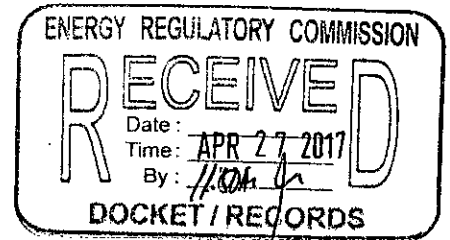


ORIGINAL

ERC COPY

Republic of the Philippines
ENERGY REGULATORY COMMISSION
San Miguel Avenue, Pasig City

IN THE MATTER OF THE
APPLICATION FOR THE
APPROVAL OF THE
IMPLEMENTATION OF THE
VISAYAS-MINDANAO
INTERCONNECTION PROJECT,
WITH PRAYER FOR
PROVISIONAL AUTHORITY

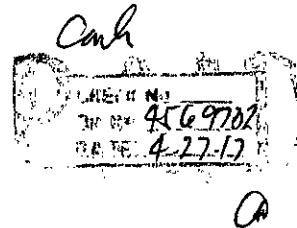


ERC CASE NO 2017-34 RC

NATIONAL GRID
CORPORATION OF THE
PHILIPPINES,

Applicant.

x-----x



APPLICATION

Applicant **NATIONAL GRID CORPORATION OF THE PHILIPPINES (NGCP)**, by counsel, respectfully states that:

THE APPLICANT

1. NGCP is a corporation created and existing under the laws of the Philippines, with principal office address at NGCP Building, Quezon Avenue corner BIR Road, Diliman, Quezon City. It is the concessionaire which assumed the power transmission functions of the National Transmission Corporation (TRANSCO) pursuant to Republic Act (R.A.) No. 9136, otherwise known as the Electric Power Industry Reform Act of 2001 (EPIRA). NGCP was also granted by Congress the franchise under R.A. No. 9511 to operate, manage, and maintain the nationwide transmission system of the Republic of the Philippines.

STATEMENT OF THE CASE

2. One of NGCP's functions and responsibilities enumerated in Section 9 of the EPIRA is to *improve and expand its transmission facilities, consistent with the Philippine Grid Code and the Transmission Development Plan (TDP), to adequately serve generation companies, distribution utilities and suppliers requiring transmission service and/or ancillary services through the transmission system: Provided, That NGCP shall submit any plan for expansion or improvement of its facilities for approval by the Energy Regulatory Commission.* Also, pursuant to its franchise, NGCP is authorized to construct, install, finance, manage, improve, expand, operate, maintain, rehabilitate, repair and refurbish the present nationwide transmission system.

3. Pursuant thereto, on 13 November 2015, NGCP filed an Application before the Honorable Commission, docketed as ERC Case No. 2015-201RC, seeking authority to conduct a desktop study and hydrographic survey for the Visayas-Mindanao Interconnection Project via the western route. With the provisional authority issued by the Honorable Commission through its Order dated 21 January 2016, NGCP conducted the survey that confirmed a feasible interconnection route.

4. To finally complete the interconnection of Visayas and Mindanao Grids that: *(i) will allow excess generation in one grid to be exported to another; (ii) promote competition in the electricity market nationwide through the electricity market; and (iii) aid the Visayas Grid during peak intervals when the solar plants are not delivering power,* NGCP seeks the immediate approval of this application to implement the Visayas-Mindanao Interconnection Project (VMIP).

STATEMENT OF FACTS

5. The interconnection of the Visayas and Mindanao Grids was first conceptualized in the early 1980s through the study conducted by Japan International Cooperation Agency (JICA). Its primary purpose is to ensure reliable power supply among the Luzon, Visayas and Mindanao grids through exporting

excess power to areas with deficiency; and maximize the potential generating production capacity of the three grids.

6. In March 2011, the Department of Energy directed NGCP to lead the conduct of the assessment of the interconnection of the Visayas and Mindanao Grids. In 2015, NGCP considered an interconnection through the western route via *Zamboanga del Norte to Cebu Island or to Negros Island*.

7. The result of the survey shows a favorable route along the *Zamboanga del Norte to Cebu Island* route because it has low to moderate gradients and mild seawater current. A comprehensive detail of the Visayas-Mindanao Interconnection Project is discussed in the Detailed Project Discussion attached as **Annex “A.”**

8. In addition to the survey, NGCP also examined the supply outlook to determine the capacity that can be exported by the Luzon and Mindanao grids to ease the power deficiency in Visayas. The results are as follows:

a. the Luzon Grid will have generation surplus with the committed power plants until 2023 and with the indicative power plants beyond 2030;

b. the Visayas Grid will have a generation deficiency during times where Variable Renewable Energy (VRE) and diesel plants are not generating;

c. the Mindanao Grid will have excess generation even during dry season until 2030 with the indicative plants.

9. The deficiency of capacity in Visayas may be supplied by importing power from Luzon and Mindanao. The following are the scenarios simulated until 2025, consistent with the planning horizon of the Transmission Development Plan:

	2020	2021	2022	2023	2024	2025
Visayas Deficiency	(206)	(278)	(352)	(430)	(510)	(615)
Luzon Maximum Export	100	105	115	140	160	180
Supply Shortfall / Potential Import from Mindanao	<u>106</u>	<u>173</u>	<u>237</u>	<u>290</u>	<u>350</u>	<u>435</u>

Note: All values in the above table are in MW unit.

10. Based on the simulation results, a maximum of **435 MW** may be drawn from Mindanao to supply the deficiency in Visayas. Hence, a 450 MW Visayas - Mindanao interconnection capacity is required to provide sufficient supply to Visayas within the planning horizon.

11. With this favorable outcome of the desktop study and hydrographic survey, NGCP evaluated several channels for the interconnection wherein the **Cebu (Magdugo Substation) and Zamboanga del Sur (Aurora Substation) with converter stations located in Sibonga, Cebu (Visayas side) and Aurora, Zamboanga del Sur (Mindanao side) option** has emerged as the most technically feasible option. Also, the VMIP includes a provision for expansion of up to 900 MW to ensure that its ultimate capacity can be accommodated and integrated with the long term vision for the unification of the Philippine Grid.

THE PROJECT

12. The Project involves the interconnection of Visayas and Mindanao grids via Cebu and Zamboanga. The converter stations in Visayas and Mindanao will be located in Sibonga, Cebu and Aurora, Zamboanga del Sur, respectively. The High Voltage Direct Current (HVDC) system will be linked to the existing Alternating Current (AC) system via Magdugo Substation (SS) in Visayas and direct connection to the New Aurora SS in Mindanao.

13. The Project will have the following major project components:

- a. converter stations (CS), including associated electrode stations and electrode lines in Sibonga, Cebu and Aurora, Zamboanga del Sur;
- b. cable terminal stations (CTS) in Santander, Cebu and Dapitan, Zamboanga Del Norte;
- c. expansions in Magdugo SS and New Aurora SS;
- d. 92-kilometer ± 350 kV HVDC submarine cable between Santander CTS and Dapitan CTS;

e. 50-kilometer ± 350 kV HVDC Over Head Transmission Line (OHTL) from Santander CTS to Sibonga CS/SS;

f. 135-kilometer ± 350 kV HVDC OHTL from Dapitan CTS to New Aurora CS/SS; and

g. new substation in Umapad, Cebu including associated transmission line extensions from Cebu- Lapu Lapu transmission lines;

14. The estimated cost of the project is Fifty One Thousand Six Hundred Ninety six and 70/100 Million Pesos (PhP51,696.70Mn) and is estimated to be completed in forty six (46) months.

Allegations in Support of the Prayer for Provisional Approval

15. The Project is aimed to support the government's undertaking to establish the unified electricity market in the country.

16. Without the link between the Visayas and Mindanao Grids, the potential energy resources optimization will not be realized and there will be no flexibility in sharing of reserve capacity between major grids. With the establishment of the unified electricity market, the implementation of Project would create a more liberalized, robust, and competitive market for the country.

17. Both the installed capacity mix and energy mix of each major grid as shown in the attachments of the Detailed Project Description, respectively, shows that: Luzon is a coal and natural gas dependent grid; Visayas is a coal and renewable energy dependent grid; while Mindanao is a coal and hydro dependent grid. The differences in the installed capacity mix and in the gross generation mix would provide optimization opportunities in the electricity market in supplying the loads.

18. A copy of the Judicial Affidavit of Engr. Fernando S. Javier, Head of the Mindanao System Planning Division, Transmission Planning Department of NGCP, is hereto attached as Annex "B."

PRAYER

WHEREFORE, premises considered, NGCP most respectfully prays that this Honorable Commission:

1. Immediately **ISSUE** an Order provisionally authorizing the implementation of the Visayas-Mindanao Interconnection Project; and

2. **APPROVE**, after notice and hearing, the Application for the implementation of the Visayas-Mindanao Interconnection Project.

NGCP prays for other equitable relief.

Quezon City for Pasig City, 24 April 2017.

OFFICE OF THE GENERAL COUNSEL
NATIONAL GRID CORPORATION OF THE PHILIPPINES
NGCP Building, Quezon Avenue corner
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Tel. No. 981-2100 (Trunk Line)

By:



LUIS MANUEL U. BUGAYONG


PTR No. 3804021 / 01.04.17 / Quezon City

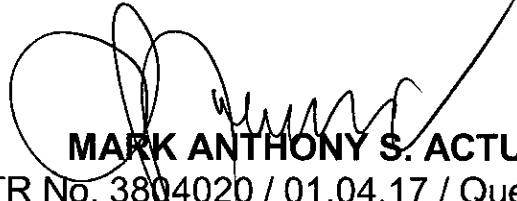
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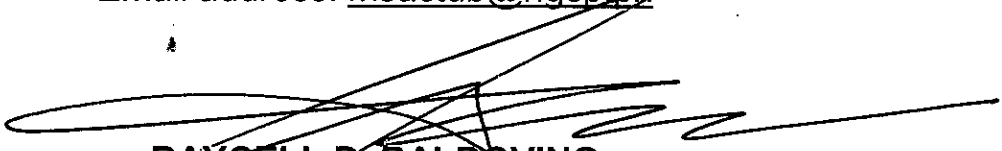
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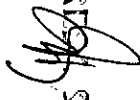

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**POWER SECTOR ASSETS AND LIABILITIES
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THERESE S. PALOMINA
OFFICE OF THE PRESIDENT

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OFFICE OF THE PRESIDENT

OUP-LEGAL,TRANSCO

APR 26, 2017 01:30PM

POWER SECTOR ASSETS AND LIABILITIES MANAGEMENT CORPORATION
OFFICE OF THE PRESIDENT
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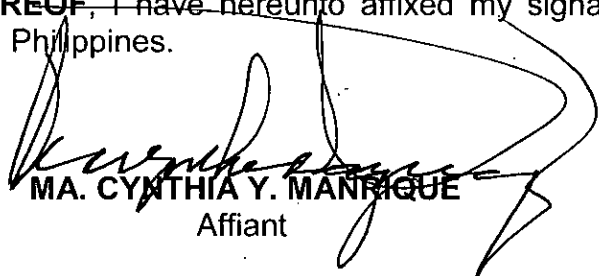
REPUBLIC OF THE PHILIPPINES)
QUEZON CITY) S.S.

**VERIFICATION AND
CERTIFICATION OF NON-FORUM SHOPPING**

I, **MA. CYNTHIA Y. MANRIQUE**, Filipino, of legal age, single, after having been duly sworn to in accordance with law, hereby depose and say that:

1. I am presently the Head of the Revenue Regulatory Affairs Group of the National Grid Corporation of the Philippines (NGCP);
2. I am duly authorized to sign the Verification and Certification of Non-Forum Shopping in this case for and in behalf of NGCP as evidenced by the Secretary's Certificate hereto attached as **Annex "A-Verification;"**
3. I have caused the preparation of the foregoing Petition and I have read it. I attest that the allegations therein are true and correct of my personal knowledge and based on authentic records;
4. I further attest that NGCP has not filed any similar case or action before any court, tribunal or quasi-judicial agency involving the properties subject of this case and, to the best of my knowledge, no such other case or action is pending therein; and
5. If I should thereafter learn that a similar case, action or claim other than those mentioned above, is filed or pending before any court, tribunal or quasi-judicial agency, I shall report that fact to this Honorable Office within five (5) days therefrom;

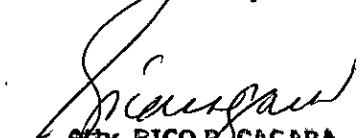
IN WITNESS WHEREOF, I have hereunto affixed my signature this 24 April 2017, in Quezon City, Philippines.



MA. CYNTHIA Y. MANRIQUE
Affiant

SUBSCRIBED AND SWORN to before me this 24 April 2017, affiant exhibited to me her Driver's License No. X01-91-014806 issued at Quezon City.

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Series of 2017.



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