

Republic of the Philippines
ENERGY REGULATORY COMMISSION
Jade Drive, Pasig City

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RECEIVED BY:

Cheryl O. Callindog

IN THE MATTER OF THE
APPLICATION FOR
APPROVAL OF THE
EMERGENCY REPLACEMENT
OF ONE (1) 83-MVA POWER
TRANSFORMER AT NEW
MARILAO SUBSTATION,

ERC Case No. 2023- 036 RC

MANILA ELECTRIC COMPANY
(MERALCO),

May 02, 2023

Applicant.

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APPLICATION

Applicant **MANILA ELECTRIC COMPANY (MERALCO)**,
through the undersigned counsel, most respectfully states that:

1. Applicant is a private corporation duly organized and existing under the laws of the Republic of the Philippines, with principal office located at Lopez Building, Ortigas Avenue, Barangay Ugong, Pasig City. It may be served with notices and other processes of this Honorable Commission through its undersigned counsel at the address indicated herein.

2. Applicant has a legislative franchise to construct, operate and maintain an electric power distribution system for the conveyance of electric power to the end-users in the cities and municipalities of Metro Manila, Bulacan, Cavite and Rizal, and certain cities/municipalities/barangays in Batangas, Laguna, Quezon and Pampanga, pursuant to Republic Act No. 9209.

3. Applicant seeks the Honorable Commission's approval of its emergency installation of one (1) 83 MVA, 110 kV–34.5 kV, three (3)-phase power transformer with On-Load Tap Changer (OLTC) with an available spare at its New Marilao Substation to replace the defective Power Transformer Bank No. 3 and repurchase of one (1) 83 MVA spare power transformer.

4. The Application is filed pursuant to Section 10 of Republic Act No. 11659, otherwise known as "An Act Amending Commonwealth

Act No. 146 Otherwise Known as the Public Service Act, as Amended", which provides:

"Section 10. Section 20 of Commonwealth Act No. 146, as amended, is hereby further amended to read as follows:

x x x

(b) To establish, construct, maintain, or otherwise operate new units or extend existing facilities or make any other addition to or general extension of the service: Provided, That only assets that are useful and necessary for the provision of the public service shall form part of the rate base as determined and approved by the Administrative Agency: Provided, further, That construction of such asset and implementation of such project may be allowed for emergency and other extraordinary cases: Provided, finally, That the public service provider files for approval of such extension or construction of facilities within sixty (60) days from implementation of the project, and without prejudice to the final determination by the Administrative Agency if the said asset is useful and necessary for inclusion in the rate base."

5. Moreover, the instant Application is consistent with the Honorable Commission's Resolution No. 26, Series of 2009, entitled: *"Resolution Amending the Rules for Approval of Regulated Entities' Capital Expenditure Projects"*. Emergency Capital Expenditure projects are those that require immediate implementation during an event that is not a force majeure or fortuitous event in order to maintain safe, reliable, secure and efficient operation of the power system.

6. However, for purposes of recovering the capital cost of the said emergency project through Applicant's rates, the same will go through the process of evaluation by the Honorable Commission during the regulatory reset process, unless there is basis for a rate-reopening in the current regulatory period, in accordance with the Rules for the Setting of Distribution Wheeling Rates (RDWR) for Distribution Utilities (DUs).

BACKGROUND

7. The New Marilao Substation is located at M. Villarica Road in Marilao, Bulacan, where it serves the power requirements of

customers in the Municipality of Marilao. The New Marilao Substation has one (1) 110kV-34.5kV power transformer bank.

8. On 31 January 2023, the New Marilao Power Transformer Bank No. 3 was tripped out due to an internal fault which was manifested by the activation of the transformer differential relay, Buchholz relay, and oil flow relay.

9. The New Marilao Power Transformer Bank No.3, a Siemens 83MVA 110-34.5kV, was first energized last 15 December 2010. Upon tripping, MERALCO was constrained to temporarily transfer all its loads to the adjacent banks, namely: Saog Bank No. 1, San Jose Bank No. 3, Sta. Maria Bank Nos. 2 and 3, North Caloocan Bank No. 1 and Meycauayan Bank No. 2.

10. On 31 January 2023, the transformer was subjected to a series of tests to determine its condition after the incident. The test results on the power transformer showed that it was no longer safe to be re-energized and was declared for replacement due to the following significant findings: a) Accumulation of high level combustible gases as showed in Buchholz relay (i.e. Hydrogen, Acetylene, Ethylene, Ethane, Carbon Monoxide, and Methane); b) Accumulation of the same gases in the extracted oil from the transformer main tank, which were indicative of a high energy fault sustained by the transformer; c) The ratio test results were found to be no longer within the expected tolerance based on IEEE Standards which is also being used by MERALCO as reference on Electrical tests; d) The winding resistance test results were relatively lower than the initial commissioning values; and e) High excitation current was observed which tripped the Electrical Test equipment.

11. As a result of accommodating the loads of the defective transformer, the Meycauayan Bank No. 2 and Sta. Maria Bank No. 3 were both operating at critical levels of 85% and 80%, respectively. Similarly, because of the accommodation of the loads of the New Marilao Power Transformer Bank No. 3, the following banks registered the following actual loadings: Sta. Maria Bank No. 2 was at 63% loading, Saog Bank No. 1 at 65%, San Jose Bank No. 3 at 64%, and North Caloocan Bank No. 1 at 59%.

12. The critical loading of the Meycauayan Bank No. 2 and Sta. Maria Bank No. 3 may result to an outage which will cause prolonged and massive interruption in the said areas thereby affecting the supply of electricity of customers in the Municipality of Marilao, such as, but not limited to, the Philippine Arena, Royale Cold Storage Marilao, Vitarich Corp., Alpha Alleanza Mfg. Inc., Philippine Packaging Corp., and Sterling Business Park as well as other areas in the

Province of Bulacan, such as Bocaue, San Jose Del Monte, Sta. Maria, and Meycauayan.

13. Considering the imminent risks posed by the prolonged critical loading of the adjacent power transformers, namely: the Meycauayan Bank No. 2 and Sta. Maria Bank No. 3, MERALCO was constrained to replace the defective New Marilao Power Transformer Bank No. 3 with an available spare 83 MVA, 110 kV-34.5 kV Power Transformer and the same was energized on 17 February 2023.

14. The projected loadings of the affected power transformers with and without the replacement of the New Marilao Power Transformer Bank No. 3 are as follows:

Parameter Under Consideration	Parameters	
	Without Project	With Project
Loading of New Marilao 83 MVA Bank No. 3	-	63%
Loading of existing Saog 83 MVA Bank No. 1	65%	54%
Loading of existing San Jose 83-MVA Bank No. 3	64%	61%
Loading of existing Sta. Maria 83 MVA Bank No. 2	63%	57%
Loading of existing Sta. Maria 83-MVA Bank No. 3	80%	59%
Loading of existing North Caloocan 83 MVA Bank No. 1	59%	54%
Loading of existing Meycauayan 83-MVA Bank No. 2	85%	68%
Annual System Loss	13,415,080 kWh	11,311,770 kWh

15. It is well to highlight that an outage of the Meycauayan Bank No. 2 and Sta. Maria Bank No. 3 will cause widespread power interruptions to the detriment of customers in the affected areas served by these power transformers. Considering the imminent risks posed by shifting the loads to the adjacent power transformers (Meycauayan Bank No. 2 and Sta. Maria Bank No 3), MERALCO was constrained to undertake an immediate solution.

16. The total cost of the emergency replacement of the power transformer with OLTC at the New Marilao Substation is **Fifty Million Seven Hundred Fourteen Thousand Six Hundred Twelve Pesos and 11/100 (PhP50,714,612.11)**.

17. In further support of the Application, attached hereto are the following documents:

- **Annex "A"** – Emergency CAPEX Project Information Summary with supporting documents: (i) Technical and Economic Analysis, (ii) Cost Estimates; (c) Expenditure Summary; (iii) Cost Benefit Analysis Calculation; and (iv) Gantt Chart;
- **Annex "B"** – Documents showing the results of tests conducted on Power Transformer Bank No. 1; and
- **Annex "C"** – Judicial Affidavit of Engr. Bienvenido H. De Guzman Jr., Manager and Head of Applicant's Substation Services Asset Management Office.

PRAYER

WHEREFORE, it is respectfully prayed to this Honorable Commission that the Applicant's emergency replacement of the power transformer at the New Marilao Substation be **APPROVED**.

Other relief just and equitable under the premises are likewise prayed for.

Pasig City, 30 March 2023.

By:



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Republic of the Philippines)
Pasig City) S.S.

VERIFICATION and CERTIFICATION OF NON-FORUM SHOPPING

I, **JOSE RONALD V. VALLES**, of legal age, married, and with office address at Manila Electric Company (MERALCO), 12th Floor, Lopez Building, MERALCO Center, Ortigas Avenue, Barangay Ugong, Pasig City, hereby state under oath that:

1. I am the First Vice-President and Head of the Regulatory Management Office of MERALCO, and is authorized to represent it in this Application as per the attached Secretary's Certificate (**Annex "D"**);

2. I have caused the preparation of the instant Application and read the contents thereof, and I attest that the allegations herein contained are true and correct based on my personal knowledge and on authentic records made available to me;

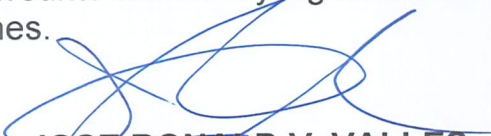
3. The Application is not filed to harass, cause unnecessary delay, or needlessly increase the cost of litigation;

4. The factual allegations therein have evidentiary support or, if specifically so identified, will likewise have evidentiary support after a reasonable opportunity for discovery;

5. I have not commenced any other action or proceeding involving the same issues in the Supreme Court, the Court of Appeals or any court, tribunal, or quasi-judicial agency and, to the best of my knowledge, no such other action or claim is pending therein; and

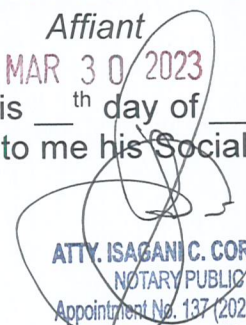
6. Should I hereinafter learn that the same or a similar action or claim has been filed or is pending in the Supreme Court, the Court of Appeals or any court, tribunal, or quasi-judicial agency, I shall report said fact within five (5) days from discovery thereof to this Honorable Commission.

IN WITNESS WHEREOF, I have hereunto affixed my signature this ____ day of ____ 2023 at Pasig City, Philippines.


JOSE RONALD V. VALLES
Affiant

SUBSCRIBED and SWORN to before me this ____th day of ____ 2023, at Pasig City, Philippines, affiant having exhibited to me his Social Security System ID bearing the number 33-10900088.

Doc. No. 423;
Page No. 24;
Book No. 81;
Series of 2023.

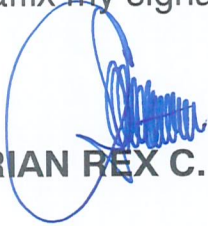
MAR 30 2023

ATTY. ISAGANI C. CORUÑA II
NOTARY PUBLIC
Appointment No. 137 (2023-2024)
Pasig, San Juan and Pateros
Roll No. 63123 IBP No. 260484; 01/05/2023; RSM
PTR No. 0112714; 01/04/2023; Pasig City
MCLE Compliance No. VII-0003269; Valid until 14 April 2025
7th Floor, Lopez Bldg., Ortigas Ave., Pasig City

VERIFIED DECLARATION

I, **ADRIAN REX C. DIMALANTA**, of legal age, Filipino, with office address at the 7th floor, Lopez Building, Ortigas Avenue, Pasig City, after having duly sworn in accordance with law, hereby state under oath that:

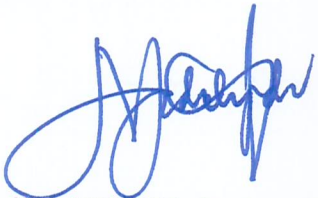
I hereby declare that the Application, together with all its Annexes, entitled: **"IN THE MATTER OF THE APPLICATION FOR APPROVAL OF THE EMERGENCY REPLACEMENT OF ONE (1) 83-MVA POWER TRANSFORMER AT NEW MARILAO SUBSTATION"** electronically filed in accordance with ERC Resolution No. 9, Series of 2020, are complete and true copies of the original documents filed with the Honorable Commission.

IN WITNESS WHEREOF, I hereby affix my signature this day of ____ day of ____ 2023.
MAY 02 2023


ADRIAN REX C. DIMALANTA

MAY 02 2023
SUBSCRIBED AND SWORN TO before me this ____ day of ____ 2023, in Pasig City, with his driver's license No. N03-03-365433.

Doc No. 130 ;
Page No. 24 ;
Book No. 07 ;
Series of 2023.


ATTY. MADELYN C. DELOS SANTOS
NOTARY PUBLIC
Appointment No. 138 (2023-2024)
Pasig, San Juan and Pateros
Roll No. 64977 IBP No. 260482; 01/05/2023; RSM Chapter
PTR No. 0112716; 01/04/2023; Pasig City
MCLE Compliance No. VII-0001999; 05 December 2019
7th Floor, Lopez Bldg., Ortigas Ave., Pasig City