

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

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

RECEIVED BY:

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ERC Case No. 2021-100 RC

**MANILA ELECTRIC COMPANY
(MERALCO),**

Applicant.

X-----X

PAID

CASH ₱ 710.00

OR # 0019534 dated 11/24/2021
[Signature]

APPLICATION

Applicant **MANILA ELECTRIC COMPANY (MERALCO)**,
through the undersigned counsel, most respectfully avers 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, 115 kV–34.5 kV, three (3)-phase power transformer with On-Load Tap Changer (OLTC) to replace Applicant's Urdaneta Substation's defective Power Transformer Bank No. 3.

4. The Application is filed pursuant to 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.

5. 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, 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

6. The Urdaneta Substation is located at EDSA cor. Recoletos Circle St., Brgy. Urdaneta Village, Makati City, Metro Manila. The said substation serves the power requirements of customers in Makati City and portions of Taguig City. The Urdaneta Substation has three (3) 115kV-34.5kV power transformer banks.

7. On 09 June 2021 at 1903H, the Urdaneta Power Transformer Bank No. 3 was tripped out by transformer differential relay with the actuation of Buchholz and pressure relief devices due to internal fault. Based on the retrieved relay data, it showed that the fault occurred in the transformer Phase A and B primary winding with a fault magnitude of 1.58kA and 1.40kA, respectively. Furthermore, the operation of Transformer Bank No. 3's Pressure Relief Device, Buchholz Relays of Main Tank, and Turrets validated the occurrence of an internal fault. Power Transformer Bank No. 3, a Siemens 83MVA 115-34.5kV, was first energized last 10 December 2017.

8. On 09 June 2021 and 10 June 2021, the Urdaneta Power Transformer No. 3 was subjected to a series of tests to determine its condition after the incident. The test results of said power transformer showed that it was no longer safe to be re-energized and was declared for replacement due to the following significant findings: Gas accumulated at the Buchholz relay showed high level of combustible gases including Hydrogen, Acetylene, Ethylene, and Methane. The same gases were also evident in the extracted oil from the transformer main tank and transformer turret which were indicative of a high energy fault sustained by the transformer.

9. Furthermore, Transformer electrical tests showed that the ratio for all taps on all phases was no longer within the expected tolerance based on MERALCO standards. Winding resistance for all

taps on all phases obtained was also relatively low compared to the initial commissioning values. High excitation current was also observed on all phases causing the Insulation Power Factor test equipment to trip at relatively low voltage of less than 1 kV which indicates the possibility of turn-to-turn short.

10. Given these adverse test results, Applicant was constrained not to re-energize the defective Urdaneta Power Transformer Bank No. 3, and to temporarily transfer all its loads to the adjacent Urdaneta Bank No. 2 only since it was not technically feasible to transfer any load of Power Transformer Bank No. 3 to Power Transformer Bank No. 1 due to the limitation of configuration set-up.

11. As a result of accommodating the loads of the defective transformer, Urdaneta Power Transformer Bank No. 2 operated at 64% loading level. It is well to note that this loading level happened during the Covid-19 pandemic condition wherein the power demand is lower than usual. Under normal conditions where the demand is at its peak, Urdaneta Power Transformer Bank No. 2 would have operated critically at 89% if the loads of the Urdaneta Bank No. 3 will be transferred to it.

Pre-COVID (2019) Bank Loading		COVID (2021) Bank Loading	
Bank 2	Bank 3	Bank 2	Bank 3
40.86%	47.76%	26.00%	37.94%
89%		64%	

12. The critical loading of Power Transformer Bank No. 2 may result to an outage which will cause prolonged and massive interruption in the affected areas thereby affecting the supply of electricity of customers in Makati City, such as, but not limited to: Ayala Land Inc., Citi Tower Condominium Corp., Citi Center Condominium Corp., Philippine Long Distance Telephone Co., Tower One and Exchange Plaza Condominium Corp., The World Centre Condominium, Makati Shangrila Hotel, Department of Trade and Industry and Asian Institute of Management; and portions of Taguig City, such as, but not limited to, Enderun Colleges and Bonifacio Water Corporation.

13. Considering the imminent risks posed by shifting the loads to the adjacent power transformer Bank No. 2, MERALCO was constrained to replace the defective Urdaneta Power Transformer No. 3 with an available 83 MVA, 115 kV-34.5 kV Power Transformer and was energized on 25 September 2021.

14. Shown below are the projected loadings of the affected power transformers with and without the replacement of Urdaneta Power Transformer Bank No. 3.

Table 1: Without Project

Parameter Under Consideration	
Loading of Urdaneta 83-MVA Bank No. 2	64%

Table 2: With Project

Parameter Under Consideration	
Loading of Urdaneta 83-MVA Bank No. 3	38%
Loading of Urdaneta 83-MVA Bank No. 2	26%

15. In the event of another outage of the adjacent power transformer, coupled with the non-replacement of the Urdaneta Bank No. 3, there will be massive power interruptions to the detriment of customers in the affected. Thus, it was crucial that the new power transformer be immediately installed at the Urdaneta Substation.

16. The total cost of the emergency replacement of the power transformer with OLTC at the Urdaneta Substation is **Fifty-Six Million Seven Hundred Ninety-Two Thousand Six Hundred Ninety-Six Pesos and Fifty-Nine Centavos (PhP56,792,696.59)**.

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. 3; 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 Urdaneta Substation be **APPROVED**.

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

Pasig City, 15 November 2021.

By:



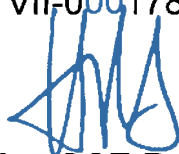
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IBP No. 145337; 01/08/2021; RSM

MCLE Compliance No. VII-0001788; 02 December 2019



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MCLE Compliance No. VII-0001116; 17 October 2019



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MCLE Compliance No. VII-0001098; 17 October 2019



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MCLE Compliance No. VII-0003269; Valid until 14 April 2025



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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 Manila Electric Company, 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;

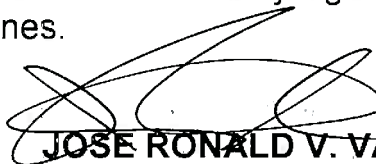
3. The Application is not filed to harass, cause unnecessary delay, or needlessly increase the cost of litigation;

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 ____ 2021 at Pasig City, Philippines.


JOSE RONALD V. VALLES
Affiant

SUBSCRIBED and SWORN to before me this ____th day of ____ 2021, at Pasig City, Philippines, affiant having exhibited to me his Social Security System ID bearing the number 33-10900088.

Doc. No. 479
Page No. 92
Book No. II
Series of 2021.


ATTY. MA. ELISHA S. ELORRIAGA
NOTARY PUBLIC
Appointment No. 121 (2020-2021)
Pasig, San Juan and Pateros
Issued on 24 February 2020 at Pasig City
Rol# No. 73497; IBP No. 145330; 1-08-21; Quezon City
PTR No. 7236623; 1-08-21; Pasig City
7th Floor, Lopez Bldg., Ortigas Ave., Pasig City

VERIFIED DECLARATION

I, **MARY GRACE M. DEVARAS**, 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 depose and state:

1. I am one of the Dedicated Liaison Officers of Manila Electric Company (MERALCO) as stated under the Certificate of Registration ER No. 2021-0294-1 issued by the Energy Regulatory Commission (ERC). As such, I am one of the duly authorized representatives to undertake the pre-filing process with respect to the application to be pre-filed by MERALCO for the emergency replacement of one (1) 83-MVA power transformer at Urdaneta Substation.

2. I hereby declare that, in compliance with ERC Resolution No. 9, Series of 2020, the documents submitted by MERALCO electronically as part of the virtual pre-filing process are complete and true copies of the original documents.

DEC 07 2021

IN WITNESS WHEREOF, I hereby affix my signature this day of ____ day of December 2021.


MARY GRACE M. DEVARAS

DEC 07 2021

SUBSCRIBED AND SWORN to before me this ____ day of ____ 2021 at Pasig City, Philippines, affiant exhibiting to me the following competent evidence of her identity: TIN ID with no. 240-883-707-000, bearing her signature and photograph.

Doc. No. 7;
Page No. 3;
Book No. VI;
Series of 2021.


ATTY. MA. ELISHA S. FLORIAGA
NOTARY PUBLIC
Appointment No. 121 (2020-2021)
Pasig, San Juan and Pateros
Issued on 24 February 2020 at Pasig City
Roll No. 73497; IBP No. 145330, 1-08-21, Quezon City
PTR No. 7236623, 1-08-21, Pasig City
7th Floor, Lopez Bldg., Ortigas Ave., Pasig City



ORTIGAS AVENUE, PASIG CITY
0300 PHILIPPINES

ANNEX " D "

REPUBLIC OF THE PHILIPPINES)
PASIG CITY) S.S.

SECRETARY'S CERTIFICATE

I, WILLIAM S. PAMINTUAN, a duly elected, qualified and incumbent Assistant Corporate Secretary of the Manila Electric Company (MERALCO), a corporation duly organized and existing under and by virtue of the laws of the Philippines, do hereby certify that:

At the Organizational meeting of the Board of Directors of the Company duly convened and held on May 25, 2021, at which meeting a quorum was present, acted throughout and voted, the following resolution amending the resolution of the Board on September 28, 2020 on the same subject, was approved and that said amendatory resolution is in full force and effect on the date hereof:

"RESOLVED, that the Board of Directors of the Manila Electric Company (MERALCO) authorize, as it hereby authorizes, Messrs. MANUEL V. PANGILINAN, Chairman, RAY C. ESPINOSA, President and Chief Executive Officer, SIMEON KEN R. FERRER, Corporate Secretary, ROBERTO R. ALMAZORA, Senior Vice President, RONNIE L. APEROCHO, Senior Vice President & Head, Networks, WILLIAM S. PAMINTUAN, Senior Vice President, Assistant Corporate Secretary, Compliance Officer and Head, Legal and Corporate Governance, FERDINAND O. GELUZ, First Vice President and Chief Commercial Officer, EDGARDO V. CARASIG, First Vice President & Head, Human Resources & Corporate Services, MARIA LUISA V. ALVENDIA, First Vice President and Supply Chain Management Advisor, JOSE RONALD V. VALLES, First Vice President and Head, Regulatory Management Office, MARIA ZARAH R. VILLANUEVA-CASTRO, Vice President & Head, Corporate Legal Services, MICHELLE O. DELOS SANTOS-BONA, Assistant Vice President & Head, Legal Operations Support, CRISTOPHER B. ARPON Head, Litigation Services, CORNELIO MANUEL III C. DICCION, Head, Litigation Team 2, SHEILA MARIE C. GRANADOS, Head, Litigation Team 1, and any lawyer or employee of MERALCO and/or other external counsels and law firms that any of them may designate, name or appoint:

- (1) to represent the Company, in the institution, prosecution, and defense of any claim, complaint, action, proceeding, petition, application, protest, suit, or case, for or against the Company, before any court, prosecutor's office, regulatory, quasi-judicial, or administrative body, agency, or office of the national or any local government;
- (2) to sign, execute, and deliver in connection therewith the necessary or appropriate complaint, petition, application, position paper, memorandum, all types of pleadings and motions, verifications, affidavit-complaint, counter-affidavit, affidavit of merit, affidavit of desistance, affidavit of witness, and all other affidavits of whatever nature, certificate of non-forum shopping, powers of attorney, certifications, and all other instruments as may be necessary or proper;

- (3) to represent the Company or to designate, name, and appoint a representative or an attorney-in-fact in behalf of the company during the investigation, inquest, preliminary investigation, preliminary conference, pre-trial, mediation, conciliation, arbitration, trial, execution, and all other stages of or incidents related to the case, proceeding or action; to negotiate, enter into, and agree to an amicable settlement, compromise agreement, plea bargaining, admissions or stipulations of fact or documents, simplification of issues, limitation on the number of witnesses, alternative modes of dispute resolution, withdrawal, dismissal or waiver of claim or action; and to perform and execute any and all actions or deeds as may aid in the prompt disposition of such cases, proceedings, or actions filed in behalf of or against the Company;

"RESOLVED, FURTHER, that any previous resolution of the Board of Directors on the same subject matter that is inconsistent herewith shall be deemed terminated, superseded and revoked."

Pursuant to the above resolutions, it is hereby certified that MERALCO is authorized to file the Application, entitled "IN THE MATTER OF THE APPLICATION FOR APPROVAL OF THE EMERGENCY REPLACEMENT OF ONE (1) 83-MVA POWER TRANSFORMER AT URDANETA SUBSTATION," and that Jose Ronald V. Valles, First Vice President and Head of Regulatory Management Office, is an authorized representative and signatory of the Company with respect to the aforesaid Application.

WITNESS THE SIGNATURE of the undersigned as such officer of the Company and its corporate seal hereunto affixed on this NOV 15 2021 day of November 2021.


WILLIAM S. PAMINTUAN
Assistant Corporate Secretary

NOV 15 2021

SUBSCRIBED AND SWORN to before me this _____ day of November 2021, affiant exhibited to me his Taxpayer Identification Number (TIN) 146-473-562, issued by the Bureau of Internal Revenue (BIR) as his competent evidence of identity.

Doc. No. 478;
Page No. 21;
Book No. 11;
Series of 2021.


ATTY. MA. ELISHA S. FLORIAGA
NOTARY PUBLIC
Appointment No. 121 (2020-2021)
Pasig, San Juan and Pateros
Issued on 24 February 2020 at Pasig City
Roll No. 73497; IBP No. 145330; 1-08-21; Quezon City
PTR No. 7236623; 1-08-21; Pasig City
7th Floor, Lopez Bldg., Ortigas Ave., Pasig City

MANILA ELECTRIC COMPANY				 MERALCO
Emergency Project Information Summary				
Project Title	EMERGENCY REPLACEMENT OF POWER TRANSFORMER BANK NO. 3 AT URDANETA SUBSTATION			
Project Type	Renewal			
Project Driver	Network: Asset Condition			
Project Cost (in millions)	Forex: USD 1.02 M	Local: PHP 4.23 M	Total: PHP 56.79 M	
Regulatory Year	RY2022	Commissioning Date	September 25, 2021	
Project Description	<p>The following emergency Capital Expenditure (CAPEX) project is for the replacement of the defective 83 MVA, 115 kV – 34.5 kV, three-phase Power Transformer, with On Load Tap Changer (OLTC) at the Urdaneta Substation with an 83 MVA, 115 kV – 34.5 kV, three-phase Power Transformer, with OLTC.</p> <p>The scope of project includes among other things:</p> <ul style="list-style-type: none">• Unspotting of old Power Transformer• Hauling of new Power Transformer and accessories• Spotting of new Power Transformer• Pre-Assembly Test (Dew Point / Core to ground)• Power Transformer Assembly and Harness/Acc.• Vacuum Drying / Leak Test• Mobilization of Oil Machine• Mobilization of ISO Tank with oil• Oil Reconditioning• Oil Filling• Hot Oil Circulation• Stabilizing / Bleeding• Electrical / Calibration Testing• Chemical testing• Final Re-touch and Clearing• De-mobilization of Heavy equipment• Protection Works and Other Substation Works• Pre-Com Checklist and Final Inspection• Commissioning• Site Clearing and Material Return• Activities for final testing of faulted power transformer			
Project Justification	<p>The Urdaneta Power Transformer Bank No. 3 tripped out last June 9, 2021 by transformer differential relay with the actuation of Buchholz and pressure relief devices due to internal fault. Based on the retrieved relay data, it showed that the fault occurred in the transformer Phase A and B primary winding with a fault magnitude of 1.58kA and 1.40kA, respectively. Furthermore, the operation of Transformer Bank No. 3's Pressure Relief Device, Buchholz Relays of Main Tank, and Turrets validated the occurrence of an internal fault. Power Transformer Bank No. 3, a Siemens 83MVA 115-34.5kV was first energized last December 10, 2017.</p>			

<div> <div>MANILA ELECTRIC COMPANY</div> <div>Emergency Project Information Summary</div> </div> <div>  <div>MERALCO</div> </div>	
	<p>On June 9-10, 2021, the Urdaneta Power Transformer No. 3 was subjected to a series of tests to determine its condition after the incident. The test results of said power transformer showed that it was no longer safe to be re-energized and was declared for replacement due to the following significant findings: Gas accumulated at the Buchholz relay showed high level of combustible gases, including Hydrogen, Acetylene, Ethylene, and Methane. The same gases were also evident in the extracted oil from the transformer main tank and transformer turret, which were indicative of a high energy fault sustained by the transformer. Electrical tests also showed that the ratio for all taps on all phases was no longer within the expected tolerance based on MERALCO Standards. Winding resistance for all taps on all phases obtained was also relatively low compared to the initial commissioning values. High excitation current was also observed on all phases causing the Insulation Power Factor test equipment to trip at relatively low voltage of less than 1 kV which indicates the possibility of turn-to-turn short.</p> <p>With the defective condition of the Urdaneta Bank No.3, MERALCO had to temporarily transfer all its loads to the adjacent Urdaneta Bank No. 2 only since it was not technically feasible to transfer any load of Power Transformer Bank No. 3 to Power Transformer Bank No. 1 due to the limitation of configuration set-up. As a result of accommodating the loads of the defective transformer, the Urdaneta Power Transformer Bank No. 2 operated at 64% loading level. It is well to note that this loading level happened during the Covid-19 pandemic condition wherein the power demand in the areas served by substation is lower than usual. Under normal conditions where the demand is at its peak, the Urdaneta Power Transformer Bank No. 2 may operate critically at 89% if the loads of the Urdaneta Bank No.3 will be transferred to it.</p> <p>Considering the imminent risks posed by shifting the loads to the adjacent power transformer Urdaneta Bank No. 2, MERALCO was constrained to undertake an immediate solution. Thus, MERALCO replaced the defective Urdaneta Power Transformer No. 3 with an available 83 MVA, 115 kV-34.5 kV Power Transformer and the same was energized on September 25, 2021.</p>
Annex A	Technical and Economic Analysis
Annex B	Project Cost
Annex C	Real to Nominal Conversion Worksheet
Annex D	Cost Benefit Analysis Calculation
Annex E	Gantt Chart

ANNEX A: TECHNICAL AND ECONOMIC ANALYSIS

1. BACKGROUND

1.1. Existing System

The Urdaneta Substation located at EDSA cor. Recoletos Circle cor. Recoletos St., Brgy. Urdaneta Village, Makati City, Metro Manila has three (3) power transformer banks. The said substation serves the power requirements of customers in Makati City, such as, but not limited to: Ayala Land Inc., Citi Tower Condominium Corp., Citi Center Condominium Corp., Philippine Long Distance Telephone Co., Tower One and Exchange Plaza Condominium Corp., The World Centre Condominium, Makati Shangrila Hotel, Department of Trade and Industry and Asian Institute of Management; and portions of Taguig City, such as, but not limited to, Enderun Colleges and Bonifacio Water Corporation.

The Siemens 83MVA 115-34.5kV power transformer bank 3 was first energized last December 10, 2017.

The Urdaneta Power Transformer Bank No. 3 was tripped out by transformer differential relay and with the actuation of Buchholz and pressure relief devices due to internal fault.

The Urdaneta Power Transformer No. 3 was subjected to a series of tests to determine its condition after the incident. Based from the result of the tests, the power transformer was no longer safe to be energized and was declared for replacement due to the high level of combustible gases and failed results of electrical tests.

MERALCO had to temporarily transfer all its loads to the adjacent Urdaneta Bank No. 2 since it was not technically feasible to transfer any load of Power Transformer Bank No. 3 to Power Transformer Bank No. 1 due to the loading limitations. As a result of accommodating the loads of the defective transformer, the Urdaneta Power Transformer Bank No. 2 operated at 64% loading level. It is well to note that this loading level was achieved during the Covid-19 pandemic condition wherein the power demand in the areas served by substation was lower than usual. Had the tripping incident happened under normal conditions where the demand is at its peak, the Urdaneta Power Transformer Bank No. 2 would have operated critically at 89% if the loads of the Urdaneta Power Transformer Bank No.3 will be transferred to it.

Pre-COVID (2019) Bank Loading		COVID (2021) Bank Loading	
Bank 2	Bank 3	Bank 2	Bank 3
40.86%	47.76%	26.00%	37.94%
89%		64%	

This critical loading of Urdaneta Power Transformer Bank No. 2 may produce excessive high temperature on its windings that will cause an insulation breakdown or worse, transformer failure which will result to prolonged and massive interruption in the affected areas.

Considering the imminent risks posed by shifting the loads to the adjacent power transformer Urdaneta Bank No. 2, MERALCO was constrained to undertake to replace the defective Urdaneta Power Transformer No. 3 with an available 83 MVA, 115 kV-34.5 kV Power Transformer

1.2. Planning Criteria and Standards

In planning for the renewal and refurbishment projects of its distribution system, MERALCO adheres to the following policies and criteria:

1.2.1. Planning Policies

Substation Maintenance/Planning Policies

- For 34.5 KV primary rating & below – inspection at least once a month
- For 115 KV rating – inspection at least twice a month
- Thermographic Scanning and Ultrasonic Detection -at least every three months.
- Electrical Testing – every 2 years
- Oil Sampling/Testing – every year
- Dissolved Gas Analysis (DGA) – Every 3 months for 80MVA & below
- Dissolved Gas Analysis – Monthly for above 80MVA rating

1.2.2. Planning Criteria

CAPEX Projects (Maintenance) Planning Criteria

The replacement of power transformers is driven by the following criteria:

- Condition and age
 - Failure of winding ratio test.
 - Combination of optimized asset life and constant failure of electrical testing
- Technological obsolescence
 - Combination of optimized asset life and problem of parts due to obsolescence
- Compliance to regulatory and statutory requirements
 - Such as voltage variations requirements to meet customer needs
- Project NPV>0, FIRR>WACC, B/C>1.0
 - NPV – Net Present Value
 - FIRR – Finance Internal Rate of Return
 - WACC – Weighted Average Cost of Capital
 - B/C – Benefit to Cost Ratio

2. PERFORMANCE ASSESSMENT

Power Transformer Bank No. 3, a Siemens 83MVA 115-34.5kV power transformer, was first energized last December 10, 2017. The Urdaneta 83-MVA Power Transformer Bank No. 3 was subjected to tests after the tripping incident. Thereafter, the power transformer was deemed no longer safe to use so the loads thereof were transferred to Urdaneta Power Transformer Bank No. 2. As a result of accommodating the loads of the defective transformer, Urdaneta Power Transformer Bank No. 2 operated at 64% loading level. It is well to note that

this loading level was during the Covid-19 pandemic wherein the power demand in the areas served by substation is lower than usual. Under normal conditions where the demand is at its peak, the Urdaneta Power Transformer Bank No. 2 would have operated critically at 89% if the loads of the Urdaneta Bank No.3 will be transferred to it. Thus, an outage of Power Transformer Bank No. 2 may cause power interruptions to the detriment of customers in affected areas.

2.1. Analysis

2.1.1. Qualitative Performance Measures

Parameter Under Consideration	Result without Project	Result with Project
Loading of existing Urdaneta 83-MVA Bank No. 2 (Condition: Urdaneta Transformer Bank No. 3 is out)	Critical level	Within normal loading condition

2.1.2. Quantitative Performance Measures

Table 1: Without Project

Parameter Under Consideration	COVID (2021) Bank Loading	Pre-COVID (2019) Bank Loading
Loading of Urdaneta 83-MVA Bank No. 3	64%	89%

Table 2: With Project

Parameter Under Consideration	COVID (2021) Bank Loading	Pre-COVID (2019) Bank Loading
Loading of Urdaneta 83-MVA Bank No. 3	38%	41%
Loading of Urdaneta 83-MVA Bank No. 2	26%	48%

2.2. Specific Planning Criteria breached

The transformer failed the Winding Resistance test, Tap Ratio Tolerance Test, and Insulation Power Factor Test thus the need for immediate replacement.

3. PROJECT FORMULATION AND EVALUATION

3.1 Project Alternative

In the process of determining the most cost-effective solution to address the identified deficiencies, MERALCO generated several technically-feasible alternatives that could satisfy the requirements in a timely and efficient manner.

The problem and project alternatives are summarized below:

Problem Description	Defective Power Transformer	
	Project Alternatives	Classification
Alternative 1	Replace the defective transformer with OLTC with a new transformer with OLTC	Stand-alone
Alternative 2	Transfer the load to adjacent transformer without replacing the defective transformer	Stand-alone

3.1.1. Alternative 1

Alternative 1 is the replacement of the defective Power Transformer Bank No. 3 with OLTC with a new available 83 MVA power transformer with OLTC. With the implementation of this alternative, the temporarily installed 83MVA power transformer will be the permanent replacement for the defective Urdaneta Bank No. 3 Power Transformer.

3.1.2. Alternative 2

Alternative 2 pertains to the transfer of the loads to adjacent transformer i.e., Urdaneta Transformer Bank No. 2 without replacing the defective Urdaneta Bank No. 3.

With the implementation of this alternative, all loads of Urdaneta Power Transformer Bank No. 3 will be load shifted to the adjacent power transformer. This might cause the adjacent power transformer to be loaded at critical level and may compromise the safety, reliability and security of the distribution system.

3.2 Technical Analysis

The following table summarizes the comparison of the advantages and disadvantages of the alternatives:

Alternative	Advantages	Disadvantages
<p>Alternative 1</p> <p>Replace the existing transformer with OLTC with a new transformer with OLTC.</p>	<ul style="list-style-type: none"> • There is no need to transfer loads of the New Power Transformer Bank No. 3 to the adjacent power transformer in order to serve the load requirements of power transformer Bank No. 3. Consequently, the adjacent power transformer will not be critically loaded. • This will restore normal distribution line flexibility and ultimately ensure the reliability of the distribution system in the area. • This will ensure the reliability and quality of electric service to affected customers as well as the safety of the people in the affected areas. 	<ul style="list-style-type: none"> • There is no significant disadvantage as compared to Alternative 2.
<p>Alternative 2</p> <p>Transfer the load to adjacent transformer without replacing the defective Urdaneta Transformer Bank No.3</p>	<ul style="list-style-type: none"> • There is no capital expenditure to be incurred. • There will be no construction activities on site. 	<ul style="list-style-type: none"> • Possible critical loading of adjacent Urdaneta 83 MVA Bank No. 2 if load will return to its pre-COVID values due to the government declaration that Metro Manila is now under Alert level 2. • The said loading level of Power Transformer Bank No. 2 could adversely affect the quality of electric service to the customers in the area since an outage thereof may lead to a power interruption thereat.

Alternative	Advantages	Disadvantages
		<ul style="list-style-type: none"> There will be poor distribution line flexibility, and this may affect the reliability of the distribution system in the area.

3.2 Financial Analysis

The financial evaluations of the alternative projects are summarized in the following table:

Project Alternative	Project Description	Net Present Value (NPV) (in thousands)	(FIRR)	B/C
Alternative 1	Replace the defective transformer with OLTC with a transformer with OLTC	1,672.38	14%	1.03
Alternative 2	Transfer the load to adjacent transformers without replacing the defective transformer.	(19.42)	9%	0.99

4. RECOMMENDATION

The replacement of the failed 83-MVA Power Transformer with OLTC at Urdaneta Substation with a new 83-MVA Power Transformer with OLTC will resolve all system constraints and deficiencies.

Without the emergency CAPEX project, and with Metro Manila now under Alert level 2, there will be increased exposure of the affected 34.5kV distribution lines due to emergency load shifting. Also, there will be constraints in accommodating additional loads due to inadequate capacity.

Thus, it is recommended that a new Power Transformer Bank No. 3 be installed in the Urdaneta substation to enable MERALCO to fully address all problems/concerns and to continuously provide quality and reliable electric service to customers in the affected areas.

Scope of work

- Replacement of 83MVA power transformer with OLTC.
 - Unspotting of old Power Transformer
 - Hauling of new Power Transformer and acc.
 - Spotting of new Power Transformer
 - Spotting of RCC
 - Pre-Assembly Test (Dew Point / Core to ground)
 - Mobilization of Heavy Eqpt

- Uncrating of Accessories (at temporary storage)
- Hauling of Accessories to Site
- Power Transformer Assembly and Harness/Acc.
- Vacuum Drying / Leak Test
- Mobilization of Oil Machine
- Mobilization of ISO Tank =with oil
- Oil Reconditioning
- Oil Filling
- Hot Oil Circulation
- Stabilizing / Bleeding
- Electrical / Calibration Testing
- Chemical testing
- Final Re-touch and Clearing
- De-mobilization of Heavy equipment
- Protection Works and Other Substation Works
- Pre-Com Checklist and Final Inspection
- Commissioning
- Site Clearing and Material Return
- Activities for final testing of faulted power transformer

4.1. Impact

The implementation of this emergency CAPEX project will resolve the above-mentioned constraints and deficiencies of the distribution system and prevent outages to customers in the cities of Makati and Taguig.

ANNEX B: PROJECT COST

The project cost includes labor and material costs. The material costs are based on the moving average price of the equipment that will be used in relation to this project. The cost includes the neutral reactor, power cables, sealing end terminations, transformer oil, taxes, duties, brokerage, trucking services and installation.

Table 1: Detailed Cost Estimate for Installation of Power Transformer

	Labor Cost	Material Cost	Other Cost	Sub-Total
Power transformer	1,583,460.94	54,925,846.15	283,389.50	56,792,696.59
Total (PhP)	1,583,460.94	54,925,846.15	283,389.50	56,792,696.59

Table 2: Summary of Cost Estimates

Description	Quantity	Major Equipment	Total
Urdaneta Power Transformer	1	83 MVA, 115kVY-34.5kVY-13.8kVD three-phase power transformer with On-Load Tap Changer (OLTC)	56,792,696.59
Total (PhP)			56,792,696.59

Table 3. Cost Component Breakdown

Cost Component	RY2022
Local	4,228,809.59
FOREX (US \$)*	1,020,658
Total (PhP)	56,792,696.59

*Assumptions:
RY2022 FOREX = 51.50 PHP/USD

ANNEX B

	CHEMICAL TESTING LABORATORY TRANSFORMER DISSOLVED GAS ANALYSIS	GP-DIT-500.019 Rev. Code: 0.1	Page 1 of 1
		Effectivity Date: October 1, 2021	

DATE = JUNE 9, 2021
LOCATION = URDANETA S/S
SERIAL NO. = 30N160504.01
CAPACITY = 83.33 MVA
MAKE = SIEMENS
TYPE = CONSERVATOR
OIL TEMPERATURE = 45 °C

GAS TEST RESULT (ppm)		
Hydrogen	H ₂ *	2438
Carbon Dioxide	CO ₂	1089
Ethylene	C ₂ H ₄ *	337
Ethane	C ₂ H ₆ *	21
Acetylene	C ₂ H ₂ *	780
Oxygen	O ₂	504
Nitrogen	N ₂	20396
Methane	CH ₄ *	286
Carbon Monoxide	CO*	408
Total Gas Content		26259
*Combustible Gas Content		4270
**Estimated TCG (%)		16

OIL CONDITION	
Water Content, ppm:	18
TAN, mg KOH/g:	0.018
IFT, Dynes/cm:	30.7
Appearance:	Clear
DBV, kV:	57
Color:	<1.0

*Combustible Gas
**Estimated Total Combustible Gas (TCG) if transformer has a gas space over the oil. This value is based on laboratory measurement and the solubility factors of the various gases involved.

Remarks: High concentration of Hydrogen and Acetylene indicating high energy fault.

Test Engineer: IVY JOY C. FERREL
Approved By: ROMELO A. MIRABUENO
Head, CTU
Noted By: JOEL B. LIBED
Head, CMT

	SUBSTATION PREVENTIVE MAINTENANCE PROCEDURE POWER TRANSFORMER TEST DATA	GP-DTT-500.008 Rev. Code: 0	Page 3 of 3
		Effectivity Date: December 1, 2019	

Location: Urdaneta Substation

Make: Siemens

Phase: 3

Co. No.: -

Tested by: EM, ES2, RS, MD

Condition: New

Serial No.: 30N160504.01

Capacity: 50/66.67/83.33 MVA

Type: 7TRP83330-123

Requested by: Mr. J. Elloso

Amb.Temp.: 36°C

Weather: Fair

Voltage Ratings: 110/34.5/13.8 kV

Class: ONAN/ONAF1/ONAF2

Rel. Hum.: 53%

Oil Temp.: 35°C

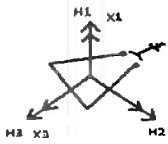
Temp. Rise: 65 K

Date : June 10, 2021

Wdg. Temp.: 33°C

Witnessed by: Mr. J. Elloso

Reason of Test: () PMT () Serviced () Reconditioned () New (✓) Others Faulted

TAP POSITION	VOLTAGE RATING	WINDING RESISTANCE (mΩ)		RATIO TEST			INSULATION TEST					
		@33°C	@ 75/85°C	MEASURED RATIO	COMPUTED RATIO	%RATIO	A. INSULATION RESISTANCE (GΩ)					
							Winding	1-minute Reading @ V	10-minute Reading	P.I.		
WINDING :												
	H0H3	mΩ		H0H3-X0X3								
1	121.000	177.59	212.11	3.8900	3.5072	110.9132	H - G	-	-	-	-	-
2	119.625	173.71	207.48	3.8422	3.4674	110.8095	H - X	-	-	-	-	-
3	118.250	173.52	207.25	3.7943	3.4275	110.7005	H - Y	-	-	-	-	-
4	116.875	169.27	202.17	3.7467	3.3877	110.5978	X - G	-	-	-	-	-
5	115.500	166.04	198.32	3.6995	3.3478	110.5045	X - Y	-	-	-	-	-
6	114.125	162.71	194.34	3.6511	3.3080	110.4060	Y - G	-	-	-	-	-
7	112.750	161.99	193.48	3.6047	3.2681	110.2990						
8	111.375	153.74	183.63	3.5580	3.2283	110.2141	B. INSULATION POWER FACTOR TEST (Bushings)					
9	110.000	145.26	173.50	3.5109	3.1884	110.1146	Test Conn.	Cap. (pF)	mA	Watts	%IPF @36°C	%IPF @ 20°C
10	108.625	151.74	181.24	3.4677	3.1486	110.1364	H1	144.010	0.546	0.014	0.272	-
11	107.250	148.79	177.71	3.4206	3.1087	110.0333	H2	144.900	0.547	0.014	0.254	-
12	105.875	148.17	176.97	3.3737	3.0688	109.9340	H3	146.280	0.548	0.013	0.235	-
13	104.500	146.50	174.98	3.3270	3.0290	109.8388	H0	179.900	0.680	0.020	0.292	-
14	103.125	139.92	167.12	3.2804	2.9891	109.7442	X1	669.210	2.525	0.070	0.271	-
15	101.750	137.91	164.72	3.2339	2.9493	109.6507	X2	674.400	2.544	0.071	0.274	-
16	100.375	133.87	159.89	3.1879	2.9094	109.5717	X3	669.000	2.524	0.068	0.266	-
17	99.000	128.87	153.92	3.1418	2.8696	109.4870	X0	645.540	2.428	0.067	0.276	-
							Y11	373.590	1.408	0.044	0.313	-
							Y32	373.210	1.407	0.046	0.323	-
							OIL-CONSERVATION METHOD					
							() Gas-Banketed / Sealed					
							(✓) Conservator () Other _____					
Others:							VECTOR GROUP:					
							VECTOR DIAGRAM			POLARITY TEST		
										As Found Tap : 1		
										As Left Tap : 1		
										Polarity:		
										[✓] Subtractive		
										[] Additive		

Instruments Used : DTS-30, SFRA-01, WA-01 & 02, MG-601

REMARKS : As found test results after tranformer differential tripping.

Checked by: Enrico C. Mamangon

Approved by: Michael V. Lapinig

Retention : EQUIPMENT LIFE

Location: Urdaneta Substation

Make: Siemens

Phase: 3

Co. No.: -

Tested by: EM, ES2, RS, MD

Condition: New

Serial No.: 30N160504.01

Capacity: 50/66.67/83.33 MVA

Type: 7TRP83330-123

Requested by: Mr. J. Elloso

Amb.Temp.: 36°C

Weather: Fair

Voltage Ratings: 110/34.5/13.8 kV

Class: ONAN/ONAF1/ONAF2

Rel. Hum.: 53%

Oil Temp.: 35°C

Temp. Rise: °C

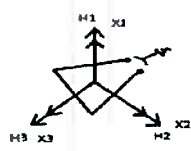
Witnessed by: Mr. J. Elloso

Date : June 10, 2021

Wdg. Temp.: 33°C

%Z Volts: 9.55/10.08/10.83

Reason of Test: ☐ PMT ☐ Serviced ☐ Reconditioned ☐ New ☒ Others Faulted

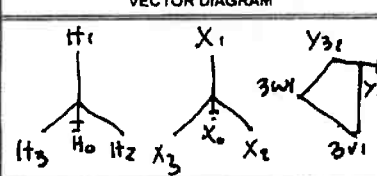
TAP POSITION	VOLTAGE RATING	WINDING RESISTANCE (mΩ)		RATIO TEST			INSULATION TEST					
		@33°C	@ 75/85°C	MEASURED RATIO	COMPUTED RATIO	%RATIO	A. INSULATION RESISTANCE (GΩ)					
							Test Conn.	1-minute Reading				
WINDING :								Measured				
H0H2		mΩ		H0H2-X0X2								
1	121.000	152.18	181.76	2.8831	3.5072	82.2041	C-G	4.34				
2	119.625	149.70	178.80	2.8861	3.4674	83.2355	C-CF	1.70				
3	118.250	152.96	182.69	2.8850	3.4275	84.1712	CF-G	5.21				
4	116.875	152.35	181.97	2.8845	3.3877	85.1467						
5	115.500	154.82	184.92	2.8834	3.3478	86.1275						
6	114.125	154.21	184.19	2.8832	3.3080	87.1592						
7	112.750	152.84	182.55	2.8809	3.2681	88.1517						
8	111.375	149.27	178.29	2.8805	3.2283	89.2276	B. INSULATION POWER FACTOR TEST (Lightning Arrester)					
9	110.000	144.62	172.73	2.8741	3.1884	90.1422	Test Conn.	Cap. (pF)	mA	Watts	%IPF @36°C	%IPF @ 20°C
10	108.625	131.26	156.78	2.6824	3.1486	85.1948	Sec. A	0.493	0.180	0.236	-	-
11	107.250	134.48	160.62	2.6814	3.1087	86.2548	Sec. B	0.481	0.165	0.657	-	-
12	105.875	133.95	159.99	2.6810	3.0688	87.3620	Sec. C	0.479	0.178	0.011	-	-
13	104.500	136.77	163.36	2.6798	3.0290	88.4719						
14	103.125	136.77	163.36	2.6797	2.9891	89.6481						
15	101.750	137.11	163.76	2.6775	2.9493	90.7850						
16	100.375	131.65	157.24	2.6771	2.9094	92.0149						
17	99.000	128.59	153.59	2.6712	2.8696	93.0873						
							C. TESTS ON THE INSULATING OIL					
							DBV	IFT	NN	COLOR	%IPF @ 20°C	WATER CONTENT
							OIL-CONSERVATION METHOD					
							() Gas-Banketed / Sealed					
							(✓) Conservator () Other _____					
Others:							VECTOR GROUP:					
							VECTOR DIAGRAM			POLARITY TEST		
										As Found Tap : 1		
						As Left Tap : 1						
						Polarity:						
						[✓] Subtractive [] Additive						



Retention : EQUIPMENT LIFE

	SUBSTATION PREVENTIVE MAINTENANCE PROCEDURE POWER TRANSFORMER TEST REPORT	GP-DTT-500.007 Rev. Code: 0	Page 1 of 1
	Effectivity Date: December 1, 2019		

Location: URDANETA PXF Unit No.: 3 Serial No.: 30N160504.01 Date Tested: 6/9-10/21
 Make: SIEMENS Class: ONAN/ONAF1-2 Weather: CLOUDY
 MVA (/ /): 50/66.67/83.33 KV Rating: 110Y-34.5Y-13.8KV Oil Temp.: 40 °C Ambient Temp.: 28 °C
 Tested by: ED2 RPJD Type: 7TPP 83330-123/4 Wdg. Temp.: 40 °C % Rel. Humidity: 80
 Witnessed by: MR. ECO Reason of Test: () PMT () Serviced () Reconditioned () New ☒ Faulted () Others

INSULATION POWER FACTOR TEST						INSULATION RESISTANCE TEST			TESTS ON THE INSULATING OIL						
Winding	Cap. pF	mA	Watts	% IPF @ 40°C	% IPF @ 20°C	Insulation Resistance @ 10KV (MΩ/GΩ)		P.I.	DBV	IFT	NN	COLOR	% IPF @ 20°C	WATER CONTENT	
						After 1 minute	After 10 minutes								
H-G	36418	137.289	0.364	0.026	0.017	4.04	4.36	1.08							
H-X	9615	36.248	0.663	0.182	0.118	5.44	7.40	1.36							
H-Y	129	0.489	0.010	0.184	0.120	6.33	8.23	1.30							
X-G	3596	13.556	0.449	0.328	0.213	3.85	3.93	1.02							
X-Y	16594	62.559	1.198	0.191	0.124	7.34	9.98	1.36							
Y-G	17027	64.190	1.425	0.222	0.144	5.77	6.64	1.15							
									POWER CABLES						
									Phase	mA	Watts	% IPF	Cap. pF		
									Sec. A	48.31	0.203	0.042	13.487		
									Sec. B	47.45	0.245	0.052	13.249		
									Sec. C	42.19	0.347	0.072	13.455		
EXCITING CURRENT MEASUREMENT (mA)						TTR TEST: As Found Tap <u>1</u> @ <u>121</u> KV				INSULATION RESISTANCE (MΩ/GΩ) @ 1000 V					
Winding	2.5 kV	5.0 kV	7.5 kV	10.0 kV	Winding Conn.	As Found	Computed	% Ratio							
H H															
H H															
H H															
										Core to Ground		4.34			
										Core to Clamp		1.70			
										Clamp to Ground		5.21			
LIGHTNING ARRESTERS						LIGHTNING ARRESTER DATA			WINDING RESISTANCE			VISUAL INSPECTION			
Phase	mA	Watts	Make	Serial	MCOV	Rating	Winding	at ____ °C	at 75/85 °C						
PRIM. A										Oil Level <u>OK</u>					
PRIM. B										Oil Leaks <u>NONE</u>					
PRIM. C										Dehydrator					
SEC. A	0.497	0.170								Cooling Fans					
SEC. B	0.472	0.158								N ₂ Pressure					
SEC. C	0.477	0.167								VECTOR DIAGRAM					
TERT. A															
TERT. B															
TERT. C															
BUSHINGS						BUSHING DATA				OIL-CONSERVATION METHOD					
Bushing No.	Oil Level HI LO	mA	Watts	% IPF @ 40°C	% IPF @ 20°C	Cap. pF	Make / Serial No.	Factory % IPF	Factory Cap. pF	() Gas-Blanketed / Sealed					
H1		0.542	0.014	0.258		143.87				☒ Conservator () Other					
H2		0.544	0.013	0.247		144.87				GENERAL CONDITIONS					
H3		0.552	0.014	0.258		146.33									
H0		0.678	0.019	0.279		179.85				Good					
X1		2.523	0.069	0.270		669.29									
X2		2.542	0.069	0.267		674.40				Satisfactory					
X3		2.524	0.068	0.265		669.48									
X0		2.429	0.066	0.266		644.39				Poor					
Y11		1.407	0.043	0.303		373.15									
Y12		1.407	0.044	0.314		373.10				Critical					

Instruments Used: DTS-30 MG-601 WA-04 1105337142090
 Remarks: HIGH DEVIATION ON ALL PHASES PER TAP ON WINDING RESISTANCE (>2%) - FOR FURTHER INVESTIGATION / TESTS

Received by: _____ Checked by: ENRICO C. MAMANGON Approved by: [Signature]
 Retention: EQUIPMENT LIFE

ANNEX " C "

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

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

ERC Case No. 2021- 100 RC

**MANILA ELECTRIC COMPANY
(MERALCO),**

Applicant.

X-----X

**JUDICIAL AFFIDAVIT
OF ENGR. BIENVENIDO H. DE GUZMAN JR.**

The following examination of witness, **ENGR. BIENVENIDO H. DE GUZMAN JR.**, of legal age, with office address at 4th Floor, Technical Services Building, Ortigas Avenue, Barangay Ugong, Pasig City, Philippines, who is an employee of the Manila Electric Company ("MERALCO") with the rank of Manager and Head of Substation Services Asset Management (SSAM) Office, was conducted by Atty. Raymond B. Yap, at the 7th Floor, Lopez Building, Ortigas Avenue, Barangay Ugong, Pasig City, on 15 November 2021.

The testimony of **ENGR. BIENVENIDO H. DE GUZMAN JR.** is being offered for following purposes:

1. To prove the justification and necessity for the emergency replacement of One (1) 83 MVA Power Transformer at Urdaneta Substation and the benefits that would result due to the implementation of the emergency project;
2. To prove the cost of the emergency Capital Expenditure (CAPEX), project financing plan and project schedule;
3. To show and prove the results of the tests conducted on the defective Urdaneta Power Transformer Bank No. 3;

4. To show and prove the impact to MERALCO's distribution system and customers if the emergency project was not implemented;
5. To prove that the approval of the Application is warranted;
6. To identify the documents in relation to this case; and
7. Other matters relevant to the instant Application.

X-----X

I, **ENGR. BIENVENIDO H. DE GUZMAN JR.**, Filipino, of legal age, married, with office address at 4th Floor, Technical Services Building, Ortigas Avenue, Barangay Ugong, Pasig City, Philippines after having been sworn to in accordance with law, fully conscious that I am answering the questions under oath and with knowledge that I may face criminal liability for false testimony and perjury, hereby depose and state:

Q1: What are your professional and educational qualifications?

A1: I am a licensed Professional Electrical Engineer (PEE). I passed the PEE Board Examination in April 2021. I hold a Bachelor of Science degree in Electrical Engineering from the University of Santo Tomas.

Q2: Where are you presently employed?

A2: I am currently the Manager and Head of Substation Services Asset Management (SSAM) Office of MERALCO, effective September 2020. Prior to this, I was the Manager of MERALCO's Power System Protection Office.

Q3: How long have you been employed by MERALCO?

A3: I have been employed by MERALCO for the past thirty-one (31) years.

Q4: What are your duties and responsibilities as Manager and Head of SSAM Office?

A4: My major duties and responsibilities as Manager and SSAM Head include substation process management, substation maintenance planning and performance management and development of substation standards.

Q5: Are you familiar with the Application of MERALCO, entitled: **"IN THE MATTER OF THE APPLICATION FOR APPROVAL OF THE EMERGENCY REPLACEMENT OF ONE (1) 83-MVA POWER TRANSFORMER AT URDANETA SUBSTATION"**?

A5: Yes. I am familiar with said Application as I have participated in the preparation of said Application as well as its supporting documents.

Q6: What are the supporting documents that you prepared in relation to the Application?

A6: In connection with the Application, I prepared the following documents:

(1) 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, which were attached as Annex "A" of the Application.

(2) Documents showing the results of the tests conducted on Power Transformer Bank No. 3, which were attached as Annex "B" of the Application.

(The witness showed and identified the original copies of the above-mentioned documents to the counsel. It is requested that the same be marked as Exhibits "A" and "B", respectively.)

Q7: What is the legal basis for filing of the instant Application?

A7: The Application is being filed pursuant to 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 a safe, reliable, secure and efficient operation of the power system.

Q8: What is the emergency Capital Expenditure (CAPEX) project that is subject of the instant Application?

A8: The Urdaneta Substation is located at EDSA cor. Recoletos Circle St., Brgy. Urdaneta Village, Makati City, Metro Manila. The said substation serves the power requirements of customers in Makati City and portions of Taguig City. The Urdaneta Substation has three (3) 115kV-34.5kV power transformer banks.

On 09 June 2021 at 1903H, the Urdaneta Power Transformer Bank No. 3 was tripped out by transformer differential relay with the actuation of Buchholz and pressure relief devices due to internal fault. Based on the retrieved relay data it showed that the fault occurred in the transformer Phase A and B primary winding with a fault magnitude of 1.58kA and 1.40kA, respectively. Furthermore, the operation of Transformer Bank No. 3's

Pressure Relief Device and Buchholz Relays of the Main Tank and Turrets validated the occurrence of an internal fault. Bank No. 3, a Siemens 83MVA 115-34.5kV power transformer bank 3, was first energized last December 10, 2017.

On 09 June 2021 and 10 June 2021, the Urdaneta Power Transformer No. 3 was subjected to a series of tests to determine its condition after the incident. The test results of said power transformer showed that it was no longer safe to be re-energized and was declared for replacement due to the following significant findings: Gas accumulated at the Buchholz relay showed high level of combustible gases including Hydrogen, Acetylene, Ethylene, and Methane. The same gases were also evident in the extracted oil from the transformer main tank and transformer turret which were indicative of a high energy fault sustained by the transformer.

Furthermore, Transformer electrical tests showed that the ratio for all taps on all phases was no longer within the expected tolerance based on MERALCO standards. Winding resistance for all taps on all phases obtained was also relatively low compared to the initial commissioning values. High excitation current was also observed on all phases causing the Insulation Power Factor test equipment to trip at relatively low voltage of less than 1 kV which indicates the possibility of turn-to-turn short.

Given these adverse test results, Applicant was constrained not to use the defective Urdaneta Power Transformer Bank No. 3 and to temporarily transfer all its loads to the adjacent Urdaneta Bank No. 2 only since it was not technically feasible to transfer any load of Power Transformer Bank No. 3 to Power Transformer Bank No. 1 due to the limitation of configuration set-up.

As a result of accommodating the loads of the defective transformer, Urdaneta Power Transformer Bank No. 2 operated at 64% loading level. It is well to note that this loading level happened during the Covid-19 pandemic condition wherein the power demand is lower than usual. Under normal conditions where the demand is at its peak, Urdaneta Power Transformer Bank No. 2 would have operated critically at 89% if the loads of the Urdaneta Bank No. 3 will be transferred to it.

The critical loading of said power transformer may result to an outage and would have resulted to prolonged and massive power interruption affecting the supply of electricity of customers in Makati City, such as, but not limited to: Ayala Land Inc., Citi Tower Condominium Corp., Citi Center Condominium Corp., Philippine Long Distance Telephone Co., Tower One and

Exchange Plaza Condominium Corp., The World Centre Condominium, Makati Shangrila Hotel, Department of Trade and Industry and Asian Institute of Management; and portions of Taguig City, such as, but not limited to, Enderun Colleges and Bonifacio Water Corporation.

Considering the imminent risks posed by shifting the loads to the adjacent power transformer, Urdaneta Bank No. 2, MERALCO was constrained to replace the defective Urdaneta Power Transformer No. 3 with an available 83 MVA, 115 kV-34.5 kV Power Transformer and was energized on 25 September 2021.

Q9: Why was there a need to implement the emergency project?
A9: The implementation of the project was necessary for the following reasons:

- (a) The test results of the Urdaneta Power Transformer Bank No. 3 showed that the same was defective, and thus, needed to be immediately replaced; and
- (b) The failure of said power transformer necessitated the transfer of its loads to the adjoining Power Transformer Bank No. 2. Shown below are the projected loadings of the affected power transformers with and without the replacement of the defective Urdaneta Power Transformer Bank No. 3.

Table 1: Without Project

Parameter Under Consideration	
Loading of Urdaneta 83-MVA Bank No. 2	64%

Table 2: With Project

Parameter Under Consideration	
Loading of Urdaneta 83-MVA Bank No. 3	38%
Loading of Urdaneta 83-MVA Bank No. 2	26%

i. It is well to note that the loading levels happened during the Covid-19 pandemic condition wherein the power demand is lower than usual. Under normal conditions where the demand is at its peak, Urdaneta Power Transformer Bank No. 2 may operate critically at 89% if the loads of the Urdaneta Bank No. 3 will be transferred to it.

Pre-COVID (2019) Bank Loading		COVID (2021) Bank Loading	
Bank 2	Bank 3	Bank 2	Bank 3

40.86%	47.76%	26.00%	37.94%
89%		64%	

- ii.As shown in the tables above, in the event of another outage of the adjacent power transformer, coupled with the non-replacement of the Urdaneta Bank No. 3, there will be massive power interruptions to the detriment of customers in the affected. Thus, it was crucial that the new power transformer be immediately installed at the Urdaneta Substation; and
- iii.The emergency replacement of the power transformer will ensure the reliability and quality of electric service on the areas being served by the power transformer as well as ensure the safety of the people in the affected areas.

Q10: How much is the cost for the Emergency Project?

A10: The total cost of the emergency replacement of the power transformer with OLTC at the Urdaneta Substation is **Fifty-Six Million Seven Hundred Ninety-Two Thousand Six Hundred Ninety-Six Pesos and Fifty-Nine Centavos (PhP56,792,696.59).**

Q11: How will the cost of this emergency capital project be recovered from the consumers?

A11: For purposes of recovering the capital cost of the emergency project through the MERALCO’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).

Q12: Can you tell us why you are executing this Judicial Affidavit?

A12: I am executing this Judicial Affidavit to attest to the truthfulness and veracity of the foregoing statements and in support of MERALCO’s Application.

IN WITNESS WHEREOF, I have hereunto affixed my signature this 15th day of November 2021 at Pasig City, Philippines.

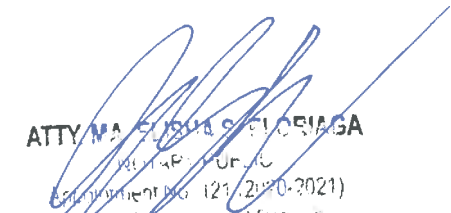


BIENVENIDO H. DE GUZMAN JR.
Affiant

NOV 15 2021

SUBSCRIBED AND SWORN to before me this ____ day of November 2021 by affiant **BIENVENIDO H. DE GUZMAN JR.** who showed his Philippine Passport No. P3754554A, issued on July 22, 2017 at DFA NCR North East.

Doc. No. 480 ;
Page No. 97 ;
Book No. 11 ;
Series of 2021.


ATTY. MA. SUSAN S. FLORIAGA
Bar No. 1497 (BPN No. 145350) (1-16-11, Quezon City)
Assignment No. 121 (2020-2021)
Pasig, San Juan and Marikina
Issued on 24 February 2020 at Pasig City
Bar No. 1497 (BPN No. 145350) (1-16-11, Quezon City)
Bar No. 1497 (BPN No. 145350) (1-16-11, Quezon City)
7th Floor, Lopez Bldg., Ortigas Ave., Pasig City

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

ATTESTATION

I, **RAYMOND B. YAP**, of legal age, Filipino, with business address at 7th floor, Lopez Building Ortigas Avenue, Barangay Ugong, Pasig City after being duly sworn depose and say:

1. I conducted the direct examination of **ENGR. BIENVENIDO H. DE GUZMAN JR.**, the witness to testify on matters in support of the Application entitled **"IN THE MATTER OF THE APPLICATION FOR APPROVAL OF THE EMERGENCY REPLACEMENT OF ONE (1) 83-MVA POWER TRANSFORMER AT URDANETA SUBSTATION,"** at the afore-mentioned business address;
2. I have faithfully recorded the questions asked and the corresponding answers that were given by the witness; and
3. Neither I nor any other person then present or assisting him coached the witness regarding his answers.

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of November 2021 at Pasig City.

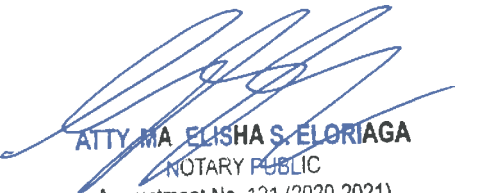

RAYMOND B. YAP
Affiant

NOV 15 2021

NOV 15 2021

SUBSCRIBED AND SWORN to before me this ____ day of November 2021 by **RAYMOND B. YAP** who exhibited his SSS ID No. 3411178612 as his competent proof of identity.

Doc. No. 481 ;
Page No. 98 ;
Book No. 11 ;
Series of 2021.


ATTY. MA ELISHA S. ELORIAGA
NOTARY PUBLIC
Appointment No. 121 (2020-2021)
Pasig, San Juan and Pateros
Issued on 24 February 2020 at Pasig City
Roll No. 73497; IBP No. 145330; 1-08-21; Quezon City
PTR No. 7236623; 1-08-21; Pasig City
7th Floor, Lopez Bldg., Ortigas Ave., Pasig City

REPUBLIC OF THE PHILIPPINES) s.s.
QUEZON CITY)

AFFIDAVIT OF PUBLICATION

I, **EMMA V. DOROTEO**, of legal age, single, Filipino and with office address at c/o **PhilSTAR Daily, Inc.**, 202 Railroad Street corner Roberto S. Oca Street, Port Area, Manila, after being duly sworn to in accordance with law, depose and state:

That I am the **BILLING & COLLECTION MANAGER** of the **PhilSTAR Daily, Inc.** a domestic corporation duly organized and existing under by virtue of Philippine laws with office and business address at 202 Railroad Street corner Roberto S. Oca Street, Port Area, Manila.

That the said corporation publishes **THE PHILIPPINE STAR**, a daily broadsheet newspaper published in English and of general circulation.

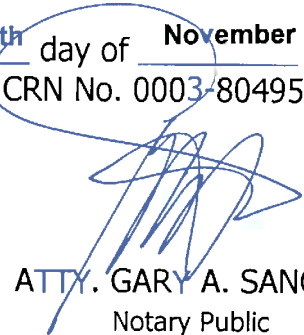
That the order of **MANILA ELECTRIC COMPANY (MERALCO)**
captioned as follows: **Notice of Application**
Please see attached printed text which had been published in **The Philippine STAR** in its issues of: **November 17, 2021**

FURTHER AFFIANT SAYETH NAUGHT.
QUEZON City, Philippines


EMMA V. DOROTEO
Affiant

SUBSCRIBED AND SWORN to before me this 17th day of November affiant exhibited to me her Unified Multi-Purpose ID (UMID) CRN No. 0003-8049504-7.

Doc. No. 309
Page No. 81
Book No. XX
Series of 2021


ATTY. GARY A. SANCIO
Notary Public
Until December 31, 2022
Adm. Matter No. NP-146 2021-2022
Roll No. 44261
IBP No. 1082447/06-30-17/Q.C.
PTR No.0699756/01-08-2021/QC

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committee on
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philstar.com philstarsubscribe.com @PhilippineSTAR



849 new
cases a
output

The daily cases of COVID-19 nationwide dropped yesterday to a record low of less than 1,000, according to the Department of Health (DOH).

The DOH posted 849 new infections, bringing to 2,819,341 the total number of COVID cases nationwide.

Turn to Page 2

VOL. XXXVI NO. 112 • WEDNESDAY, NOVEMBER 17, 2021 • 3 SECTIONS, 36 PAGES P20 MM

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COVID
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Commuters ride an MRT coach without face shields as the managements of the LRT and MRT announced they may opt not to wear them inside public transportation under Alerts Level 1 to 3.

Face shield mandate in pu

COP26 conference 'nothing but an em

By DELON PORCALLA

It was apparently all talk, with no concrete action.

Officials and members of the House of Representatives have expressed disappointment over the recently concluded 26th Conference of the Parties (COP26) to the UN Framework Convention on Climate Change held in Glasgow, Scotland which apparently ended with nothing but mere rhetoric.

"Let us all be reminded again of what needs to be done for our home, our planet. Let us end the procrastination and apathy now," House Deputy Speaker Loren Legarda – an

environmentalist – stressed.

The Antique congresswoman earlier warned that Southeast Asia, and not just the Philippines, may soon suffer from a "looming food crisis" brought about by constant changing weather patterns as a result of climate change.

In a privilege speech last week, Legarda raised the specter of a massive decline in food production due to "extreme weather events" in developing countries in this part of the region.

"We have a looming food crisis. Food production around the world will suffer as global heating reaches 1.5 degrees Celsius. Already, the increased heat and

humidity are harming crops and livestock, with droughts and floods wiping out harvests as well," she cautioned.

The former senator made the remarks in relation to the eighth anniversary of Super Typhoon Yolanda and shortly after COP26.

For his part, Rep. LRay Villafuerte – another advocate for the environment – lamented that two-week COP26 "turned out to be another meeting full of rhetoric but sorely lacking in action."

"It seems the meeting was just an elaborate talkfest that was nothing but an emission of hot air. The gathering just contributed to planet heating,"

the Camarines Sur congressman observed.

COP26, which ran from Oct. 31 to Nov. 12, was expected to come up with concrete measures on how developed economies can fulfill the \$100-billion financing per year they had pledged to developing countries for climate projects, and clear-cut commitments on how quickly each nation would reduce their carbon footprints over the next decade.

But no such firm actions and commitments resulted from the two weeks of negotiations during the conference.

Villafuerte said he hoped that COP26 would be devoid

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

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

ERC Case No. 2021- ____ RC

MANILA ELECTRIC COMPANY
(MERALCO),

Applicant.

x _____ x

APPLICATION

Applicant MANILA ELECTRIC COMPANY (MERALCO), through the undersigned counsel, most respectfully avers 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, 115 kV–34.5 kV, three (3)-phase power transformer with On-Load Tap Changer (OLTC) to replace Applicant's Urdaneta Substation's defective Power Transformer Bank No. 3.

4. The Application is filed pursuant to 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.

5. 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, 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

6. The Urdaneta Substation is located at EDSA cor. Recoletos Circle St., Brgy. Urdaneta Village, Makati City, Metro Manila. The said substation serves the power requirements of customers in Makati City and portions of Taguig City. The Urdaneta Substation has three (3) 115kV-34.5kV power transformer banks.

7. On 09 June 2021 at 1903H, the Urdaneta Power Transformer Bank No. 3 was tripped out by transformer differential relay with the actuation of Buchholz and pressure relief devices due to internal fault. Based on the retrieved relay data, it showed that the

Table 1: Without Project

Parameter Under Consideration	
Loading of Urdaneta 83-MVA Bank No. 2	64%

Table 2: With Project

Parameter Under Consideration	
Loading of Urdaneta 83-MVA Bank No. 3	38%
Loading of Urdaneta 83-MVA Bank No. 2	26%

15. In the event of another outage of the adjacent power transformer, coupled with the non-replacement of the Urdaneta Bank No. 3, there will be massive power interruptions to the detriment of customers in the affected. Thus, it was crucial that the new power transformer be immediately installed at the Urdaneta Substation.

16. The total cost of the emergency replacement of the power transformer with OLTC at the Urdaneta Substation is Fifty-Six Million Seven Hundred Ninety-Two Thousand Six Hundred Ninety-Six Pesos and Fifty-Nine Centavos (PHP56,792,696.59).

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. 3; 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 Urdaneta Substation be APPROVED.

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

Pasig City, 15 November 2021.

By:

FRANCIS DINO S. ANTONIO
Roll of Attorneys No. 48145

PTR No. 7236629; 01/08/2021; Pasig City

IBP No. 145337; 01/08/2021; RSM

MCLE Compliance No. VII-0001788; 02 December 2019

HAZEL ROSE B. SEE

Roll of Attorneys No. 48265

PTR No. 7236627; 01/08/2021; Pasig City

IBP No. 06460(LIFETIME); 01/16/07; QC

MCLE Compliance No. VII-0001116; 17 October 2019

ADRIAN REX C. DIMALANTA

Roll of Attorneys No. 61149

PTR No. 7236620; 01/08/2021; Pasig City

IBP No. 145334; 01/08/2021; PPLM

MCLE Compliance No. VII-0001008; 17 October 2019

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.

5. 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, 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

6. The Urdaneta Substation is located at EDSA cor. Recoletos Circle St., Brgy. Urdaneta Village, Makati City, Metro Manila. The said substation serves the power requirements of customers in Makati City and portions of Taguig City. The Urdaneta Substation has three (3) 115kV-34.5kV power transformer banks.

7. On 09 June 2021 at 1903H, the Urdaneta Power Transformer Bank No. 3 was tripped out by transformer differential relay with the actuation of Buchholz and pressure relief devices due to internal fault. Based on the retrieved relay data, it showed that the fault occurred in the transformer Phase A and B primary winding with a fault magnitude of 1.58kA and 1.40kA, respectively. Furthermore, the operation of Transformer Bank No. 3's Pressure Relief Device, Buchholz Relays of Main Tank, and Turrets validated the occurrence of an internal fault. Power Transformer Bank No. 3, a Siemens 83MVA 115-34.5kV, was first energized last 10 December 2017.

8. On 09 June 2021 and 10 June 2021, the Urdaneta Power Transformer No. 3 was subjected to a series of tests to determine its condition after the incident. The test results of said power transformer showed that it was no longer safe to be re-energized and was declared for replacement due to the following significant findings: Gas accumulated at the Buchholz relay showed high level of combustible gases including Hydrogen, Acetylene, Ethylene, and Methane. The same gases were also evident in the extracted oil from the transformer main tank and transformer turret which were indicative of a high energy fault sustained by the transformer.

9. Furthermore, Transformer electrical tests showed that the ratio for all taps on all phases was no longer within the expected tolerance based on MERALCO standards. Winding resistance for all taps on all phases obtained was also relatively low compared to the initial commissioning values. High excitation current was also observed on all phases causing the Insulation Power Factor test equipment to trip at relatively low voltage of less than 1 kV which indicates the possibility of turn-to-turn short.

10. Given these adverse test results, Applicant was constrained not to re-energize the defective Urdaneta Power Transformer Bank No. 3, and to temporarily transfer all its loads to the adjacent Urdaneta Bank No. 2 only since it was not technically feasible to transfer any load of Power Transformer Bank No. 3 to Power Transformer Bank No. 1 due to the limitation of configuration set-up.

11. As a result of accommodating the loads of the defective transformer, Urdaneta Power Transformer Bank No. 2 operated at 64% loading level. It is well to note that this loading level happened during the Covid-19 pandemic condition wherein the power demand is lower than usual. Under normal conditions where the demand is at its peak, Urdaneta Power Transformer Bank No. 2 would have operated critically at 89% if the loads of the Urdaneta Bank No. 3 will be transferred to it.

Pre-COVID (2019) Bank Loading		COVID (2021) Bank Loading	
Bank 2	Bank 3	Bank 2	Bank 3
40.86%	47.76%	26.00%	37.94%
89%		64%	

12. The critical loading of Power Transformer Bank No. 2 may result to an outage which will cause prolonged and massive interruption in the affected areas thereby affecting the supply of electricity of customers in Makati City, such as, but not limited to: Ayala Land Inc., Tower Condominium Corp., Citi Center Condominium Corp., Philippine Long Distance Telephone Co., Tower One and Exchange Plaza Condominium Corp., The World Centre Condominium, Make Shangri-la Hotel, Department of Trade and Industry and Asian Institute of Management; and portions of Taguig City, such as, but not limited to, Enderun Colleges and Bonifacio Water Corporation.

13. Considering the imminent risks posed by shifting the loads to the adjacent power transformer Bank No. 2, MERALCO was constrained to replace the defective Urdaneta Power Transformer No. 3 with an available 1 MVA, 115 kV-34.5 kV Power Transformer and was energized on 2 September 2021.

14. Shown below are the projected loadings of the affected power transformer with and without the replacement of Urdaneta Power Transformer Bank No. 3.

By:

FRANCIS DINO S. ANTONIO
Roll of Attorneys No. 48145

PTR No. 7236629; 01/08/2021; Pasig City
IBP No. 145337; 01/08/2021; RSM
MCLE Compliance No. VII-0001788; 02 December 2019

HAZEL ROSE B. SEE

Roll of Attorneys No. 48265

PTR No. 7236627; 01/08/2021; Pasig City
IBP No. 06460(LIFETIME); 01/18/07; QC
MCLE Compliance No. VII-0001116; 17 October 2019

ADRIAN REX C. DIMALANTA

Roll of Attorneys No. 61149

PTR No. 7236620; 01/08/2021; Pasig City
IBP No. 145334; 01/08/2021; PPLM
MCLE Compliance No. VII-0001098; 17 October 2019

ISAGANI C. CORUÑA II

Roll of Attorneys No. 63123

PTR No. 7236622; 01/08/2021; Pasig City
IBP No. 145332; 01/08/2021; RSM
MCLE Compliance No. VII-0003269; Valid until 14 April 2025

EDGAR MICHAEL C. ROBLES

Roll of Attorneys No. 62413

PTR No. 7236624; 01/08/2021; Pasig City
IBP Lifetime No. 011798
MCLE Compliance No. VII-0001112; 17 October 2019

7th Floor, Lopez Building

Ortigas Avenue, Barangay Ugong, Pasig City

Tel no. 1622-2260; Fax No: 1622-3550

Email: regaffairs@meralco.com.ph

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 Manila Electric Company, 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 NOV 15 2021 day of 2021 at Pasig City, Philippines.

JOSE RONALD V. VALLES

Affiant

NOV 15 2021

SUBSCRIBED and SWORN to before me this 15th day of 2021, at Pasig City, Philippines, affiant having exhibited to me his Social Security System ID bearing the number 33-10900088.

Doc. No. 479
Page No. 54
Book No. 2
Series of 2021

ALTHEA S. ELORAGA

NOTARY PUBLIC

Appointment No. 121 (2020-2021)

Pasig, San Juan and Patros

Issued on 24 February 2020 at Pasig City
Roll No. 75497; IBP No. 145330; 1-08-21; Quezon City
PTR No. 7236623; 1-08-21; Pasig City
7th Floor, Lopez Bldg., Ortigas Ave., Pasig City

P.S. November 17, 2021

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

AFFIDAVIT OF PROOF OF SERVICE

I, **JOMARI-AL P. TAMAYO**, Filipino, of legal age and with office address at 7th Floor, Lopez Building, Ortigas Avenue, Barangay Ugong, Pasig City, after having been duly sworn to in accordance with law, hereby depose and say that:

1. I am an employee of the Manila Electric Company (MERALCO) assigned at Regulatory Legal Office.

2. I served a copy of the Application, entitled: **IN THE MATTER OF THE APPLICATION FOR APPROVAL OF THE EMERGENCY REPLACEMENT OF ONE (1) 83-MVA POWER TRANSFORMER AT URDANETA SUBSTATION**", before filing the same to the Energy Regulatory Commission (ERC) to:

By Personal Service:

Office of the Sangguniang Panlungsod
City Government of Pasig

Office of the Mayor
City Government of Pasig

3. That I served a copy of the Application, with attached Annexes, upon the above-written address today, NOV 17 2021, by personal service. Attached is a copy of the first page of the Application showing proof of receipt by the Office of the Sangguniang Panlungsod and Office of the Mayor.

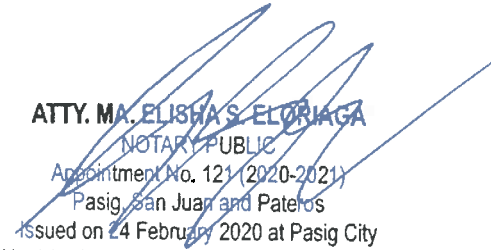
NOV 17 2021 **IN WITNESS WHEREOF**, I have hereunto signed this Affidavit on this _____ at Pasig City.


JOMARI-AL P. TAMAYO
Affiant

SUBSCRIBED AND SWORN to before me this NOV 17 2021, affiant exhibiting to me his Social Security System ID bearing the number

SSS No. 34-8752367-6.

Doc. No. 485
Page No. 48;
Book No. 11;
Series of 2021.


ATTY. MA. ELISHA S. ELORRIAGA
NOTARY PUBLIC
Appointment No. 121 (2020-2021)
Pasig, San Juan and Pateros
Issued on 24 February 2020 at Pasig City
Roll No. 73497; IBP No. 145330; 1-08-21; Quezon City
PTR No. 7236623; 1-08-21; Pasig City
7th Floor, Lopez Bldg., Ortigas Ave., Pasig City



ACKNOWLEDGEMENT

This is to acknowledge the receipt a copy of Manila Electric Company's (MERALCO) verified Application entitled: **"IN THE MATTER OF THE APPLICATION FOR APPROVAL OF THE EMERGENCY REPLACEMENT OF ONE (1) 83 – MVA POWER TRANSFORMER AT URDANETA SUBSTATION"** with attached Annexes, served by MERALCO, prior to its filing with the Energy Regulatory Commission (ERC).

This acknowledgement is issued upon the request of MERALCO for whatever legal intents and purposes it may serve.

Issued this 17th day of November 2021, at Pasig City.


ATTY. JERONIMO U. MANZANERO
City Administrator

NOT VALID
W/OUT
OFFICIAL
DRY SEAL



Office of the City Administrator
8/F Pasig City Hall
Caruncho Ave., San Nicolas
Pasig City, Metro Manila
Philippines

cityadministrator@pasigcity.gov.ph
+63(2)8643-1111 loc. 561 or 898
<https://pasigcity.gov.ph>



17 November 2021

HON. VICTOR MA. REGIS "VICO" N. SOTTO

City Mayor

Pasig City Hall, Caruncho Ave.,

Barangay San Nicolas,

Pasig City

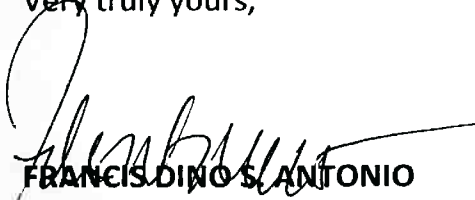
Thru: **Atty. Jeron U. Manzanero**
City Administrator, City of Pasig

Dear **Mayor Sotto**:

Attached is a copy of a verified Application entitled: **"IN THE MATTER OF THE APPLICATION FOR APPROVAL OF THE EMERGENCY REPLACEMENT OF ONE (1) 83-MVA POWER TRANSFORMER AT URDANETA SUBSTATION"** with attached Annexes being served to your office, prior to its filing with the Energy Regulatory Commission (ERC).

Please acknowledge receipt thereof in the suggested form attached.

Very truly yours,


FRANCIS DINO S. ANTONIO

AVP & Head, Regulatory Legal Case Management Office

CITY GOVERNMENT OF PASIG
RECEIVED
BY: SCWV
DATE: 11/17/21 TIME: 3:21
CITY ADMINISTRATOR'S OFFICE
CA-2021-11-2922

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

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

CITY GOVERNMENT OF PASIG
RECEIVED
BY: Sonny
DATE: 11/17/21 TIME: 3:21
CITY ADMINISTRATOR'S OFFICE
2021.11.29

ERC Case No. 2021- ____ RC

**MANILA ELECTRIC COMPANY
(MERALCO),**

Applicant.

X-----X

APPLICATION

Applicant **MANILA ELECTRIC COMPANY (MERALCO)**,
through the undersigned counsel, most respectfully avers 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, 115 kV–34.5 kV, three (3)-phase power transformer with On-Load Tap Changer (OLTC) to replace Applicant's Urdaneta Substation's defective Power Transformer Bank No. 3.

4. The Application is filed pursuant to the Honorable Commission's Resolution No. 26, Series of 2009, entitled: "*Resolution Amending the Rules for Approval of Regulated Entities' Capital*

Republic of the Philippines
Office of the Sagguniang Panlungsod
City of Pasig

ACKNOWLEDGMENT

This is to acknowledge the receipt of a copy of Manila Electric Company's (MERALCO) verified Application entitled: "IN THE MATTER OF THE APPLICATION FOR APPROVAL OF THE EMERGENCY REPLACEMENT OF ONE (1) 83-MVA POWER TRANSFORMER AT URDANETA SUBSTATION" with **attached Annexes**, served by MERALCO, prior to its filing with the Energy Regulatory Commission (ERC).

This acknowledgment is being issued upon the request of MERALCO for whatever legal intents and purposes it may serve.

Issued this 19th Nov. 2021 at Pasig City.


LOIDA U. VILLANUEVA
Acting City Council Secretary

NOTE: Affix Seal

17 November 2021

RECEIVED
CITY COUNCIL
DATE: 11/17/21 TIME: 3:20pm

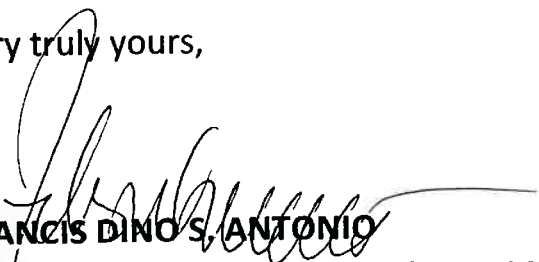
Office of the Sangguniang Panlungsod
City of Pasig

Gentlemen:

Attached is a copy of a verified Application entitled **"IN THE MATTER OF THE APPLICATION FOR APPROVAL OF THE EMERGENCY REPLACEMENT OF ONE (1) 83-MVA POWER TRANSFORMER AT URDANETA SUBSTATION"** with attached Annexes, being served to your office, prior to its filing with the Energy Regulatory Commission (ERC).

Please acknowledge receipt thereof in the suggested form attached.

Very truly yours,

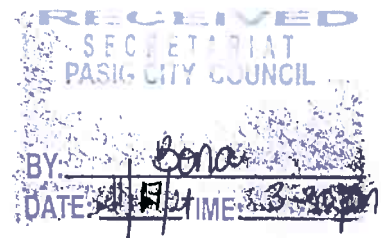


FRANCIS DINO S. ANTONIO

AVP & Head, Regulatory Legal Case Management Office

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

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



ERC Case No. 2021- ____ RC

**MANILA ELECTRIC COMPANY
(MERALCO),**

Applicant.

X-----X

APPLICATION

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	Official Receipt of the Republic of the Philippines		
	0019534		
	No. 0019534		
		Date 11/24/2021	
Agency ENERGY REGULATORY COMMISSION		Fund 701	
Payor MANILA ELECTRIC COMPANY (MERALCO)			
Nature of Collection	Account Code	Amount	
Filing Fee	1-02-01-130	P 700.00	
UPLRF	2-99-99-99	10.00	
2021-SCMD-2813			
TOTAL		P 710.00	
Amount in Words seven hundred ten pesos only			
☒ Cash ☐ Check ☐ Money Order	Drawee Bank	Number	Date
Received the amount stated above <div style="text-align: center;">  MILA A. MIRANDA Cashier II </div>			
Collecting Officer			
NOTE: Write the number and date of this receipt on the back of check or money order received.			



STATEMENT OF ACCOUNT

ENERGY REGULATORY COMMISSION

http://www.erc.gov.ph

Pacific Center Building
San Miguel Ave, Pasig City
Phone 689-5372 loc.5378 Fax 638-4519

STATEMENT NO : 2021-SCMD-3613

BILL TO : MANILA ELECTRIC COMPANY (MERALCO)
Lopez Building, Ortigas Avenue, Pasig City

DATE ISSUED : November 23, 2021

DUE DATE : November 28, 2021

PARTICULARS	AMOUNT
In the Matter of the Application for Approval of the Emergency Replacement of One (1) 83-MVA Power Transformer at Urdaneta Substation(Revenue Code: 4-02-01-130)	700.00
UPLRF(Revenue Code: 4-02-01-130)	10.00
TOTAL AMOUNT (Php)	710.00

SEVEN HUNDRED TEN PESOS

Maria Corazon C. Gines
Approved by : ATTY. MARIA CORAZON C. GINES
DIRECTOR - LEGAL SERVICE

Approved by : *[Signature]*
ENGR. LEGARIO L. GALANG, JR.
OIC-Director, ROS

Attested by : *[Signature]*
VON CARLO D. AÑONUEVO
BILLING SECTION



OR # 001953A

TRANSACTION CODE : Place Transaction Code here (for paymnet thru banks)

PURPOSE OF THIS PAYMENT : In the Matter of the Application for Approval of the Emergency Replacement of One (1) 83-MVA Power Transformer at Urdaneta Substation(Revenue Code: 4-02-01-130)

Application Fee (Revenue Code: 4-02-01-130): 700.00
UPLRF(Revenue Code: 4-02-01-130): 10.00
TOTAL AMOUNT (PHP) : 710.00

BILL TO : MANILA ELECTRIC COMPANY (MERALCO)
Lopez Building, Ortigas Avenue, Pasig City

STATEMENT NO : 2021-SCMD-3613
DATE ISSUED : 11/23/2021 1:58:43 PM
DUE DATE : 11/28/2021 5:00:00 PM
Agency Code : 26-008-0000000

assessed by: malvin m. melgar

Note: You may settle your account at the ERC Cashier Section or proceed to any UCPB branch or Landbank branch.

OFFICES: METRO MANILA * CEBU CITY * DAVAO CITY