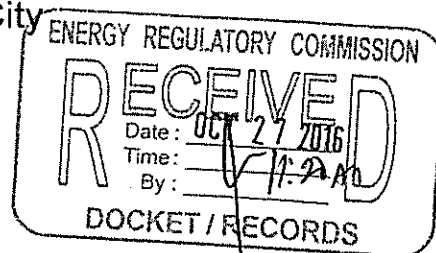


Republic of the Philippines
ENERGY REGULATORY COMMISSION
San Miguel Avenue, Pasig City



IN THE MATTER OF THE
APPLICATION FOR AUTHORITY
TO IMPLEMENT A NEW
CUSTOMER INFORMATION
SYSTEM (CIS) WITH PRAYER
FOR PROVISIONAL AUTHORITY,

ERC CASE NO. 2016-182 RC

MANILA ELECTRIC COMPANY
(MERALCO),

Applicant.

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APPLICATION

Applicant **MANILA ELECTRIC COMPANY (MERALCO)**, through the undersigned counsel, and to this Honorable Commission, most respectfully avers that:

1. Applicant MERALCO 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. MERALCO 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. MERALCO is part of the First Entry Group of distribution utilities that entered Performance Based Regulation ("PBR"). In its Final Determination dated 6 June 2011 in ERC Case No. 2010-069 RC, the Honorable Commission set out its final position on the price control arrangements that would apply to MERALCO for the Third Regulatory Period (3RP) covering the period from 1 July 2011 to 30

June 2015, including its approval of MERALCO's proposed Capital Expenditure (CAPEX) Program, for the said period.

4. The last year of MERALCO's Third Regulatory Period expired on 30 June 2015. The Fourth Regulatory Period (4RP) for the First Entry Group commenced on 1 July 2015 and will end on 30 June 2019. However, MERALCO is yet to undergo the reset process and is awaiting the release by this Honorable Commission of the final rules to govern the filing of its reset application for the next regulatory period.

5. This Application is being filed pursuant to Section 20 (b) of Commonwealth Act No. 146, as amended, otherwise known as the Public Service Act, which requires any public service to seek the prior approval of the Honorable Commission before it can establish, construct, maintain, and operate new facilities or make any extension of its existing facilities.

A. BACKGROUND AND RATIONALE FOR THE NEW CUSTOMER INFORMATION SYSTEM (CIS)

6. The existing CIS of MERALCO, the CMSv10, stores the transaction records of MERALCO's close to 6 million customers ranging from residential, general service, small to very large commercial and industrial to flat streetlight services. It directly supports the meter-to-cash activities of MERALCO by integrating the core processes that contribute to MERALCO's financial viability such as service application, meter reading, and commercial management (contracting, billing, payments and collection) through the interface of the CMSv10 with the different internal systems of MERALCO, such as the following:

- a. Financial Management Systems, the Call Center's Computer Telephony system and the Corporate Data warehouse system;
- b. Enterprise Asset Management (EAM) – This facilitates compliance with the Energy Regulatory Commission's Order¹ for MERALCO to develop a more integrated Asset Management System;²
- c. Prepaid Electricity Management System (PEMS) – This formed part of MERALCO's capital expenditure project line-up for the Third Regulatory Period. Integration is necessary to facilitate the monitoring of consumption,

¹ Order dated 6 July 2011 in ERC Case No. 2010-069 RC.

² An Application for the approval of the EAM has been filed before the Energy Regulatory Commission (ERC) and docketed as ERC Case No. 2013-014 RC, entitled "*In the Matter of the Application for Authority to Implement an Enterprise Asset Management System, with Prayer for Provisional Authority.*"

monthly true-up adjustment of the Prepaid Billing, and the shifting from postpaid to prepaid programs and vice versa of about 40,000 customers;

- d. Meter Data Management System (MDMS) - This formed part of MERALCO's approved capital expenditure projects line-up for the Third Regulatory Period. Integration is necessary for management of the 15-minute readings of the smart meter and meter events like disconnection and reconnection. The MDMS is the core application system to support the Smart Grid initiatives; and
- e. Outage Management System (OMS) - This provides information on outages affecting distribution facilities. This information is linked to customer information in the CIS and allows feedback to affected customers. Moreover, outage reports recorded in the CIS are forwarded to the Outage Manage System to trigger trouble resolution activities.

7. The existing CIS of Meralco, the CMSv10, is a 10-year old system that was acquired in CY2006 from Soluziona Philippines, Inc. to support the required activities and processes in anticipation of the Retail Competition and Open Access (RCOA), which was scheduled to start in July 2007.

8. In 2007, the CMSv10 was used to handle the demand aggregation of customers under the Customer Choice Program (CCP) in as much as the program requires the monitoring of customers' 15 minute readings and the application of different prices for each time period which cannot be supported by the obsolete CMS Mainframe (CMS MF).

9. In 2011, the intended use of the CMSv10 was further realized when the system was used to support the growing complexities of handling the concerns of MERALCO's General Power (GP) or medium and large commercial / industrial customers.

10. In March 2013, MERALCO filed an application to migrate the rest of its captive customers from the CMS MF, which has been in service for fifteen (15) years back then, to the existing CMSv10 in order to address the technological obsolescence of the CMS MF.

11. The application for the migration of the rest of MERALCO's customers to the CMSv10 was approved by the Honorable Commission on September 2, 2013 under Energy Regulatory Commission (ERC) Case No. 2013-32 RC. The migration was done in phases and was completed in April 2014.

B. PROJECT DESCRIPTION AND COMPONENTS

12. At present, MERALCO is faced with rapidly evolving changes and developments in the electric power industry, and its ever-growing customer base. Accordingly, and in order to address the problems posed by technological obsolescence as well as requirements of future customers, including regulatory, technological and industry requirements, MERALCO proposes to purchase a new Customer Information System (CIS) to replace the existing CMSv10. Attached as **Annex "A"** and made an integral part hereof is the Project Justification for the proposed new CIS Project, which document includes a more detailed description of the Project, the various options considered by MERALCO, and the Qualitative and Quantitative Analyses of the options considered.

13. The project will include the acquisition of a new application system, database licenses and hardware. More particularly, the project will involve the following activities:

- a. Process Review and Design – this involves the review of MERALCO's current business processes and aligning them with global utility best practices in order to determine the most effective and efficient way of providing customer service. This will also help determine the right application system for MERALCO.
- b. Procurement – this involves the selection and acquisition of the replacement system and the implementation service provider of the project. This involves also the acquisition of the necessary hardware and licenses needed for the development phase.
- c. Detailed Design – this involves the system design that will incorporate the business requirements into the replacement system.
- d. Build and Test – this involves the actual development of the changes in the replacement system and the testing of its components and its integration with other application systems.
- e. Procurement – this involves the acquisition of the necessary hardware and licenses for the go-live phase.
- f. Data Migration – this involves the migration of the data from the existing CIS to the replacement system.

- g. Deployment – this involves the preparatory activities prior to go-live. This includes user trainings, communication activities to internal users and external customers of the system and process changes, and the actual system deployment activities.

The need for a new Customer Information System (CIS)

14. Since the promulgation of the EPIRA, the ERC was already preparing for RCOA by issuing rules which were considered by MERALCO in setting up a CIS. New business requirements were expected to emerge with open access and deregulation, requiring MERALCO to be more agile in responding to the needs of its customers. The three main drivers that required further system development/customization were as follows:

- a. New business processes triggered by the then upcoming market situation (deregulation, competitive market, regulatory requirements). Aside from the customer process typical of a regulated market, new processes like marketing, accounting, billing and settlement of energy transactions (including losses and energy imbalances) between the distribution utility, retail suppliers and market operator settlement of financials with other distribution utilities, market operators and generating companies and demand forecasting were to emerge. Not only were new processes defined and implemented, but processes that were well established in regulated markets would also be redefined and adapted to the new market reality. These included shifts to flexible pricing, quarter-hour/hourly meter readings, non-electricity product offers and sales and bundling of different products and services.
- b. Advances in technology such as those for remote meter reading, hourly reading, among other things.
- c. Need for data interchange between different market players (distribution utility, retail suppliers and the market operator other distribution companies, retail companies, market operators). This included handling customer requests to change suppliers, comparison of meter reading data between distribution and supply companies and transfer of billing information for settlement purposes.

15. Furthermore, some initiatives and programs offered by MERALCO are not sufficiently supported by the current system. Programs, such as RCOA, PRES and Net Metering, require varying functionalities that the current system cannot provide without major program code changes. MERALCO currently undertakes manual

processing of these data in order to provide the necessary services to the customers. For these manual processes to be automated in the current CIS, major code changes are required which necessitates the presence of an extensive support organization to continually streamline system architectures by revisiting the same in order to make it more cost effective.

16. In fact, the existing CIS, the CMSv10, has been customized a number of times to allow the processing and handling of RCOA, Prepaid Metering, Feed-in-Tariff and Net Metering to name a few. Such customizations limit the system upgrades that can be availed of by MERALCO from the system vendor. A new CIS will not only enable MERALCO to perform all of the customer service processes as stated above but it will also enable MERALCO to timely launch, implement and support new programs and comply with new system and regulatory requirements with minimal program code changes. New generation customer information systems are already equipped to handle different tariff designs (i.e. flat, volume-based, time-of-use) and monthly, bi-monthly or quarterly usage data, which accompany smart metering implementations. Less program code changes not only mean less use of system and infrastructure resources but would also enable MERALCO to avail of vendor driven upgrades at no additional cost.

17. In the event that the current CIS is maintained in its current form, which means enhancements to the CMSv10 and purchases for hardware technology upgrades will not be performed, and only hardware to consider customer / load growth shall be purchased, the risk of system breakdown and system unavailability increases. In turn, MERALCO would be forced to manually process applications, meter readings, bills, payments and complaints. To illustrate the impact of an unexpected system breakdown, it is worth stressing that a one day disruption will result in the following:

a. Manual Processing of Service Applications

This translates to 1,800 ordinary service applications (assuming 1 customer is to 1 ordinary service application) per day or approximately 304,000 kWh of unserved energy per day of delay in processing service applications (based on current average figures) in case of system breakdown or unavailability.

b. Unaccounted Meter Readings

In the event of a system breakdown, there will be unaccounted meter reading data, which will result in either non-billing or inaccuracy of amount billed to customers.

c. Delays in Billing Customers

Should the CMS v10 break down for a day, billing of at least 275,000 services will not be generated, resulting in delay in customers' receipt of their bills.

d. Manual Payment Collection at Business Centers and Delayed Posting of Payments

With an average of 82,400 bills or PhP 392 million being collected on a day-to-day basis by business centers, such volume and amount of payments and Official Receipts collecting payments and issuing official receipts shall be done manually during unexpected system breakdown.

System unavailability also results in delays in posting payments, whether payments are received at MERALCO Business Centers or at third-party collection agents (TPAs, e.g., Bayad Center, banks). Manually accepted payments at Business Centers would be reflected in the customers' accounts only after the system becomes available and the payments are encoded. Likewise, payments received at TPAs would be reflected in the customers' accounts only after the system becomes available to process payment records sent to MERALCO by the TPAs. Because of the delay in payment posting, customers whose services are disconnected and who have paid their bills would remain disconnected despite the payment, because it is the system that generates the reconnection field order.

e. Manual Concern Handling

Customer concerns such as complaints, requests, and inquiries received during periods of system unavailability are handled manually, and this generally results in delay in concern resolution.

18. More importantly, the inability to maintain the present CIS could lead to damaging repercussions to customers and government programs and initiatives that empower the customers to manage their consumption. In particular, these would include:

- a. Inability to Support Full Implementation of Retail Competition and Open Access (RCOA)
- b. Inability to Support Advanced Metering Infrastructure
- c. Inability to Support Renewables
- d. Inability to Support Other Emerging Requirements

19. In sum, aside from the efficiency benefits of having a next generation CIS, there is an urgent need for MERALCO to replace its existing CIS, the CMSv10, in order to adopt with the rapidly evolving changes and developments in the electric power industry, and its ever-growing customer base, to one that can handle the complex management of a more complicated array of functionality requirements.

C. PROJECT COST

20. The estimated cost of the CIS Project is **ONE BILLION SEVEN HUNDRED FIFTY EIGHT MILLION, Philippine Currency, (Php 1,758,000,000.00).**

21. Based on the Least Cost Analysis (as shown in **Annex “A”**), it is least costly to purchase a new CIS than to keep enhancing the current CIS to address future requirements as the latter will result in substantially higher OPEX costs in addition to the programming costs, hardware and licensing costs and a significantly higher level of manpower resources in order to maintain the system.

22. In light of the resulting benefits of the new CIS Project in the overall service to the electricity consumers, MERALCO respectfully submits that the building block components, particularly the return of capital and return on capital associated with the new CIS Project, from the time it is put to service and considered used and useful should be considered as a deferred amount to be included in MERALCO's Fourth Regulatory Period reset calculations.

D. URGENT NEED TO ISSUE PROVISIONAL AUTHORITY

23. As can be seen from the attached Project Schedule, a project of this magnitude will require a preparation period of at least 30 months prior to the target commissioning date in June 2019.

24. It is submitted that the replacement system needs to be meticulously planned and developed as core application projects take years before the same can be implemented, since activities ranging from planning, procurement, design, development, testing and deployment have to be executed.

25. During the period while the new CIS is being developed, installed and implemented and prior to commissioning, the existing CIS, the CMSv10, will still serve MERALCO's meter to cash processes – *i.e.*, service application, meter reading, billing, payments, field orders and customer assistance - for all its customers in parallel until operations using the replacement system is stabilized. This will ensure

minimal disruption to customer processes during the transition from the existing to the new CIS.

26. Thus, there is an urgent need for a provisional authority to be issued to allow MERALCO to immediately start the implementation of the new CIS Project and complete the same on schedule, and therefore, enable it to implement a modern integrated customer information system as soon as possible so as to better serve its consumers. Unless a provisional authority is immediately issued, MERALCO will be unable to start the procurement process for the different components of the project and the longer it takes to implement the new CIS project, the longer it will take for MERALCO to comply with new regulatory and customer requirements. Worse, the risk of system breakdown of the existing CMSv10 greatly increases with the delay in the implementation of the new CIS project.

27. It bears emphasis that the issuance of a provisional authority would not affect the retail rates of MERALCO.

28. In support of the prayer for the grant of a provisional authority, attached as **Annex "B"** is the Judicial Affidavit of Ms. Liza Rose G. Serrano-Diangson, Vice President and Head of MERALCO's Customer Process Office.

PRAYER

WHEREFORE, it is most respectfully prayed to this Honorable Commission that the instant Application for Authority to implement a new Customer Information System Project be **APPROVED** and that the building block components associated with the foregoing project from the time the same are put in service and considered use and useful be recognized as a deferred amount to be included in MERALCO's subsequent regulatory reset calculations.

Pending hearing, it is likewise prayed that a provisional authority be immediately issued authorizing Applicant MERALCO to implement the new Customer Information System Project.

Applicant MERALCO prays for such other relief as are deemed just and equitable under the premises.

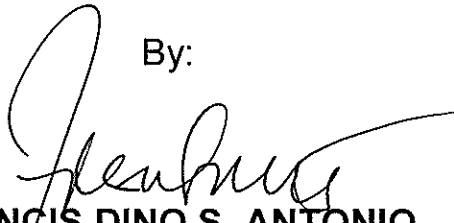
Pasig City, 25 October 2016.

MANILA ELECTRIC COMPANY

Applicant

MERALCO Compound
Ortigas Avenue, Pasig City

By:



FRANCIS DINO S. ANTONIO

Counsel for Applicant

Roll of Attorneys No. 48145

PTR No. 1473407; 01/21/16; Pasig City

IBP No. 1023724; 01/08/16; RSM

MCLE Compliance No. V-0004608; 6 November 2014



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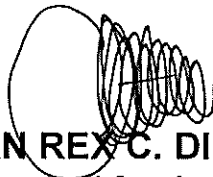
Counsel for Applicant

Roll of Attorneys No. 48265

PTR No. 1473408; 01/21/16; Pasig City

IBP LRN No. 06460; 1/16/07; QC

MCLE Compliance No. VI-0000253; 11 July 2016



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Counsel for Applicant

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IBP No. 1023729; 01/08/16; PPLM

MCLE Compliance No. VI-0000233; 11 July 2016

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Brgy. Ugong, Pasig City
Telephone Number 1622-2260; Fax No. 1622-3550
E-mail: regulatory.legal.staff@meralco.com.ph

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

VERIFICATION AND CERTIFICATE OF NON-FORUM SHOPPING

I, **JOSE RONALD V. VALLES**, Filipino, of legal age and with office address at 7th Floor, Lopez Building, Ortigas Avenue, Pasig City, after being sworn to in accordance with law, hereby depose and say, that –

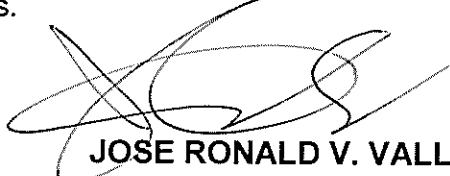
1. I am the Vice President and Head of the Regulatory Affairs Office of Applicant Manila Electric Company;

2. I have been authorized by the Board of Directors of the Applicant to cause the preparation and filing of the instant Application. I have read and understood the allegations contained therein and the same are true and correct based on my personal knowledge and authentic records made available to me in the ordinary course of business of the Applicant;

3. I have been authorized by the Board of Directors to certify that Applicant has not heretofore commenced any other action or proceeding involving the same issues in the Supreme Court, the Court of Appeals, or any other tribunal or agency and to the best of my knowledge, no such action or proceeding is pending in the Supreme Court, the Court of Appeals, or any other tribunal or agency. A copy of the Secretary's Certificate authorizing the undersigned to sign this Verification and Certification is attached as **Annex "C"** of this Application and made integral part hereof;

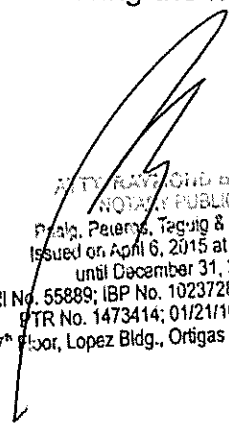
4. If I should hereafter learn that a similar action or proceeding has been filed or is pending before the Supreme Court, the Court of Appeals, or any other tribunal or agency, I undertake to report such fact within five (5) days there from to this Honorable Commission.

IN WITNESS WHEREOF, I have hereunto affixed my signature this 25th day of October 2016 at Pasig City, Philippines.


JOSE RONALD V. VALLES

SUBSCRIBED AND SWORN to before me this 25th day of October 2016, by affiant having exhibited his Social Security System ID bearing the number 33-10900088.

Doc. No. 75;
Page No. 16;
Book No. II;
Series of 2016.


NOTARY PUBLIC
Pres. Petero, Taguig & San Juan
Issued on April 6, 2015 at Pasig City
until December 31, 2016
Roll No. 55889; IBP No. 1023728; 01/08/16; Capiz
PTR No. 1473414; 01/21/16; Pasig City
7th Floor, Lopez Bldg., Ortigas Ave., Pasig City

MANILA ELECTRIC COMPANY				
Major Project Information Summary				
Project Title	REPLACEMENT OF CUSTOMER INFORMATION SYSTEM (CIS)			
Project Type	Renewal			
Project Driver	Non-Network: Renewal			
Project Cost (in millions)	Forex: n/a	Local: PhP1,758 million	Total: PhP1,758 million	
Regulatory Year	RY2017-RY2019	Commissioning Date	June 2019	
Project Description	<p>This project involves the acquisition, installation and implementation of a new Customer Information System ("CIS") to replace the existing 10-year old system, CMSv10.</p> <p>The CIS is a necessary and indispensable system for MERALCO as it serves as an essential enabler of MERALCO's various customer service processes from service application, meter reading, billing and payments, and houses the customer records of MERALCO's now 5.9 million customers. A new CIS will enable MERALCO to more adeptly and proactively address the growing and future requirements of customers and the evolving developments and changing demands of the power industry, and also avoid the risks of system breakdown of its existing CMSv10 that will not only be detrimental to MERALCO's daily operations, but more importantly, will have serious adverse consequences to its customers.</p> <p>The project will involve the following activities:</p> <ul style="list-style-type: none">a. Process Review and Design – this involves the review of MERALCO's current business processes and aligning them with global utility best practices in order to determine the most effective and efficient way of providing customer service. This will also help determine the right CIS application system for MERALCO.b. Procurement – this involves the selection and acquisition of the CIS replacement system and the implementation service provider of the project. This phase also involves the acquisition of the necessary hardware and licenses needed for the development phase.c. Detailed Design – this involves the system design that will incorporate the business requirements into the CIS replacement system.d. Build and Test – this involves the actual development of the changes in the CIS replacement system and the testing of its components and its integration with other application systems.e. Procurement – this involves the acquisition of the necessary hardware and licenses for the go-live phase.f. Data Migration – this involves the migration of the data from the current CIS, the CMSv10, to the CIS replacement system.g. Deployment – this involves the preparatory activities prior to go-live. This includes user trainings, communication activities to internal users and external customers of the system on process changes, and the actual system deployment activities.			

<div> <div>MANILA ELECTRIC COMPANY</div> <div>Major Project Information Summary</div> </div> <div>  </div>	
	<p>The project timeline will require a preparation period of at least 30 months prior to the target commissioning date in June 2019. During the period while the new CIS is being installed and implemented and prior to commissioning, the CMSv10 will still serve MERALCO’s meter to cash processes – <i>i.e.</i>, service application, meter reading, billing, payments, field orders and customer assistance – for all its customers. The CMSv10 will continue to be used in parallel until operations using the replacement system are stabilized. This will ensure minimal disruption to customer processes during the transition from the existing to the new CIS.</p>
Project Justification	<p>The rapidly evolving changes and developments in the electric power industry, together with an ever-growing customer base, render it imperative that MERALCO be equipped with a new CIS that can adapt to the changing customer demands and expectations, digital advances, smart grid initiatives, and changing industry regulations and directions.</p> <p>MERALCO’s CMSv10 is a 10-year old system that was acquired in CY2006 from Indra Philippines (formerly Soluziona Philippines) to support the required activities and processes in anticipation of the implementation of Retail Competition and Open Access (RCOA), which was scheduled to start in CY2007. Through the years, the system had undergone numerous program code changes to be able to handle the varying requirements of captive General Power (GP) and non-GP customers as well as customers under the contestable market. Some examples of program code changes include additional line items for the Tax Recovery Adjustment Charge (TRAC) and Feed-in Tariff Allowance (FiT-All) for captive customers and the Interruptible Load Program (ILP) for contestable customers.</p> <p>Frequent program code changes cause inefficiencies that consume a lot of system, manpower and infrastructure resources. Further, such inefficiencies also introduce risks as code changes have the potential to introduce multiple points of failure. As a result of these failures, business continuity will be impacted negatively and customers will be burdened by operational delays or inefficiencies (e.g., delayed billing, long payment queues at business centers, delayed posting of payments received at third-party collection centers, etc.). These risks are further compounded by the fact that the current system is no longer supported by Indra Philippines (formerly Soluziona Philippines) as the Original Equipment Manufacturer (OEM) already migrated to a new technical platform for its new generation CIS product. Without this project, MERALCO would have to keep on performing code changes, risking potential breakdown/s and buy smaller system applications that will work around the current limitations of the CMSv10.</p> <p>Moreover, the 10-year-old CMSv10 is now struggling to keep up with the leaps and bounds of changes in the electric power industry. Without a new generation CIS, MERALCO will be extremely challenged, if not completely unable, to support the end-to-end automation of processes envisioned by the Advanced Metering Infrastructure systems, the start of aggregation and lowering of thresholds for RCOA, and a ramp-up in adoption of renewables, among others. These are further compounded with the urgency of starting</p>

MANILA ELECTRIC COMPANY Major Project Information Summary		
	<p>the implementation now, considering that MERALCO needs a minimum of 30 months in order to implement and commission the new system.</p> <p>Further, there are cost savings that will be realized through the acquisition of a new generation CIS as opposed to continuously enhancing the current system to enable MERALCO to comply with future regulatory requirements. The CIS replacement system will enable MERALCO to implement initiatives that will benefit its customers such as MERALCO's Customer Experience Transformation Program, which seeks to open up more online touch points for customers, and transform front line and back office processes to improve customer experience. By enabling the customer to connect online with less need for manual interventions, backed by an efficient and well- designed CIS and able business processes, there is a potential to save on cost. There is also a significant advantage of having an integrated solution landscape and integrating more systems on the same platform such as reduced risk of integration/implementation failure and synergy in implementation effort, license cost, hardware, database and post implementation support. As such, the transcendental need to implement the replacement of the new CIS cannot be overemphasized.</p>	
Annex A	Technical and Economic Analysis	
Annex B	Cost Estimates	
Annex C	Expenditure Summary	
Annex D	Cost Benefit Analysis Calculation	
Annex E	Gantt Chart	

ANNEX A: TECHNICAL AND ECONOMIC ANALYSIS

1. BACKGROUND

1.1. Existing System

Acquisition of CMSv10

Since the promulgation of Republic Act No. 9136, otherwise known as the Electric Power Industry Reform Act (EPIRA) in 2001, the Energy Regulatory Commission (ERC) has been preparing for Retail Competition and Open Access (RCOA) by issuing rules and regulations which would define how RCOA would be implemented. As such, these rules and regulations had to be considered and incorporated by MERALCO in its customer information system. New business requirements were expected to emerge with open access and deregulation, requiring MERALCO to be more agile in responding to the needs of its customers. The three main drivers that required further system development/customization were as follows:

- **New business processes triggered by the then upcoming market situation** (deregulation, competitive market, regulatory requirements). Aside from the customer process typical of a regulated market, new processes like marketing, accounting, billing and settlement of energy transactions (including losses and energy imbalances) between the distribution utility, retail suppliers and market operator and demand forecasting were to emerge. Not only were new processes defined and implemented, but processes that were well established in regulated markets would also be redefined and adapted to the new market reality. These included shifts to flexible pricing, quarter-hour/hourly meter readings, non-electricity product offers and sales and bundling of different products and services.
- **Advances in technology such as those for remote meter reading, hourly reading**
- **Need for data interchange between different market players** (distribution utility, retail suppliers and the market operator). This included handling customer requests to change suppliers, comparison of meter reading data between distribution and supply companies and transfer of billing information for settlement purposes.

Hence, in anticipation of the July 2007 initial planned implementation of RCOA, MERALCO’s existing Customer Information System (CIS), the CMSv10, was acquired in Calendar Year (CY) 2006.

Transition from CMS MF to CMSv10

Prior to 2006, MERALCO’s main CIS was the CMS Mainframe (CMS MF). The CMS MF was acquired in 1995 from Union Fenosa¹ and was implemented in 1997 to support the customer service operations of all the customers of MERALCO. The mainframe-based CMS MF was designed to handle regulated rates and monthly reading and billing and other similarly regulated customer processes.

In 2007, the Customer Choice Program (CCP) was launched. The CCP allowed qualified MERALCO customers the option of managing their electricity usage by offering programs where customers can avail of alternative pricing mechanisms that approximate the cost of electricity at different time periods during the day and the different seasons of the year. However, since the CMS MF cannot support the major CCP requirements, i.e., monitoring of customers’ 15-minute readings and the application of different prices for each time period, MERALCO utilized the CMSv10 to handle the demand aggregation of customers under the CCP.

¹ Subsequently, Union Fenosa entered into a joint venture with MERALCO, which joint venture is now called Indra Philippines.

The intended use of the CMSv10 was further realized in 2011 when the system was used to support the growing complexities of handling the concerns of MERALCO's General Power (GP) or medium and large commercial/industrial customers.

In 2012, MERALCO received a certification from its vendor, Indra Philippines (formerly Soluziona Philippines), that the CMS MF has been declared End of Marketing (EOM) as of January 2006. This meant that Indra Philippines will no longer be offering CMS MF for sale and ceased further research and development of this type of architecture, rendering the system obsolete. Given these circumstances, MERALCO filed an application in March 2013 to migrate the rest of its captive customers from the CMS Mainframe to the existing CMSv10 which until then, only supported MERALCO's GP customers. The application for the migration of the rest of MERALCO's 5.2M customers to the CMSv10 was approved by the Honorable Commission on September 2, 2013 under ERC Case No. 2013-32 RC. The migration was done in phases and was completed in April 2014.

CMSv10 Present Functionalities and Limitations

After the completion of the migration from CMS MF, CMSv10 now houses and stores transaction records of MERALCO's close to 6 million customers ranging from residential, general service, small to very large commercial and industrial to flat streetlight services. The CMSv10 directly supports the meter-to-cash activities of MERALCO by integrating the core processes, such as service application, meter reading, and commercial management (contracting, billing, payments and collection), through the interface of the CMSv10 with the different internal systems of MERALCO, such as the following:

- Enterprise Asset Management (EAM), which facilitates compliance with the Energy Regulatory Commission's Order² for MERALCO to develop an integrated Asset Management System;³
- Prepaid Electricity Management System (PEMS), which formed part of MERALCO's capital expenditure project line-up for the Third Regulatory Period. Integration is necessary to facilitate the monitoring of consumption, monthly true-up adjustment of the Prepaid Billing, and the shifting from postpaid to prepaid programs and vice versa of customers;
- Meter Data Management System (MDMS), which formed part of MERALCO's capital expenditure project line-up for the Third Regulatory Period. Integration is necessary for management of the 15-minute readings of the smart meter and meter events like disconnection and reconnection. The MDMS is the core application system to support the Smart Grid initiatives;
- Outage Management System, which provides information on outages affecting distribution facilities. This information is linked to customer information in the CIS and allows feedback to affected customers. Moreover, outage reports recorded in the CIS are forwarded to the Outage Manage System to trigger trouble resolution activities;
- Financial management system, which records cash flows and accounts for revenues that come from sources such as customer payments;
- Call Center Computer Telephony system, which facilitates the prioritization of customer calls, and assigning the call to an agent for proper recording of customer concerns, and;
- Corporate Data warehouse system, which is used for reporting and analysis of customer data.

Figure 1 illustrates the different customer programs, processes and interfaces that CMSv10 currently enables:

² Order dated 6 July 2011 in ERC Case No. 2010-069 RC.

³ The application for the approval of the EAM has been filed before the Energy Regulatory Commission (ERC) and docketed as ERC Case No. 2013-014 RC, entitled "In the Matter of the Application for Authority to Implement an Enterprise Asset Management System, with Prayer for Provisional Authority, Manila Electric Company, Applicant."

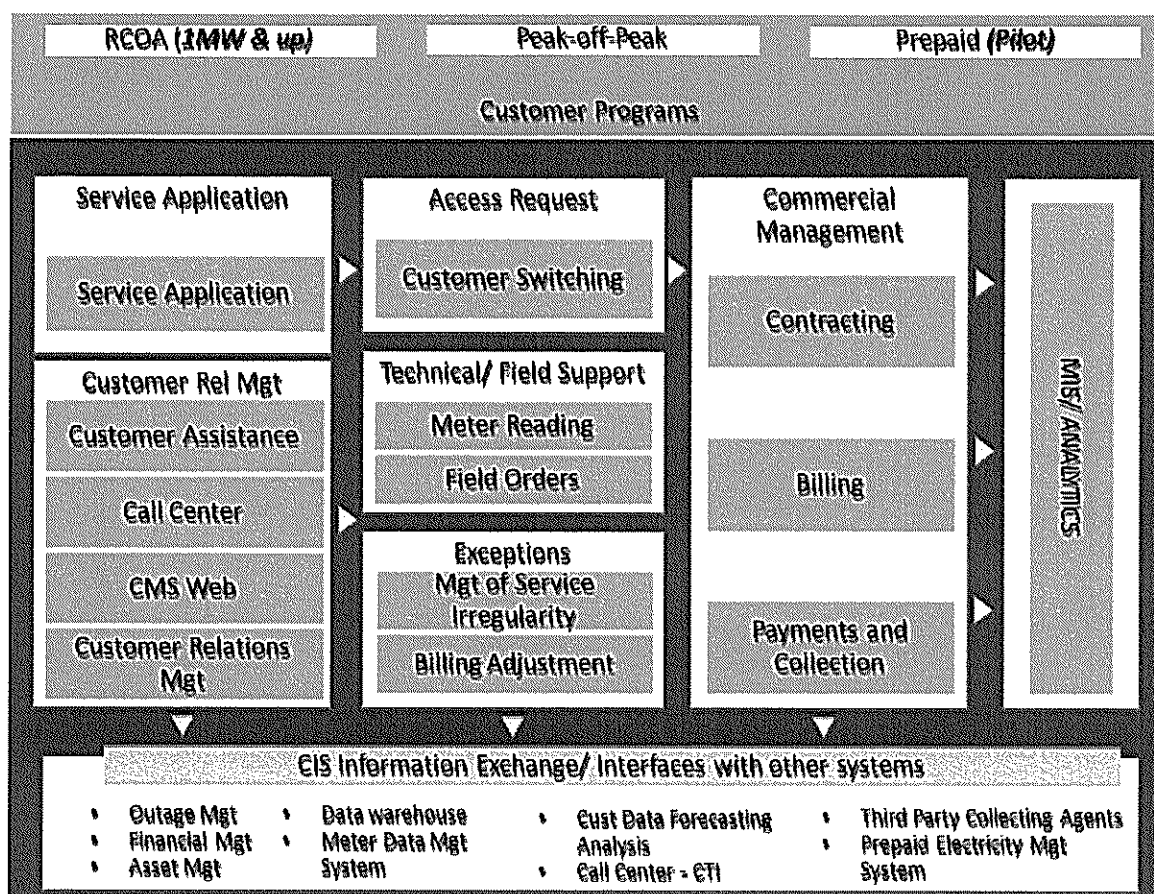


Figure 1. Current System Enabled Customer Products, Processes, and Interfaces

Additional program code changes have been incorporated into the CMSv10 to comply with new regulatory requirements such as the Feed in Tariff (FIT) allowance and Net Metering program, among other things. However, even with the introduction of these code changes in the system to support the implementation of the new requirements, CMSv10 cannot be fully utilized for completely automating the billing of Net Metering customers due to its already limited capability and technology.

Introduction of customizations and several program code changes in the system over the past years have resulted in limited system upgrades availed of by MERALCO from the system vendor. Consequently, further code changes would need to be done to respond to new requirements, with more complex requirements taking anywhere from 6 months to 1 year to build and implement. This would be the case for the planned scope expansion of Prepaid Electricity Service (PRES), the foreseeable growth in the adoption of renewables particularly solar PVs, and the integration with the Advanced Metering Infrastructure (AMI) System, since the CMSv10 is not inherently equipped to support these programs.

Furthermore, the emergence of new technologies and programs in the utility business such as dynamic rate structures, availability of smart meters, renewable energy, net metering, social media, and web portals, are changing the perspective of major utilities to adapt and improve the business to be more customer-focused. However, doing so would require a CIS that is compatible with new technologies available in the market, and flexible enough to quickly adjust to business changes. Such new technologies and programs would be extremely challenging and risky to implement, if not completely inoperable, in CMSv10.

A new CIS will not only enable MERALCO to perform all of the customer service processes as stated above but also enable the company to promptly and timely launch, implement and support new programs and comply with new system and regulatory requirements, with minimal program code changes. New generation CIS are already equipped to handle different tariff designs (i.e. flat, volume-based, time of use) and monthly, bi-monthly or quarterly usage data, which accompany smart metering implementations. Less program code changes not only mean less use of system and infrastructure resources but would also enable MERALCO to avail of vendor-driven upgrades at no additional cost.

1.2. Planning Criteria and Standards

The following are the drivers used by MERALCO in considering and planning the CIS replacement: a) meeting customer demands and expectations; b) adherence to regulatory changes and compliance; c) cost of ownership, d) maintenance cost reduction, e) meeting increased scalability requirements, and f) consolidation and alignment to corporate IT strategy. The said criteria and standards were used in determining the most proactive, efficient, and least cost solution capable of supporting the current and future requirements of the industry.

1.2.1. Planning Policies

Based on the "Valuation Handbook For Optimized Depreciated Replacement Cost Valuation Of System Fixed Assets Of Privately Owned Distribution Utilities Operating Under Performance-Based Regulation" for the Third Regulatory Period, MERALCO adheres to this following for guidance on asset life:

For System Fixed Assets not listed in Appendix B, the Valuer is to determine the Modern Equivalent Asset (MEA) for these non-standard assets, including the efficient replacement cost and the standard asset life. This will be based on an asset that:

- i. has an equivalent service potential to the existing asset;
- ii. can be constructed or purchased at the time of the valuation with current technology; and
- iii. has the lowest lifetime cost.

From the foregoing, in planning for replacement projects of Application Systems, the existing system should already be reaching the end of its useful life, as dictated by industry practice. In this regard, it bears emphasis that the widely used depreciable life of Application Systems is five (5) years.

Based on a study made by PB Associates on standard asset lives which was used during the 2RP and 3RP Asset Valuation, Software and Hardware Assets fall under the category "Information Systems Equipment (Non-Network) with a useful life of 5 years.

Moreover, according to the US Tax Code in its IRS Publication 946 under Table of Class Lives and Recovery Periods, it shows that the asset life for Information Systems at 6 years but may go down to 5 years using General Depreciation System (GDS) – Modified Accelerated Cost Recovery System (MACRS).

1.2.2. Planning Criteria

The factors that drive the proper scheduling of application system acquisitions or replacements are based on its capability to support current and future customer and business requirements, ability of the system to enable utility leading practices, ability of the system to integrate with infrastructure (current and envisioned), and the useful life of the asset.

The following planning criteria were considered:

- **Process Enablement.** The replacement system must be able to support current customer service processes, as well as adhere to utility leading practices. MERALCO conducted an assessment to select the utility leading practices which are suitable for implementation, taking into consideration both growing customer and business needs.
- **Enable Current and Future Industry and Regulatory Requirements.** The replacement system should be able to support current industry and regulatory requirements. The replacement system should likewise have functionalities that can adopt to and enable future innovations and new technologies (such as influx of more customers using renewable sources of energy, etc)

- **System Capabilities.** The replacement system should have advanced system features such as having flexibility in incorporating industry and regulatory directions, and must be able to perform data analytics to help develop improved customer relationships.
- **Asset Life.** The existing application system must have reached the end of its useful life (5 years). MERALCO considers both asset life as well as the support of the vendor maintaining the system as a consideration for the application system's replacement or retention.
- **Alignment of the System's Capabilities with MERALCO Strategies.** The replacement system's functionalities should be able to align with MERALCO's strategies in improving customer experience through the use of digital technologies, and consolidating applications to a single platform.

2. PERFORMANCE ASSESSMENT

2.1. Analysis

MERALCO now operates under the following industry and business conditions:

2.1.1. Urgency and Situational Context

The current CIS used by MERALCO supports the essential customer service processes that MERALCO employs such as service application, meter reading, billing, and payments. However, new regulations and requirements are causing and driving the electric industry to evolve.

a. *Inability to Support Advanced Metering Infrastructure (AMI)*

While the current CMSv10 has been modified to support the pilot implementation of smart meters, it would be unable to fully integrate with AMI systems, which then limits the benefits that can be obtained from AMI. A robust AMI-CIS integration plays a major role in achieving customer-centric smart grid benefits as it is required to support processes such as out-of-service meter reads, as well as these processes that are required by the recently-approved AMI Rules:

Section 24. Remote Connection

Section 25. Remote Disconnection

Section 26. Remote Reconnection

Section 29. Consumption Monitoring and Reporting Mechanism

b. *Inability to Support Renewables*

Since 2013, there has been a significant increase in the number of customers installing solar cells following the government's initiatives to promote energy efficiency and clean energy as a way of life for Filipinos. For MERALCO, there was 1 net metering contract in 2013. This has significantly increased from 2014 to July 2016, wherein a total of 495 more applications were received in the past 2 years. The chart below shows the annual number of net metering applications received each year:

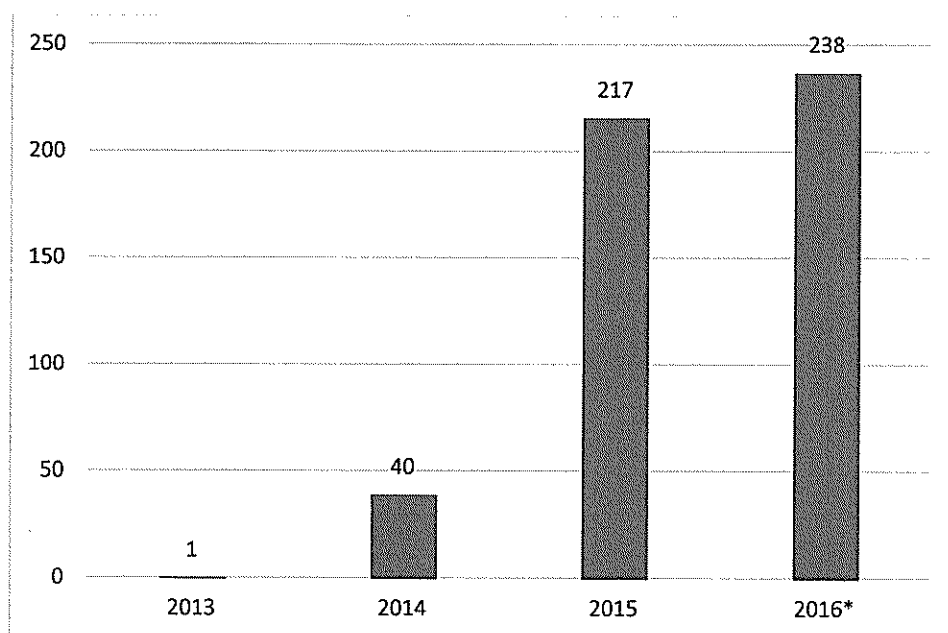


Figure 2. Number of Net Metering Applications Received per Year (2013-Jul 2016)
*as of July 2016

There are also studies⁴ that suggest that there will be an increase in the use of solar technology as it becomes more efficient and affordable.

MERALCO needs to prepare for the increasing number of customers making use of renewable sources of energy and net meters as well as pre-paid meters and smart meters. Presently, the existing application system has limited capabilities since it cannot process the readings of bi-directional meters and compute a bill with both import and export energy consumptions for net metering and as such some processes are manually done. Moreover, growth of pre-paid and smart meters poses a challenge to the current system. These emerging initiatives will need a strong backbone to ensure that energy distribution is accurately accounted for.

c. *Inability to Support Full Implementation of Retail Competition and Open Access (RCOA)*

Lowering of the contestability threshold, start of demand aggregation, and the implementation of Supplier of Last Resort (SoLR), are on the roadmap of RCOA. While MERALCO is able to handle the initial implementation of RCOA with CMSv10, extensive program changes would be required to support the next phases. The DU must be able to support the processing of all the data needed by an additional 650,000 customers that are anticipated to become eligible contestable customers by 2019, especially when the contestability threshold is lowered to 750KW and demand or retail aggregation is implemented.

For demand aggregation in particular, an advanced system to handle distributed generation would be required. Rather than pursue risky and costly program code changes, the move to a new generation CIS with functionalities that can support the full scope of DU processes, whether current or in the future, is imperative.

With these, there is a strategic imperative for MERALCO to seek a new Customer Information System to be able to support these developments and to enable future requirements with minimal cost.

2.1.2. Enhancement Of Customer Experience

MERALCO has always exerted efforts in putting the customer in the forefront. Thus, in its efforts to be more customer-centric, MERALCO is gearing towards becoming a utility that continues to stay in touch with the sophisticated customer requirements and contribute to the reasonable cost of energy.

⁴ a. Bloomberg, <http://moneyweek.com/the-solar-energy-revolution/>

b. ADB, Asia Solar Energy Initiative a Primer, April 2011

Since the expectations of electricity consumers are evolving due to their exposure to the increasing development of digital technologies, the online experience of our customers in transacting with banks, virtual shops, and other utilities, drives their expectations from their own electric distribution utility to provide the same services. In the foreseeable future, consumers will be seeking individualized services such as tools to manage and control their energy use. They will require a higher level of transparency and expect more convenience such as 24x7 access to account information (e.g., usage information and analytics) and transactions, multiple channels for communication and interaction (e.g., social media integration), and new products and services (e.g. online billing and payments).⁵ These changes in the digital technologies and customer behavior put an added pressure on MERALCO to seek a CIS that will effectively and efficiently improve its level of customer service to meet evolving customer demands.

Thus, efficient handling of customer contact points is important to maintain good customer relationships. In this regard, the introduction of the replacement system aims to provide customers and employees with relevant information that would enable faster and improved customer service, and experience. This in turn will address waiting in queue lines in applying for service, paying bills, lodging a request or concern at MERALCO's business centers. It will also enable MERALCO to deliver better customer service by having immediate access to customer information which will enable MERALCO to better understand and know its customers. Interaction with the customer will be more personalized by offering programs which will be beneficial to them.

A robust CIS is required to enable MERALCO to provide different services to support MERALCO's initiative to explore and offer self-serve features to the customers such as online bill payment, online application for electric service, or online viewing of bills and payment history at the customer's convenience.

2.1.3. Need for Operational Improvements

As discussed above, the current system utilized by MERALCO handles the essential customer service processes. However, some initiatives and programs offered by MERALCO are not sufficiently supported by the current system. Programs, such as RCOA, PRES and Net Metering, require varying functionalities that the current system cannot provide without major program code changes. MERALCO currently undertakes manual processing of these data in order to provide the necessary services to the customers and as such, time-consuming. For these manual processes to be automated in the current system, major code changes are required which necessitates the presence of an extensive support organization to continually streamline system architectures by revisiting the same in order to make it more cost effective.

In order for MERALCO to provide the best service to its customers, the system it utilizes should be able to keep pace with the changes needed to address the requirements of its customers and MERALCO in a timely manner, and ensure faster implementation of programs such as RCOA, PRES and Net Metering since these are already available in leading customer information systems, and be able support MERALCO's operations and initiatives.

2.1.4. Future Requirement Enablement

Part of the medium-term Information and Communication Technology (ICT) strategy of MERALCO is to move towards more integrated platforms to manage interoperability of systems and to maximize cost savings with increased efficiencies.

By having better integration with other systems employed by MERALCO, the replacement system will address concerns regarding data availability, integrity and timeliness.

⁵ a. Gartner, Top 10 Business Trends Impacting the Utility Industry in 2015 (17 March 2015) by Zarko Sumic, Randy Rhodes, Leif Eriksen, Chet Geschickter, Earl Perkins
b. Accenture, The New Energy Consumer – Architecting for the Future, 2014

2.2. Specific Planning Criteria breached

The current system was purchased in 2006 with the intent to support the impending implementation of RCOA in 2007. While waiting for the RCOA to be implemented, MERALCO utilized the system to handle the demand aggregation of customers under the Customer Choice Program. Subsequently, the system was used to support the processes for handling GP customers in 2011 and the remaining customer base in rollouts in 2013 to 2014. In effect, the life of the application system has already been 10 years and in live operation for about 5 years as of this writing. With the influx of new customer engagement demands, and industry and regulatory requirements (renewables, smart metering, prepaid, electronic vehicle), MERALCO needs to be able to adopt with these changes by having an application system that can cater to these demands. Unfortunately, the existing system can no longer effectively support the future needs and plans of MERALCO to serve its customers better.

3. PROJECT FORMULATION AND EVALUATION

3.1. Risks of Doing Nothing

Doing nothing despite the deficiencies and challenges stated in the previous section entails the retention and usage of the existing system in its current form. That is, enhancements to the CMSv10 and purchases for hardware technology upgrades will no longer be performed, and only hardware to consider customer / load growth shall be purchased. With this, instead of enhancing the system, employee headcount will have to be increased to handle manual transactions in case of increase in volume of transactions.

In choosing not to perform upgrades or maintenance on the system, the risk of system breakdown and system unavailability greatly increases. In turn, MERALCO would be forced to manually process applications, meter readings, bills, payments and complaints. To illustrate the impact of an unexpected system breakdown, it is worth stressing that a one day disruption will result in the following:

- ***Manual Processing of Service Applications***

A day of CMSv10 breakdown will result in manual handling of service applications. The usual 24-day processing of service application for one customer will now take significantly longer to complete due to manual recording, and manual coordination between offices, among others. Notably, with the system in place, MERALCO is able to process an average of 1,800 ordinary service applications per day. This translates to approximately 304,000 kWh of unserved energy per day of delay in processing service applications (based on current average figures) in case of system breakdown or unavailability.

- ***Unaccounted Meter Readings***

In the event of a system breakdown, there will be unaccounted meter reading data, which will result in either non-billing or inaccuracy of amount billed to customers.

- ***Delays in Billing Customers***

Should the CMS v10 break down for a day, billing of at least 275,000 services, equivalent to 150 Million kWh, will not be generated, resulting in delay in customers' receipt of their bills. This is also

- ***Manual Payment Collection at Business Centers and Delayed Posting of Payments***

With an average of 82,400 bills or PhP 392 million being collected on a day-to-day basis by business centers, such volume and amount of payments and Official Receipts collecting payments and issuing official receipts shall be done manually during unexpected system breakdown. This necessarily will take more time to process. This in turn will entail customers to wait for longer periods of time in Business Centers and thus result in undue inconvenience to customers.

System unavailability also results in delays in posting payments, whether payments are received at MERALCO Business Centers or at third-party collection agents (TPAs, e.g., Bayad Center, banks). Manually accepted payments at Business Centers would be reflected in the customers' accounts only after the system becomes available and the payments are encoded. Likewise, payments received at

TPAs would be reflected in the customers' accounts only after the system becomes available to process payment records sent to MERALCO by the TPAs. Because of the delay in payment posting, customers whose services are disconnected and who have paid their bills would remain disconnected despite the payment, because it is the system that generates the reconnection field order.

- ***Manual Concern Handling***

Customer concerns such as complaints, requests, and inquiries received during periods of system unavailability are handled manually, and this generally results in delay in concern resolution. Primarily, the concern will be recorded manually (e.g., using a spreadsheet) and will be referred to the responsible office via e-mail or phone call. Manual methods of transferring concerns from one resolving office to the next makes it difficult to keep track of each customer concern raised, and sometimes even results in concerns getting lost and left unaddressed. Moreover, even if concerns need not be referred to a different office, most concerns require information that is available only in the system (e.g., bill computation information, billing history, eligibility for payment arrangement) and so cannot be resolved immediately either.

The company receives an average of 3,266 complaints per day (2,966 complaints received through business centers and call center; 300 received through social media) based on data as of August 2016. Without a system in place to record and track the status of complaints, there is a risk that customers may receive multiple advisories about their respective complaints, or none at all. More significantly, should there be a significant number of complaints from customers, a downtime in the system will affect both the volume of complaints that can be received by MERALCO and the amount of time needed in resolving the same.

Moreover, the implications of this alternative on various initiatives are as follows:

- ***Inability to Support Full Implementation of Retail Competition and Open Access (RCOA)***

Given that enhancements will no longer be done in CMSv10, end-to-end process automation for current and future implementations of Retail Competition and Open Access (RCOA) will not be provided:

- Switching and billing processes for customers supported by Retail Electricity Suppliers (RES) are currently not fully automated. As the volume of customers increase with the imminent implementation of lowered thresholds and aggregation⁶, the time to process these services will naturally take longer.
- Automated transmission of data via a B2B system will not be established and will highly impact the effectivity of RCOA. Should there be no enhancements in CMSv10 by then or prior to actual implementation, the company will not be able to support aggregation or other future developments in RCOA thus, making it non-compliant to the Regulations.

- ***Inability to Support Advanced Metering Infrastructure***

Today, the smart grid era has introduced significant changes to how distribution utilities (DUs) can interact with their customers and the types of initiatives the DUs can implement and support, and thus compels a DU to acquire a CIS that can have a robust integration with other new advanced systems such as the AMI.

Figure 3 below shows that with the expansion of the AMI installation, technologies such as real time meter reading, remote reconnection and disconnection, web data access, automatic outage detection and restoration verification at home level, meter irregularity detection, immediate access to data for consumption monitoring and reporting are among the basic services that a DU's AMI must be capable of supporting. In fact, the recently approved AMI rules also support the need for these functionalities⁷ that will only be enabled by the AMI-CIS integration:

⁶R.A. 9136 An Act Ordaining Reforms in the Electric Power Industry, Amending for the Purpose Certain Laws and for Other Purposes

⁷ ERC CASE NO. 2015-001 RM, Annex A.

Section 24. Remote Connection. An AMI must be capable of allowing remote connection of the customer's electric service.

Section 25. Remote Disconnection. An AMI must be capable of allowing the disconnection of a customer's electric service remotely on grounds allowed under existing laws and ERC rules and regulations, including but not limited to RA 7832, otherwise known as the Anti-Electricity Pilferage Law and its Implementing Rules and Regulations, Magna Carta for Residential Electricity Consumers and the Distribution Services and Open Access Rules.

Section 26. Remote Reconnection. As a general rule, remote reconnection of a previously-disconnected electric service shall be undertaken within one hour from full direct payment of the customer's arrearages to the DU in the absence of any technical constraints.

For features such as remote connection, disconnection and reconnection to be achieved, a tight integration with AMI and a robust CIS should exist. These functionalities rely on acknowledging customer payments (or non-payments) for connection (or disconnection) of electric service. In the current design and state of CMSv10, AMI features will not be workable as it will require extensive program code changes and customizations to handle real-time or event-driven business processes since the system can only handle batch oriented tasks.

A robust AMI-CIS integration will also enable the following:

Section 29. Consumption Monitoring and Reporting Mechanism. Customers should be provided with either a mechanism or device to be used in monitoring for each billing period, the following information:

- a. The energy consumption in kWh;*
- b. The cumulative energy consumption in kWh for the applicable billing period; and*
- c. The total monthly consumption in kWh, which is the difference between the current reading for the present billing period and the last reading for the immediately preceding billing period.*

Customers shall be afforded free access to, and the concerned DU shall readily make available, the abovementioned data. The DU shall establish the procedures of accessibility and availability of such data/information to the customer through the consumption monitoring mechanism or device as part of the application.

The CIS will serve as the core system that provides the basic customer information and his meter consumption and billing data which feeds into a self-service portal for the customers.

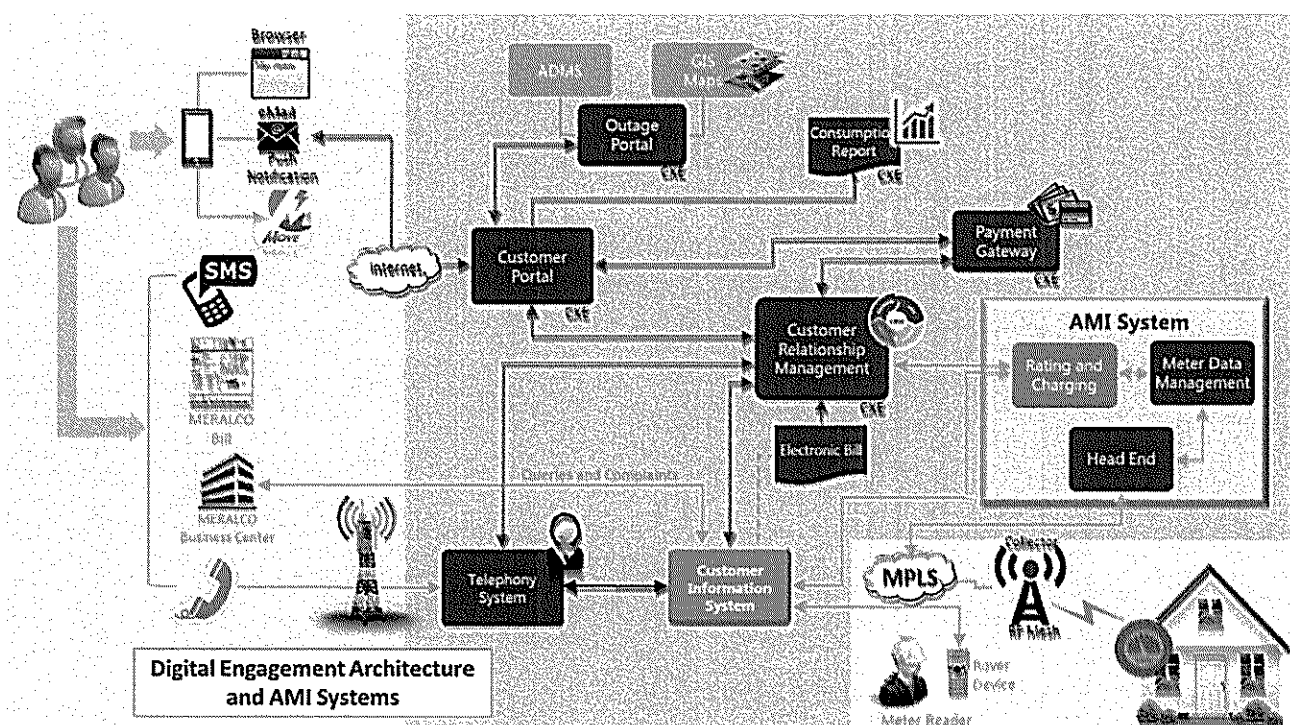


Figure 3. Digital Engagement Architecture and AMI System Integration

- Inability to Support Renewables**
 Without further enhancing CMSv10, MERALCO will not be able to fully support and, comply with, the implementation of the Net Metering (NM) program - one of the mechanisms under Renewable Energy Act, that aims to explore, develop and utilize renewable energy in the Philippines. From November 2013 up to end of July 2016, bills for NM customers had to be manually re-imaged and computed since enhancing the system took more time and resources than expected. Despite system enhancement in August 2016, there are still bills that had to be manually handled due to exception/special cases and there are still processes for an NM customer that the system cannot support due to complexity. With Net Metering customers growing by 212% in a year (based on figures from August 2015 to August 2016), adding up to 511 customers as of August 2016, the current CIS of the company will not be able to provide support for the demands that this program needs.
- Inability to Support Other Emerging Requirements**
 Support for emerging requirements, such as those associated to E-vehicles and Home Area Network, would not be provided should the current CIS remain as it is, since support for these does not exist in CMSv10.

3.2 Project Alternative

In the process of determining the most cost-effective solution to address the identified deficiencies of the current state, and having established that doing nothing is not an option from a customer service, regulatory and risk mitigation standpoint, MERALCO generated several technically-feasible alternatives that could satisfy the requirements in a timely and efficient manner. These alternatives are as follows:

Project Alternatives	
Alternative 1	Purchase a new CIS (Replacement of CMSv10)
Alternative 2	Continue to enhance the current CIS

Alternative 1: Purchase a new CIS (Replacement of CMSv10)

MERALCO considered purchase of a standard industry solution from leading providers of customer information systems. The leading providers were determined based on the evaluations of Gartner,⁸ a 3rd

⁸ Gartner, *Magic Quadrant for Utilities Customer Information Systems* (2 June 2015) by Zarko Sumic

“Traditional utility billing needs in general can be met by modern COTS CIS products. However, although utilities have traditionally expected that all of their meter-to-cash and customer-facing needs should be covered in a CIS product, the emerging requirements

party information technology research and advisory company, which assessed CIS providers based on the following criteria:

- A) Ability to Execute - defined under Gartner study as the quality and efficiency of the processes, systems, methods or procedures that enable their performance to be competitive, efficient and effective, and to positively affect revenue, retention and reputation), and;
- B) Completeness of Vision - defined under the Gartner study as a combination of vendor domain expertise in different retail markets and customer segments, an appropriate go-to-market strategy, and a focus on innovation in product functionality and enabling technology.

MERALCO also contracted with a 3rd party consulting firm for an independent assessment of the leading CIS systems to determine the system that is best fit to address our business needs. Assessment was done on the functional and technical capabilities of the CIS offered and the capabilities of the solution provider to support, improve and sustain their product.

The following considerations were taken into account for the evaluation of the first alternative:

- The replacement system needs to be meticulously planned and developed and will take time to implement. CIS implementation projects tend to take years to complete, typically a minimum of 30 months, since activities ranging from planning, procurement, design, development, testing and deployment have to be executed, and also since the scope of processes covered are broad and complex.
- Daily operations still need to be supported and cannot be stopped while the new system is being developed. Thus, the current system still needs to be run during the project execution. As the replacement system is being put into place, it is imperative for MERALCO to keep the existing system operational with minimal changes if possible and get it ready to be transitioned to the new system in order to continuously support operations.
- The replacement system must continue to support all processes and programs supported by the current system, such as service application, customer relationship management, commercial management, access request, technical field support and exception handling. It must support both captive market processes and contestable market process, and must have analytics functionalities to generate reports that support operations and generate insights to improve customer service and programs.

The replacement system must also enable and support ramp-up of various other customer programs and innovations, such as prepaid, renewables (e.g. solar), home area network, and electric vehicles. Since MERALCO strives to empower and enrich the experience of its customers, the replacement system should enable self-serve services such as online service application, online bill inquiry, online payment, and online submission of concerns.

Ease of integration with other MERALCO systems such as the outage management system, asset management system, and financial management system, is also a critical feature of the replacement CIS. Data to and from these other systems from and to the CIS are vital to the Company's operations and customer service.

such as billing for electric vehicle charging or supporting innovative business models, such as prosumer integration through net metering, feed-in tariff, or self-generation charges are not met by the current generation of CIS COTS products. In addition, support for emerging customer engagement models (such as social media or gamification) usually do not come out of the box and may require significant product modification. That forces utilities to look at alternative methods such as bolting-on point solutions on the CIS products and using a paced-layered approach to come up with M2C and customer facing application portfolios that would support both traditional and emerging needs."

To summarize, Figure 4 illustrates the enhanced scope of customer programs, processes, and interfaces that the replacement CIS shall be able to support.

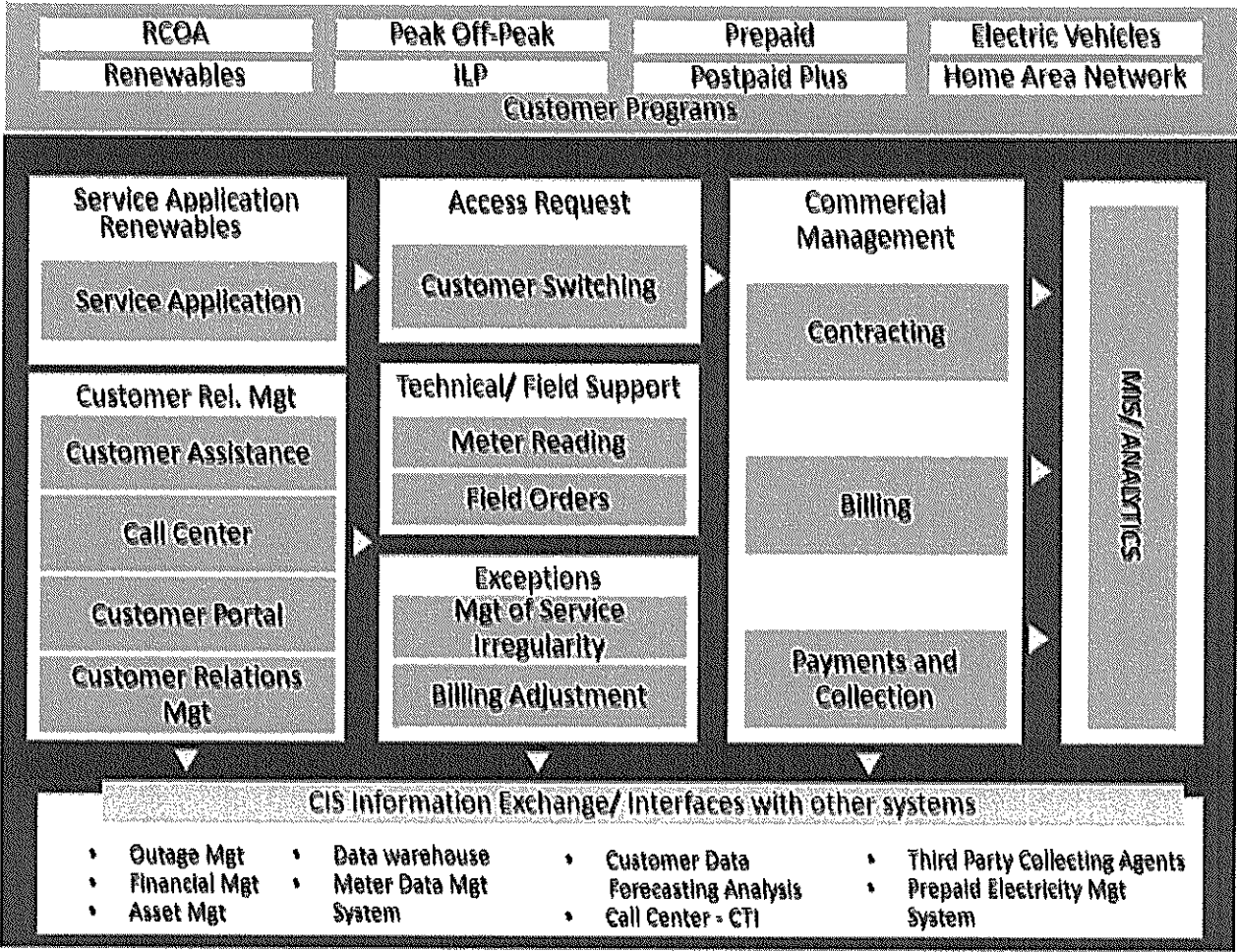


Figure 4. Future System Enabled Customer Programs, Processes, and Interfaces

Alternative 2: Continue to enhance CMSv10

This alternative considers the retention of the current system, and the continuous incorporation of program code changes to support the requirements of the customer, business and regulators. Any new functionalities, modules or customer products would need to be analyzed, designed and developed into the existing system.

3.3 Technical Analysis

Alternative 1: Purchase a new Customer Information System (Replacement)

The first alternative considers the replacement of the existing system with a leading and standard industry CIS solution. Such CIS solutions have mature capabilities, incorporate global best practices, and readily support emerging requirements in the Philippine electric utility setting such as smart meter processes, AMI integration, and adoption of renewables. As such, purchase and use of a leading standard CIS will allow MERALCO to address current deficiencies, proactively address customer demands and industry changes, and more easily and quickly realize business requirements and benefits, without the risks and costs attributable to heavily customizing or doing program code changes in the system. This, in turn, would also allow MERALCO to leverage on upgrades that are commonly offered by these leading CIS providers, which further ensures agility of the company to respond to future customer, business, and regulatory requirements.

This is as compared to maintaining the existing CIS which, though able to support traditional meter-to-cash billing needs and current customer programs, would require major program modifications to support emerging industry requirements and customer engagement demands, which in turn become a roadblock to future upgrades.

The table below expounds on the advantages of this alternative. A few disadvantages are likewise listed, but these disadvantages are temporary or transitional in nature, and are certainly outweighed by the alternative’s advantages.

Advantages	Disadvantages
<ul style="list-style-type: none">• Supports process efficiencies to serve the customer better	<ul style="list-style-type: none">• Requires a transition period that may impact operations due to:<ul style="list-style-type: none">- Migration of data from the old system to the new system- Re-establishment of interfaces with other systems that the current system integrates with- Training of users on the use of the new system
<ul style="list-style-type: none">• Enables self-serve facilities for the customers	<ul style="list-style-type: none">• Maintenance of the existing system while the replacement system is being developed
<ul style="list-style-type: none">• Allows easy integration between CIS and other enterprise applications	
<ul style="list-style-type: none">• Consolidates IT support with existing application systems.	
<ul style="list-style-type: none">• Enables correct and timely management of assets	
<ul style="list-style-type: none">• Proven in various regulated and deregulated markets worldwide	
<ul style="list-style-type: none">• Reporting and analytics capabilities are mature across functions	
<ul style="list-style-type: none">• Very robust audit trail functionality	
<ul style="list-style-type: none">• Provides readily configurable settings rather than extensive program modification for the enablement/disablement of many CIS functionalities	
<ul style="list-style-type: none">• Highly scalable	
<ul style="list-style-type: none">• Easy access to product upgrades	
<ul style="list-style-type: none">• Has a well-developed network of skilled system implementation partners	
<ul style="list-style-type: none">• Aligned with global best practice for a CIS	

Alternative 2: Continue to enhance the CMSv10

The second alternative considers continued use and enhancement of the CMSv10. This entails maintaining a high level of manpower support to provide the enhancements to the system. It also requires operational support to ensure that changes introduced into the system are working properly and do not cause any errors or inefficiencies in the customer service process. Changes would also include programming interfaces that need to be developed for integration with other enterprise systems. In the recent years, the changes in the energy and IT industry were coming in faster than in previous years. The volume of data being circulated has grown, sources come from all over, users demand speed and agility, systems need to be more integrated to be able to process these data faster. This requires a more agile and flexible response from any system that supports this. As experienced in the past, major program code changes entail high costs in manpower and technical resources. These pose risks to the day-to-day business operations of MERALCO as the existing system will not be able to address such future requirements inasmuch as the existing system was not designed and created to consider such requirements.

It is important to note that the risks associated to system breakdown that were described in Section 3.1 would also be applicable to this alternative. The CMSv10 has already been significantly customized or modified to support business operations as well as regulatory directions, and customizing it even further to support future requirements would make it very vulnerable to system breakdown, thus exposing the company and its customers to the operational disruptions illustrated and the corresponding impacts.

The table below summarizes the advantages and disadvantages of this alternative.

Advantages	Disadvantages
· Familiarity with the existing system for the users	· Cannot easily implement newer functionalities that our new customers demand; will need to purchase other tools/systems in order to meet these demands
· No major disruption to operations during the introduction of enhancements to the system	· Inability to offer other products and services (not technically feasible or too expensive due to architecture)
	· Need to maintain other systems to support other Company initiatives like Prepaid and Smart Grid
	· Highly modified system runs the risk of inefficiencies in program code and performance
	· Needs to keep a high count of support manpower for enhancements and O&M
	· Existing system is no longer the current version of the product; Current version of the product is still undergoing development
	· Cannot take advantage of any product upgrades from main product since the product has already been altered to be MERALCO-specific. Any upgrades in the main product of the vendor has to be incorporated as customized code also
	· Difficulty to implement global best practice

3.4 Financial Analysis

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

Project Alternative	Project Description	NPV (in millions)	IRR	B/C
Alternative 1	Purchase a CIS (Replacement of CMSv10)	14	15%	1.26
Alternative 2	Continue to enhance CMSv10	(436)	50%	.75

The Quantitative Analysis is based on the Least Cost to implement the Alternatives.

Based on the Least Cost Analysis (Total Cost of Ownership for 8 years), it is least costly to purchase a new CIS than to keep enhancing the current CIS to address future requirements. As shown below, Alternative 1 has a slightly higher CAPEX component due to the initial outlay in the purchase of the new system. However, in the course of its implementation, Alternative 2 will result in substantially higher OPEX costs since constantly enhancing the current system to support current and future requirements will entail programming costs, hardware and licensing costs and a significantly higher level of manpower resources in order to maintain the system. On the other hand, use of a new generation CIS as envisioned by Alternative 1 will provide access to readily available functionalities that can address future requirements with minimal configuration, and to regular product upgrades provided by the vendor. This significantly

reduces the number of enhancements and program code changes required to support current and future industry and regulatory requirements, and consequently lessens manpower and hardware costs that may be incurred to develop and test these enhancements and to support daily operations.

Project Alternative	Project Description	Total 8-Yr Cost CAPEX (in millions)	Total 8-Yr Cost OPEX (in millions)	Total 8-Yr Cost CAPEX & OPEX (in millions)
Alternative 1	Purchase a new CIS (Replacement of CMSv10)	Php 2,015.88	Php 1,539.30	Php 3,555.19
Alternative 2	Continue to enhance CMSv10	Php 1,797.31	Php 2,968.62	Php 4,765.93

The proposed CAPEX amount for filing covering the set-up costs for the new CIS is as follows:

Cost Component	RY 2017 (in millions)	RY 2018 (in millions)	RY 2019 (in millions)	Total (in millions)
Hardware	155.80	85.94	15.06	256.80
Implementation Services	223.03	295.63	304.43	823.09
Licenses	53.67	53.67	467.59	574.93
MERALCO Transition	35.59	26.07	41.04	102.70
CAPEX for Filing	468.09	461.31	828.12	1,757.52

4 RECOMMENDATION

The Customer Information System is a vital tool of MERALCO, since it is the core system in keeping customer information and providing customer service. Due to CMSv10’s current inadequacies, MERALCO runs the risk of not providing timely and quality service to its customers. We recommend implementing Alternative 1 (acquisition, installation and implementation of a new CIS)

4.1 Scope of work

Activities leading to the deployment of a system of this size are estimated to start 30 to 36 months before the actual commissioning date. Particularly, this consists of the following:

- a. Process Review and Design – this involves the review of MERALCO’s current business processes and aligning them with global utility best practices in order to determine the most effective and efficient way of providing customer service. This will also help us determine the right application system for MERALCO.
- b. Procurement – this involves the selection and acquisition of the replacement system and the implementor of the project. This involves also the acquisition of the necessary hardware and licenses needed for the development phase.
- c. Detailed Design – this involves the system design that will incorporate the business requirements into the replacement system.
- d. Build and Test – this involves the actual development of the changes in the replacement system and the testing of its components and its integration with other application systems
- e. Procurement – this involves the acquisition of the necessary hardware and licenses for the go-live phase
- f. Data Migration – this involves the migration of the data from the old system to the replacement system.

g. Deployment – this involves the preparatory activities prior to go-live. This includes user trainings, communication activities to internal users and external customers of the system and process changes, and the actual system deployment activities.

Activity	2016		2017				2018				2019			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.0 Project planning														
2.0 Proces review and design														
3.0 Procurement (System/System Integrator)														
4.0 Detailed design														
5.0 Build and test activities														
5.1 Development and unit test														
5.2 Integration and performance testing														
5.3 User acceptance testing														
6.0 Procurement (for Production resources)														
7.0 Data Migration activities														
8.0 Deployment activities														
8.1 User training														
8.2 Communications														
8.3 Technical deployment														
8.4 Go live														
8.5 Post-implementation Monitoring and Stabilization														
9.0 Project Closure														
10.0 Project monitoring														

4.2 Impact

Replacement of MERALCO’s existing CIS with a leading CIS solution will allow MERALCO to address required operational improvements, proactively address customer demands and industry changes, and more easily and quickly realize business requirements and benefits, without the risks and costs attributable to heavily customizing or doing program code changes in the system. This, in turn, would also allow MERALCO to leverage on upgrades which further ensure agility of the company to respond to future customer, business and regulatory requirements.

The replacement system will be able to automate processing of net metering transactions covering processes such as meter reading, rating and charging, as well as billing. It shall also allow for a shifting of efforts from building program codes to minor system configuration so that MERALCO may be able to take advantage of industry leading practices that are built into the system.

The improved processes that will be enabled by the replacement system has an effect on the level of service experienced by the customer through better-quality billing and payment processes when dealing with the distribution utility. In fact, by providing the customers with information of their respective consumptions, it empowers the customers and helps them make better decisions in their electric consumption. More information in the hands of MERALCO ensures that products and services may be better designed to improve customer service.

Having a next-generation CIS in place, also allows for shorter turnaround time to enhance the systems to keep up with regulatory and customer requirements as a more streamlined systems architecture will enable easier maintenance and integration of the different applications in the new system.

In the event that the current system is maintained, following would be the implications:

- *High risk of system breakdown and unavailability.* Doing nothing or continuing to enhance the existing system exposes MERALCO to risk of system breakdown or unavailability, which would translate to disrupted operations and consequently, inability to provide services to our customers and meet their requirements. Should the system be unavailable for use, core processes supported by the existing system will be either performed manually or cannot continue. Service application will be processed manually, leading to longer waiting time on the part of the customer to have their service energized. Unaccounted-for meter readings will result to inaccurate customer bills. A system downtime would also lead to manual payment collection, longer queues and waiting time of customers in business centers. Delayed posting of revenues are also a consequence of an unavailable CIS. Customer concerns will not be handled in a timely

manner if the system experiences downtimes. Resorting to manual handling of customer concerns is not sustainable given the large volume of concerns handled per day.

- *Inability to keep up with customer and regulatory requirements.* If MERALCO continues to make use of the current system, the turnaround time to complete development for new requirements will take significantly longer, impacting customer satisfaction and regulatory compliance. Worse, development of the required changes may not be possible at all given the system's outdated platform, limited available support, and the complexity of code changes already incorporated into the current system.
- *Higher costs.* The alternative of continuing to enhance the current CIS would be more costly.
- *Inability to support future programs and initiatives.* With the current CIS, MERALCO will be completely unable to support the end-to-end automation of processes envisioned by the Advanced Metering Infrastructure systems, the start of aggregation and lowering of thresholds for RCOA, and a ramp-up in adoption of renewables, among others.
 - *Inability to Support RCOA Implementation.* With the upcoming RCOA milestone of lowering of thresholds and aggregation, major program code changes to the existing system will be required to enable processes such as switching and billing for RCOA. These program code changes will lead to delayed compliance to the requirement of the regulator.
 - *Inability to Support AMI.* The tight integration between AMI and CIS is required for a successful implementation of AMI. The current system is unable to support the integration required by AMI.
 - *Inability to Support Renewables.* The increase in customers installing solar cells is remarkable. For the current system to be able to support this, major program code changes must be done to support the processing of bi-directional meter readings and bill computations for import and export energy consumptions.

4.3 Conclusion

The Replacement of the Customer Information System project is critical to MERALCO's commercial operations and in enhancing customer satisfaction and should thus be started as early as RY2017 and deployed by June 2019.

ANNEX B: COST ESTIMATES

Table 1: Detailed Cost Estimates by RDWR Asset Categories
(In Millions of Pesos)

Asset Category	Labor Cost (in millions)	Material Cost (in millions)	Other Cost (in millions)	Total (in millions)
Information Systems Equipment	102.70	831.73	823.09	1,757.52
Total (PhP, Real 2017-2019)	102.70	831.73	823.09	1,757.52

Table 2: Summary of Cost Estimates

Description	Quantity	Major Equipment	Total (in millions)
Hardware	16x blades (28core, 512GB RAM), storage 40TB XIO, 200TB VNX, 107TB DD	Servers and Storage	256.80
Implementation Services	1 lot	Contracted Services	823.09
License	3,300 user licenses	Software Licenses	574.93
MERALCO transition	37 Full-time equivalent (FTE)	Labor	102.70
Total (PhP, Real 2017-2019)			1,757.52

Table 3: Cost Component Breakdown

Cost Component	RY 2017 (in millions)	RY 2018 (in millions)	RY 2019 (in millions)	Total (in millions)
Local	468.09	461.31	828.12	1,757.52
FOREX (US \$)				
Total (PhP, Real 2017- 2019)	468.09	461.31	828.12	1,757.52

ANNEX C: EXPENDITURE SUMMARY

MANILA ELECTRIC COMPANY						
Capital Expenditure - Major Projects						
Total Expenditure, local and foreign (PhP, real)						
PROJECT NAME:		CAPITAL EXPENDITURE - MAJOR PROJECTS (TOTAL, REAL)				
Replacement of Customer Information System (CIS)						
		Forecast (PhP, real) (Regulatory Year)				
Category		2016	2017	2018	2019	
Regulated Distribution Services Assets						
Network	Land and Land Rights (Distribution Purposes)	0	0	0	0	
	Structures and Improvements (Distribution Purposes)	0	0	0	0	
	Station Equipment					
	Power transformers	0	0	0	0	
	Switchgear	0	0	0	0	
	Protective equipment	0	0	0	0	
	Metering & control equipment	0	0	0	0	
	Communications equipment	0	0	0	0	
	Other station equipment	0	0	0	0	
	Poles, Towers and Fixtures - Distribution	0	0	0	0	
	Overhead Conductors and Devices - Distribution	0	0	0	0	
	Underground Conduits - Distribution	0	0	0	0	
	Underground Conductors and Devices - Distribution	0	0	0	0	
	Distribution Transformers	0	0	0	0	
	Power Conditioning Equipment	0	0	0	0	
	Meters, Metering Instruments & Metering Transformers - Distribution	0	0	0	0	
	Information technology equipment (distribution)	0	0	0	0	
	Regulated Entity Property on Consumer's Premises	0	0	0	0	
	Street Lights and Signal Systems	0	0	0	0	
	Submarine Cables	0	0	0	0	
Non-network	Land and Land Rights (non-network)	0	0	0	0	
	Structures and Improvements (non-network)	0	0	0	0	
	Office Furniture and Equipment	0	0	0	0	
	Transportation Equipment	0	0	0	0	
	Stores Equipment	0	0	0	0	
	Tools, Shop and Garage Equipment	0	0	0	0	
	Laboratory Equipment	0	0	0	0	
	Information Systems Equipment (non-network)	0	0	0	0	
	Power-operated Equipment	0	0	0	0	
	Communication Plant and Equipment	0	0	0	0	
	Miscellaneous Equipment	0	0	0	0	
	Materials and supplies (including spares)	0	0	0	0	
	Materials	Transferred subtransmission assets	0	0	0	0
	Subtrans					
	Sub-total Regulated Distribution Services		0	0	0	0
	Distribution Connection Services Assets					
Network	Poles, Towers and Fixtures (Customer)	0	0	0	0	
	Overhead Conductors and Devices (Customer)	0	0	0	0	
	Underground Conduits (Customer)	0	0	0	0	
	Underground Conductors and Devices (Customer)	0	0	0	0	
	Line Transformers (Customer)	0	0	0	0	
	Information Systems Equipment (Connection)	0	0	0	0	
Non-network	Land and Land Rights (non-network)	0	0	0	0	
	Structures and Improvements (non-network)	0	0	0	0	
	Office Furniture and Equipment	0	0	0	0	
	Transportation Equipment	0	0	0	0	
	Stores Equipment	0	0	0	0	
	Tools, Shop and Garage Equipment	0	0	0	0	
	Laboratory Equipment	0	0	0	0	
	Information Systems Equipment (non-network)	0	0	0	0	
	Power-operated Equipment	0	0	0	0	
	Communication Plant and Equipment	0	0	0	0	
	Miscellaneous Equipment	0	0	0	0	
	Materials and supplies (including spares)	0	0	0	0	
Materials						
Sub-total Distribution Connection Assets		0	0	0	0	
Regulated Retail Services Assets						
	Meters, Instruments & Metering Transformers (Consumer Consumption Metering)	0	0	0	0	
	Land and land rights	0	0	0	0	
	Structures and improvements	0	0	0	0	
	Office Furniture and Equipment	0	0	0	0	
	Transportation Equipment	0	0	0	0	
	Stores Equipment	0	0	0	0	
	Tools, Shop and Garage Equipment	0	0	0	0	
	Laboratory Equipment	0	0	0	0	
	Information Systems Equipment	0	468,092,316	461,319,375	828,129,966	
	Communication Plant and Equipment	0	0	0	0	
	Miscellaneous Equipment	0	0	0	0	
Sub-total Regulated Retail Services Assets		0	468,092,316	461,319,375	828,129,966	
TOTAL CAPEX		0	468,092,316	461,319,375	828,129,966	

Notes : References to Regulatory Years are for the 12-month period ending on June 30 of the year noted.

ANNEX C: REAL TO NOMINAL CONVERSION

MANILA ELECTRIC COMPANY						
Capital Expenditure - Major Projects						
Total Expenditure, local and foreign (PhP, nominal)						
PROJECT NAME:		CAPITAL EXPENDITURE - MAJOR PROJECTS (TOTAL, NOMINAL)				
Replacement of Customer Information System (CIS)						
		Forecast (PhP, nominal) (Regulatory Year)				
Category		2016	2017	2018	2019	
Regulated Distribution Services Assets						
Network	Land and Land Rights (Distribution Purposes)	0	0	0	0	
	Structures and Improvements (Distribution Purposes)	0	0	0	0	
	Station Equipment					
	Power transformers	0	0	0	0	
	Switchgear	0	0	0	0	
	Protective equipment	0	0	0	0	
	Metering & control equipment	0	0	0	0	
	Communications equipment	0	0	0	0	
	Other station equipment	0	0	0	0	
	Poles, Towers and Fixtures - Distribution	0	0	0	0	
	Overhead Conductors and Devices - Distribution	0	0	0	0	
	Underground Conduits - Distribution	0	0	0	0	
	Underground Conductors and Devices - Distribution	0	0	0	0	
	Distribution Transformers	0	0	0	0	
	Power Conditioning Equipment	0	0	0	0	
	Meters, Metering Instruments & Metering Transformers - Distribution	0	0	0	0	
	Information technology equipment (distribution)	0	0	0	0	
	Regulated Entity Property on Consumer's Premises	0	0	0	0	
	Street Lights and Signal Systems	0	0	0	0	
	Submarine Cables	0	0	0	0	
Non-network	Land and Land Rights (non-network)	0	0	0	0	
	Structures and Improvements (non-network)	0	0	0	0	
	Office Furniture and Equipment	0	0	0	0	
	Transportation Equipment	0	0	0	0	
	Stores Equipment	0	0	0	0	
	Tools, Shop and Garage Equipment	0	0	0	0	
	Laboratory Equipment	0	0	0	0	
	Information Systems Equipment (non-network)	0	0	0	0	
	Power-operated Equipment	0	0	0	0	
	Communication Plant and Equipment	0	0	0	0	
	Miscellaneous Equipment	0	0	0	0	
	Materials and supplies (including spares)	0	0	0	0	
	Transferred subtransmission assets	0	0	0	0	
	Sub-total Regulated Distribution Services	0	0	0	0	
	Distribution Connection Services Assets					
	Network	Poles, Towers and Fixtures (Customer)	0	0	0	0
		Overhead Conductors and Devices (Customer)	0	0	0	0
Underground Conduits (Customer)		0	0	0	0	
Underground Conductors and Devices (Customer)		0	0	0	0	
Line Transformers (Customer)		0	0	0	0	
Non-network	Information Systems Equipment (Connection)	0	0	0	0	
	Land and Land Rights (non-network)	0	0	0	0	
	Structures and Improvements (non-network)	0	0	0	0	
	Office Furniture and Equipment	0	0	0	0	
	Transportation Equipment	0	0	0	0	
	Stores Equipment	0	0	0	0	
	Tools, Shop and Garage Equipment	0	0	0	0	
	Laboratory Equipment	0	0	0	0	
	Information Systems Equipment (non-network)	0	0	0	0	
	Power-operated Equipment	0	0	0	0	
	Communication Plant and Equipment	0	0	0	0	
	Miscellaneous Equipment	0	0	0	0	
Materials and supplies (including spares)	0	0	0	0		
Sub-total Distribution Connection Assets	0	0	0	0		
Regulated Retail Services Assets						
	Meters, Instruments & Metering Transformers (Consumer Consumption Metering)	0	0	0	0	
	Land and land rights	0	0	0	0	
	Structures and improvements	0	0	0	0	
	Office Furniture and Equipment	0	0	0	0	
	Transportation Equipment	0	0	0	0	
	Stores Equipment	0	0	0	0	
	Tools, Shop and Garage Equipment	0	0	0	0	
	Laboratory Equipment	0	0	0	0	
	Information Systems Equipment	0	475,757,900	486,699,774	907,319,931	
	Communication Plant and Equipment	0	0	0	0	
Miscellaneous Equipment	0	0	0	0		
Sub-total Regulated Retail Services Assets	0	475,757,900	486,699,774	907,319,931		
TOTAL CAPEX		0	475,757,900	486,699,774	907,319,931	

Notes : References to Regulatory Years are for the 12-month period ending on June 30 of the year noted.

ANNEX D: COST BENEFIT ANALYSIS COMPUTATION

Manila Electric Company

COST-BENEFIT-ANALYSIS TEMPLATE

Project Name : Replacement of Customer Information System (CIS)
Brief Description : Alternative 1: Purchase a New CIS (Replacement)

	RY							
	2017	2018	2019	2020	2021	2022	2023	2024
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
(Peso amounts in millions)								
CASH INFLOWS								
Operational Savings	-	-	-	54	86	92	94	101
Avoided cost	247	206	195	552	597	763	736	766
Additional Revenue	-	-	-	-	-	-	-	-
Intangible benefits	-	-	-	-	-	-	-	-
	247	206	195	606	683	855	829	866
CASH OUTFLOWS								
Investment	468	461	828	18	19	88	98	35
Maintenance cost	12	32	199	234	256	263	268	275
Dislocation cost	-	-	-	-	-	-	-	-
Intangible cost	-	-	-	-	-	-	-	-
Net Tax Effect	-	-	-	-	-	-	-	-
	480	494	1,027	252	275	351	367	310
NET CASH FLOWS	(233)	(287)	(832)	353	408	504	463	556

	5 years
WACC	14.97%
IRR	15%
NPV	14
B / C	1.26

- Notes:
- 1) Separate detailed schedule of each item in the template may be prepared as a link sheet to the summary
 - 2) Additional cash inflow/ outflow items may be included, as needed
 - 3) Operational savings may generally involve cost of the manual activities that may no longer be incurred as a result of the automation of a process.
 - 4) The lifecycle of the cost-benefit analysis should be consistent with their corresponding asset lives
Additional columns shall be included to serve this purpose

ANNEX D: COST BENEFIT ANALYSIS COMPUTATION

Manila Electric Company

COST-BENEFIT-ANALYSIS TEMPLATE

Project Name : Replacement of Customer Information System (CIS)
Brief Description : Alternative 2: Constant Enhancement of the current CIS

	RY							
	2017	2018	2019	2020	2021	2022	2023	2024
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
(Peso amounts in millions)								
CASH INFLOWS								
Operational Savings	-	-	-	-	-	-	-	-
Avoided cost	480	494	1,027	252	275	351	367	310
Additional Revenue	-	-	-	-	-	-	-	-
Intangible benefits	-	-	-	-	-	-	-	-
	480	494	1,027	252	275	351	367	310
CASH OUTFLOWS								
Investment	217	104	87	182	234	374	287	312
Maintenance cost	336	299	310	370	363	389	448	454
Dislocation cost	-	-	-	-	-	-	-	-
Intangible cost	-	-	-	-	-	-	-	-
Net Tax Effect	-	-	-	-	-	-	-	-
	553	403	398	552	597	763	736	766
NET CASH FLOWS	(73)	91	629	(300)	(322)	(412)	(369)	(455)

	5 years
WACC	14.97%
IRR	50%
NPV	(436)
B / C	0.75

- Notes:
- 1) Separate detailed schedule of each item in the template may be prepared as a link sheet to the summary
 - 2) Additional cash inflow/ outflow items may be included, as needed
 - 3) Operational savings may generally involve cost of the manual activities that may no longer be incurred as a result of the automation of a process.
 - 4) The lifecycle of the cost-benefit analysis should be consistent with their corresponding asset lives
Additional columns shall be included to serve this purpose

(Peso amounts in millions)											Total	
AS-IS	RY2017	RY2018	RY2019	RY2020	RY2021	RY2022	RY2023	RY2024	RY2017-19	RY2020-24		
Capex	552.80	402.51	397.65	552.03	597.00	762.70	735.52	765.73	1,352.96	3,412.97	4,765.93	
Hardware	216.53	103.62	87.15	182.47	234.45	373.66	287.41	312.02	407.30	1,390.01	1,797.31	
Implementation Services	194.40	72.23	43.39	131.24	183.19	317.41	230.99	255.43	310.02	1,118.25	1,428.27	
Licenses	8.00	-	-	-	-	-	-	-	8.00	-	8.00	
Opex	14.13	31.39	43.76	51.23	51.26	56.25	56.42	56.60	89.28	271.76	361.04	
Annual License MA	336.27	298.89	310.50	369.55	362.55	389.04	448.11	453.71	945.66	2,022.96	2,968.62	
HW maintenance	20.20	31.55	42.31	55.45	71.52	90.42	111.09	133.64	94.06	462.12	556.19	
Implementation Services	10.11	8.66	8.99	17.51	18.38	13.86	14.70	16.10	27.76	80.55	108.31	
IT support	75.59	24.11	-	-	-	-	-	-	99.70	-	99.70	
Licenses	187.36	164.97	174.51	211.91	187.96	200.07	237.64	219.28	526.84	1,056.86	1,583.70	
	43.01	69.59	84.68	84.68	84.68	84.68	84.68	84.68	197.29	423.42	620.71	
REPLACEMENT	479.90	493.73	1,027.04	252.34	274.55	350.85	366.53	310.25	2,000.67	1,554.52	3,555.19	
Capex	468.09	461.32	828.13	18.29	18.93	87.54	98.41	35.17	1,757.54	258.34	2,015.88	
Hardware	156.802	85.944	15.060	-	-	67.94	78.13	14.17	256.806	160.24	417.05	
Implementation Services	223.03	295.63	304.43	-	-	-	-	-	823.10	-	823.10	
Licenses	53.67	53.67	467.59	18.29	18.93	19.60	20.28	20.99	574.94	98.10	673.03	
Meralco transition	35.59	26.07	41.04	-	-	-	-	-	102.70	-	102.70	
Opex	11.81	32.41	198.91	234.04	255.62	263.32	268.11	275.09	243.13	1,296.18	1,539.30	
Annual License MA	11.81	23.62	126.49	147.45	151.61	155.92	160.39	165.00	161.91	780.38	942.28	
HW maintenance	-	2.40	2.40	18.86	36.05	39.18	39.23	38.29	4.80	171.60	176.40	
IT support	-	-	-	67.74	67.96	68.21	68.50	71.79	-	344.20	344.20	
Meralco transition	-	6.39	70.03	-	-	-	-	-	76.42	-	76.42	

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

IN THE MATTER OF THE
APPLICATION FOR AUTHORITY
TO IMPLEMENT A NEW
CUSTOMER INFORMATION
SYSTEM (CIS) WITH PRAYER
FOR PROVISIONAL AUTHORITY,

ERC CASE NO. _____

MANILA ELECTRIC COMPANY
(MERALCO),

Applicant.

X-----X

JUDICIAL AFFIDAVIT
OF MS. LIZA ROSE SERRANO-DIANGSON

I, **LIZA ROSE SERRANO-DIANGSON**, Filipino, of legal age, married and with office address at 10th floor, Lopez Building, Meralco Compound, Ortigas Avenue, Pasig City, Philippines after being sworn to in accordance with law, fully conscious that I am answering the questions under oath, hereby depose and state THAT:

Q1: What are your professional and educational qualifications?

A1: I am an Industrial Engineer.

My educational background are as follows:

- Masters Degree in Management, Asian Institute of Management, 1998
- Bachelor of Science in Industrial Engineering, University of the Philippines, 1982

Q2: Where are you presently employed?

A2: I am presently employed at MERALCO as Vice President and Head of the Customer Process Office.

Q3: How long have you been employed by MERALCO?

A3: I have been employed by MERALCO for thirty-three (33) years. I started out as a Business Analyst and have gained experience in the business processes of MERALCO, particularly in the areas of Customer Service including the information systems that support the Customer Service processes.

Q4: What are your duties and responsibilities as Vice President and Head of MERALCO's Customer Process Office?

A4: The following are, among other things, my principal duties and responsibilities:

- To ensure that all Customer Service processes of MERALCO are documented, supported by MERALCO's Customer Information System, and disseminated to the Customer Service personnel of MERALCO.
- To ensure that MERALCO's Customer Service processes are updated to reflect changes from regulatory issuances, changes in the market and improvement for customer satisfaction and operational efficiencies.

Q5: Are you familiar with the Application of MERALCO entitled: **"IN THE MATTER OF THE APPLICATION FOR AUTHORITY TO IMPLEMENT A NEW CUSTOMER INFORMATION SYSTEM (CIS) WITH PRAYER FOR PROVISIONAL AUTHORITY, MANILA ELECTRIC COMPANY, APPLICANT"**?

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

Q6: What is the Application all about?

A6: In brief, the Application seeks the Energy Regulatory Commission's (ERC) approval to implement a new CIS to replace its existing 10-year old CMSv10 in order to adapt with the rapidly evolving changes and developments in the electric power industry in consonance with its ever-growing customer base. The new CIS is envisioned as one that can handle the complex management of a more complicated array of functionality requirements.

Q7: Why is MERALCO filing the instant Application?

A7: The existing CIS of Meralco, the CMSv10, is a 10-year old system that stores the transaction records of MERALCO's close to 6 million customers ranging from residential, general service,

small to very large commercial and industrial to flat streetlight services. Furthermore, it directly supports the meter-to-cash activities of MERALCO by integrating the core processes that contribute to MERALCO's financial viability such as service application, meter reading, and commercial management (contracting, billing, payments and collection) through the interface of the CMSv10 with the different internal systems of MERALCO.

Aside from the customer process typical of a regulated market, new processes like marketing, accounting, billing and settlement of energy transactions (including losses and energy imbalances) between the distribution utility, retail suppliers and market operator settlement of financials with other distribution utilities, market operators and generating companies and demand forecasting are now beginning to emerge.

Accordingly, and in order to address the problems posed by technological obsolescence as well as to have a future ready CIS that can keep up with future customer, regulatory, technological and industry requirements, MERALCO proposes to purchase a new Customer Information System (CIS).

Q8: You mentioned earlier that you have participated in the preparation of the supporting documents to the Application. What are these supporting documents in the Application?

A8: **Annex "A"** of the Application elaborates in detail the Project Information Summary which includes the following supporting documents: (a) Technical and Economic Analysis; (b) Cost Estimates; (c) Expenditure Summary; (d) Cost Benefit Analysis Calculation; and (e) Gantt Chart of the project.

(The witness showed and identified the original copies of the above-mentioned documents to the counsel.)

Q9: How much is the project cost?

A9: The estimated cost to acquire, install and implement a new Customer Information System ("CIS") Project is **ONE BILLION SEVEN HUNDRED FIFTY EIGHT MILLION, Philippine Currency, (PhP 1,758,000,000.00).**

Q10: Why does MERALCO's Application include a prayer for provisional authority?

A10: As can be seen from the attached Project Schedule a project of this magnitude will require a preparation period of at least 30

months prior to the target commissioning date on June 2019 as the replacement system needs to be meticulously planned and developed as core application projects take years before the same can be implemented, since activities ranging from planning, procurement, design, development, testing and deployment have to be executed.

Thus, there is an urgent need for a provisional authority to be issued to allow MERALCO to immediately start the implementation of the new CIS Project and complete the same on schedule, and therefore, enable it to implement a modern integrated customer information system as soon as possible so as to better serve its consumers. Unless a provisional authority is immediately issued, MERALCO will be unable to start the procurement process for the different components of the project and the longer it takes to implement the new CIS project, the longer it will take for MERALCO to comply with new regulatory and customer requirements. Worse, the risk of system breakdown of the existing CMSv10 greatly increases with the delay in the implementation of the new CIS project.

Q11: What will be the impact of MERALCO's proposed implementation of a new CIS project on its current rates?

A11: The project has no immediate impact on MERALCO's rates. However, in light of the resulting benefits in the overall service to the electricity consumers, MERALCO respectfully submits that the building block components, particularly the return of capital and return on capital associated therewith, from the time it is put in service and considered used and useful, should be considered as a deferred amount to be included in MERALCO's 4RP reset calculations.

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 25th day of October 2016 at Pasig City, Philippines.


LIZA ROSE SERRANO-DIANGSON
Affiant

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

ATTESTATION

I, **CARMEN GRACE S. RAMOS**, of legal age, Filipino, with business address 7th floor, Lopez Building Meralco Center, Ortigas Avenue, Pasig City after being duly sworn depose and say:

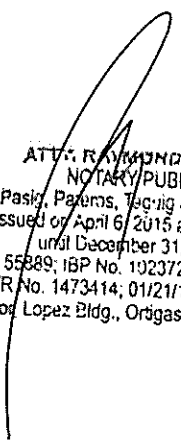
1. I conducted the direct examination of **MS. LIZA ROSE SERRANO-DIANGSON**, the witness to testify on matters in support of the Application entitled "**IN THE MATTER OF THE APPLICATION FOR AUTHORITY TO IMPLEMENT A NEW CUSTOMER INFORMATION SYSTEM (CIS) WITH PRAYER FOR PROVISIONAL AUTHORITY**," at the 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 her coached the witness regarding her answers.

IN WITNESS WHEREOF, I have hereunto set my hand this 25th day of October 2016 at Pasig City.


CARMEN GRACE S. RAMOS
Affiant

SUBSCRIBED AND SWORN to before me this 25th day of October 2016 by Ms. Liza Rose Serrano-Diangson and Atty. Carmen Grace S. Ramos, exhibiting their Driver's License IDs issued by the Land Transportation Office (LTO) bearing the Nos. N15-79-022335 and D16-09-000723, respectively, as proof of their identities.

Doc. No. 76;
Page No. 17;
Book No. II;
Series of 2016.


ATTY. RAYMOND S. YAP
NOTARY PUBLIC
Pasig, Palawan, Taguig & San Juan
Issued on April 6, 2015 at Pasig City
until December 31, 2016
Roll No. 55889; IBP No. 1923728; 01/08/16; Capiz
PTR No. 1473414; 01/21/16; Pasig City
7th Floor Lopez Bldg., Ortigas Ave., Pasig City

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

IN THE MATTER OF THE
APPLICATION FOR AUTHORITY
TO IMPLEMENT A NEW
CUSTOMER INFORMATION
SYSTEM (CIS) WITH PRAYER
FOR PROVISIONAL AUTHORITY,

ERC CASE NO. _____

MANILA ELECTRIC COMPANY
(MERALCO),

Applicant.

X-----X

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OF MS. LIZA ROSE SERRANO-DIANGSON

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small to very large commercial and industrial to flat streetlight services. Furthermore, it directly supports the meter-to-cash activities of MERALCO by integrating the core processes that contribute to MERALCO's financial viability such as service application, meter reading, and commercial management (contracting, billing, payments and collection) through the interface of the CMSv10 with the different internal systems of MERALCO.

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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 25th day of October 2016 at Pasig City, Philippines.


LIZA ROSE SERRANO-DIANGSON
Affiant

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

ATTESTATION

I, **CARMEN GRACE S. RAMOS**, of legal age, Filipino, with business address 7th floor, Lopez Building Meralco Center, Ortigas Avenue, Pasig City after being duly sworn depose and say:

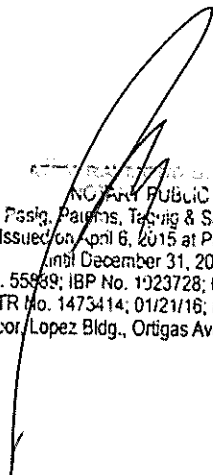
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2. I have faithfully recorded the questions asked and the corresponding answers that were given by the witness; and
3. Neither I nor any other person then present or assisting her coached the witness regarding her answers.

IN WITNESS WHEREOF, I have hereunto set my hand this 25th day of October 2016 at Pasig City.


CARMEN GRACE S. RAMOS
Affiant

SUBSCRIBED AND SWORN to before me this 25th day of October 2016 by Ms. Liza Rose Serrano-Diangson and Atty. Carmen Grace S. Ramos, exhibiting their Driver's License IDs issued by the Land Transportation Office (LTO) bearing the Nos. N15-79-022335 and D16-09-000723, respectively, as proof of their identities.

Doc. No. 76 ;
Page No. 17 ;
Book No. II ;
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PTR No. 1473414; 01/21/16; Pasig City
7th Floor, Lopez Bldg., Ortigas Ave., Pasig City



ORTIGAS AVENUE, PASIG CITY
0300 PHILIPPINES

ANNEX " C "

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 regular meeting of the Board of Directors of the Company duly convened and held on October 24, 2016, at which meeting a quorum was present, acted throughout and voted, the following resolutions were approved and said resolutions are in full force and effect on the date hereof:

"RESOLVED, that the Board of Directors of the Manila Electric Company (MERALCO) hereby authorizes MERALCO to file an Application with the Energy Regulatory Commission (ERC) entitled: "IN THE MATTER OF THE APPLICATION FOR AUTHORITY TO IMPLEMENT A NEW CUSTOMER INFORMATION SYSTEM (CIS), WITH PRAYER FOR PROVISIONAL AUTHORITY;

"RESOLVED, FURTHER, that the Board of Directors authorize, as it hereby authorizes, MERALCO, through Atty. JOSE RONALD V. VALLES, Vice President & Head, Regulatory Affairs Office, or any lawyer or employee of MERALCO that any of them may designate, name or appoint:

- (1) to sign, execute, and deliver in connection therewith the necessary pleadings, motions, verification, affidavit of merit, certificate of non-forum shopping, powers of attorney, and other instruments as may be necessary or proper; and
- (2) To designate, name, and appoint, a representative or an attorney-in-fact in behalf of the Company during the preliminary conference, pre-trial, 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, make admissions or stipulations of fact and/or documents; and to perform and execute any and all actions and such other matters as may aid in the prompt disposition of such case, proceeding or action."

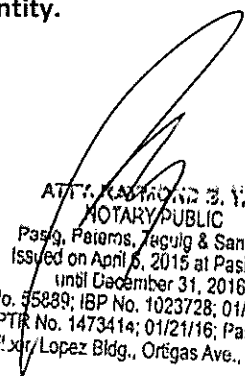
"RESOLVED, FURTHERMORE, that any previous resolution of the Board of Directors on the same subject matter that is inconsistent herewith shall be deemed terminated, superseded and revoked."

WITNESS THE SIGNATURE of the undersigned as such officer of the Company and its corporate seal hereunto affixed on this 25th day of October 2016.


WILLIAM S. PAMINTUAN
Assistant Corporate Secretary

SUBSCRIBED AND SWORN to before me this 25th day of October 2016, 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. 74;
Page No. 16;
Book No. II;
Series of 2016.


ATTY. KATHARINE B. YAP
NOTARY PUBLIC
Pasig, Palermos, Taguig & San Juan
Issued on April 5, 2015 at Pasig City
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Roll No. 55839; IBP No. 1023728; 01/08/16; Capiz
PTR No. 1473414; 01/21/16; Pasig City
7th Floor Lopez Bldg., Ortigas Ave., Pasig City



Republic of the Philippines
SANGGUNIANG PANLUNGSOD
City Government of Pasig

ACKNOWLEDGMENT

This is to acknowledge the receipt of a copy of Manila Electric Company (MERALCO) verified Application entitled "IN THE MATTER OF THE APPLICATION FOR AUTHORITY TO IMPLEMENT A NEW CUSTOMER INFORMATION SYSTEM (CIS), WITH PRAYER FOR PROVISIONAL AUTHORITY," with **attached Annexes**, being 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 served.

Issued this 26th day of **October 2016** at Pasig City.

for: [Signature]

REYNALDO R. SAN BUENAVENTURA III
Acting City Council Secretary

BusinessMirror

A broader look at today's business

REPUBLIC OF THE PHILIPPINES)

MAKATI

) S.S.

AFFIDAVIT OF PUBLICATION

I, **JENNY J. NAMANG** legal age, Filipino and residing at c/o **PHILIPPINE BUSINESS DAILY MIRROR PUBLISHING, INC.** 3/F Dominga Bldg., 2113 Chino Roces corner Dela Rosa Streets, Makati City Philippines. after having been duly sworn to in accordance with the law, hereby declare and testify.

That I am the **Credit & Collection** of **BUSINESS MIRROR**, a newspaper which is published in English, edited and printed in Metro Manila, and circulated nationwide from Monday to Sunday with editorial and business address at 3/F Dominga Bldg., 2113 Chino Roces Sts. cor. Dela Rosa Street Makati City.

That the
PLACE AD

APPLICANT/PETITIONER

MANILA ELECTRIC COMPANY (MERALCO)

ERC CASE NO. _____
APPLICATION

text of which could be read/deed as follows:

AS PER ATTACHED

has been published in **Business Mirror** in its issue
October 26, 2016.

AFFIANT FURTHER SAYETH NAUGHT
Manila, Philippines

JENNY J. NAMANG
Affiant

SUBSCRIBED and SWORN to before me this
_____ day of _____, 2016, at Makati
Philippines. **OCT 26 2016**

Affiant exhibited to me her TIN ID No. 297-257-600-000 issued 08-17-10
& SSS ID No. 09-3027971-0 with picture.

Doc.No _____
Page No. 454
Book No. 91
Series of 2016 140

RUBEN T.M. RAMIREZ

NOTARY PUBLIC
UNTIL DEC 31, 2017

APPT. NO. 21-23 (2015-2016)

IBP No. 1009580 / CY-2016

ROLL NO. 28947/MCLE-4 NO. 0006324/6-10-2012

PTR NO. MKT 5323578/1-4-16 MAKATI CITY

QUOTATIONS IN THE NEWS



"I WAS awakened by the sounds of people screaming for help. I noticed a heavyset woman lying in the center aisle to my right yelling, 'My legs! My legs!'" —Passenger ANA CAR, 61, to the Los Angeles Times, after a tour bus crash on a California highway killed 13 people and injured 31 others. AP



"WE don't know what's in the e-mails, so we are nervous about this. Might get a big laugh tonight and regret it when content of e-mails is disclosed." —Political consultant MANDY GRUNWALD, as Clinton campaign aides weighed whether to allow the Democratic presidential candidate to joke about her private e-mail server, according to hacked e-mails released by WikiLeaks. AP



"A POLITICAL giant and dear friend has passed. TOM HAYDEN fought harder for what he believed than just about anyone I have known. RIP, Tom." —Los Angeles Mayor Eric Garcetti, in a Twitter post about the famed 1960s antiwar activist, who died at 76. AP



BusinessMirror

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2016 EAP JOURNALISM AWARDS
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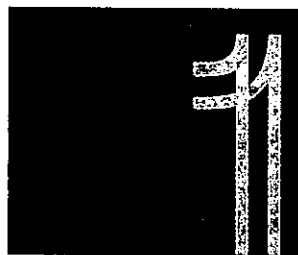
A broader look at today's business

■ Wednesday, October 26, 2016 Vol. 12 No. 14

P25.00 NATIONWIDE | 6 SECTIONS 36 PAGES | 7 DAYS A WEEK

MBC pushes multisector talks on foreign policy

By CATHERINE N. PILLAS @c_pillas29



WHILE President Duterte's foreign-policy statements favoring Beijing over Washington gained the backing of two former chief executives, top businessmen in the country came short of telling Duterte to be

"Our relationship with the US...should remain solid and should also be further expanded."
—MAKATI BUSINESS CLUB

Keeping an open mind 3



Teddy Locsin Jr.

FREE FIRE

THE No. 3 solution to the drug problem, and to the bad PR we are getting from doing

Editor: Dionisio L. Pelayo

Wednesday, October 26, 2016

CA junks plea for freedom of 8 accused killers of Navy officer

By JOEL R. SAN JUAN ✉ jrsanjuan1573

THE Court of Appeals (CA) has denied the plea of eight of the 10 Navy personnel to nullify the arrest warrants issued against them by the Regional Trial Court (RTC) in Manila City in connection with the 1995 killing of Ens. Philip Pestaño.

In a two-page resolution written by Associate Justice Nina Antonio-Valezuela, the appellate court's Former Special Sixth Division held that the petitioners failed to present new arguments that would warrant the reversal of its decision issued on April 29.

"The Court denies the petitioners' motion for reconsideration absent valid legal basis to modify, reverse, and set aside the decision," the CA said.

The appellate court did not give merit to the claim of the petitioners that Judge Josefina Siscar of the RTC in Manila committed grave abuse of

sued with arrest warrants were retired Navy Capt. Ricardo Ordoñez, Cdr. Reynaldo Lopez, LCdr. Luidegar Casis, LCdr. Alfrederick Alba, LCdr. Joselito Colico, Hospital Man 2 Welmenio Aquino, Machinery Repairman 1st Class Sandy Miranda and Petty Officer 2nd Class Mil Leonor Igcasan.

Retired Petty Officer 1 Carlito Amoroso and retired LCdr. Ruben Roque, who were among the accused in the murder of Pestaño, were not among those who filed the appeal before the CA.

The CA had earlier affirmed its decision allowing the RTC in

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

IN THE MATTER OF THE
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FOR PROVISIONAL AUTHORITY,

MANILA ELECTRIC COMPANY
(MERALCO),

Applicant.

x _____ x

ERC CASE NO. _____

APPLICATION

Applicant MANILA ELECTRIC COMPANY (MERALCO), through the undersigned counsel, and to this Honorable Commission, most respectfully avers that:

1. Applicant MERALCO 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. MERALCO 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. MERALCO is part of the First Entry Group of distribution utilities that entered Performance Based Regulation ("PBR"). In its Final Determination dated 6 June 2011 in ERC Case No. 2010-069 RC, the Honorable Commission set out its final position on the price control arrangements that would apply to MERALCO for the Third Regulatory Period (3RP) covering the period from 1 July 2011 to 30 June 2015, including its approval of MERALCO's proposed Capital Expenditure (CAPEX) Program, for the said period.

4. The last year of MERALCO's Third Regulatory Period expired on 30 June 2015. The Fourth Regulatory Period (4RP) for the First Entry Group commenced on 1 July 2015 and will end on 30 June 2019. However, MERALCO is yet to undergo the reset process and is awaiting the release by this Honorable Commission of the final rules to govern the filing of its reset application for the next regulatory period.

5. This Application is being filed pursuant to Section 20 (b) of Commonwealth Act No. 146, as amended, otherwise known as the Public Service Act, which requires any public service to seek the prior approval of the Honorable Commission before it can establish, construct, maintain, and operate new facilities or make any extension of its existing facilities.

A. BACKGROUND AND RATIONALE FOR THE NEW CUSTOMER INFORMATION SYSTEM (CIS)

6. The existing CIS of MERALCO, the CMSv10, stores the transaction records of MERALCO's close to 6 million customers ranging from residential, general service, small to very large commercial and industrial to flat streetlight services. It directly supports the meter-to-cash activities of MERALCO by integrating the core processes that contribute to MERALCO's financial viability such as service application, meter reading, and commercial management (contracting, billing, payments and collection) through the interface of the CMSv10 with the different internal systems of MERALCO, such as the following:

a. Financial Management Systems, the Call Center's Computer Telephony system and the Corporate Data warehouse system;

b. Enterprise Asset Management (EAM) - This facilitates compliance with the Energy Regulatory Commission's Order¹ for MERALCO to develop a more integrated Asset Management System;²

c. Detailed Design - this involves the system design that will incorporate the business requirements into the replacement system.

d. Build and Test - this involves the actual development of the changes in the replacement system and the testing of its components and its integration with other application systems.

e. Procurement - this involves the acquisition of the necessary hardware and licenses for the go-live phase.

f. Data Migration - this involves the migration of the data from the existing CIS to the replacement system.

g. Deployment - this involves the preparatory activities prior to go-live. This includes user trainings, communication activities to internal users and external customers of the system and process changes, and the actual system deployment activities.

The need for a new Customer Information System (CIS)

14. Since the promulgation of the EPIRA, the ERC was already preparing for RCOA by issuing rules which were considered by MERALCO in setting up a CIS. New business requirements were expected to emerge with open access and deregulation, requiring MERALCO to be more agile in responding to the needs of its customers. The three main drivers that required further system development/customization were as follows:

a. New business processes triggered by the then upcoming market situation (deregulation, competitive market, regulatory requirements). Aside from the customer process typical of a regulated market, new processes like marketing, accounting, billing and settlement of energy transactions (including losses and energy imbalances) between the distribution utility, retail suppliers and market operator settlement of financials with other distribution utilities, market operators and generating companies and demand forecasting were to emerge. Not only were new processes defined and implemented, but processes that were well established in regulated markets would also be redefined and adapted to the new market reality. These included shifts to flexible pricing, quarter-hourly meter readings, non-electricity product offers and sales and bundling of different products and services.

b. Advances in technology such as those for remote meter reading, hourly reading, among other things.

c. Need for data interchange between different market players (distribution utility, retail suppliers and the market operator other distribution companies, retail companies, market operators). This included handling customer requests to change suppliers, comparison of meter reading data between distribution and supply companies and transfer of billing information for settlement purposes.

15. Furthermore, some initiatives and programs offered by MERALCO are not sufficiently supported by the current system. Programs, such as RCOA, PRES and Net Metering, require varying functionalities that the current system cannot provide without major program code changes. MERALCO currently undertakes manual processing of these data in order to provide the necessary services to the customers. For these manual processes to be automated in the current CIS, major code changes are required which necessitates the presence of an extensive support organization to continually streamline system architectures by revisiting the same in order to make it more cost effective.

16. In fact, the existing CIS, the CMSv10, has been customized a number of times to allow the processing and handling of RCOA, Prepaid Metering, Feed-in-Tariff and Net Metering to name a few. Such customizations limit the system upgrades that can be availed of by MERALCO from the system vendor. A new CIS will not only enable MERALCO to perform all of the customer service processes as stated above but it will also enable MERALCO to timely launch, implement and support new programs and comply with new system and regulatory requirements with minimal program code changes. New generation customer information systems are already equipped to handle different tariff designs (i.e. flat, volume-based, time-of-use) and monthly, bi-monthly or quarterly usage data, which

C. PROJECT COST

20. The estimated cost of the CIS Project is ONE BILLION SEVEN HUNDRED FIFTY EIGHT MILLION, Philippine Currency, (PHP 1,758,000,000.00).

21. Based on the Least Cost Analysis (as shown in Annex "A"), it is least costly to purchase a new CIS than to keep enhancing the current CIS to address future requirements as the latter will result in substantially higher OPEX costs in addition to the programming costs, hardware and licensing costs and a significantly higher level of manpower resources in order to maintain the system.

22. In light of the resulting benefits of the new CIS Project in the overall service to the electricity consumers, MERALCO respectfully submits that the building block components, particularly the return of capital and return on capital associated with the new CIS Project, from the time it is put to service and considered used and useful should be considered as a deferred amount to be included in MERALCO's Fourth Regulatory Period reset calculations.

D. URGENT NEED TO ISSUE PROVISIONAL AUTHORITY

23. As can be seen from the attached Project Schedule, a project of this magnitude will require a preparation period of at least 30 months prior to the target commissioning date in June 2019.

24. It is submitted that the replacement system needs to be meticulously planned and developed as core application projects take years before the same can be implemented, since activities ranging from planning, procurement, design, development, testing and deployment have to be executed.

25. During the period while the new CIS is being developed, installed and implemented and prior to commissioning, the existing CIS, the CMSv10, will still serve MERALCO's meter to cash processes - i.e., service application, meter reading, billing, payments, field orders and customer assistance - for all its customers in parallel until operations using the replacement system is stabilized. This will ensure minimal disruption to customer processes during the transition from the existing to the new CIS.

26. Thus, there is an urgent need for a provisional authority to be issued to allow MERALCO to immediately start the implementation of the new CIS Project and complete the same on schedule, and therefore, enable it to implement a modern integrated customer information system as soon as possible so as to better serve its consumers. Unless a provisional authority is immediately issued, MERALCO will be unable to start the procurement process for the different components of the project and the longer it takes to implement the new CIS project, the longer it will take for MERALCO to comply with new regulatory and customer requirements. Worse, the risk of system breakdown of the existing CMSv10 greatly increases with the delay in the implementation of the new CIS project.

27. It bears emphasis that the issuance of a provisional authority would not affect the retail rates of MERALCO.

28. In support of the prayer for the grant of a provisional authority, attached as Annex "B" is the Judicial Affidavit of Ms. Liza Rose G. Serrano-Dianguan, Vice President and Head of MERALCO's Customer Process Office.

PRAYER

WHEREFORE, it is most respectfully prayed to this Honorable Commission that the instant Application for Authority to implement a new Customer Information System Project be APPROVED and that the building block components associated with the foregoing project from the time the same are put in service and considered use and useful be recognized as a deferred amount to be included in MERALCO's subsequent regulatory reset calculations.

Pending hearing, it is likewise prayed that a provisional authority be immediately issued authorizing Applicant MERALCO to implement the new Customer Information System Project.

Applicant MERALCO prays for such other relief as are deemed just and equitable under the premises.

Pasig City, 25 October 2016.

on July 23, 2013.

The petitioners argued that Siscar did not base her finding on the evidence submitted at the preliminary investigation but on the resolution of the investigating officer and on the memorandum of the office that conducted the preliminary investigation.

"As we stated in the decision of April 29, 2016, the respondent judge based her finding of probable cause and issued the corresponding warrant of arrest after personally examining the records of the case," the CA said.

"At the stage in the proceedings before the RTC, the respondent judge's duty was to determine mere probability [and not certainty] of the guilt of the petitioners," it added.

In its April 29, 2016, decision, the CA did not give credence to the claim of the accused that there was no probable cause for the issuance of a warrant of arrest against them, because the evidence of the case shows that the petitioners were not guilty of murder.

The CA pointed out that at the stage of determining probable cause for the issuance of a warrant of arrest, a judge is not yet tasked to review in detail the evidence submitted during the preliminary investigation.

Among the Navy personnel is-

the Navy officers.

It also directed the transfer of the accused Navy officers from the military custody to the Manila City Jail.

The CA pointed out that the transfer of the accused to the Manila City Jail is in compliance with Republic Act 7055, a law that strengthens civilian supremacy over the military by transferring to the civil courts the jurisdiction over certain offenses committed by members of the Armed Forces.

Records of the case showed that BRP *Bacolod City*, a Navy cargo ship, left Tawi-Tawi on September 20, 1995.

After seven days, the ship made a last stopover in Sangley Point and departed the same day for its final destination, the Navy headquarters in Manila.

Before the ship reached Manila, Pestaño was found dead in his cabin. He was lying on the bed with a single gunshot wound in his right temple and a purported suicide note to his family was found near his body.

Separate investigations conducted by the Senate and the Armed Forces ruled out that Pestaño committed suicide after it was discovered that Pestaño had knowledge of alleged illegal activities in BRP *Bacolod City* which may have prompted his killing.

Federalism campaigners meet in small Lanao town

THE princess of a small town in Lanao del Norte will serve as the host of the coming conference of a nonprofit organization—Movement for Rody Roa Duterte (MRRD)—which has launched the National Movement for Federalism.

Former Mayor Bae Eleanor Dima-poro Lantud of Pantao Ragats said the conference will be held on October 29 in the town. It will be attended by members of the Cabinet and leaders of the House of Representatives.

MRRD is a group of private citizens whose advocacy is federalism.

Organized during the presidential campaign of then-Davao City Mayor

Duterte, MRRD later launched the National Movement for Federalism campaign just two weeks after Duterte was elected President.

MRRD is embarking on a tour of several cities throughout the country to disseminate information on federalism and the benefits the country can enjoy under such a form of government.

The group will meet with Lantud on October 29.

Lantud, a supporter and ally of President Duterte is the country's first Muslim woman to be elected mayor and is now helping her husband, Mayor Lacson, in running the town. *Ayunen Guntang-Al Hadj*

step-up in the third regulatory period. Integration is necessary to facilitate the monitoring of consumption, monthly true-up adjustment of the Prepaid Billing, and the shifting from postpaid to prepaid programs and vice versa of about 40,000 customers;

d. Meter Data Management System (MDMS) - This formed part of Meralco's approved capital expenditure projects line-up for the Third Regulatory Period. Integration is necessary for management of the 15-minute readings of the smart meter and meter events like disconnection and reconnection. The MDMS is the core application system to support the Smart Grid initiatives; and

e. Outage Management System (OMS) - This provides information on outages affecting distribution facilities. This information is linked to customer information in the CIS and allows feedback to affected customers. Moreover, outage reports recorded in the CIS are forwarded to the Outage Management System to trigger trouble resolution activities.

7. The existing CIS of Meralco, the CMSv10, is a 10-year old system that was acquired in CY2006 from Soluziona Philippines, Inc. to support the required activities and processes in anticipation of the Retail Competition and Open Access (RCOA), which was scheduled to start in July 2007.

8. In 2007, the CMSv10 was used to handle the demand aggregation of customers under the Customer Choice Program (CCP) in as much as the program requires the monitoring of customers' 15 minute readings and the application of different prices for each time period which cannot be supported by the obsolete CMS Mainframe (CMS MF).

9. In 2011, the intended use of the CMSv10 was further realized when the system was used to support the growing complexities of handling the concerns of Meralco's General Power (GP) or medium and large commercial / industrial customers.

10. In March 2013, Meralco filed an application to migrate the rest of its captive customers from the CMS MF, which has been in service for fifteen (15) years back then, to the existing CMSv10 in order to address the technological obsolescence of the CMS MF.

11. The application for the migration of the rest of Meralco's customers to the CMSv10 was approved by the Honorable Commission on September 2, 2013 under Energy Regulatory Commission (ERC) Case No. 2013-32 RC. The migration was done in phases and was completed in April 2014.

B. PROJECT DESCRIPTION AND COMPONENTS

12. At present, Meralco is faced with rapidly evolving changes and developments in the electric power industry, and its ever-growing customer base. Accordingly, and in order to address the problems posed by technological obsolescence as well as requirements of future customers, including regulatory, technological and industry requirements, Meralco proposes to purchase a new Customer Information System (CIS) to replace the existing CMSv10. Attached as Annex "A" and made an integral part hereof is the Project Justification for the proposed new CIS Project, which document includes a more detailed description of the Project, the various options considered by Meralco, and the Qualitative and Quantitative Analyses of the options considered.

13. The project will include the acquisition of a new application system, database licenses and hardware. More particularly, the project will involve the following activities:

a. Process Review and Design - this involves the review of Meralco's current business processes and aligning them with global utility best practices in order to determine the most effective and efficient way of providing customer service. This will also help determine the right application system for Meralco.

b. Procurement - this involves the selection and acquisition of the replacement system and the implementation service provider of the project. This involves also the acquisition of the necessary hardware and licenses needed for the development phase.

1. Order dated 6 July 2013 in ERC Case No. 2013-089 RC.
2. An Application for the approval of the CIS to be used by the Energy Regulatory Commission (ERC) and submitted to ERC Case No. 2013-014 RC, on March 1, 2013, in the name of the Applicant for Authority to Implement an Enterprise Asset Management System, with Project for Provisional Authority.

UPDATES AT NO ADDITIONAL COST.

17. In the event that the current CIS is maintained in its current form, which means enhancements to the CMSv10 and purchases for hardware technology upgrades will not be performed, and only hardware to consider customer / load growth shall be purchased, the risk of system breakdown and system unavailability increases. In turn, Meralco would be forced to manually process applications, meter readings, bills, payments and complaints. To illustrate the impact of an unexpected system breakdown, it is worth stressing that a one day disruption will result in the following:

a. Manual Processing of Service Applications

This translates to 1,800 ordinary service applications (assuming 1 customer is to 1 ordinary service application) per day or approximately 304,000 kWh of unserved energy per day of delay in processing service applications (based on current average figures) in case of system breakdown or unavailability.

b. Unaccounted Meter Readings

In the event of a system breakdown, there will be unaccounted meter reading data, which will result in either non-billing or inaccuracy of amount billed to customers.

c. Delays in Billing Customers

Should the CMS v10 break down for a day, billing of at least 275,000 services will not be generated, resulting in delay in customers' receipt of their bills.

d. Manual Payment Collection at Business Centers and Delayed Posting of Payments

With an average of 82,400 bills or PHP 392 million being collected on a day-to-day basis by business centers, such volume and amount of payments and Official Receipts collecting payments and issuing official receipts shall be done manually during unexpected system breakdown.

System unavailability also results in delays in posting payments, whether payments are received at Meralco Business Centers or at third-party collection agents (TPAs, e.g., Bayad Center, banks). Manually accepted payments at Business Centers would be reflected in the customers' accounts only after the system becomes available and the payments are encoded. Likewise, payments received at TPAs would be reflected in the customers' accounts only after the system becomes available to process payment records sent to Meralco by the TPAs. Because of the delay in payment posting, customers whose services are disconnected and who have paid their bills would remain disconnected despite the payment, because it is the system that generates the reconnection field order.

e. Manual Concern Handling

Customer concerns such as complaints, requests, and inquiries received during periods of system unavailability are handled manually, and this generally results in delay in concern resolution.

18. More importantly, the inability to maintain the present CIS could lead to damaging repercussions to customers and government programs and initiatives that empower the customers to manage their consumption. In particular, these would include:

- Inability to Support Full Implementation of Retail Competition and Open Access (RCOA)
- Inability to Support Advanced Metering Infrastructure
- Inability to Support Renewables
- Inability to Support Other Emerging Requirements

19. In sum, aside from the efficiency benefits of having a next generation CIS, there is an urgent need for Meralco to replace its existing CIS, the CMSv10, in order to adopt with the rapidly evolving changes and developments in the electric power industry, and its ever-growing customer base, to one that can handle the complex management of a more complicated array of functionality requirements.

Ortigas Avenue, Pasig City

By:

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MCLE Compliance No. VI-0000233; 11 July 2016

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Telephone Number 1622-2260; Fax No. 1622-3550
E-mail: regulatory.legal.staff@meralco.com.ph

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

VERIFICATION AND CERTIFICATE OF NON-FORUM SHOPPING

I, JOSE RONALD V. VALLES, Filipino, of legal age and with office address at 7th Floor, Lopez Building, Ortigas Avenue, Pasig City, after being sworn to in accordance with law, hereby depose and say, that:-

1. I am the Vice President and Head of the Regulatory Affairs Office of Applicant Manila Electric Company;

2. I have been authorized by the Board of Directors of the Applicant to cause the preparation and filing of the Instant Application. I have read and understood the allegations contained therein and the same are true and correct based on my personal knowledge and authentic records made available to me in the ordinary course of business of the Applicant;

3. I have been authorized by the Board of Directors to certify that Applicant has not heretofore commenced any other action or proceeding involving the same issues in the Supreme Court, the Court of Appeals, or any other tribunal or agency and to the best of my knowledge, no such action or proceeding is pending in the Supreme Court, the Court of Appeals, or any other tribunal or agency. A copy of the Secretary's Certificate authorizing the undersigned to sign this Verification and Certification is attached as Annex "C" of this Application and made integral part hereof;

4. If I should hereafter learn that a similar action or proceeding has been filed or is pending before the Supreme Court, the Court of Appeals, or any other tribunal or agency, I undertake to report such fact within five (5) days therefrom to this Honorable Commission.

IN WITNESS WHEREOF, I have hereunto affixed my signature this 25th day of October 2016 at Pasig City, Philippines.

JOSE RONALD V. VALLES

SUBSCRIBED AND SWORN to before me this 25th day of October 2016, by affiant having exhibited his Social Security System ID bearing the number 33-10900088.

Doc. No. 33
Page No. 11
Book No. 1
Series of 2016.

BM - OCTOBER 26, 2016

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 : 2016-SCMD-3374

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

DATE ISSUED : October 27, 2016

DUE DATE : November 01, 2016

PARTICULARS	AMOUNT
In the Matter of the Application for Authority to Implement a New Customer Information System (CIS)(Revenue Code: 4-02-01-010)	700.00
Provisional Authority(Revenue Code: 4-02-01-010)	700.00
PLRF(Revenue Code: 4-02-01-010)	14.00
TOTAL AMOUNT (Php)	1,414.00

ONE THOUSAND FOUR HUNDRED FOURTEEN PESOS

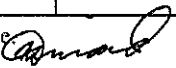
Approved by : ATTY. NATHAN J. MARASIGAN

OIC, LEGAL SERVICE

Approved by : ATTY. FLORESINDA B. DIGAL

DIRECTOR III, ROS

OR 4 000 8 713

 ERC ENERGY REGULATORY COMMISSION - PHILIPPINES	Official Receipt of the Republic of the Philippines		
	0008713 No. 0008713		
	Date 10/27/2016		
Agency ENERGY REGULATORY COMMISSION		Fund	
Payor Manila Electric Company (MERALCO)			
Nature of Collection	Account Code	Amount	
Filing Fee	4-02-01-130	P 1,400.00	
UPLRF	2-99-99-999	14.00	
2016 SCMD 3274 TOTAL		P 1,414.00	
Amount in Words <u>one thousand four hundred</u> <u>fourteen pesos only</u>			
☒ Cash	Drawee Bank	Number	Date
☐ Check			
☐ Money Order			
Received the amount stated above  MILA A. MIRANDA Cashier II Collecting Officer			
NOTE: Write the number and date of this receipt on the back of check or money order received.			