini-Grid Operations and some of these benefits include:

(1) Development of the DisCos licensing areas which are not being exploited at no cost to the DisCos pending when they are ready to extend their operations to such areas. At such time, demand would have increased to attractive levels for profitable operation,

and customers will be used to paying for electricity and complying with the safety requirements. Observation: While this might be attractive to Discos(No proof of this), It gives the investors no guarantee or security. How is this supposed to be attractive to Investors?

(2) Opportunity of turning loss making assets which have high maintenance and collection costs; and low yielding revenues in Underserved areas into profit making or at least non-loss-making assets by hiring out parts of their distribution network for a usage charge to the Mini-Grid Operators for its operations.

(3) Mini-Grids would be a bridge technology that can be used by DisCos to accelerate their electrification activities. The distribution infrastructure installed by the Mini-Grid Operator in systems requiring a permit will be compliant with national standards for easy connection to the main grid. Observation: There is also no certainty in this statement/benefit

7Isolated Mini-Grids larger than 100 kW of Distributed Power and up to 1MW of Generation Capacity

(1) For an Isolated Mini-Grid, the Commission may grant a Permit mentioned in S .6(1) above upon the fulfilment of the following conditions:

(a) an application has been received by the Commission for the intended area;

(b) confirmation of the Distribution Licencee's expansion plans approved by the Commission through the Commission to ensure that the Mini-Grid activities will not interfere with the expansion plans into the designated Unserved Area;

(c) written consent of the Distribution Licencee of the intended area where the operational period of the Mini-Grid Developer will be within the five year expansion plan of the Distribution Licencee; Observation: Why the need to receive a Written consent from Disco after NERC has confirmed the Disco 5year plan as above?

(d) the intended geographic location is an Unserved Area which has not been assigned to an IEDNO or any other Mini-Grid Developer;

(e) submission of the executed agreement between the Community and Mini-Grid Developer for approval by the Commission;

(f) the Isolated Mini-Grid Developer and Community are in agreement for the installation of the Mini-Grid; Observation: Since the Area is already identified as Unserved, or Underserved, should it not be the duty of NERC to approach the community as a government agent? This

would also go a long way to assure all parties- Communities and Investors, of security, and government intervention.

(g) all necessary land for construction and installation of all assets has been acquired and all other necessary permits have been granted to the Mini-Grid Developer; Observation: Why not ask for security, and not open the Investors to more risks by asking them to acquire a property they might end up not using?

(h) the tariff is calculated based on the MYTO methodology and approved by the Commission; and Observation: Is this Document available? Can It be Reference?

(i) execution of the Health and Safety confirmation form in Annex 6 and submit to the Commission.

8 Isolated Mini-Grids up to 100kW of Distributed Power.

(1) The Mini-Grid Developer of an Isolated Mini-Grid with a Distributed Power of up to 100kW may select one of the following options:

(a) An application for a Permit mentioned in S. 6(1) above following all procedures as described in S. 7(1) above with all rights and obligations of a Mini-Grid Permit Holder as described under this regulation;

(b) A registration using the form in Annex 2.

9..Interconnected.Mini-Grids.

(1) For an Interconnected Mini-Grid, the Connected Community, the Mini-Grid Developer and the Distribution Licencee have to sign a Tripartite Contract which becomes binding for all parties upon approval by the Commission. The Commission may approve the Tripartite Contract mentioned in S. 6(2) above upon the fulfilment of the following conditions: Oberservation: Refer to observation under 7.1f. NERC plays a key and central role in bringing all parties together.

(a) an application has been received by the Commission for the intended area;

(b) the proposed retail tariff is calculated using the MYTO methodology, agreed by the Mini-Grid Developer, the Distribution Licencee and Connected Community and approved by the Commission; Observation: As we are presently experiencing, this cannot be left alone to the discretion of these parties, there has to be neutral arbitrator else we are laying foundation for grievances. Then, what is the relationship between the Mini-Grid

operators and Discos that made the Discos have such control over how much Mini-Grid Operators charges? Are Mini-Grid Operators not independent of Discos? Isn't approval of Tariffs not the work of NERC anymore? Discos are not regulators

(c) the Mini-Grid Developer, the Distribution Licencee and the Connected Community have executed a Tripartite Contract using the template in Annex 11 and which shall contain at the minimum the information below:

(i) the usage right for the Distribution Licencee's network infrastructure which shall become an Interconnected Mini-Grid;

(ii) the construction and ownership right for additional infrastructure (if applicable);

(iii) the tariff for electricity generated by the Mini-Grid and fed into the Distribution Licencee's network (if applicable);

(iv) the availability of stable nominal voltage and effective system protection at the Connection Point of the generator with the Licencee's Distribution Network (if applicable);

(v) the tariff for the purchase of electricity from the Distribution Licencee's network (as applicable); and

(vi) the agreement of the Connected Community to purchase electricity from the Mini-Grid for the tariffs defined.

(2) Once an area has been identified either by a Connected Community or Mini-Grid Developer, and a notification is made to the Commission for the purpose of considering the development of an Interconnected Mini-Grid, a Mini-Grid Developer can submit a proposal to the Distribution Licencee. Observation: What exactly is the Purpose for this?? Why is the Mini-Grid Developer applying to the Disco?

10 Application procedure for a Permit.

(1) A Permit shall not be granted unless the mandatory conditions provided in S. 7 above are fulfilled.

(2) The Commission shall issue a Permit pursuant to S. 7 or S. 8 above or approve a Tripartite Contract pursuant to S. 9 above to an applicant within a maximum period of 30 days from the date of receipt of complete documentation. Application proceedings related to S.7, S.8 and S.9 are described in Annex 5. Where Annex 5 deviates from the

Regulation, the Regulation shall prevail.

(3) Pending when a response is received from the Commission, the Mini-Grid Developer of a Mini-Grid of up to 100kW of Distributed Power who has applied for a Permit can commence operations as a Registered Mini-Grid Operator.

(4) Notwithstanding S.10(3) above, the Registered Mini-Grid Operator who wants to operate as a Mini-Grid Permit Holder shall:

a. be required to use the MYTO calculation methodology in determining its tariff;

b. have the right to compensation as provided in S.19 (2) (b) only where a Permit has been granted by the Commission.

11 Obligations of the Mini-Grid Permit Holder

(1) The Mini-Grid Permit Holder shall construct, operate and/or maintain its Distribution Network in accordance with the relevant Technical Codes and Standards.

(2) The Mini-Grid Permit Holder shall comply with the Act, terms and conditions of the Permit, the Tripartite Contract, the Agreement with the Community, Customer Contract, the rules and regulations, as well as the decisions, orders and directions of the Commission as applicable.

(3) The Mini-Grid Permit Holder shall comply with all other regulations unless expressly excluded in this regulation, including the regulations specified by the Commission regarding utilisation of the distribution assets for a business other than distribution of electricity.

(4) The Mini-Grid Permit Holder shall grant the Commission and its duly authorized representatives access to any information that is relevant to fulfil the tasks assigned to the Commission under the Act and this regulation.

12 Accounts of the Mini-Grid Permit Holder

(1) The Mini-Grid Permit Holder shall –

(a) maintain separate accounting records for the Mini-Grid business, including the business of utilizing the assets of a Distribution Licencee's Network, in such form and containing such particulars as may be specified by the Commission and in

accordance with the Companies and Allied Matters Act, 2004 Cap. 20 LFN, or as may be amended from time to time;

(b) prepare from such records, accounting statements for each financial year comprising a profit and loss account and a balance sheet; and

(c) ensure that the accounting statements prepared in accordance with the foregoing subMsections are duly certified by an auditor in respect of each financial year, stating whether in the opinion of the auditor, the statement has been properly prepared and giving a true and fair view of the revenue, costs, assets, liabilities and reserves reasonably attributable to the business to which the statement relates.

13 Inspection of accounts for the purpose of adjustment of tariffs and ascertaining depreciated value

(1) Any Person authorised by the Commission shall be entitled to inspect and verify the accounts of a Mini-Grid Permit Holder at any reasonable time and the Mini-Grid Operator shall be under obligation to render all necessary assistance, including provision of required documents to the Person so authorized to inspect the accounts.

(2) The Mini-Grid Permit Holder shall provide reports in the form prescribed in Annex 4 to the Commission at least once every two years in accordance with Annex 6; and

(3) Where the authorized person inspecting the accounts of the Mini-Grid Permit Holder proves that the actual costs incurred or the actual revenue earned by the Mini-Grid Permit Holder deviate from the costs and revenues stated during tariff definition with the Commission at the point of application for the Permit or approval of Tripartite Contract as applicable:

(a) the input parameters for tariff calculation using the MYTO methodology shall be adjusted to the actual values; and

(b) the tariffs as well as the calculation of the depreciated value may be adjusted and approved by the Commission accordingly.

(4) The new tariffs as adjusted in S. 13(2) above shall be applied within 30 days after approval by the Commission.

(5) A Mini-Grid Permit Holder may request an inspection of accounts with the Commission in order to update its tariffs and depreciated value.

(6) The Community may request an inspection of accounts of the Mini-Grid Permit Holder with the intention to trigger an adjustment of tariffs.

(7) In case of the Mini-Grid Permit Holder asking for an inspection of accounts with the Commission, the Mini-Grid Permit Holder shall pay a flat fee of 200 NGN per customer connected to its Mini-Grid to the Commission.

(8) In case of the Community asking for an inspection of accounts with the Commission, the Community shall pay a flat fee of 200 NGN per customer connected to the Mini-Grid operated under a Permit in their Community to the Commission. Observation: How is this figure arrived at? Is it related to anything? Is there a lower or upper limit to the total value "chargeable"

CHAPTER.IV.
MINIKGRID OPERATION UNDER A PERMIT

14 Installation and maintenance of the Mini-Grid operated under a Permit

(1) The Mini-Grid Permit Holder shall design, construct, commission, operate and/or maintain and de-commission its Distribution Network and related facilities in compliance with the Technical Codes and Standards, terms and conditions of its Permit or Tripartite Contract as applicable and in accordance with any other standards of design, construction, and maintenance as may be prescribed by the Commission from time to time. Where there is any inconsistency between these Regulations and the Technical Codes and Standards, the provisions of the Technical Codes shall prevail.

(2) The Registered Mini-Grid Operator is not bound by the Technical Codes and Standards for design, construction, commissioning, operation and maintenance of its distribution systems, but may apply the minimum technical requirements as set out in Annex 7.

15 Quality of Service

(1) The Mini-Grid Permit Holder shall supply electricity according to the contract signed with the Community or Connected Community as proposed in Annexes 11 and 12 respectively.

(2) The Registered Mini-Grid Operator shall supply electricity in accordance with the agreement executed with the Community.

16 Safety

(1) All Mini-Grid Operators shall apply safety guidelines as described in Annex 6 for the design, construction, commissioning, operation and maintenance of their generation and distribution assets.

17 Environmental protection

(1) All Mini-Grid Operators shall comply with the existing environmental legislation.

18 General Provision for Connection to Customers

(1) The Mini-Grid Permit Holder shall enter into the standardized connection agreements as proposed in Annex 13 with every customer who accepts to connect to the Mini-Grid operated under a Permit.

(2) The Metering Code shall be mandatory for all Registered Mini-Grids and Isolated Mini-Grids operated under a Permit and Interconnected Mini-Grids operated under a Tripartite Agreement. The Commission may on request of the Mini-Grid Operator grant a derogation where it deems fit.

(3) The tariff and billing model of Mini-Grids operated under a Permit shall be described in the standardized contract between the Mini-Grid Operator and the customers in the Community as proposed in Annex 13.

19 Interconnection of the Distribution Licencee's Network to an Isolated Mini-Grid operated under a Permit and Re-integration of Interconnected Mini-Grid into a Distribution Licencee's Network

(1) Each Mini-Grid Permit Holder shall operate in the geographical area specified in its Permit or Tripartite Contract as applicable.

(2) Where a Distribution Licencee extends its network to an Isolated Mini-Grid operated under a Permit, two options are available to the Mini-Grid Permit Holder:

(a) Convert to an Interconnected Mini-Grid Operator; or

(b) Transfer all assets the Isolated Mini-Grid Operator does not want to remove from the Mini-Grid system to the Distribution Licencee in return for compensation. Where the Mini-Grid Permit Holder elects to take this transfer option, the compensation mechanics shall be as follows:

(i) where the Distribution Licencee extends its Distribution Network within the first 5 years of the commissioning of the Mini-Grid operated under a Permit (**Initial Period**), the Isolated Mini-Grid Operator shall receive a compensation from the Distribution Licensee before handover of assets equal to the remaining depreciated value of assets (including the construction and development cost) as defined during the tariff definition by the commission plus the revenue the Mini-Grid Operator generated from the Mini-Grid, commencing 12 months prior to the date of connection of the Mini-Grid operated under a Permit to the Distribution Network and document the payment process in Annex 14 and submit the signed document to the Commission;

(ii) where the Distribution Licencee extends its Distribution Network after the Initial Period, the Mini-Grid Permit Holder shall receive a compensation from the Distribution Licensee before handover of assets equal to the remaining depreciated value of the assets as defined during the tariff definition by the Commission plus the revenue the Mini-Grid Operator generated from the Mini-Grid commencing 12 months prior to the date of connection of the Mini-Grid to the Distribution Network and document the payment process in Annex 14 and submit the signed document to the Commission;

(iii) where the system setup has been changed since the latest tariff definition by the Commission, the Mini-Grid Permit Holder shall initiate an inspection of accounts according to S. 13(3) above in order to determine the depreciated value of assets. Pending the outcome of the inspection, the Mini-Grid Permit Holder shall receive immediate compensation based on the latest tariff definition by the Commission. Upon receipt of the outcome of the account inspection, the Mini-Grid Permit Holder shall be paid the difference between the compensation paid and the compensation amount determined following the inspection.

(3) Pursuant to S. 19(2)(b)(ii) above, where the parties fail to agree to the terms of the compensation, the Commission shall act as an arbiter to determine the compensation to be paid. Observation: And in the situation that any of the parties proves difficult, We have opened the doors to unending litigations. We propose that NERC prepares a template by which this issue is resolved, and have all parties signed up to it before commencing.

(4) Notwithstanding S. 19(2)(b)(iii), costs and depreciation times fixed with the tariff approval apply. Costs for assets not covered in the tariff approval procedure shall not be refunded to the Mini-Grid Operator.

(5) The Mini-Grid Permit Holder is obliged to remove and recycle (if possible) or dispose the assets and equipment that are fully depreciated in an environmentally friendly manner in accordance with environmental legislation. The Mini-Grid Operator may follow the guidelines on environmental matters as set out in Annex 6.

(6) Where a Distribution Licencee extends its Distribution Network to a Mini-Grid of a Registered Mini-Grid Operator, on request of the Distribution Licensee, the Registered Mini-Grid Operator has to de-commission and remove all its assets and equipment within 2 months after the Distribution Licensee has started supplying electricity to the area. The Registered Mini-Grid Operator shall not be entitled to any refund or compensation. Observation: We are trying to get Investors to put their money down in a long term project, we NEED to be able to give their investment a better security and guarantee. With a term like this, no bank will put their money when they know there is no security. We recommend a longer time for decommissioning of assets by the Mini-Grid operators

(7) After the expiry of a Tripartite Contract of an Interconnected Mini-Grid, and where not renewed, a Distribution Licencee may re-integrate an Interconnected Mini-Grid into its network subject to:

(a) the written proof of endorsement by the Connected Community; and

(b) notification to the Commission.

(8) The refund procedure described in S. 19(2)(b) would apply in this instance unless otherwise agreed in the Tripartite Contract.
Observation: Since the Mini-Grid operation is a Tripartite Contract, What happens in the situation that the community insists that the Mini-Grid Operators is preferable to the Disco?

CHAPTER V
COMMERCIAL ARRANGEMENT

20..Determination.of.Tariffs.and.Other.Charges..

Licencee Distribution Network Usage Charges

(1) The Interconnected Mini-Grid Operator shall pay the Distribution Licencee a usage charge which shall be agreed upon between the Interconnected Mini-Grid Operator and the Distribution Licencee and approved by the Commission.

(2) Where the Interconnected Mini-Grid Operator and the Distribution Licencee are unable to agree on the usage charges, the methodology described in Annex 8 shall be applied as a guideline.

Retail Tariffs

(3) For Mini-Grid Permit Holders, retail tariffs and other charges are determined using the MYTO methodology included in Annex 15 and approved by the Commission subject to a limitation of

(a) distribution losses to a maximum of 10%

(b) non-technical losses to a maximum of 10%

(4) The Registered Mini-Grid Operator may decide to determine retail tariffs and other charges

(a) using the MYTO calculation tool in Annex 15; or

(b) by an agreement between the Mini-Grid Operator and the Community (being a minimum of electricity customers representing 60% of the electricity output of that same Community); subject to the Commission's right in S.13, to intervene and adjust the tariff that has been agreed with the Community where the rate of return of the Mini-Grid Operator exceeds a usual nonMrecourse commercial debt interest rate in local currency and with adequate tenure for these kind of projects + 6%.

(c) The executed agreements in S. 20(3) above shall be submitted to the Commission for its records.

CHAPTER VI
MISCELLANEOUS

21 Exclusivity Period and Site Reservation for Project Development Purposes

(1) The procedure for acquiring/renewing an exclusivity agreement for project development purposes by an Isolated Mini-Grid Developer shall work as follows:

(a) A Community may grant an exclusive right to develop an Isolated Mini-Grid

project until commissioning at a certain site. The Community may grant to the Mini-Grid Developer an exclusivity period of up to 12 months as shown in Annex 1A.

(b) If required, the Isolated Mini-Grid Operator may request the Commission an extension beyond 12 months upon justification as shown in Annex 1A. Observation: What happens in the situation that the Community is not in agreement with the Commission extending the Exclusivity they-The Commission, didn't grant in the first place? Who settles this dispute?

(c) The Distribution Licencee and the Community may grant an exclusive right to develop an Interconnected Mini-Grid project until commissioning at a certain site as shown in Annex 1B. Observation: Again, why is it that the Disco is the one granting Exclusivity here? Won't there be prejudice or Conflict of interest?

(2) The Community and the Commission or the Distribution Licencee may ask the developer to provide any proof of its commitment (e.g. Letter of Intent (LOI) from investor, endorsement letter from the State Government) before signing the exclusivity agreement. Observation: The Disco should have no say here

(3) The Commission shall not grant a Permit or Licence or approve a Tripartite Contract as applicable to a Mini-Grid Developer for a certain site, where an exclusivity agreement has been executed in respect of that site.

(4) The Commission shall not grant an extension of an Exclusivity Period beyond 12 months where the site is within the 5 year extension plan of a Distribution Licencee. The Mini-Grid Developer is recommended to consult the Commission or the Distribution Licencee before signing the initial exclusivity agreement with the community.

(5) Notwithstanding the right granted in S. 21(1)(a), the Distribution Licencee reserves the right to integrate the Community to its distribution network.

22 Procedure for Securing Compliance with the Permit or Tripartite Contract as applicable

(1) Where the Commission, on the basis of material evidence in its possession is satisfied that the Mini-Grid Operator is contravening, or is likely to contravene, the terms and conditions of the Permit or Tripartite Contract as applicable, it shall serve an order to the

Mini-Grid Operator to do, or not to do, such things as are specified in the order for the purpose of rectifying or avoiding any contravention or threatened contravention of any term or condition of the Permit or Tripartite Contract as applicable.

(2) The order shall specify the period within which the Mini-Grid Operator shall rectify or avoid the contravention or threatened contravention of any term or condition of the Permit or Tripartite Contract as applicable.

(3) Upon expiry of the period specified in the order, if no compliance is achieved, the Commission shall proceed to enforce the order through the enforcement mechanism established by it.

23 Proceedings before the Commission

(1) All proceedings before the Commission under these regulations shall be governed by the Business Rules of the Commission as may be amended from time to time.

24 Complaints Procedure

(1) Unless otherwise stated in this regulation, all customer complaints shall be resolved in accordance with the Complaints Procedure Guidelines in Annex 9.

25 Dispute Resolution

(1) Disputes between parties in connection with this regulation shall be resolved in line with the Dispute Resolution Mechanism in Annex 10.

26 Amendment or repeal

(1) The Commission may amend or repeal, in whole or in part, the provisions of these Regulations.

Other General Observations

1. The definition of Mini-Grid is too broad and general, and does not clearly spell out and demarcate between a micro-grid and mini-grid.

For avoidance of doubts, mini-grids as involving small-scale electricity generation (from 10kW to 10MW), and the distribution of electricity to a limited number of customers via a distribution grid that can operate in isolation from national electricity transmission networks and supply relatively concentrated settlements with electricity at grid quality level. “Micro-grids” are similar to mini-grids but operate at a smaller size and generation capacity (1-10 kW).

2. Given the importance attached to the Disco negates the noble intention of allowing mini-grids to expand the reach and delivery of quality electricity, as the Discos will definitely frustrates intending investors with bottle necks
3. It is there the duty of NERC to mediate and communicates such intentions between the Mini-Grid investors, and Discos
4. It should also be the duty of NERC to approach and present intending Investors to such Communities identified as Unserved or Underserved.
5. Throughout this draft, not one single mention was made as to how the regulation interfaces with the Rural Electricification Agency, or the Act that sets it up, especially Section 88 of the Electric Power Sector Act.
6. Potential Investors needs more guarantee and security on their investment so as to encourage private financing, else the scheme will not be attractive.

Today’s main barriers for mini-grid deployment are not related to technology, but to economic, financial, regulatory aspects as well as institutional and human capacity. Past experiences have revealed challenges with the sustainable operation of mini-grids. However, examples from both Africa as well as from other regions have shown that these problems can be overcome, in particular through business driven approaches.

Sound rural electrification planning is required and must address future integration of mini-grids into the national grid. This rural electrification planning should identify areas for electrification through national grid extension, mini-grid electrification, or stand-alone systems. State of the art for rural electrification planning are GIS based spatial least cost planning tools for rural electrification.

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