

Republic of the Philippines
DEPARTMENT OF ENERGY
(Kagawaran ng Enerhiya)

DEPARTMENT CIRCULAR NO. DC 2021-11-0039

MANDATING THE NATIONAL TRANSMISSION CORPORATION AS SMALL GRID SYSTEM OPERATOR IN SPECIFIC OFF-GRID AREAS

WHEREAS, Section 5(d) of Republic Act No. 7638 or the "*Department of Energy Act of 1992*" declares that the Department of Energy (DOE) has the powers and functions to supervise and control over all the government activities relative to energy projects in order to attain the goals embodied in this Act;

WHEREAS, Section 2 of Republic Act No. 9136, otherwise known as the "*Electric Power Industry Reform Act of 2001*" (EPIRA), declares the policy of the State to: (i) ensure and accelerate the total electrification of the country; (ii) ensure the quality, reliability, security, and affordability of the supply of electric power; (iii) enhance the inflow of private capital and broaden the ownership base of the power generation, transmission and distribution sectors; and (iv) encourage the efficient use of energy and other modalities of demand-side management;

WHEREAS, Section 8 of the EPIRA created the National Transmission Corporation (TRANSCO), which shall assume the electrical transmission function of the National Power Corporation (NPC) and shall have the powers and functions hereinafter granted. The TRANSCO shall assume the authority and responsibility of the NPC for the planning, construction and centralized operation and maintenance of its high voltage transmission facilities, including grid interconnections and ancillary services;

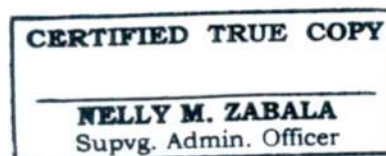
WHEREAS, Rule 6, Section 7(a) of the EPIRA Implementing Rules and Regulation (IRR) states that the TRANSCO or its Buyer or Concessionaire shall act as the system operator of the nationwide electrical transmission and sub-transmission system, transferred to it by NPC;

WHEREAS, on 25 January 2019, the DOE issued Department Circular No. DC2019-01-0001, entitled "*Prescribing the Omnibus Guidelines on Enhancing Off-grid Power Development and Operation*", which prescribes an omnibus set of guidelines that incorporates and interrelates all existing and new policies and strategies for achieving quality, reliability, affordability, security, stability, efficiency and accountability of electric power services in off-grid areas;

WHEREAS, Rule 7.1.2 of Department Circular No. DC2019-01-0001 provides that in a Small Grid with one distribution entity and one generator, the distribution entity shall be the default System Operator (SO). Otherwise, a competent third party SO shall be engaged;

WHEREAS, there is a need to fast-track the upgrading of the facilities and operation of power systems in the off-grid areas, including system operation and

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management in order to ensure the efficient dispatch of power for the purposes of improving reliability and reducing the cost of electricity and subsidies;

WHEREAS, the DOE conducted Public Consultations¹ and Focused Group Discussions² with various stake holders.

NOW, THEREFORE, FOR AND IN CONSIDERATION OF THE FOREGOING PREMISES, the DOE hereby designates the TRANSCO as the Small Grid SO in specific off-grid areas in accordance with the following guidelines:

RULE 1. PURPOSE

1.1. The specific purpose of these Guidelines shall be:

- 1.1.1. To ensure stable operation and control and optimal dispatch of power supply in small grids and other off-grid power systems towards attaining adequate, reliable, secure, quality, and efficient electricity supply and services to end-users and reducing the cost of such supply and services;
- 1.1.2. To promote appropriate investments, new capabilities and advanced technologies towards enhancing the performance of the system operation in small grids and other off-grid power systems;
- 1.1.3. To formulate grid interconnection development plans and program for the off-grid areas and prepare the Distribution Utilities (DUs) and Generation Companies (GenCos) for the assumption of the TRANSCO as Small Grid SO and the eventual interconnection of the small grids to the Grid of Luzon, Visayas and Mindanao as defined in the latest Island Interconnection Development Plan (IIDP) of the concerned DUs which will be incorporated to their Distribution Development Plan (DDP); and
- 1.1.4. To harmonize and clarify the operationalization of policies of the DOE and the regulatory guidelines of the Energy Regulatory Commission (ERC) in relation to system operation and other aspects of management of the small grids and off-grid power systems;

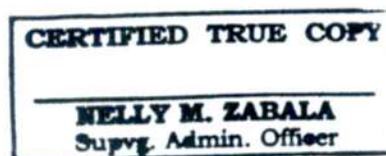
RULE 2. DEFINITION OF TERMS

2.1. "Ancillary Service" refers to services that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the transmission system in accordance with good utility practice and the Grid Code;

¹ Virtual Public Consultations on 28 – 29 May 2021.

² Focus Group Discussion on 11 March 2020 with the National Grid Corporation of the Philippines, NPC and TRANSCO and Follow Through Focus Group Discussion on 28 July 2020 with NPC and TRANSCO.

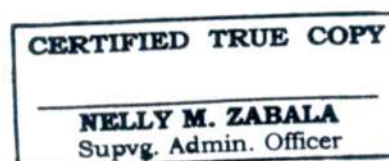
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- 2.2. "Department of Energy" or "DOE" refers to the Government agency created by virtue of Republic Act No. 7638, as amended by the EPIRA, to supervise the restructuring of the electric power industry;
- 2.3. "Distribution Development Plan" or "DDP" refers to the program for expansion, reinforcement and rehabilitation of the distribution system which is prepared by the DU and submitted to the DOE for integration with the Power Development Plan and Philippine Energy Plan. In the case of Electric Cooperatives (ECs), such plans shall be submitted through the National Electrification Administration (NEA) for review and consolidation. For the purpose of this Department Circular, the Island Interconnection Development Plan shall form part of the DDP;
- 2.4. "Dispatch Schedule" refers to the target loading levels in MW or kW for each scheduled Generating Unit or scheduled loads and for each reserve facility through the use of a dispatch optimization model;
- 2.5. "Dispatch Protocol" refers to the specific criteria, method, procedures and requirements in preparing a Dispatch Schedule to achieve least-cost generation;
- 2.6. Distribution Utility or "DU" refers to an EC, private corporation, government-owned utility or existing local government unit which has an exclusive franchise to operate a Distribution System;
- 2.7. "Energy Regulatory Commission" or "ERC" refers to the quasi-judicial regulatory agency created pursuant to the EPIRA;
- 2.8. "Generating Plant" refers to the facility, consisting of one or more Generating Units, where electric energy is produced from some other form of energy by means of a suitable apparatus;
- 2.9. "Generation Company" refers to any person or entity authorized by the ERC to operate facilities used in the generation of electricity;
- 2.10. "Grid" refers to the high voltage backbone system of interconnected transmission lines substations and related facilities;
- 2.11. "Grid Owner" refers to the party that owns the backbone High Voltage line (for Category 1, Category 2) or the Medium Voltage line (for other Categories) and is responsible for planning, operations and maintaining adequate capacity;
- 2.12. "High Voltage" refers to a voltage level exceeding 34.5 kV up to 230 kV;
- 2.13. "Independent System Operator" or "ISO" refers to any private entity duly accredited by the ERC to perform the functions of the System Operator (SO) in off-grid areas;

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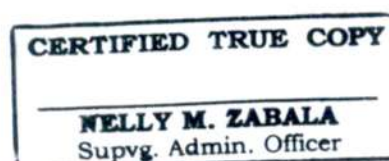
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- 2.14. "Island Interconnection Development Plan" or "IIDP" refers to the development plan of a DU detailing the strategies, plans and programs for the preparation and implementation of the interconnection of the Small Grid into the Grid and will be form part of their Distribution Development Plan;
- 2.15. "Low Voltage" refers to a voltage level not exceeding 1,000 volts or 1kV;
- 2.16. "Medium Voltage" refers to a voltage level exceeding one (1) kV up to 34.5 kV;
- 2.17. "Missionary Electrification Development Plan" or "MEDP" refers to the development plan of the DOE, updated annually, detailing the policies, strategies, plans and programs for missionary electrification, including the capital investment and operation in off-grid areas;
- 2.18. "National Electrification Administration" or "NEA" refers to the Government agency created under Presidential Decree No. 269, as amended, to supervise the electric cooperatives;
- 2.19. "National Power Corporation" or "NPC" refers to the government corporation created under Republic Act. No. 6395 and provided an additional mandate by EPIRA to perform missionary electrification through the Small Power Utilities Group (SPUG) and shall be responsible for providing power generation and its associated power delivery systems in areas that are not connected to the Grid;
- 2.20. "National Transmission Corporation" or "TRANSCO" refers to the corporation organized pursuant to Republic Act No. 9136 to acquire all transmission assets of the NPC and provided an additional mandate by this Department Circular to serve as the Small Grid System Operator for small grids and other off-grid areas;
- 2.21. "Off-Grid Area" refers to an area or system that is not connected to the Grid;
- 2.22. "Philippine Small Grid Guidelines" or "PSGG" refers to Resolution No. 15, Series of 2013 issued by the ERC;
- 2.23. "Philippine Small Grid Dispatch Protocol" or "PSGDP" refers to Resolution No. 15, Series of 2014 issued by the ERC;
- 2.24. "Power Supply Agreement" or "PSA" refers to an agreement between a power producer and a DU for the supply of power;
- 2.25. "Small Grid" refers to the backbone system of interconnected High Voltage (HV) lines or Medium Voltage (MV) lines, substations and other related facilities not connected to the Grid of Luzon, Visayas and Mindanao;

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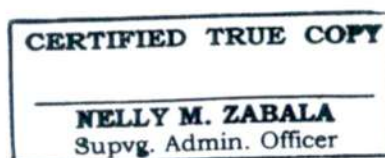
- 2.26. "Small Grid Control Center" or "SGCC" refers to the control center that operates and controls the Small Grid power system;
- 2.27. "Small Grid System Operator" or "Small Grid SO" refers to the party responsible for generation dispatch and real-time control of the power system in off-grid areas through the management of operating reserves, reactive power support, black start and other operating requirements to ensure safety, power quality, stability, reliability and security of the Small Grid;
- 2.28. "Small Grid User" refers to a person or entity that uses the Small Grid and related facilities;
- 2.29. "Universal Charge for Missionary Electrification" or "UC-ME" refers to the portion of the Universal Charge which is designated for Missionary Electrification.

RULE 3. TRANSCO AS SMALL GRID SYSTEM OPERATOR IN SPECIFIC OFF-GRID AREAS

- 3.1. Rule 7.1.2 of Department Circular No. 2019-01-0001 is hereby amended such that the TRANSCO shall serve as the Small Grid SO in any of the following Small Grid classifications:
- 7.1.2.1. More than one (1) DU utilizing a High Voltage line to transmit power generated by more than one (1) GenCo;
 - 7.1.2.2. Only one (1) DU utilizing a High Voltage line to transmit power generated by more than one (1) GenCo; and
 - 7.1.2.3. Only one (1) DU utilizing its Medium Voltage line to transmit power generated by more than one (1) GenCo.
- 3.2. The DU shall remain as the SO in Small Grid with only one (1) DU utilizing its Medium Voltage line to transmit power generated by only one (1) GenCo. Any DU may seek a third party SO (NPC-SPUG or any ISO as may be accredited by ERC) to perform the function on its behalf following the prescribed procedure as stated in Rule 7 of Department Circular No. DC2019-01-0001.
- 3.3. The NPC-SPUG, Qualified Third Party or any entity, as may be determined by ERC, operating in off-grid areas shall function as Small Grid SO in areas not covered by the above classifications.
- 3.4. Pursuant to 7.1.6 of Department Circular No. DC2019-01-0001, upon request of the DU, the TRANSCO may conduct capacity building system operation activities.

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- 3.5. The TRANSCO shall submit an annual report on its system operation to the concerned DU, DOE, ERC, NEA and NPC. The report shall contain the result of the performance assessment and recommendation of its system operation.

RULE 4. SYSTEM OPERATOR IMPLEMENTATION PLAN

- 4.1. Within sixty (60) days upon the effectivity of this Department Circular, the TRANSCO shall submit to the DOE a Small Grid SO Implementation Plan, including the items enumerated in this section, together with a Capital and Operating Expenditure Program that defines the timeline of the off-grid areas to be covered by its Small Grid SO services in the next five (5) years in accordance with PSGG and PSGDP while taking into consideration the existing PSAs of the concerned DUs with their respective existing power suppliers towards the safe, reliable, secured, efficient, and least-cost electricity services:
- 4.1.1. Development of an area-specific dispatch protocol;
 - 4.1.2. Control strategies and procedures;
 - 4.1.3. Supporting tools for the efficient control and dispatch of power in the Small Grid;
 - 4.1.4. Basis or criteria for entry in the area as SO in accordance with Rule 3 of this Department Circular; and
 - 4.1.5. List and plan for conveyance or acquisition of the existing facilities that the TRANSCO will operate from the concerned DU or to be shared with the DU, NPC-SPUG or ISO, if any.
- 4.2. The Small Grid SO Implementation Plan together with the Capital and Operating Expenditure Program shall be updated annually as approved and endorsed by the TRANSCO Board of Directors for integration to the MEDP not later than January of the current year.

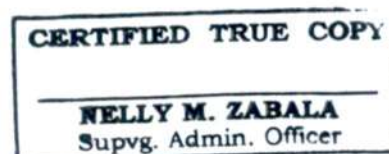
RULE 5. ADDITIONAL RESPONSIBILITIES OF TRANSCO AS SMALL GRID SYSTEM OPERATOR IN SPECIFIC OFF-GRID AREAS

In connection to its function as SO and upon request of the DU, the TRANSCO may also engage in the following collaboration activities:

- 5.1. Assist the concerned DU and other stakeholders in the conduct of analytical studies in the formulation of their optimal power development plan which will be an integral part of the DDP, including the Power Supply Procurement Plan (PSPP) and in the preparation of their individual Universal Charge for Missionary Electrification (UC-ME) subsidy rationalization and graduation plan which shall include:

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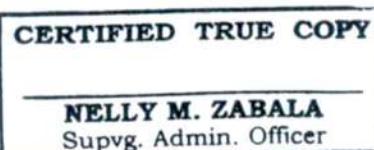
- 5.1.1. Optimal generation expansion planning, which specifies the least-cost capacity addition, technologies, location and timing that meets the reliability performance standards prescribed by the PSGG and PSGDP;
 - 5.1.2. Optimal development of the backbone network considering the optimal generation expansion plan, DDP of the DUs, and eventual interconnection of the Small Grid to the Grid of Luzon, Visayas and Mindanao; and
 - 5.1.3. IIDP, in coordination with its Buyer or Concessionaire or any successor-in-interest.
- 5.2. Provide useful information in verifying the UC-ME subsidy claims for the eligible electricity generated and delivered by the power plants of New Power Providers (NPPs), concerned DU and other suppliers as may be needed by the NPC as the UC-ME petitioner.
- 5.3. For all Small Grid interconnection projects:
- 5.3.1. Formulate a readiness program and prepare the Small Grid and its stakeholders for the eventual interconnection of the off-grid area to the Grid through technical advisory and capacity building of the concerned DU in upgrading its protection system, communication, and automation of distribution monitoring, as well as the eventual adoption of new procedures that are compliant or consistent with the rules, practices and protocols in the Grid;
 - 5.3.2. Provide updates to the DOE, ERC, DU and other stakeholders on the schedules of the planning activities and actual implementation of the interconnection projects to the Grid;
 - 5.3.3. Advise the DU and the concerned NPPs in the review and amendment of existing PSAs that will be affected by the interconnection for purposes of reducing the cost of potential stranded contracts; and
 - 5.3.4. Determine the possibility of utilizing for ancillary service the efficient and least-cost power plants of NPPs as well as other available energy resources, that will be affected by the interconnection of the Small Grid to the Grid.

RULE 6. OPERATIONALIZATION

- 6.1. In accordance with its Small Grid SO Implementation Plan as defined in Rule 4 of this Department Circular, the TRANSCO shall initiate and coordinate with the concerned off-grid DU for the expedient assumption of the SO functions.

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- 6.2. The concerned DU, NPC-SPUG or ISO shall provide the necessary assistance to TRANSCO to ensure the smooth transfer of the SO function.
- 6.3. The system operation in the Small Grid shall be fully guided by the responsibilities, technical standards, procedures and protocols as defined under the PSGG and the PSGDP.
- 6.4. For Small Grid with High Voltage facilities, the TRANSCO shall enter into an agreement with the transmission asset owner and/or the existing SO regarding the operation, maintenance, improvements and/or ownership of transmission and substation facilities in the performance of the Small Grid SO function.
- 6.5. For Small Grid with Medium Voltage facilities, the TRANSCO shall enter into an agreement with the DU for the DU-owned distribution and substation facilities in the performance of the Small Grid SO function.
- 6.6. The TRANSCO shall establish a Small Grid Control Center and develop tools for system operation to effectively carry out its function as Small Grid SO in assigned off-grid areas under this Department Circular.
- 6.7. The TRANSCO shall establish a SO Technical Committee, consisting of the SO manager as head and representatives from the concerned DU, NEA, NPC and other users of the Small Grid as members, to formulate specific rules or standards in the governance of all activities of system operation as stated in the PSGG and PSGDP. The Committee shall adopt its own business rules to undertake its responsibilities.

RULE 7. CAPACITY BUILDING FOR SYSTEM OPERATORS IN SMALL GRID AND OTHER OFF-GRID AREAS

Pursuant to Rule 7.1.6 of Department Circular No. DC2019-01-0001, upon request of the DU, the TRANSCO may conduct capacity building activities such as trainings, workshops, and other advisory services in enhancing the capabilities of a DU to perform its SO functions in the Small Grid.

RULE 8. REGULATORY SUPPORT

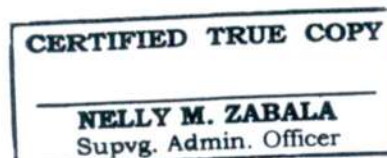
Within one hundred twenty (120) days upon the effectivity of this Department Circular, the ERC shall develop rules and procedures to provide the necessary support for the implementation of this Department Circular.

RULE 9. TRANSITORY PROVISIONS

- 9.1. Within thirty (30) days upon the effectivity of this Department Circular, the default SO, NPC-SPUG or ISO will prepare and submit its phase-out plan to the TRANSCO.

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- 9.2. Upon receipt of the phase-out plan, TRANSCO will prepare and submit to the DOE, copy furnished the NEA, NPC and concerned DUs, its priority list of the small grids to be covered by its SO services
- 9.3. The default SO shall continue to function as the SO in an off-grid area until the assumption of the TRANSCO or any third-party SO, as the case may be.
- 9.4. Upon application with the ERC of the interconnection project, the existing SO shall prepare and submit its phase-out plan and continue to function as the SO in the off-grid area until assumption of the Transmission System Operator of the Grid, subject to submission of a revised phase-out plan to reflect necessary adjustments, amendments, or any modifications.

RULE 10. REPEALING CLAUSE

- 10.1 Any Department Circular or issuance, contrary or inconsistent with the provisions of this Department Circular is hereby repealed, modified or amended accordingly.
- 10.2 Provisions of DC2019-12-0018 not affected by this Circular shall remain in effect.

RULE 11. SEPARABILITY CLAUSE

If for any reason, any provision of this Department Circular is declared unconstitutional or invalid, the other parts of provisions hereof which are not affected thereby shall continue to be in full force and effect.

RULE 12. EFFECTIVITY

This Department Circular shall take effect fifteen (15) days after its publication in at least two (2) newspapers of general circulation. Copies of this Department Circular shall be filed with the University of the Philippines Law Center — Office of the National Administrative Register (UPLC-ONAR).

This Department Circular shall remain in effect until otherwise revoked.

Issued on NOV 09 2021 at Energy Center, Bonifacio Global City, Taguig City.


ALFONSO G. CUSI
 Secretary

