

34th Electric Power Industry Reform Act (EPIRA) Implementation Status Report

(For the Report Period April 2019)

Prepared by the
Department of Energy

With Contributions from

Energy Regulatory Commission
Philippine Electricity Market Corporation
National Power Corporation
National Electrification Administration
Power Sector Assets and Liabilities Management Corporation
National Transmission Corporation



TABLE OF CONTENTS

I. EXECUTIVE SUMMARY.....	2
II. PRIVATIZATION.....	4
A. Generating Assets and Independent Power Producer (IPP) Contracts.....	4
B. Other Disposable Assets.....	6
C. Privatization Proceeds	9
D. Concession of the National Transmission Network	9
E. Sale of Sub-Transmission Assets (STAs)	10
III. PSALM LIABILITY MANAGEMENT	11
IV. ELECTRICITY RATES.....	12
V. COMPETITION.....	23
A. WESM Operational Highlights.....	23
B. Updates on WESM Governance Activities	27
C. Market Development Updates.....	39
D. Status of Pending ERC Regulatory Filings.....	40
E. Establishment of Independent Market Operator (IMO)	41
F. Retail Competition and Open Access (RCOA)	42
G. Generating Capacity Market Share and Concentration	45
H. Market Concentration.....	47
VI. POWER SUPPLY SECURITY AND RELIABILITY	48
A. Power Generation.....	48
B. Installed and Dependable Capacity.....	50
C. Electricity Sales and Consumption.....	51
D. Power Projects.....	55
E. Significant Incidents in Luzon, Visayas, and Mindanao	57
F. System Peak Demand	66
G. Status of Government Generating Assets	67
H. Status of Transmission Projects.....	68
I. Distribution Infrastructure Projects	85
VII. TOTAL ELECTRIFICATION.....	86
VIII. PROMOTION OF RURAL ELECTRIFICATION	92

ANNEXES

Annex 1. TransCo Inspection Report Based on Concession Agreement.....	97
Annex 2. NGCP Related Petitions to ERC.....	99
Annex 3. ERC Approved Capital Expenditure Projects.....	104

I. EXECUTIVE SUMMARY

The 34th Status Report on Electric Power Industry Reform Act (EPIRA) of 2001 implementation covers the period November 2018 to April 2019 which includes significant accomplishments, developments and continuing challenges undertaken by different government instrumentalities and the power sector as mandated under the EPIRA.

The Power Sector Assets and Liabilities Management Corporation (PSALM) continues with the privatization activities of the Malaya Thermal Power Plant and other remaining plants and National Power Corporation-Independent Power Producer (NPC-IPP) contracts, and the disposal of other disposable assets to include real estate and unserviceable assets, and waste and junk materials. With regard to the reduction in PSALM's foreign debts, as of 1st quarter of 2019, the remaining balance is down to PhP436.3 billion from the peak of PhP1.23 Trillion as of year 2003 or a decrease of PhP805 billion from the enactment of the EPIRA in 2001.

The Independent Electricity Market Operator of the Philippines (IEMOP) continuously performs its function as Market Operator to include acceptance and evaluation of registration requirements from the Wholesale Electricity Spot Market (WESM) Mindanao participants. Through the Philippine Electricity Market Corporation (PEMC), the DOE continues its mandate to monitor the governance of the WESM through its representation from the different technical committees which undertake regular meetings relative to WESM rules changes, operational audit, conduct of technical evaluation and studies, investigation of breach of the WESM Rules, and management of dispute resolution process. Also, the DOE issued the Department Order No. DO2019-03-0009 entitled "Creating a Special Task Force to Assess the Performance of the Wholesale Electricity Spot Market (WESM) under the Governance of PEMC and Operations of the IMO", and DC2015-10-0015 entitled "Providing Policies for Further Enhancement of the WESM Design and Operations" on November 2015 which instigated the move to develop WESM design and operations enhancements.

The DOE, despite the challenges restraining the full implementation of Retail Competition and Open Access (RCOA), continuously exerted efforts in strengthening competition in the retail market and empower the contestable customers. Hence, despite the restraining orders issued by the Supreme Court on various issuances of the DOE and the Energy Regulatory Commission (ERC), the increase in voluntary participation by Contestable Customers was remarkable at 419% from 239 in June 2013 to 1,240 as of April 2019, comprising around 68% of the total Contestable Customers certified by the ERC.

In terms of the electricity pricing as of March 2019, the country's average electricity rates as of March 2019 is around PhP8.52/kWh, PhP0.76 centavos higher compared with the December 2018 national average systems rate. Highest increase in rate was posted in the Visayas Grid from PhP6.75/kWh in December 2018 to PhP7.78/kWh in March 2019 or an increase of 76 centavos/kWh. Luzon and Mindanao grid increased by 45 centavos/kWh and 74 centavos/kWh, respectively. To further reflect transparency in electricity rates, the DOE issued Department Circular No. DC2018-09-0026, entitled "Adopting the Framework for the Uniform Monthly Electricity Bill Format" to ensure greater transparency in the billing and charges of Distribution Utilities for the utmost protection of public interest.

The country's power supply-demand scenario in 2018 pose challenges as manifested by the declaration of yellow alerts in Luzon and along with red alerts in the Visayas. Mindanao has improved in terms of having lesser Red and Yellow alert notices in 2018, compared to the previous years due to the development of additional stable capacity from large coal-fired power plants in the grid. While Mindanao supply was relatively stable with the operation of new power plants, the grid was confronted by issues on non-compliance to demand and supply nomination procedures which affected the allocation of capacities in the grid and subsequently resulted to minimal power interruptions in some areas. The country's 2018 peak demand was recorded at 14,782 MW, which is 993 MW or 7.2% higher than the 13,789 MW in 2017. The total power supply, in terms of

installed capacity, grew by 4.8% from 21,730 MW in 2017 to 22,238.15 MW in 2018. Nine Hundred Ninety Three and 6/10 (933.6) MW new capacities were added to the country's supply based in 2018 which include coal-fired (720 MW), oil-based (87.3 MW), geothermal (12 MW), hydropower (80.3 MW) and biomass (34 MW). Luzon contributed additional capacity by 659.5 MW or 71% and Mindanao at 274.1 MW or 29% while Visayas has not developed any additional capacity for 2018.

The household electrification level as of April 2019 is around 96.12%. Said level corresponds to 22.1 million energized households out of 22.98 million identified and targeted household population based from the 2015 Census of the Philippine Statistics Authority. The DOE has become more aggressive in pursuing total electrification with the issuance of Department Order No. 2018-05-0010 entitled "Creation of A Task Force To Ensure Access To Electricity For the Communities That Remain Unserved and Underserved By Distribution Utilities" in May 2018 which requires all Electric Cooperatives (ECs) to submit their Electrification Plan to include areas that are proposed for alternative service providers.

II. PRIVATIZATION

A. Generating Assets and Independent Power Producer (IPP) Contracts

During the report period, in line with the privatization or sale of the Malaya Thermal Power Plant (MTPP) and its underlying land, PSALM conducts the bidding for the PSALM Board approved procurement of the Third (3rd) Party Consultant that will undertake the valuation of the asset. The timeline for the privatization activities has been adjusted in compliance with said requirement. However, after two (2) failed biddings on the said procurement of 3rd Party Advisor, PSALM resorted to Negotiated Procurement based on Section 53.1 of the 2016 Revised Implementing Rules and Regulations of Republic Act No. 9184¹.

On 21 January 2019, PSALM conducted another round of bidding for the procurement of 3rd party consultancy for the MTPP privatization. However, the bidding was declared a failure after all the bidders did not meet the eligibility requirements. Due to failure of bidding, PSALM will conduct another round of negotiated bidding with the following timeline:

Activity	Date
Negotiation Meeting	04 February 2019
Offer Submission	18 February 2019
Submission of Valuation Report	10 April 2019

In view of the above, the Request for Proposal (RFP) was posted and was sent to the following possible bidders:

1. Asian Appraisal;
2. Aviso Valuation and Advisory;
3. Manager TÜV SÜD Industry Service Philippines;
4. Deloitte Touche Tohmatsu India LLP; and
5. LANTAU Group.

Meanwhile, four (4) interested bidders for MTPP sale submitted their documentary deliverables and were declared compliant with all said requirements as follows:

1. AC Energy, Inc.;
2. D.M. Wenceslao & Associates, Inc.;
3. DMCI Power Corporation; and
4. FGEN Reliable Energy Holdings, Inc.

On 19 February 2019, PSALM issued Supplemental Bid Bulletin (SBB) No. 5 indicating that the Final Asset Purchase Agreement shall be issued to the abovementioned qualified bidders after the conduct of Clarificatory Meeting which was held on 05 March 2019.

On 10 April 2019, PSALM issued SBB No. 6 amending the bid submission deadline from 24 April 2019 to 14 June 2019. Subsequently, another amendment is done thru SBB No. 7 indicating the latest deadline of bid submission shall be on 31 July 2019. Said latest bid submission deadline is considered in time for the issuance of the Notice to Proceed to the Third Party Consultant for the valuation of MTPP.

¹ Section 53.1 of the 2016 Revised Implementing Rules and Regulations of Republic Act No. 9184, to wit:

Two Failed Biddings. Where there has been failure of competitive bidding or Limited Source Bidding for the second time as provided in Section 35 of the Act and this IRR.

In view of the completion for the the privatization of MTPP, PSALM thru the approval of the Board commenced the procurement of a third-party consultant that will undertake the valuation of the asset. Three (3) bidders participated during the bidding held on 04 March 2019, namely: i) Pricewaterhouse Coopers (PWC); ii) Beyond Energy, Inc. (BEI); and iii) Lantau Group.

On 15 March 2019, the PSALM Bids and Awards Committee declared PWC as the winning bidder with the highest rated technical proposal which was subsequently approved by the Head of the Procuring Entity. As part of the procurement process, the Technical Working Group conducted Post-Qualification of PWC on 22-29 March 2019.

After complying the eligibility requirements during the Post-Qualification process, PSALM issued the Notice of Award to PWC on 22 April 2019.

Meanwhile, while awaiting for the completion of the sale of MTPP, the PSALM Board awarded the 2019 service contract for the operation and maintenance of MTPP to Korean company Soosan ENS Co., Ltd. (Soosan ENS). The term of the said operation and maintenance contract shall be for a period of one year, or until the plant's privatization. With an approved budget of PhP213,000,000.00, Soosan ENS, was declared the lowest compliant bidder with its PhP205,734,144.00 offer, following its post-qualification.

PSALM issued the Notice of Award to Soosan ENS after it passed all eligibility and technical assessment. The signing of the contract and the issuance of Notice to Proceed were subsequently held on 21 January 2019.

For the remaining generating assets and IPP contracts, the latest privatization targets are indicated in Tables 1 and 2.

Table 1. Schedule of Privatization for Generating Assets as of 30 April 2019

Asset Type/ Plant Name	Rated Capacity (MW)	Bid Date	Turnover Date
Owned Generating Plants			
Malaya Thermal Power Plant	650.00		2019
Agus 1 & 2 Hydro	260.00	For Rehabilitation Privatization is subject to consultation with Congress and PSALM Board's policy direction	
Agus 4 & 5 Hydro	213.10		
Agus 6 & 7 Hydro	273.00*		
Pulangi Hydro	255.00		

*Capacity increased by 19 MW as a result of Agus VI Units 1 & 2 Uprating
Source: PSALM*

Table 2. Indicative Privatization Schedule for the Appointment of IPPAs as of 30 April 2019

Grid	Plant Name	Contracted Capacity (MW)/Energy (GWh)	Bid Date	Turnover Date
Luzon Grid	Casecnan Multi-Purpose Hydro	228.00 GWh		2021
	Caliraya-Botocan- Kalayaan Hydro	797.92 MW		2021
Mindanao Grid	Mindanao Coal-Fired	200.00 MW		2020

Source: PSALM

B. Other Disposable Assets

For the sale of other disposable assets which include real estate and unserviceable assets, waste and junk materials, following are the updates on PSALM's bidding activities:

- Disposal through Public Auction of Small Value Real Estate Assets (REA)

REA	No. of Lots/Units	Area, in SQM	Location
Puerto Azul	2 Units and One (1) Club Share	168	Ocean Villas Phase I, Puerto Azul, Ternate, Cavite
Naga- Bicol Property	1 lot	193	Villa Concepcion, Concepcion Pequena, Naga City
Agusan Property	12 lots	Plant - 11,147 Campsite- 4,479 Forebay & Water way 109,741	Manolo Fortich, Bukidnon
Maco Property	4 lots	11,827	Maco, Compostela Valley
Former Camalaniugan Substation Property	1 lot	2,148	Camalaniugan, Cagayan
Sudipen Campsite Property	3 lots	2,041	Sudipen, Ilocos Sur
General Santos City Property	3 lots	2,377	Calumpang, General Santos City

- Disposal through regular Public Bidding (big-ticket REA)

REA	No. of Lots/Units	Area, in SQM	Location
Aplaya DPP Land	49 lots	155,502	Jasaan, Misamis Oriental
Cebu DPP Land	21 lots	131,228	Toledo City, Cebu
Defunct Laoag DPP Land	1 lot	3,530	Laoag City
Mexico Property	1 lot	50,447	Mexico City, Pampanga

PSALM Board approved the services of a 3rd Party Appraiser for the abovementioned REA pursuant to Government Procurement Reform Act (RA 9184). The budget of which will be taken from PSALM's CY 2019 Corporate Operating Budget. The procurement activities shall have an indicative schedule as follows:

Activity	Schedule
Publication of Invitation to Bid	4 th week of February 2019
Submission and Evaluation of Bids	3 rd week of March 2019
Issuance of Notice to Proceed	1 st week of April 2019
Project Completion/ Submission of Report by the Third-party appraiser	Last week of April 2019

- Masterplanning of NPC Diliman Properties

In its effort to maintain its tangible properties, PSALM on 03 January 2019 conducted a meeting with the National Commission for Culture and the Arts (NCCA) relative to the Locsin-designed NPC buildings within the Diliman Property which are considered Important Cultural Property (ICP). The Diliman Property is a 5.1 hectares property located at the heart of Quezon City's Central Business District. Due to its strategic location and on-going high-

rise development in adjacent properties, it is considered a prime property with high potential for residential, commercial and mixed-use development.

On 04 January 2019, PSALM met with the Supreme Court representatives and Locsin partners to discuss the Terms of Reference (TOR) to be used as reference in the conceptual design and master planning of the Diliman Property.

On 10 January 2019, a coordination meeting among PSALM, NPC, National Grid Corporation of the Philippines (NGCP), NCCA, National Museum and the National Historical Commission of the Philippines was held at NPC relative to the Locsin-designed buildings. An on-site technical inspection was also conducted for said buildings.

After a rigorous selection process, PSALM shortlists five (5) architectural firms that will proceed to the Second Stage of the Architectural Conceptual Design Contest for the master planning and redevelopment of the 5.1-hectare Diliman property. These firms are expected to design a development concept based on the highest and best use of the property.

The shortlisted firms include the Casa Arkitektura, Concep, Inc., GF and Partners Architects, Jonathan O. Gan & Associates and WTA Architecture and Design Studio.

On 25 April 2019, the Selection Committee presented the evaluation reports to the shortlisted firms. Subsequently, an SCB No. 3 was issued on 25 April 2019 notifying the interested participants of the results of the first stage of the contest.

A consultation meeting was conducted on 02 May 2019 which aimed to provide the shortlisted firms an opportunity to clarify any concerns they may have on their deliverables. Aside from the consultation meeting, the shortlisted firms are also entitled to conduct their own due diligence activities and ocular inspection on an agreed date.

On 26 to 28 June 2019, the firms will present their contest entries to the members of the PSALM Board as jury. Announcement of results will be on 31 July 2019.

- Disposal of REA through Other Modes

- a. Bagac Property

On 22 February 2019, PSALM issued invitation letter to prospective participants for the Master Planning of the property.

The DOE expressed concerns on the privatization of the Bagac Property that there are potential uses for the Bagac Property in relation to the nuclear power program that the DOE seeks to pursue. Thus, on 12 March 2019, PSALM informed the DOE that it is suspending the design contest for the master planning of the Bagac property.

- b. Tiwi Geothermal Power Plant (GPP) Land

On 20 February 2019, PSALM presented for Board's approval the use of a parcel of land in Tiwi GPP as relocation site of Families Displaced by Typhoon Usman in Tiwi, Albay.

On 25 April 2019, the PSALM Board authorized the PSALM Management to negotiate with the Local Government Unit of Tiwi the disposal of the 11-hectare lots in Putsan, Tiwi.

c. Reconveyance of GenSan Property to the heirs of Mr. Honorio T. Allado

Coordination meeting relative to the required legal opinion from PSALM's Office of the General Counsel is ongoing.

d. Paranaque Properties

On 25 April 2019, the PSALM Board authorized PSALM to negotiate with the National Housing Authority the disposal of the 4.1-hectare lots in line with the implementation of E.O. 68, S. 2002.

- Disposal of Waste Oil and Sludge at Ilijan Natural Gas Power Plant, Ilijan, Batangas

The Agency Appraisal Report (AAR) was submitted to the COA on 11 January 2019. The Invitation to Bid was posted on 07 February 2019 and Opening of Bids was on 06 March 2019.

On 13 March 2019, the AAR was resubmitted to the COA addressing the COA's concerns in the previously submitted AAR.

On 02 April 2019, PSALM published the Invitation to Bid.

On 10 April 2019, a Pre-Bid Conference was held and was attended by four (4) registered bidders, namely:

- a. RMS Petroleum Technology and Waste Mgt. Corporation;
- b. ADL Envirotechnology, Inc.;
- c. Ecology Specialist, Inc.; and
- d. Trame Oil and Environmental Specialist, Inc.

- Disposal of Unserviceable Assets of Sold Plants and Other Disposable Assets at BacMan-Ormat in Manito, Albay, Ligao Stockyard in Ligao, Albay, and Tiwi Geothermal Power Plant and Philippine Geothermal Production Corporation (PGPC) in Tiwi, Albay

On 14 December 2018, PSALM annulled the ongoing bidding process for the sale of the subject assets. The exclusion of seamless pipes and accessories located at Tiwi PGPC stockyard and other items located at BacMan Laydown Area significantly affected the Minimum Bid Price. The AAR was resubmitted to the COA on 16 January 2019 while the Invitation to Bid was published on 21 February 2019.

PSALM commenced the disposal of assets with the publication of the Invitation to Bid. on 04 March 2019.

On 11 March 2019, PSALM held a pre-bid conference which was attended by 12 registered bidders as follows:

- a. 3 Roses Trading;
- b. Bonapor Metal Construction Services & General Merchandise;
- c. Izbanda Enterprises;
- d. Dong Junk Shop;
- e. Microsphere System Technology;
- f. SKRAPA Trading;
- g. LRGT Trading;

- h. Riclen Junkshop;
- i. RBE Ultimate Enterprises;
- j. A.M.E.J Trading;
- k. Star William Construction; and
- l. CARMs Marketing.

On 28 March 2019, PSALM BAC Disposal declared a failure of bidding due to no bidder submitted a bid among the above registered bidders.

C. Privatization Proceeds

As of 30 March 2019, PSALM, through the privatization of generation assets, the transmission business, and the IPP contracted capacities, has generated a total of Php910 billion. Also, the actual collection amounted to Php571 billion.

Table 3. Privatization Proceeds as of 30 March 2019, (in PhP Billion)

Privatization Assets	Generated	Collected	Balance
Generating Assets	162.23	162.23	-
Decommissioned Plants	0.63	0.63	-
Transmission Asset (TransCo)	264.80 ^{1/}	182.32	84.28
Appointment of IPPAs	482.50	226.25 ^{2/}	256.25
TOTAL	910.16	571.43	338.73

1/ Privatization Proceeds relative to concession fees are inclusive of Interest on deferred payment

2/ Collections include adjustments in IPPA proceeds based on IPP plant operation

Source: PSALM

PSALM utilizes its privatization proceeds to cover maturing obligations such as regular debt service, debt prepayment, IPP obligations, TransCo operating expenses, and other privatization-related expenses.

Total collections of Php571 billion as of March 2019, including interest income on placements, were exclusively utilized for the liquidation of financial obligations amounting to Php630 billion as of March 2019.

Table 4. Privatization Proceeds Utilization as of 30 March 2019

Particulars	In US\$ Billion
Debt Prepayment	68.49
Regular Debt Service	383.58
Lease Obligations	172.73
<i>Subtotal</i>	<i>624.80</i>
Others	5.07
TRANSCO Opex	0.05
TOTAL	629.92

USD1:PhP52.7820 (BSP Guiding Rate dated 30 March 2019)

Source: PSALM

D. Concession of the National Transmission Network

Pursuant to the Concession Agreement (CA) between the Government and the National Grid Corporation of the Philippines (NGCP), Republic Act No. 9511 or the Franchise Law and the Construction Management Agreement (CMA), the National Transmission Company (TransCo) continues to monitor the performance and compliance of NGCP to these Agreements.

For the report period, the Joint PSALM-TransCo Technical, Regulatory, Financial and Legal Compliance Assessment Team (TRFLAT) and Inspection of Books and Records (IBR) agreed to start the IBR inspection for CY 2018 in July 2019. The conduct of the IBR is in accordance with Section 10.01² of the CA.

² **Section 10.01 of the CA** states that “The Concessionaire shall maintain complete and accurate books and records in which it shall make full, true and correct entries of all its transactions in accordance with Philippine GAAP, including records of the operating and financial history and condition of the Transmission Assets. The Concessionaire shall maintain a complete and updated copy of such books and records both at its office in the Metro Manila area and at

TransCo continues on the conduct of inspection of the assets condition and Project Under Construction (PUC) accomplishments consistent with the inspection protocol established with the concessionaire. Annex 1 shows the summary of TransCo Inspection Report based on CA.

E. Sale of Sub-Transmission Assets (STAs)

The sale of TransCo's sub-transmission assets involves 123 sale contracts with 107 interested distribution utilities (DUs), most of which are electric cooperatives. The sub-transmission assets include around 4,092 ckt-km. of mostly 69 kV transmission lines and 860 MVA of substation capacity.

As of 30 April 2019, TransCo has signed 114 sale contracts with 93 DUs/ECs/consortia amounting to PhP6 billion. These sales cover an aggregate length of 3,833 ckt-kms of sub-transmission lines and 34,153 sub-transmission structures and 830 MVA of substation capacity. Of the 114 sale contracts, 72 contracts with total sale price of PhP4.3³ billion have been approved, approved with modification, and disapproved. Included in the said 72 contracts are eight (8) contracts amounting to PhP261.5 million disapproved as of April 30, 2019 and posted at the ERC website. The rest of the sale contracts are for filing with the ERC for evaluation and approval.

another appropriately secure location, and shall provide representatives of PSALM and Transco, with access to such books and records during normal business hours after reasonable advance written request for PSALM's monitoring and audit of the Concessionaire's compliance and performance with its obligations under this Agreement and other Transaction Documents.

³ The total ERC approved amount of PhP3.276 billion is lower compared to the total contract amount of PhP4.34 billion due to the following reasons:

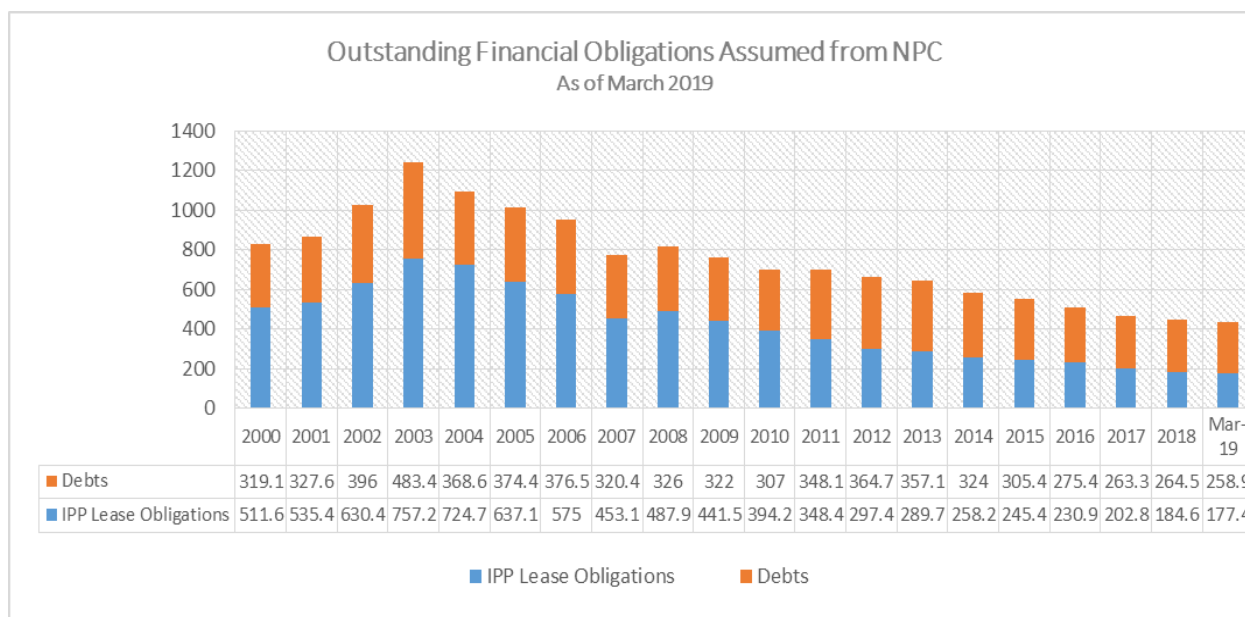
- a) Exclusion of some assets from the ERC approval due to reclassification from sub-transmission to transmission assets
- b) The lower amount of valuation was used as basis of the ERC approval
- c) Exclusion of some assets from the ERC approval since said assets are not yet connected to the sold assets
- d) Exclusion of some assets from the ERC approval due to decommissioning
- e) DU withdrawal from the ERC Joint Application of the sale contract
- f) The STA in the sale contract should be sold to a consortium instead of a single DU because the STA is in a super loop configuration.

III. PSALM LIABILITY MANAGEMENT

As of March 30, 2019, PSALM's financial obligations was reduced to PhP436.3 billion or a decrease of PhP805 billion from 2003 peak level of PhP1.2 trillion. In terms of currency, more than half (72.2%) of PSALM's Financial Obligations (FOs) is denominated in dollars, amounting to PhP314.98 billion. Peso-denominated FOs of PhP91.88 billion accounts to 21.1%, while the remaining FOs amounting to PhP29.44 billion equivalent to 6.7% is in Japanese Yen.

Figure 1 below shows the movement of the financial obligations of PSALM from 2000 to March 2019.

Figure 1 - PSALM's Outstanding Financial Obligations Assumed from NPC



Source: PSALM

Table 5. Financial Obligations (FOs) as of 30 March 2019

	PhP Equivalent (In Billions)
Debts	258.9
IPP Lease Obligations	177.4
Total	436.3

Source: PSALM

Table 6. Financial Obligations by Currency as of 30 March 2019

Currency	Amount in PhP Equivalent (In Millions)	% to Total
USD	314,982.77	72.2%
PHP	91,879.73	21.1%
JPY	29,437.49	6.7%
Total	436,299.99	100%

Exchange Rates Used: BSP Guiding Rate dated March 2019

USD : PhP 1.00 = 52.7820: JPY: PhP 1.00 = 0.4771

Source: PSALM

IV. ELECTRICITY RATES

This Section provides updates on electricity price data and other significant related developments based on information from the ERC, TransCo, PSALM, NPC, NEA and distribution utilities, among others. The data on electricity rates provided in this Section are summaries of submissions to the DOE as well as those gathered thru available sources such as websites, among others.

A. Average Electricity Rates

The country's average electricity rates as of March 2019 is around PhP8.52/kWh, PhP0.76 centavos higher compared with the December 2018 national average systems rate. Biggest increase in rate was posted in the Visayas Grid from PhP6.75/kWh in December 2018 to PhP7.78/kWh in March 2019 or an increase of 76 centavos/kWh. Luzon and Mindanao grid increased by 45 centavos/kWh and 74 centavos/kWh, respectively.

Figure 2 - National Average Systems Rate

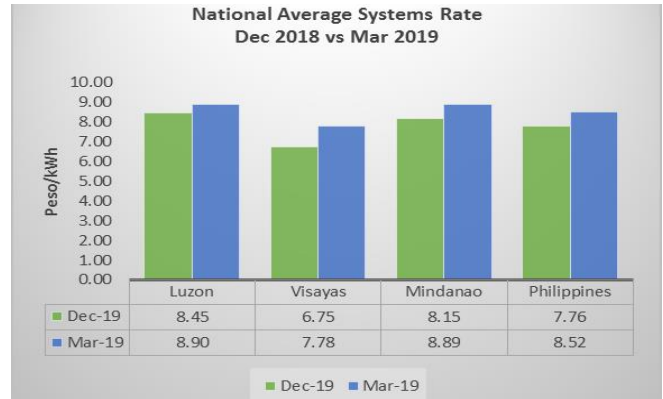


Figure 3 - Electric Cooperatives' Average Systems Rate

Meanwhile, the ECs' average systems rate for March 2019 is at PhP9.82/kWh, 0.20 centavos lower compared to December 2018 rate. Among the three grids, Luzon grid increased in rate by 0.20 centavos from PhP 9.66/kWh in December 2018 to PhP 9.86/kWh in March 2019, while Visayas and Mindanao grid decreased by PhP0.84/kWh and PhP0.16/kWh, respectively.

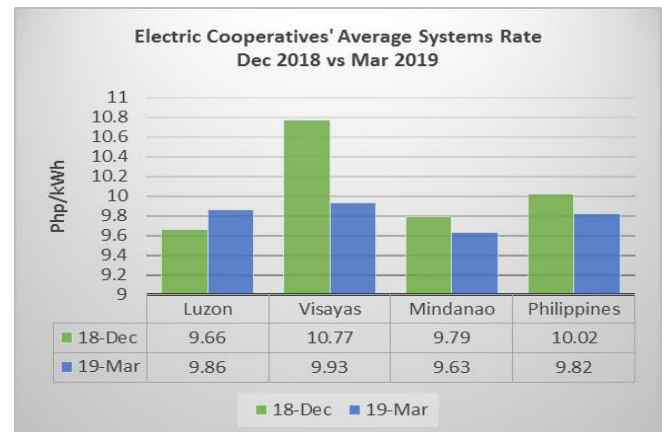
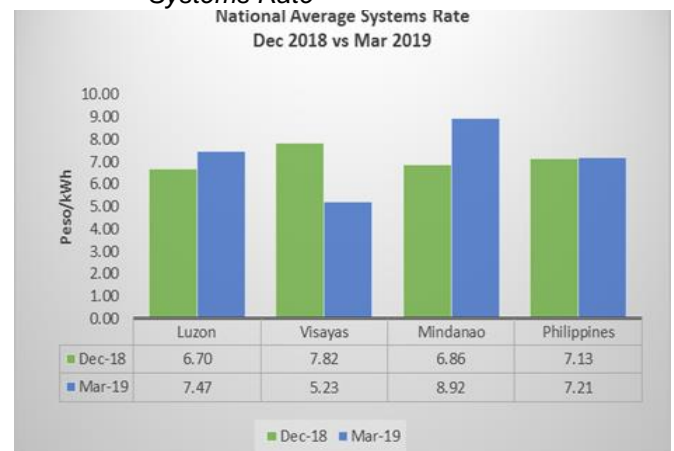


Figure 4 - Private Distribution Utilities' Average Systems Rate

The national average systems rates of PIOUs posted an overall increase by PhP0.08 centavos/kWh from PhP7.13 per kWh in December 2018 to PhP7.21/kWh in March 2019. The decrease in per kwh in Luzon, Visayas and Mindanao is PhP0.33, PhP1.94 and PhP0.32 centavos per kwh which is due to the decrease of WESM rate and lower PSA charges.



Among the Luzon PIOUs, La Union Electric Company (LUECO) posted the highest rate for the month of March 2019 at PhP 10.25. On the other hand, the lowest average rate was noted for the Lima Enerzone (LEZ) at PhP 3.80/kWh. The low rates can be attributed to the customer profile of LEZ which is around 99.06% industrial, 0.86% commercial and 0.09% others, on the basis of megawatt-hour sales. In the Visayas grid, the Visayan Electric Company (VECO) and Balamban Enerzone's average

electricity rates for March 2019 decreased by PhP0.07/kWh and PhP0.38/kWh compared to the December 2018 level of PhP7.30/kWh and PhP6.15/kwh. For the Mindanao grid, Iligan Light and Power Company (ILPI) increased its rate by PhP2.00/kWh while Cagayan Electric Power and Light Company (CEPALCO) and Davao Light and Power Company (DLPC) decreased by PhP1.73/kWh and PhP0.15/kwh.

As shown in Table 7, the ECs' national average unbundled residential electricity rate for March 2019 was PhP 9.82/kWh. Visayas grid still has the highest average effective residential electricity rates at around PhP9.93/kWh of which generation costs comprise 55%. On the average, generation costs comprise the bulk of ECs residential rates at around 55% followed by distribution, supply and metering charges (DSM) at 18%.

Among the three (3) grids, Mindanao EC residential customers paid the lowest generation costs at PhP 5.18/kWh. Distribution cost is the next largest component of EC's residential electricity rates cost comprising about 18% followed by transmission at 11%.

Source: NEA

Notes:

¹ Distribution, Supply and Metering Charges

² Reinvestment Fund for Sustainable CAPEX

³ Loan Condonation & PEMC-SPA Charge

Table 7. EC's Unbundled Average Residential Electricity Rates, March 2019

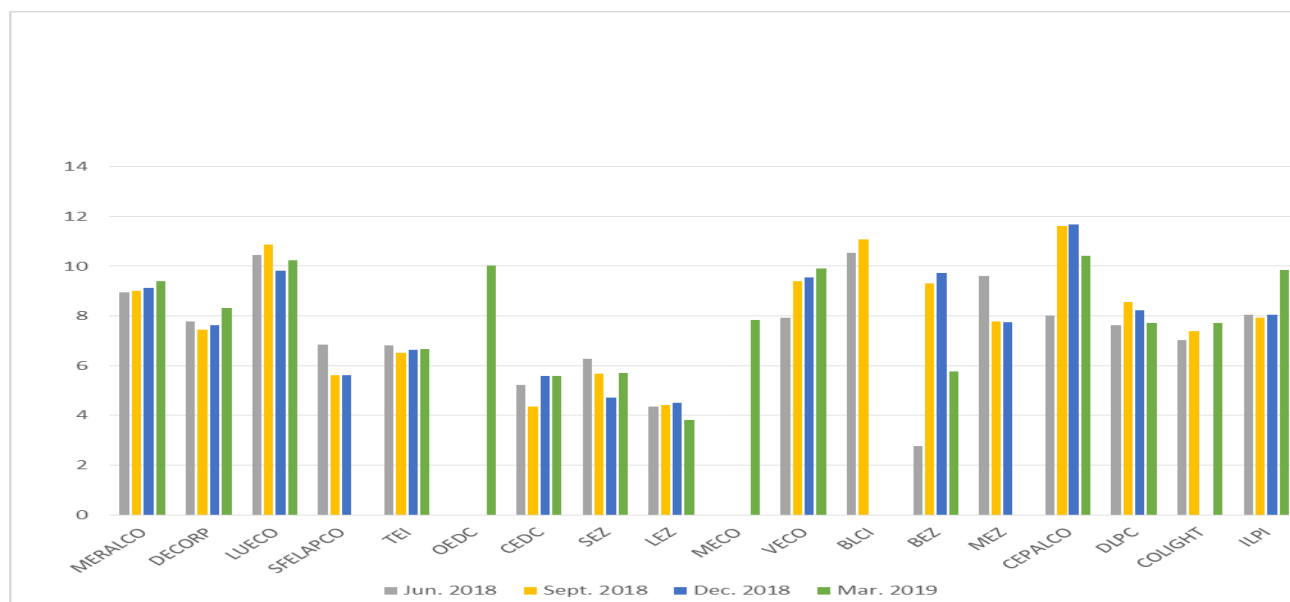
Bill Subgroup	LUZON		VISAYAS		MINDANAO		NATIONAL	
	PhP/kWh	% share	PhP/kWh	% share	PhP/kWh	% share	PhP/kWh	% share
Generation	5.49	55.73	5.48	55.22	5.18	53.80	5.40	55.02
Transmission	1.06	10.71	0.94	9.46	1.09	11.37	1.03	10.53
System Loss	0.77	7.79	0.70	7.07	0.79	8.24	0.76	7.70
DSM ¹	1.71	17.32	1.82	18.32	1.69	17.55	1.73	17.65
RFSC ²	0.36	3.66	0.36	3.63	0.49	5.12	0.40	4.03
Other Charges ³	(0.05)	(0.51)	0.05	0.55	(0.10)	(1.02)	(0.02)	(0.23)
Subsidy Charges ⁴	0.00	0.01	0.08	0.78	0.03	0.35	0.03	0.32
Universal Charges ⁵	0.49	4.97	0.45	4.55	0.43	4.46	0.46	4.71
Other Taxes ⁶	0.03	0.32	0.04	0.42	0.01	0.13	0.02	0.25
Total	9.86	100	9.93	100	9.63	100	9.82	100

⁴ Lifeline & Senior Citizen Subsidy/Discount

⁵ Missionary Electrification, Environmental Charges, NPC Stranded Cost

⁶ Local Franchise & Business Taxes, Real Property Tax

Figure 5 – Private Investor-Owned Distribution Utilities Average Electricity Rates



MERALCO, the largest distribution utility in the country posted an increase in its average residential electricity rates in the amount of PhP0.17 centavos per kWh from PhP 10.32/kWh in March 2018 to PhP10.50 in March 2019. For the same period, MERALCO's effective residential rates for the different residential customer classes ranged from PhP10.50/kWh to PhP11.70/kWh of which the highest component was generation costs at PhP5.60/kWh. MERALCO distribution charges for its different residential customer classes comprised 19-26% of the total effective residential rates equivalent to about PhP1.96/kWh and PhP3.03/kWh, respectively. Systems loss charges on the other hand was 47-centavos/kWh.

Table 8. Summary of MERALCO Residential Unbundled Power Rates, March 2019 (PhP/kWh)

BILL SUBGROUP	0 to 200 kWh	% Share	201 to 300 kWh	% Share	301 to 400 kWh	% Share	Over 400 kWh	% Share
Generation	5.60	53%	5.60	52%	5.60	50%	5.60	48%
Transmission	0.84	8%	0.84	8%	0.84	8%	0.84	7%
System Loss	0.47	4%	0.47	4%	0.47	4%	0.47	4%
Distribution	1.96	19%	2.24	21%	2.52	23%	3.03	26%
Subsidies*	0.12	1%	0.12	1%	0.12	1%	0.12	1%
Universal Charge	0.19	2%	0.19	2%	0.19	2%	0.19	2%
Fit-All Renewable	0.26	2%	0.26	2%	0.26	2%	0.26	2%
Government Taxes	1.07	10%	1.10	10%	1.14	10%	1.20	10%
TOTAL	10.50	100%	10.81	100%	11.13	100%	11.70	100%

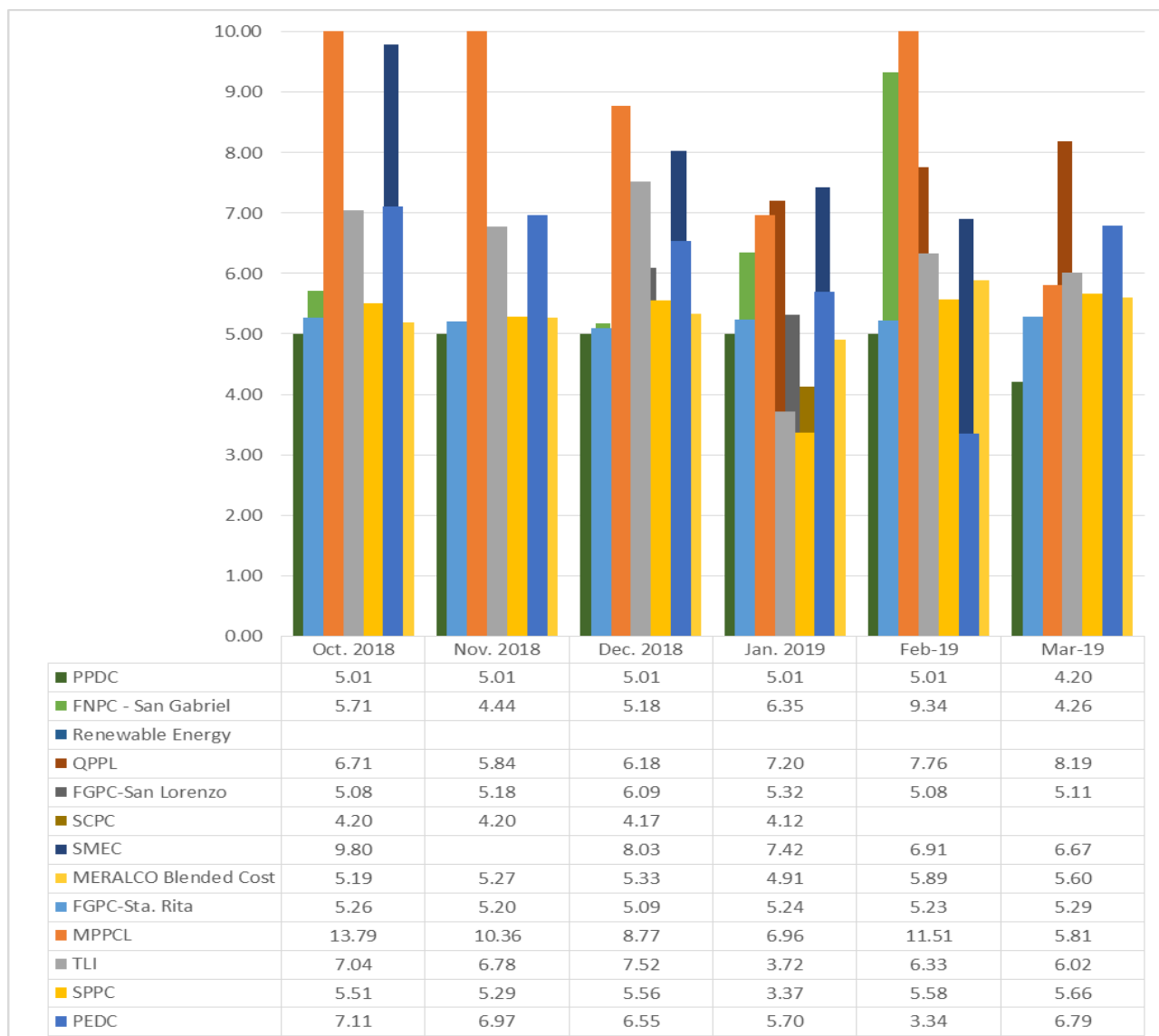
In Table 9, MERALCO's unbundled power rate for March 2019 is shown. It provides the residential, commercial and industrial rate at PhP 10.63/kWh, PhP 9.43/kWh and PhP 8.16/kWh, respectively. Residential customers has the highest power rate followed by commercial and industrial customers. The bulk of MERALCO's power rate comes from generation costs which ranges from 53% to 68% of the power rate. Distribution cost follows at the range of 8% to 23%. Government taxes also is a large part of MERALCO's power rate at the range of 5% to 10% of the cost per month.

Table 9. Summary of MERALCO Unbundled Power Rates as of March 2019 (PhP/kWh)

Bill Sub-Group	Residential	%	Commercial	%	Industrial	%
Generation	5.61	53	5.60	59	5.58	68
Transmission	0.84	8	0.94	10	0.77	9
Systems Loss	0.47	4	0.37	4	0.27	3
DSM	2.46	23	1.20	13	0.62	8
Cross Subsidies	(0.29)	-3	0.12	1	0.12	2
Universal Charges	0.19	2	0.19	2	0.18	2
Gov't Taxes	1.10	10	0.76	8	0.37	5
Fit-All Charges	0.26	2	0.26	3	0.26	3
TOTAL	10.63	100	9.43	100	8.16	100

Source: MERALCO

Figure 6 – MERALCO Detailed Generation Charge



Source: MERALCO

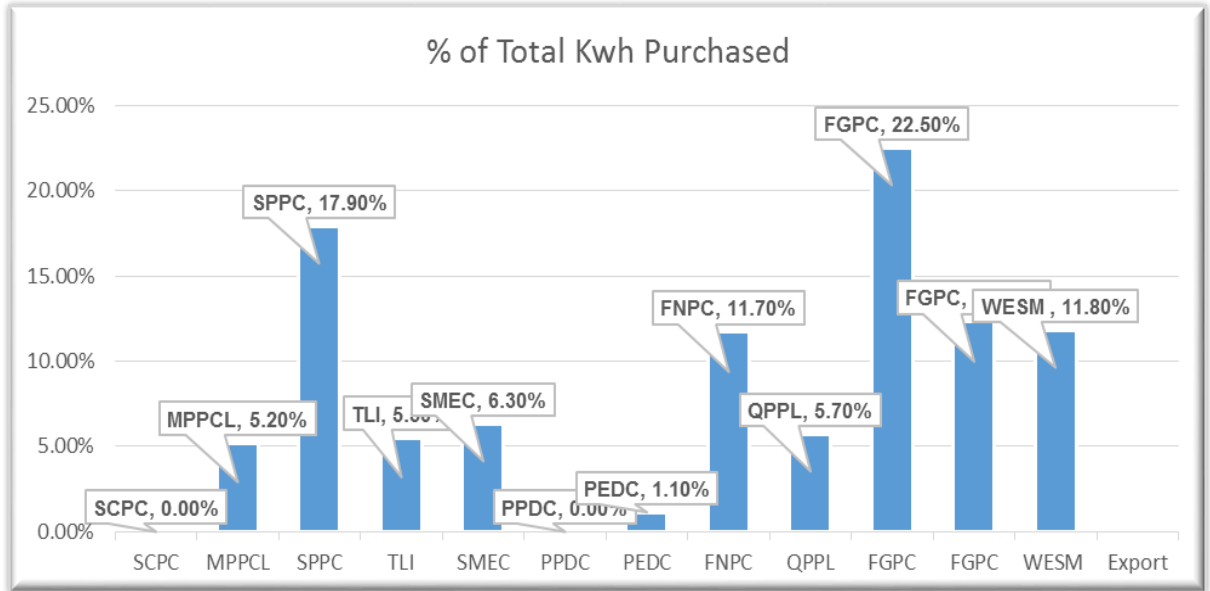
MERALCO's bulk purchase come from First Gas Power Corp. (FGPC) - Sta. Rita, South Premier Power Corporation (SPPC), and First Gas Power Corp. (FGP) – San Lorenzo, which are all natural gas powered plants. Further, MERALCO also sources a considerable amount of supply from WESM.

As provided in Figure 7, MERALCO's average bulk power purchase for the month of March 2019 which came from First Gas Power Corp. (FGPC) - Sta. Rita at 22.50%, South Premier Power Corporation (SPPC) at 17.90%, and First Gas Power Corp. (FGP) – San Lorenzo at 12.30% which are all natural gas powered plants. About 11.80 percent of MERALCO's power supply requirement is bought from the WESM. (updated 04/04/19)

MERALCO has an existing bilateral contract with Quezon Power Phils Ltd. Co.'s (QPPL) Coal-Fired Power Plant for a contracted capacity of 460 MW for a period of 25 years from 30 May 2000 until 30 May 2025. Though no Application/Order/Decision was posted at the ERC website, Guaranteed MEOT as declared in its PSA is 3,288,341,000 kWh which is to be delivered until 25 December 2023. Another contract is between Sta Rita NatGas Power Plant of First Gas Power Corporation (FGPC) for a contracted capacity of 1,000 MW which was granted with Final Authority. The bilateral contract with San Lorenzo NatGas Power

Plant owned by FGP Corp. (FGP) has a contracted capacity of 500 MW. It is valid for 25 years by virtue of ERC Case No. 2004-074 RC where it was granted with Final authority. San Miguel Energy Corp.'s (SMEC) Sual Coal fired Power Plant has a contract duration of 7 years or until 2019 for a contracted capacity of 500 MW. Final authority was vested in ERC Case No. 2012-087 RC. Further, Panay Energy Development Corporation's (PEDC) Coal-fired Power Plant has a cooperation period of 20 years from 26 August 2016 until 2036 for a contracted capacity starting from 28 to 70 MW.

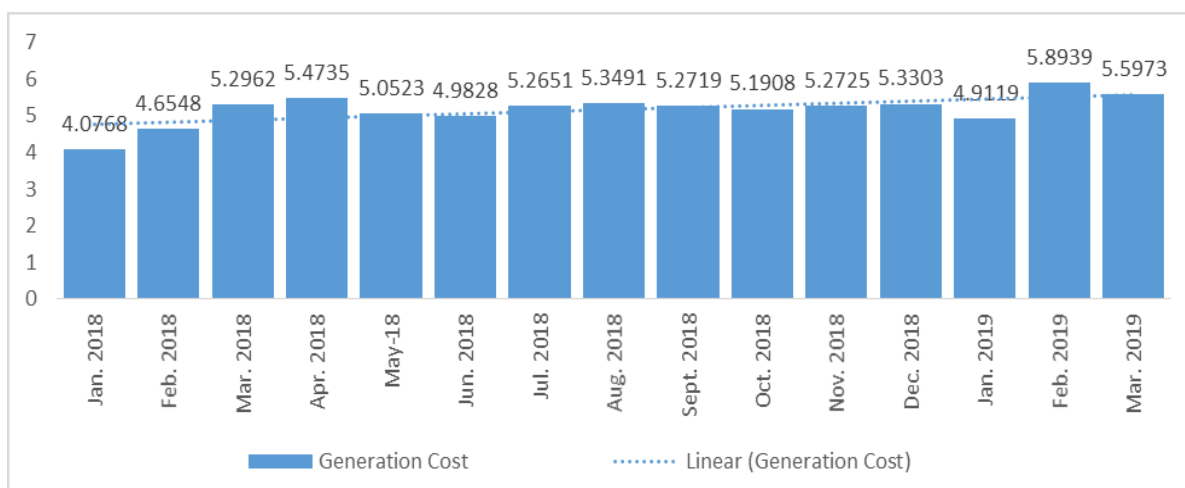
Figure 7 - Sources of MERALCO Power Supply Requirement



Source: MERALCO

Figure No. 8 provides MERALCO's average generation cost in Peso per kwh per month from with March 2018 to March 2019. Comparing a year on year basis, the figure shows an increase of Php1.5205 per kWh in March 2019 as compared to March 2018 data. The increase was generally attributed to the following: a) depreciation of the Philippine peso; b) the effect of the imposition of the value-added tax (VAT) on the transmission charge due to the Tax Reform for Acceleration and Inclusion (Train Law) c) PSALM's implementation of ERC Order/Decision for the recovery of NPC and PSALM's 10th to 17th GRAM applications; d) PSALM's implementation of ERC Order/Decision for the recovery of NPC and PSALM's 15th to 16th ICERA applications; e) PSALM's implementation of ERC Order/Decision for the recovery of its TAFPPC and TAFxA / FPPCA and FxA NPC applications; f) lower average plant dispatch g) normalization of capacity fees; h) tighter supply conditions in Luzon due to warmer temperatures; i) high fuel prices; j) an uptick in demand and an increase in Malampaya gas prices; k) high Power Supply Agreement (PSA) and Independent Power producers (IPP) charges; and l) plant shutdowns and lower average plant dispatch.

Figure 8 - Average MERALCO Generation Charges

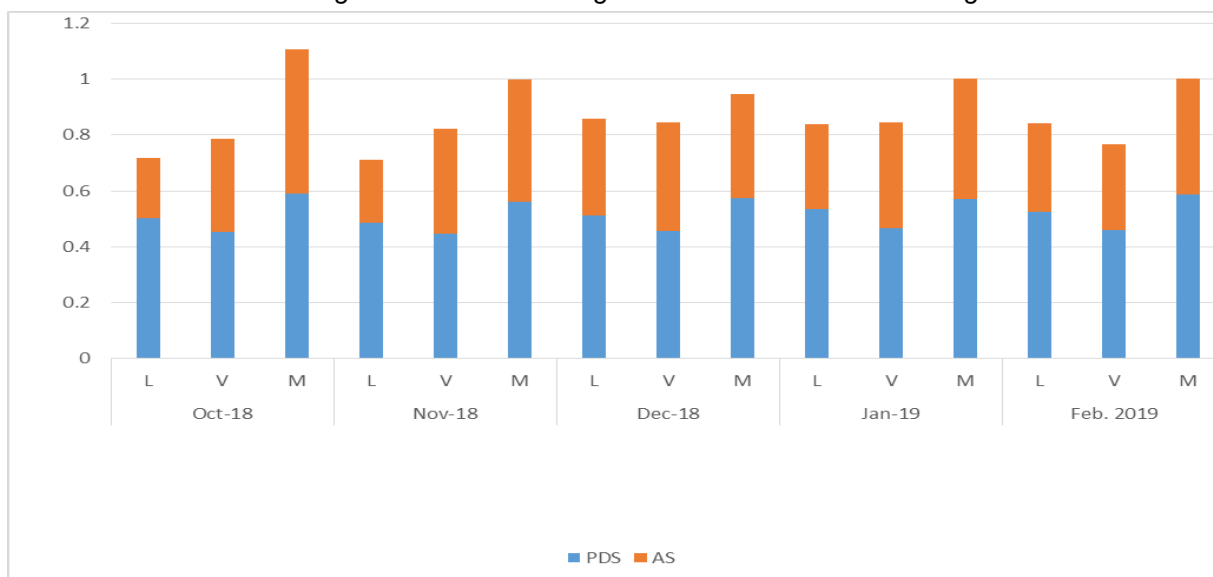


Source: MERALCO

Ancillary Service (AS) Charges are computed based on the total cost of AS provision (as billed by AS providers per service type and per grid) and the total billing determinant of customers who benefitted from the service.

For Luzon, Total AS cost increased in February 2019 by PHP84.12 Million which is around 6.20% of the previous month's AS cost due to the increase in the scheduled AS capacity of thermal plants. For Visayas, AS cost decreased in February 2019 by PHP22.59Mn or 8.97% as compared to the previous month's AS cost due to the decrease in the dispatched AS capacity. The AS cost in Mindanao decreased in February 2019 by PHP11.43Mn which is about 4.05% of the previous month's AS cost due to the decrease in the scheduled AS capacity of hydro plants

Figure 9 – NGCP Average Effective Transmission Charges



Source: NGCP

B. Feed-in Tariff Allowance (FIT-All)

During the report period, Transco filed with the ERC the determination for the FIT-All rate for the years 2014-2015, 2016, 2017, 2018, and 2019. Status of the said regulatory filings is shown below.

Year	Rate Applied (PhP/kW)	ERC Approval	Remarks
2014-2015 (filed on July 30, 2014)	PhP0.0406	Provisional Authority (PA) PhP0.0406/kWh	Implementation started on January 2015 billing period
		Final PhP0.0406/kWh	The ERC approved the 2014-2015 FIT-All Rate on December 10, 2015.
2016 (filed on December 22, 2015)	PhP0.1025 or the updated amount at the time of evaluation	Provisional: PhP0.1240/kWh	Implementation started on April 2016 billing period
		Final: PhP0.1830/kWh	Approved on May 9, 2017 (docketed May 13, 2017) Implementation started on June 2017 billing month
2017 (filed on December 1, 2016)	PhP0.2291 or the updated amount at the time of evaluation	Final PhP0.2563/kWh	Approved on February 27, 2018 (docketed May 11, 2018) effective June 2018 billing
2018 (filed on August 29, 2017)	PhP0.2932 or the updated amount at the time of evaluation	No Provisional Authority issued to date	For ERC Resolution
2019 (filed on July 30, 2018)	PhP0.2780 or the updated amount at the time of evaluation		Hearings terminated for submission of pleadings/comments

Further, on 29 March 2019, the ERC promulgated ERC Case No. 2017-079 RC regarding the application filed by TRANSCO for the approval of the Feed-In Tariff Allowance for calendar year 2018 pursuant to the guidelines for collection of the Feed-In Tariff Allowance and disbursement of the Feed-In Tariff Allowance Fund, subject to the following conditions:

1. TRANSCO is authorized to collect a Feed-In Tariff Allowance equivalent to PhP0.2226/kWh which is lower by PhP0.0706/kWh, and which is PhP0.0337/kWh lower than the 2017 FIT-All rate of PhP0.2563/kWh effective next billing cycle;
2. TRANSCO, DUs, RES, NGCP and PEMC are directed to make available all its records pertinent to the implementation of the FIT-All to the Commission as part of a FIT-All audit which shall be undertaken immediately; and
3. The following entities are also directed to collect FIT-All proceeds and promptly and fully remit the collections to the FIT-All Fund no later than the 28th day of the following month after the close of the Billing Period:
 - a. DUs to collect FIT-All and Actual Cost Recover Rate (ACRR) from captive consumers and contestable customers which remain with the DU and those connected with the DU system which source directly from the WESM;
 - b. RES to collect FIT-All from contestable customers;
 - c. NGCP to collect FIT-All from captive consumers that are directly connected to its system and from directly connected contestable customers which source directly from the WESM; and
 - d. PEMC to collect WESM Proceeds as ACRR of eligible RE Plants – WESM from relevant WESM participants.

For the payment of FIT-eligible RE generators, TRANSCO has entered into Renewable Energy Payment Agreement (REPA) with 59 RE developers as of December 2018, with 52 of these REPAs being effective, i.e. these eligible RES have secured all necessary permits and can already be paid for actual eligible energy generated. The remittance to the FIT-All Fund by Collection Agents of the FIT-All Fund by Collection Agents of the FIT-All Fund started in March 2015. On a monthly basis, the Collection Agents (mostly DUs) remit to the FIT-All Fund the collection of the FIT-All which is included in the power bills of electricity consumers.

The FIT-All rate is currently at the level of PHP0.2563/kWh following the approval of the 2017 FIT-All rate by the ERC on February 27, 2018 (docketed May 11, 2018) effective June 2018 Billing.

The total claim as of December 31, 2018 is PhP61 Billion excluding interest where about 96.68% of PhP59 Billion has been paid as of the same period.

Below is the summary of FIT-All Collection as of December 31, 2018.

Year	Collection (In PhP Billion)	Collection Efficiency (%)
2015	2.05	93.90%
2016	6.58	93.75%
2017	11.13	93.77%
2018	17.09	94.04%

C. Administration of Universal Charge (UC)

This section provides development on the implementation of UC pursuant to Section 34 of the EPIRA. Highlights include status of collection and disbursements, updates on PSALM's application for the recovery of stranded contract costs and stranded debts, and the implementation of UC collection from self-generating facilities.

1. Universal Charge Remittances, Interests & Disbursements Charge Remittances, Interests & Disbursements

As of 30 April 2019, the total collections of UC amounted to PhP174.7 billion with interest earnings from deposits and placements of UC funds amounted to PhP0.20 Billion. On the other hand, UC fund disbursement amounted to PhP170.9 Billion. Accounting for the inflows and outflows of the UC fund leaves it with a balance of about PhP4.1 billion.

Below are the details of UC remittances, interests and disbursements:

Table 10. UC Collections as of 30 April 2019 (in Billion PHP)

Particulars	Remittances	Interests	Disbursements	Balance
Special Trust Fund – Missionary Electrification (ME) NPC-SPUG	90.46	0.04	90.49	0.02
Special Trust Fund – ME Renewable Energy Developer Cash Incentive (REDCI)	0.63	0.01	0.28	0.36
Special Trust Fund – Environmental Charge (EC)	2.29	0.12	1.49	0.92
Special Trust Fund – Stranded Contract Cost (SCC)	77.99	0.03	75.28	2.75
Stranded Debts	3.37	0.00	3.37	0.00
TOTAL	174.74	0.20	170.91	4.05

Source: PSALM

2. UC Remittances

For the period November 2018 to April 2019, PSALM received PhP11.9 Billion in UC remittances broken down with details reflected in Table 10.

Table 11. UC Remittances to PSALM for the period November 2018-April 2019 (In Billion PhP)

Month	UC-ME (NPC-SPUG)	UC-ME (REDCI)	EC	SCC	SD	Total/Month
November 2018	1.11	0.01	0.02	1.38	0.19	2.71
December 2018	1.06	0.01	0.02	1.32	0.18	2.59
January 2019	1.05	0.01	0.02	0.95	0.19	2.22
February 2019	1.07	0.01	0.02	0.53	0.18	1.81
March 2019	0.93	0.01	0.02	0.13	0.16	1.25
April 2019	1.03	0.01	0.02	0.03	0.18	1.27
Total	6.25	0.06	0.12	4.34	1.08	11.85

Source: PSALM

3. UC Disbursements

For the November 2018 to April 2019, PSALM disbursed PhP6.3 billion to NPC-SPUG to fund the missionary electrification functions, chargeable against the UC-ME fund.

Table 12. UC Disbursements of PSALM for the Period November 2018 to April 2019 (in PhP Billion)

Month	ME (NPC-SPUG)	ME (REDCI) ^{1/}	EC ^{2/}	SCC ^{3/}	SD	Total/Month
November 2018	1.11	0.00	-	1.38	0.19	2.68
December 2018	1.07	0.00	-	0.26	0.18	1.51
January 2019	1.05	-	-	-	0.18	1.23
February 2019	1.07	-	-	-	0.20	1.27
March 2019	0.94	-	-	-	0.16	1.10
April 2019	1.01	-	-	-	0.18	1.19
Total	6.25	0.00	-	1.64	1.09	8.98

^{1/} No REDCI claim with complete documentary requirements was received during the period January 2019 to April 2019

^{2/} Awaiting ERC Order/Decision on the disbursement of UC-EC.

^{3/} Non-disbursement of UC-SCC starting January 2019 due to the full disbursement of the ERC-approved SCC for CYs 2007-2010 amounting to PhP8,547,230,000.00.

Source: PSALM

Pursuant to the Implementing Rules and Regulations (IRR) of the EPIRA, PSALM disburses the UC funds on UC-ME to the respective beneficiaries as reflected in Annex 1..

4. ERC-Approved UC Rates

Total UC being charged to customers per kilowatt hour amounts to PhP0.3789 as approved by the ERC.

Type of UC	PhP/kWh	Recovery Period
UC-ME <ul style="list-style-type: none"> • UC-ME Subsidy • Cash Incentive for RE Developers • True-up Adjustment (2011) • True-up Adjustment (2010) 	0.1561	
UC-EC	0.0025	
UC-SCC*	0.1938	Fully recovered
	0.0543	12 months

Type of UC	PhP/kWh	Recovery Period
UC-SD*	0.0428 ^{1/}	Until June 2026
Total	0.3789	

Note:

^{1/}Pursuant to ERC Case No. 2013-195RC promulgated on 28 March 2019, the effectivity of the implementation of the new Universal Charge-Stranded Debts rate is in the amount of PhP0.0428/kWh to be collected by Collecting Entities from consumers to start on April 2019 billing period.

* UC-SD and UC-SCC currently being collected from electricity end-users until approved amount has been fully recovered.

D. Lifeline Rate Subsidy Program

From September to December 2018, the average monthly total amount of subsidy shouldered by Non-Lifeline Customers was PhP414 Million. The average amount of subsidy to lifeline customers of all DUs is PhP2.61/kWh while the amount of subsidy paid for by the non-lifeline customers of all DUs which is Php 0.08/kWh. In the MERALCO franchise areas, higher amount of subsidy is provided compared to other franchise areas with average amount of subsidy to non-lifeline at Php 0.09/kWh. For the On Grid ECs, non-lifeline customers subsidized an average of Php 0.05 per kWh which is also the same for the Off-Grid ECs.

It should be noted that Section 73 of the EPIRA as amended by Republic Act No. 10150 has extended the implementation of Lifeline program for another 10 years from year 2011 which will be expiring in the year 2021 as follows: "Section 73. Lifeline Rate. - A socialized pricing mechanism called a lifeline rate for the marginalized end-users shall be set by the ERC, which shall be exempted from the cross subsidy phase-out under this Act for a period of twenty (20) years, unless otherwise extended by law. The level of consumption and the rate shall be determined by the ERC after due notice and hearing". In case the government decides to extend further the implementation of the lifeline program, there is a need for another legislative proposal on the matter.

Table 13. Total Amount of Discount per Lifeline Level

PARTICULARS	MERALCO	Other PDUs	ON-GRID EC	OFF-GRID EC	TOTAL
Average monthly total amount of subsidy provided by Non-Lifeline Customers (in Php)	313,435,175	38,279,120	59,943,045	2,676,906	414,334,246
Average monthly total consumption of Lifeline Customers (kWh)	115,021,899	17,523,953	24,652,568	1,401,072	158,599,492
Average monthly Total Consumption of Non-Lifeline Customers (kWh)	3,662,758,856	586,971,244	1,155,584,393	52,050,535	5,457,365,028
Average amount of subsidy provided to Lifeline Customers (in PhP/kWh)	2.73	2.18	2.43	1.91	2.61
Average amount of subsidy provided to Non-Lifeline Customers (in PhP/kWh)	0.09	0.07	0.05	0.05	0.08

Source: ERC, MERALCO-URR

E. Mandatory Rate Reduction (MRR)

Pursuant to Section 72 of the EPIRA, NPC is continuously granting to residential customers the mandatory discount of 30-centavos/kWh. For this report period, focus is given in the Small Power Utilities Group (SPUG) areas, which is being served by the NPC.

Table 14. NPC-Incurred Amount on Grant of Mandatory Rate Reduction

Billing Month	Luzon	Mindanao	Philippines
January 2018	2,228,446.48	2,220,464.96	4,448,911.44
February 2018	2,257,454.05	2,151,312.36	4,408,766.41
March 2018	1,918,701.20	2,193,716.00	4,112,417.20
April 2018	1,941,629.39	2,170,649.73	4,112,279.12
May 2018	2,570,886.96	2,305,791.50	4,876,678.46
June 2018	2,754,150.13	2,393,601.66	5,147,751.79
July 2018	2,461,777.25	2,323,936.79	4,785,714.04
August 2018	2,262,786.06	2,028,742.02	4,291,528.08
September 2018	1,365,447.06	2,122,050.87	3,487,497.93
October 2018	2,073,566.08	2,137,347.45	4,210,913.53
November 2018	2,478,327.81	2,170,326.44	4,648,654.25
Total	24,313,172.47	24,217,939.78	48,531,112.25

Source: NPC

For the period starting January to November 2018, a total of PhP48,531,112.25 of rate reduction has already been granted to consumers in SPUG areas. This amount is equally shared by electricity end-users in the Luzon and Mindanao areas since NPC has already privatized its generation facilities in the Visayas region. For the month of November 2018, the total rate reduction increased to 4.6 million recording a 10.40 % increase from October 2018's MRR. Of the amount, only 24% was granted to consumers in North Luzon area including Marinduque and Quezon. 17% of the amount was granted to consumers in Camarines Sur area while 13% was granted to consumers in Palawan grid. Further, 51% of the end-users in Eastern and Western Mindanao was granted with the discount. The MRR is provided to customers wherein DUs source supply from NPC.

V. COMPETITION

This section provides an update on key areas of competition to include the operation of the Wholesale Electricity Spot Market (WESM), commercial operations of Retail Competition and Open Access (RCOA), implementation of the Reserve Market, and monitoring of compliance to Section 45 of the EPIRA.

A. WESM Operational Highlights

As of 25 April 2019, the total registered participants in the integrated WESM (Luzon and Visayas) is two hundred sixty-six (266). San Carlos Biopower Inc., a generation company in Visayas was registered as the new trading participant on February 2019. However, two (2) generation companies located in Luzon, Therma Mobile, Inc. and Millennium Energy, Inc., ceased their operations during the report period.

The breakdown of the Generation Companies and Customer Trading Participants is shown in the table below

Table 15. Registration Update as of 25 April 2019 (Luzon and Visayas)

CATEGORY	REGISTERED						
	TOTAL	DIRECT			INDIRECT		
		LUZ	VIS	LUZ/VIS	LUZ	VIS	LUZ/VIS
Generation Companies	116	76	36	3	1	0	0
Customers							
Private distribution utilities & Local government utilities	17	8	4	0	5	0	0
Electric cooperatives	71	29	28	0	14	0	0
Directly Connected Customers	58	8	6	1	33	8	2
Wholesale aggregators	4	0	0	4	0	0	0
Total Customer Trading Participants	150	45	38	5	52	8	2
TOTAL PARTICIPANTS	266	121	74	8	53	8	2

Source: PEMC

Supply and Demand and Market Price Outcome

For the billing period November 2018 to April 2019, the average system-wide demand plus reserve is at 10,360 MW. There was a significant decrease in demand as the country experienced cooler temperature as well as the observance of holidays during the months of November 2018 to January 2019. Thereafter, system demand increased beginning February with 10,013 MW, hitting an average of 11,205 MW in April due to hotter temperatures with the onset of the summer months. Driven by the increase in demand, supply margin tightened to an average of 1,159 MW in April from 1,644 MW in March.

In terms of the effective supply, the lowest level of supply for the period was recorded at 11,905 MW for the month of February 2019. The decrease in supply started in January when high incident of both planned and unplanned plant outages of major coal and natural gas plants

occurred. The decrease in supply and the increase in demand have tightened the supply margin to an average of 1,159 MW in April 2019.

Following the tight supply margin in the April billing month, average market price increased by 43.9% at PhP7,315/MWh compared to PhP5,082/MWh in March, the highest in six months. Lowest average market price was observed in December 2018 at PhP3,186/MWh.

The details of the demand and supply situation and the Average Market Prices are shown in the table below.

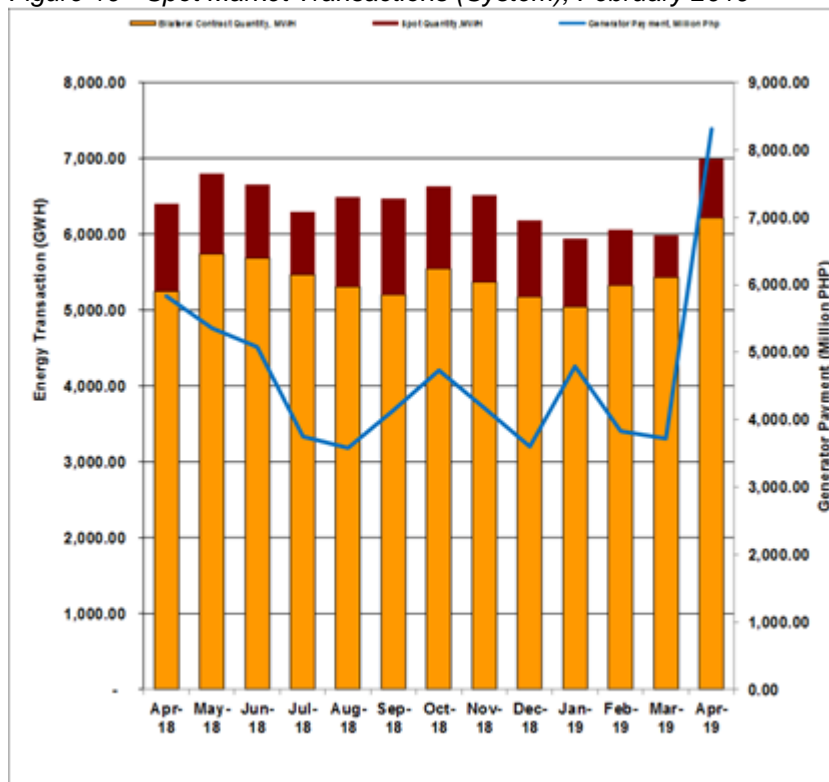
Table 16. Demand and Supply Situation for November 2018 to April 2019

Month	Demand + Reserve (MW)	Effective Supply (MW)	Supply Margin (MW)	Average Market Price (Php/MWh)
November 2018	10,729	13,002	2,273	3,324
December 2018	10,591	13,065	2,474	3,186
January 2019	9,819	11,943	2,125	4,727
February 2019	10,013	11,905	1,891	4,058
March 2019	10,838	12,481	1,644	5,082
April 2019	11,205	12,363	1,159	7,315

Source: PEMC

Market Transactions

Figure 10 - Spot Market Transactions (System), February 2019



Customer Spot market transactions (spot market volume) were at 771.859 GWH which translates to 11.04% of the total energy consumed in Luzon and Visayas. The remaining 88.96% of the total volume was transacted and settled outside the market.

Luzon spot market transactions were recorded at 663.369 GWH while for Visayas spot transactions were at 108.491 GWH. Luzon generator payments amounted to PHP5,887.32 Million while Visayas generator payments were recorded at PHP2,422.96.

Spot market transactions increased by 39.62% from

552.84 GWH in March to 771.86 GWH in April, while the generator payments increased by 123.38% from PHP 3,720.19 Million in March to PHP 8,310.28 Million in April.

Table 17. Summary of Market Transactions for November 2018 to April 2019

Month	Spot Market Transactions for Luzon & Visayas (GWH)	Spot Market Transactions for Luzon (GWH)	Spot Market Transactions for Visayas (GWH)	Luzon Generator Payments (Million Php)	Visayas Generator Payments (Million Php)
November 2018	1,143.693	976.135	167.558	1,894.54	665.29
December 2018	1,007.294	834.868	172.426	2,545.21	1,054.21
January 2019	900.831	720.019	180.812	3,214.83	1,577.89
February 2019	733.476	586.654	146.822	2,531.68	1,295.11
March 2019	552.842	443.034	109.808	2,175.68	1,544.51
April 2019	771.860	663.369	108.491	5,887.32	2,422.96

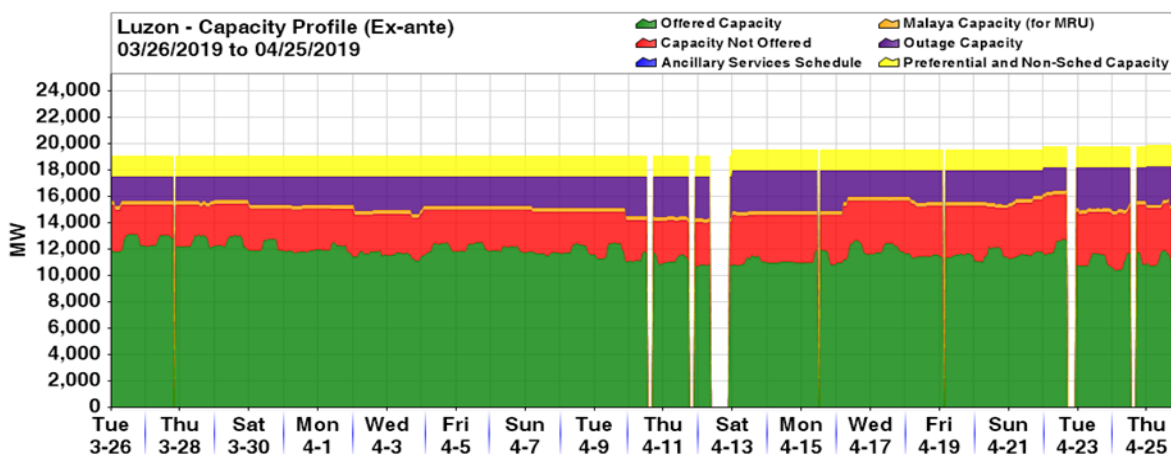
Source: PEMC

Capacity Profile

At the start of the April billing month, the WESM registered capacity increased at 19,062 MW. Starting 13 April, this figure increased up to 19,876 by the end of the month due to the registration of a 213-MW oil-based facility (units 1 to 4) of Therma Mobile, Inc.

Of the said total WESM registered capacity, only about 59 percent or an average of 11,752 MW was offered in the market.

Figure 11- Capacity Profile (Ex-ante), April 2019



For the March billing month, the WESM registered capacity is at 18,727 MW. During this month, two oil-based plants have deregistered, the 213-MW facility of Therma Mobile, Inc. and Navotas DPP (2TMO_PB). However, the capacity increased following the registration of the 335-MW third unit of the coal fired Masinloc facility.

In February billing month, the WESM registered capacity is at 18,940 MW with the entry of the additional 37.5 MW facility of Victorias Milling Company, Inc. Of which, only about 61% or an average of 11,491 MW was offered in the market.

No new registration of power plant was noted during the January billing month, thus, the total registered capacity in the WESM is at 18,902 MW. Sixty-two (62%) or an average of 11,649 MW of capacity was offered in the market, down from previous month's 68% corresponding to an average of 12,803 MW.

An increase of around 20MW to the registered capacity for December 2018 was observed compared to the previous month which is attributable to the entry of San Carlos Biopower Inc. An increase was also observed for this month's offered, outage, and preferential capacities recorded

at 13MW, 12MW, and 4MW, respectively. However, a decrease of 25MW was recorded for the capacity not offered.

For the month of November, the WESM registered capacity is at 18,882 MW. Of this capacity, about 68 percent was offered in the market.

Details of capacity profile for the report period are shown on Table 18.

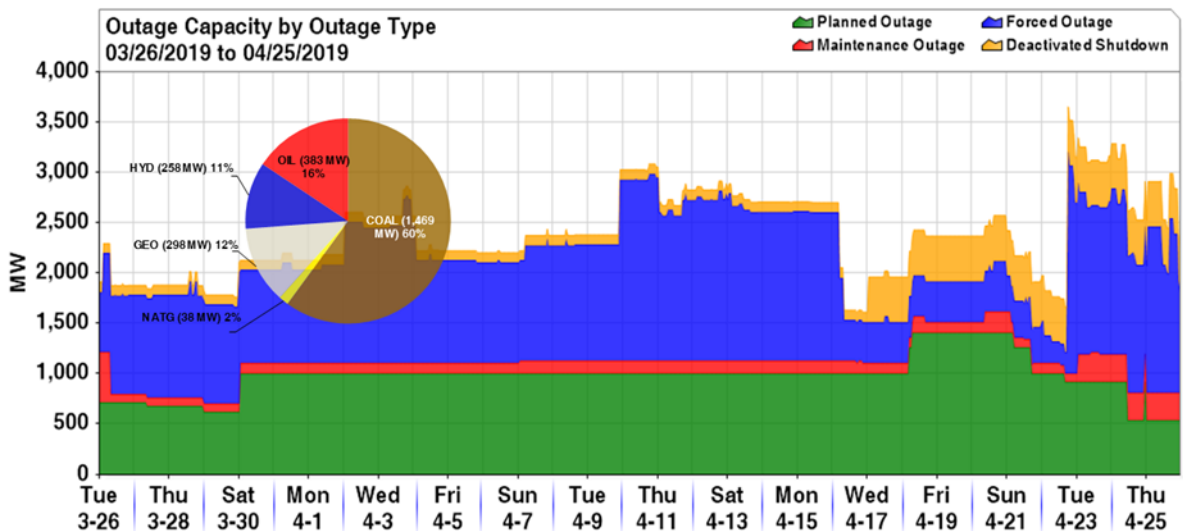
Outage Capacity

For the month of April 2019, about 12% of the total registered capacity or an average of 2,446 MW were on outage. Bulk of which, at 45%, were related to forced outages, averaging at 1,078 MW. Planned outages, averaging at 977 MW, accounted for 41% of the total outage capacity.

On the other hand, based on type of resource, coal plants contributed 60% of the total outage capacity this month.

Lower level of capacity on outage was recorded this month compared to the previous month.

Figure 12 - Outage Capacity by Outage Category, April 2019



For the billing month of March 2019, 2,663 MW were on outage. Bulk of which were related to forced outages, averaging at 1,254 MW. Planned outages, averaging at 1,030 MW, accounted for 39 percent of the total outage capacity. Based on type of resource, coal plants contributed 51 percent of the total outage capacity this month.

In February 2019, about 20 percent of the total registered capacity or an average of 3,756 MW were on outage. Fifty-three (53) percent, were related to planned outages, averaging at 1,972 MW while forced outages, averaging at 1,407 MW, accounted for 37% of the total outage capacity.

In January 2019, high level of outage capacity which averaged at 3,332 MW was experienced. Bulk of the outages was attributed to high outage capacity of coal plants, averaging at 1,946 MW. Planned outages, comprising 48% percent of the total outage capacity, averaged at 1,586 MW were mainly attributed to the planned outages of the following major coal and natural gas plants during the month: GN Power 1, Masinloc 1, SMC 3, Pagbilao 3, QPPL, PEDC 3, Kepco Salcon 2, and Sta. Rita Units 1, 2 and 3. Meanwhile, the series of forced outages of major coal plants GN Power 2, Masinloc 2, Calaca 2, SLTEC 1, SLPGC 1 & 2, QPPL, PALM 1 and natural

gas plant Sta. Rita 1 and San Lorenzo contributed bulk of the forced outage capacity. It averaged 1,111 MW, comprising 34% of the total outage capacity.

In December 2018, the system-wide outage capacity has slightly increased by 0.6% compared from the previous month.

System-wide outage capacity averaged at 1,914 MW for the November 2018 billing month, lower by 22.1 percent from previous month's 2,456 MW. This decrease was driven by the lower outage capacity involving coal plants from 1,055 MW in October to 552 MW this month attributable to the resumption of operations of Sual CFTPP unit 1 (647 MW) on 26 October from its planned outage since 31 August and Malaya TPP unit 1 on 23 October from its forced outage since 3 September.

The details of the power plant outages and capacity profile in the WESM for November 2018 to April 2019 is summarized in the following table.

Table 18. Summary of Capacity Profile for November 2018 to April 2019

Month	Registered Capacity (MW)	Offered Capacity (MW / %)	Outage Capacity (MW / %)	Capacity Not Offered (MW / %)	Preferential and Non-Scheduled Capacity (MW / %)	Must Run Unit Capacity (MW / %)
November 2018	18,882	12,790 / 68%	1,914 / 10%	2,378 / 13%	1,500 / 8%	300 / 1.6%
December 2018	18,902	12,803 / 68%	1,926 / 10%	2,353 / 12%	1,504 / 8%	300 / 1.6%
January 2019	18,902	11,649 / 62%	3,331 / 18%	2,101 / 11%	1,520 / 8%	300 / 2%
February 2019	18,940	11,491 / 61%	3,756 / 20%	2,126 / 11%	1,524 / 8%	300 / 0.05%
March 2019	19,062	11,979 / 63%	2,663 / 14%	2,496 / 13%	1,558 / 8%	300 / 1%
April 2019	19,876	11,752 / 59%	2,416 / 12%	3,258 / 16%	1,560 / 8%	300 / 2%

B. Updates on WESM Governance Activities

The DOE monitors the governance of the WESM through its representation from the different technical committees which undertake regular meetings relative to WESM rules changes, operational audit, conduct of technical evaluation and studies, investigation of breach of the WESM Rules, and management of dispute resolution process. For the covered report period, the following are the activities accomplished by each WESM Governance Committees:

1. Market Surveillance Committee (MSC)

The Market Surveillance Committee (MSC) primarily monitors and assesses the trading activity in the WESM to ensure market efficiency and fair competition with the support of the Market Assessment Group (MAG). It is currently composed of five (5) members, namely, Engr. Francis V. Mapile, Dr. Peter Lee U, Atty. Doroteo B. Aguila, Ms. Eulinia M. Valdezco and Mr. Fernando Martin Y. Roxas.

In line with its mandate, the MSC accomplished the following:

a. Assessment of Market Outcomes

Pursuant to the WESM Rules and the Market Surveillance, Compliance and Enforcement Manual, the Market Assessment Report is prepared for the purpose of monitoring and

assessing the efficiency and competitiveness of the WESM under different time-scales and market conditions. The periodic Market Assessment Reports include an assessment of market behavior, including the analysis of the market monitoring indices, which are based on the market monitoring data that are collected primarily from the Market Operator (MO) and the System Operator (SO).

The MSC assessed the results of the WESM operations for the period 26 October to 25 April 2019, as provided under the Monthly Market Assessment Highlights and Interesting Pricing Events Reports.

In the month of April 2019, the MSC deliberated upon 59 interesting pricing events, and observed that these were mainly driven by forced outages of major generating plants. In particular, the high prices occurrence on April 10 – 15, 2019 is due to overlapping forced outages of major plants. On the other hand, the April 22 – 24, 2019 incident with high outage capacity was due to the 6.1 magnitude earthquake in Luzon that also resulted in high prices.

During the February billing month, a tight supply and demand was also observed in the WESM. It was driven by an increase in demand at 10,013MW from previous month's 9,819MW. This is coupled with the lower effective supply averaging at 11,905MW from previous month's 11,943MW, brought about by higher outage capacity. Notwithstanding, market prices posted a lower average of PhP4,058/MWh compared to previous month's PhP4,727/MWh.

For the billing month of January 2019, it was observed that market price levels were unusually high, averaging at PhP4,727/MWh, the highest for a January billing month since 2013, driven by the decreasing level of supply brought about by the outages of major coal and natural gas plants.

In reference to the plants that have been on deactivated shutdown for prolonged periods (e.g. more than 1 year), the MSC requested the MAG to recommend guidelines on possible grounds for deregistration of the said plants, for the MSC's consideration, and to submit proposals to the WESM Rules and relevant Manuals, as deemed necessary. The MSC also agreed to send a follow-up letter to one (1) generator-TP with geothermal plant, requesting for updates on the deregistration and the maintenance activity to improve steam supply of its two (2) units.

The Reports were submitted to the PEM Board, DOE and ERC and were also published in the PEMC website.

b. Retail Market Assessment Report

The MSC assessed the performance of the retail market for the first quarter of billing year 2019, as provided under the Quarterly Retail Market Assessment Report covering the period 26 December 2018 to 25 March 2019 (MAG-RMAR-2019-01).

Likewise, during the report period, the MSC assessed the performance of the retail market for billing year 2018, and approved the Annual Retail Market Assessment Report covering the period 26 December 2017 to 25 December 2018 (MAG-ARMAR-2018), as submitted by the MAG on 12 April 2019. As set forth in the Catalogue of Retail Market Monitoring Data and Indices, the Retail Market Assessment Report discusses the results of monitoring indices and provides indications on how the retail market performed during the period in review and how it fared with the previous quarter's performance.

The MSC presented the result of its monitoring and assessment of the retail market for billing year 2018 during the PEMC Board Meeting held on 24 April 2019.

c. Report on Interesting Pricing Events

Table 17 shows the interesting pricing events that were observed and deliberated upon by the MSC for the period September 2018 to February 2019.

For September 2018, two (2) interesting pricing events were observed. These events were brought about by the forced outage of one (1) major coal plant on 08 September 2018 (0712H) combined with higher demand during afternoon peak at 1400H (10,462 MW) and evening peak at 1900H (10,221 MW). Simulation results show that the prices for 1400H and 1900H would have been lower had the said major coal plant remained online.

For the billing month of October 2018, two (2) interesting pricing events were observed on 17 October which were mainly driven by the forced outage of a major coal plant combined with the higher demand during the evening peak. Likewise, the forced outage of a large generating plant on 24 October 2018 at 2159H drove the interesting pricing events on 25 October 2018.

In November 2018, five (5) interesting events were observed. The interesting pricing event on 05 November was driven by the higher demand during the evening peak coupled with the ramp rate-limited capacity of two (2) large generating plants. On 06 and 07 November 2018, the interesting pricing events were mainly driven by the forced outages of another two (2) large generating plants.

For the December 2018 billing month, two (2) interesting pricing events were observed. As reviewed and deliberated upon by the MSC, these interesting pricing events were mainly driven by the forced outage of a major coal plant on 10 December 2018 at 0100H, combined with the limited offer submission of another major coal plant.

For the January 2019 billing month, 32 interesting pricing events were observed and deliberated upon by the MSC. It was observed that 12 of these events posted with negative prices during the off-peak hours, driven by the seasonal low demand during the holidays. The remaining 20 events with high prices were generally driven by forced outages combined with high peak demand.

Lastly, for the February 2019 billing month, the MSC observed that the interesting pricing events were mainly due to the forced outage of a major coal plant simultaneous with the planned outages of hydro plants San Roque 1 (150MW), Kalayaan 3 (180MW) and Kalayaan 4 (180MW).

Table 19. Interesting Pricing Events for September 2018 to February 2019

Date	Hour	Peak or Off-Peak	Supply Margin (MW)	Market Price (PhP/MWh)
Sep. 08	1400H	461	20,457	18,146
Sep. 08	1900H	405	21,453	18,146
Oct. 17	1400H	241	31,707	20,733
	1800H	940	21,917	15,201
Oct. 25	1500H	441	31,600	31,600
	1600H	658	22,056	22,056
	1800H	603	31,635	31,635
Nov. 05	1800H	977	15,433	15,201
Nov. 06	2000H	381	20,716	18,146
	2100H	311	31,664	18,146
Nov. 07	1600H	390	31,652	18,146
	1800H	385	32,077	18,146
Dec. 10	1600H	269	22,342	18,146
	1800H	89	32,827	20,733
Jan. 10	0400H	off-peak	5,136	-10,015

Date	Hour	Peak or Off-Peak	Supply Margin (MW)	Market Price (PhP/MWh)
	0500H	off-peak	5,092	-10,469
	0600H	off-peak	5,200	-10,466
	0700H	off-peak	5,674	-10,364
	0800H	off-peak	5,690	-10,261
	0900H	off-peak	5,537	-10,126
	1000H	off-peak	5,119	-10,092
	1100H	off-peak	5,054	-9,709
Jan. 8	1100H	peak	716	20,282
	1800H	peak	613	24,021
Jan. 11	1800H	peak	793	17,052
Jan. 12	1400H	peak	91	30,157
	1600H	peak	223	25,273
	1800H	peak	4	32,468
	1900H	peak	4	32,576
	2000H	peak	83	32,532
	2100H	peak	318	32,236
Jan. 16	1800H	peak	385	21,415
Jan. 17	1800H	peak	683	24,646
Jan. 19	1800H	peak	458	25,040
	1900H	peak	467	23,852
	2000H	peak	361	24,718
	2100H	peak	595	25,383
	2200H	off-peak	450	23,339
Jan. 20	1900H	peak	346	25,032
	2000H	peak	427	23,919
Jan. 21	1800H	peak	205	32,234
Jan. 24	1800H	peak	849	15,338
Feb. 4	1600H	peak	204	31,394
	1700H	peak	242	23,891
	1800H	peak	305	24,488

d. Review of Compliance Monitoring and Assessment Reports

Compliances of Generator-Trading Participants (TP) with the Real Time Dispatch (RTD) schedule and the Must Offer Rule (MOR) for the billing month of September to December 2018 were deliberated upon by the MSC, as contained in the Compliance Monitoring and Assessment Report (CMAR) prepared by the Enforcement and Compliance Office (ECO).

The report is a result of the daily compliance monitoring activities by the ECO after assessing the generator-TPs' compliance with the RTD schedule and MOR. The ECO's monitoring activity was carried out by issuing Daily Compliance Notices to the generator-TPs that were initially flagged for possible non-compliance. Monitoring activities also cover validation and assessment of generator-TPs' explanations in the Significant Event Report Form and Dispatch Discrepancy Report Form, supporting documents, and other market data or reports from the MO and SO.

Table 20. No. of Issued RFIs from September 2018 to March 2019

Following the review of the CMAR, the MSC approved the issuance of requests for investigations (RFI) for possible non-compliance with the RTD schedule and the MOR. The number of RFIs issued per month is listed in Table 20. The RFIs were subsequently submitted to the PEM Board.

Billing Month	No. of RFIs Issued
September 2018	37
October 2018	30
November 2018	27
December 2018	29
January 2019	31
February 2019	18
March 2019	11

e. Assessment of Over-Riding Constraints

The summary of Over-Riding Constraints events reviewed by the MSC is listed in the following table.

Table 21. Over-riding Constraints from October 2018 to April 2019

Billing Month	Total Number of over-riding events	Involved Luzon Generating Plants	Involved Visayas Generating Plants	Factor
October 2018	3,845	25	8	Commercial Testing
November 2018	4,183	27	10	Commercial Testing
December 2018	3,791	40	13	Commercial Testing
January 2019	4,363	44	19	Commercial Testing; MRU
February 2019	3,964	28	17	Commercial Testing
March 2019	5,018	25	9	Commercial Testing
April 2019	4,906	36	14	Commercial Testing

It was observed that over-riding constraint events were related to the conduct of commercial tests, the most common of which was testing and commissioning tests. Thus, the MSC regularly sends letters of inquiry requesting explanations for the prolonged conduct of testing and commissioning to generator-TPs that exceeded the allowable two (2)-month period for the conduct of testing and commissioning as provided under the ERC Resolution No.16, Series of 2014.

For the April 2019 billing month, a total of 4,906 over-riding events (2.2% lower than previous month's 5,018 events) were imposed on 36 Luzon generators and 14 Visayas generators by the NGCP-SO. This followed the decrease in the number of non-security limit events in April, which were mostly related to commercial testing, from 5,017 events in March to 4,452 events.

The decrease in the over-riding events in February 2019 was attributable to the decrease in security limit events, which were mostly related to MRU events, from previous month's 285 events to current month's 21 events. Also, non-security limit events had lower occurrences this month at 3,943 events from 4,078 events in January.

The increase in the over-riding events in January 2019 was attributable to commercial testing from 3,593 events in December 2018 to 3,914 events. Also, 274 events were due to MRU events. No MRU events were recorded in the previous month.

The over-riding events for December 2018 were all attributable to non-security limit, majority of which were related to the conduct of commercial tests (94.8% or 3,593 events). Similar to previous months, the conduct of commissioning tests remains to be the most common commercial test conducted (3,593 events), involving 8 plants with a combined total registered capacity of 423.7MW.

The over-riding events for November 2018 were all attributable to non-security limits, majority of which were related to the conduct of commercial tests (97.5% or 4,078 events). Similar to previous months, the conduct of testing and commissioning remains to be the most common commercial test conducted (3,873 events), involving 9 plants with a combined total registered capacity of 425.5MW.

On 10 December 2018, the MSC sent a letter to the Technical Committee requesting for a study or review and recommendations on the appropriate period for the conduct of testing and commissioning, taking into consideration the complexity and the type of facility being tested.

On the other hand, the MSC presented the highlights of the MSC's monitoring on over-riding constraints for Q3 2018 during the PEM Board meeting held on 12 December 2018, for information.

f. Review of the System-Wide Market Intervention Events

The MSC approved the Review Reports on Market Operator (MO)-initiated Market intervention (MI) events for the January and February 2019 billing months, as well as the Report on Historical MI events from December 2006 to December 2018.

During the report period, there are three (3) instances of system-wide market intervention events.

For the month of January 2019, market-intervention events were observed on 24 January (0200H) and 29 January 2019 (1000H) while on February 2019, market intervention event was declared by the Market Operator in Luzon on 09 February 2019 at 1800H.

The MSC's review of the facts surrounding the events showed that the market intervention was due to un-implementable RTD schedule, resulting from the inappropriate input to the Load Predictor (LDP).

The Reports were submitted to the PEM Board, the DOE and the ERC on 24 April 2019.

g. Review of ECO Investigation Cases

Investigation Reports prepared by the ECO pursuant to an investigation of an alleged breach of the WESM Rules are submitted for the MSC for review with respect to: (a) compliance by the ECO with the procedure, and (b) validity and completeness of data and documents upon which the factual findings are based.

During the billing month of April 2019, the MSC approved the issuance of 15 requests for investigations (RFI) for possible non-compliance with the RTD schedule, the MOR and the NOM.

During the report period, the MSC approved the issuance of a total of 150 requests for investigations (RFI) for possible non-compliance with the RTD schedule, the MOR and the NOM.

On 18 December 2018, the MSC sent a letter to NGCP-SO, relaying the ECO findings in the ECO Investigation Reports that the MSC presented to the PEM Board on 26 September 2018, regarding the 59th snapshot data validation issues. However, said validation issues resulted to a finding with no breach for said generator-TPs in the said trading intervals. It was noted that the data were sourced from the NGCP-SO's Energy Management System (EMS), the MSC requested that the NGCP-SO adequately address the issues, and accordingly provide updates to the MSC and the ECO on the steps taken relative to the request.

h. Deliberation on Motions for Reconsideration

The MSC deliberated upon the submitted Motions for Reconsideration and additional evidence on 2014 ECO investigation cases. Pursuant thereto, the MSC convened representatives from two (2) generator-trading participants to separate case conferences to discuss their respective cases.

After due deliberation, the MSC submitted its recommendations for the consideration of the PEMC Board.

i. Review of Proposed Guidelines on Offer for Settlement

The MSC continued with its review of the proposed Guidelines on Offer for Settlement. After due deliberation, the MSC approved the revised proposed Guidelines and the template Offer for Settlement form that was submitted by the ECO.

The revised proposed Guidelines was presented during the WESM Compliance Officer (WCO) Summit event held on 24 January 2019.

The MSC continued with its review of the proposed guidelines on Offer for Settlement that was drafted by the ECO, and thereafter provided its inputs and comments on the same. The MSC also noted that the proposed guidelines will be part of the breakout session during the WESM Compliance Officer (WCO) Summit Event scheduled on 24 January 2019.

j. Meeting with the IEMOP regarding Financial Transmission Rights (FTRs) in the WESM

The MSC held a meeting with representatives from the IEMOP on 14 March 2019 to discuss the financial transmission rights (FTRs) in the WESM. The MSC had taken note that FTRs are financial instruments aimed to mitigate the congestion cost. Nevertheless, the MSC agreed that other options may also be explored in addressing the market issues brought about by congestion.

k. Meeting with the IEMOP regarding Line Rental (LR)

The MSC held a meeting with representatives from the IEMOP on 13 February 2019 to discuss the issues on line rental and cross-grid transactions in the market.

The MSC agreed that the issue on line rental does not only pertain to the correctness of LR calculations, but also on the need to call the attention of the NGCP-SO to improve/upgrade transmission facilities in order to minimize congestion. The MSC agreed to look at other options in addressing congestion, including the ongoing Market Operator study on the Financial Transmission Rights (FTRs) in the WESM.

l. Presentation of the Market Assessment Annual Trends covering 2014 to 2018

The MSC participated in the PEMC Board Meeting in February 2019, with a presentation on the five-year assessment of annual market trends covering billing years 2014 to 2018, which includes the assessment of capacity profile, supply and demand, and market price, and market concentration.

m. Participation in Public Consultations

The MSC participated in the Public Consultations conducted by the DOE on the Proposed Amendments to the WESM Rules and Market Manuals Related to Market Surveillance, Enforcement and Compliance. The activity was conducted to seek inputs and recommendation from the public on the proposed amendments.

The MSC presented the highlights of the proposed Penalty Manual in the Luzon and Visayas Public Consultations, held on 17 January in Pasig City, and on 24 January in Cebu City, respectively.

2. Technical Committee (TC)

The Technical Committee is tasked to monitor and review technical matters under the WESM Rules in relation to the operation of the spot market. It is composed of four (4) members, namely, Prof. Jordan Rel C. Orillaza as the TC Chairperson and an Independent Member; Engr. Fortunato C. Leynes as an Independent Member; Engr. Jaime V. Mendoza as the Distribution Management Committee (DMC) Representative; and Mr. Ermelindo R. Bugaoisan, Jr. as the System Operator (SO) Representative.

During the covered period, the TC accomplished the following:

a. TC comments to the draft Market Readiness Assessment Criteria

The TC reviewed the draft market readiness assessment criteria for the implementation of the enhanced WESM design and operations in Luzon and Visayas and the WESM in Mindanao prepared by Sapere for the PEM Audit Committee (PAC). The comments were submitted to the PAC on 23 April 2019 for their consideration.

b. Roadmap for the integration of Variable Renewable Energy (VRE) and other new technologies into the Grid

The TC initiated its discussion on the formulation of a roadmap for the integration of VRE and other new technologies into the Grid, which is one of the key strategies identified by PEMC to achieve its corporate mission and vision. The TC targeted to finalize the roadmap by June 2019.

c. TC Comments to the proposed amendments to the WESM Rules and Manuals as initiated by IEMOP

The TC reviewed and submitted its inputs and comments to the RCC on the following proposed amendments to the WESM Rules and Manuals, as initiated by the IEMOP:

- Proposed Amendments to the WESM Manual on Registration, Suspension and De-Registration Criteria and Procedures to Include Additional Modelling Requirements and Procedures;
- Proposed Amendments to the WESM Manual on Registration, Suspension and De-Registration Criteria and Procedures to Harmonize with WESM Rules Changes;
- Proposed Amendments to the WESM Manual on Registration, Suspension and De-Registration Criteria and Procedures to Clarify Basis for Registered Capacities of Generating Units in the WESM;
- Proposed Amendments to the WESM Rules and Manual on Metering Standards and Procedures to Clarify the Entity Monitoring Wholesale Metering Services Provider Performance;
- Retail Manuals and WESM Manuals to Reduce Barriers to Entry and Participation in Retail Competition;
- Guidelines on Significant Variations In and Between Trading Intervals to Refine Publication Procedures; and
- Provisions related to Audit and Performance Monitoring under the WESM Rules, Retail Rules, PEM Audit Manual, and Guidelines Governing the Constitution of PEM Board Committees to the Rules Change Committee.

d. Request by MSC for a Study on the Period of the Conduct of Testing and Commissioning per Type of Facility

The TC conducted a research on international rules and standards relative to the MSC's subject request. On 7 February 2019, after careful review of all available and relevant information, the TC transmitted to the MSC its response and recommendations, as follows:

- The appropriate period for the testing and commissioning per type of power plant cannot be prescribed at this stage since there is no clear rule or internationally accepted standard on it;
 - Proponents to the ERC for Power Plant Testing and Commissioning should submit their detailed plans under sworn statement; and
 - The testing and commissioning plans should include information such as: (i) the type of tests to be performed, (ii) the conditions for testing (including input parameters such as wind speed and water flow), (iii) the parameters to be observed during testing, the standards to be met, and more importantly the period for the conduct for each component of the tests.
- e. NGCP Concerns regarding DOE-approved Amendments to the WESM Manual on Metering Standards and Procedures

The TC finalized its response to NGCP's concerns regarding the WESM Metering Manual Issue 12.0, as endorsed by the RCC.

- f. Review of the Resiliency Standards, Business Continuity Plans, Contingency Plans and best practices in other jurisdictions

The TC supports DOE's effort to rally the industry to mitigate potential impacts of disasters to the power industry. In this regard, the TC discussed its plans to conduct a Review of the Resiliency Standards, Business Continuity Plans, Contingency Plans and best practices in other jurisdictions as part of its 2018 Work Plan.

- g. Three-Year TC Work Plan

The TC identified its specific contributions to PEMC's corporate strategies for 2019-2021. The following activities were identified to be led by the TC:

- Review and propose recommendations, as necessary, to the policies on embedded facilities and metering requirements in relation to the implementation of the enhanced WESM in the Mindanao region;
- Formulate a Variable RE Roadmap and conduct related studies;
- Study the proposed design for demand-side participation; and
- Formulate a glossary for the WESM terminologies aligned with relevant documents (i.e. Philippine Distribution Code and Philippine Grid Code)

The accomplished TC work plan was submitted to PEMC on 26 February 2019, for consolidation with the work plans of other WESM Governance Committees.

- h. TC Internal Rules

The TC reviewed its Internal Rules (a) to update its provisions in light of the changes in the organizational structure of PEMC, wherein the TC support function was transferred from MAG to CPC, and (b) to update the schedule of regular meetings.

3. Rules Change Committee (RCC)

The Rules Change Committee (RCC) is tasked to provide assistance to the PEM Board and the DOE in the formulation and amendment of the Market Rules and the Market Manuals.

The formulation and amendment of the Market Rules and Manuals is aimed at enhancing market design, as well as refining market processes and operations appropriate for the current environment.

The RCC is composed of four (4) independent members and representatives from the following sectors: two (4) from the Generation Sector; three (4) from the Distribution Sector, one (1) from the Supply Sector, and one (1) from the Transmission Sector/System Operator. Likewise, the RCC has one (1) representative from the Market Operator. The RCC is chaired by Independent Member, Atty. Maila Lourdes de Castro.

The RCC undertook the following activity during the covered period:

a) Deliberations and Approval of Proposed Amendments for Endorsement to PEM Board

During the report period, the RCC deliberated upon the following proposals including the comments received from the relevant parties, and approved the same, as amended:

- Proposed Amendments to the Market Rules and Market Manuals to Reduce Barriers to Entry and Participation in Retail Competition;
- Proposed Amendments to the WESM Rules and Manual on Guidelines on Significant Variations In and Between Trading Intervals to Refine Publication Procedures;
- Proposed Amendments to Provisions Related to Audit and Performance Monitoring (except for provisions related to System Operations review)
- Proposed Urgent Amendments to the WESM Rules and Market Manual on Billing and Settlement for the Enhancements to the Determination of Initial Prudential Requirements; and
- Proposed Urgent Amendments to the WESM Rules and the proposed New Market Manual on Contingency Plan for Prolonged Market Intervention due to Market Systems Failure.

The RCC-approved proposals were endorsed to the PEM Board for approval. However, for the third item above, the RCC decided to defer the System Operations review to the PEM Board for its direction.

b) Approval on the Publication of Rules Change Proposals

The RCC approved the publication in the market information website of the following proposed amendments to solicit comments of participants and interested parties:

- Proposed Amendments to the WESM Manual on Registration, Suspension, and De-Registration Criteria and Procedures to: (a) Include Additional Modelling Requirements and Procedures; (b) Harmonize with WESM Rules Changes; and (c) Clarify Basis for Registered Capacities for Generating Units in the WESM; and
- Proposed Amendments to the WESM Rules and Manual on Metering Standards and Procedures to Clarify the Entity Monitoring Wholesale Metering Services Provider Performance.

The proposals mentioned above were published on 26 February 2019 and are set for RCC deliberations after the thirty-day publication period which shall end on 10 April 2019.

c) Discussion Paper on DOE's Concerns regarding Cross-grid Power Supply Agreements

During its 4th Meeting on 26 September 2018, the PEM Board agreed to endorse to the DOE the above-captioned discussion paper, as submitted by the RCC.

The PEM Board found the RCC's recommendations acceptable, particularly regarding the need to upgrade the transmission network to improve line constraints and congestions, and also recognized the significant role of the ERC in this matter aside from the NGCP.

d) Formulation of the 2019 RCC Work Plan

The RCC discussed and approved its Work Plan for 2019, which was aligned with the PEMC's Corporate Strategic Work Plan.

e) Submission of RCC Semestral Report (July to December 2018)

The RCC submitted to the PEM Board its Semestral Report covering the period July to December 2018 on 31 January 2019. The same was published in the market information website.

f) DOE Public Consultation Events for Proposed Amendments

DOE held several Public Consultation events for the Proposed Amendments to the WESM Rules and Various Manuals regarding Market Surveillance, Enforcement and Compliance. These were previously deliberated upon and endorsed by the RCC and approved by the PEM Board. The pubcon events were held on January 15 in General Santos City, January 17 in Pasig City and January 24 in Cebu City.

4. Dispute Resolution Administrator (DRA)

The Dispute Resolution Administrator (DRA) is tasked to facilitate the resolution of disputes between or among the parties in accordance with the WESM dispute resolution process. The WESM alternative dispute resolution is a process which follows the stages of negotiation, mediation and arbitration.

Atty. Jesusito G. Morillos, Senior Partner from Follosco Morillos and Herce Law Offices was appointed by the PEM Board on 01 September 2011 as the Dispute Resolution Administrator for the WESM.

During the covered period, the DRA conducted activities required to facilitate the following Requests for Arbitration, as filed by SPC Power Island Corporation:

DRA Case No. WESM-ARB-18-01 For: Claims for RTD Underpayment; and
DRA Case No. WESM-ARB-18-02 For: Claims for Settlement as Must-Run Unit

The following activities in relation to these Cases were undertaken:

Table 22. Arbitral Tribunal Recent Activities

Date	Activity
22 October 2018	Receipt of Requests for Arbitration
18 January 2019	Endorsement of the Cases to the Arbitral Tribunal. The following were designated to the Tribunal: • Atty. Teodoro Y. Kalaw IV- Chairman and 1st Arbitrator • Atty. Eduardo R. Ceniza- 2nd Arbitrator • Atty. Danryl Jared P. Amoroso- 3rd Arbitrator
25 January 2019	Meeting with the Arbitral Tribunal to discuss the pending issues of the cases (e.g. electronic submission and retrieval of case documents and other market participants that may be affected by the disputes).

Date	Activity
11 February 2019	Case Management Conference. The Terms of Reference were signed by the parties and the Tribunal.
15 March 2019	Simultaneous submission of evidence
21 March 2019	Simultaneous submission rebuttal statements
25 March 2019	Evidentiary Hearing attended by the Parties and their respective Legal Counsels.
12 April 2019, 1:30 PM	Simultaneous marking of exhibits attended by the Parties
16 April 2019	Transmittal of the Transcript of Stenographic Notes of the Evidentiary Hearing held on 25 March 2019 for the DRA Case Nos. WESM-ARB-18-01 & 18-02 attended by the Parties and their respective Legal Counsels
26 April 2019, 4:00 PM	Simultaneous submission of Final Memorandum

5. PEM Audit Committee (PAC)

The PEM Audit Committee (PAC) is tasked to conduct regular operational audits of the market operator, settlement systems, and procedures relevant to the spot market and to test and/or check any new items or versions of software provided by the Market Operator for use by WESM members. It is also mandated to conduct a review of metering installations and arrangements as well as any special audit as directed or required by the PEM Board.

The PAC is currently composed of three (3) members, namely, Prof. Felixberto U. Bustos Jr., the PAC Chairperson, Mr. Christian M. Orias, and Mr. Eduardo Alejandro O. Santos.

During the covered period, the PAC has undertaken the following activities:

a. Software certification audit of the New Market Management System (NMMS)

PAC is continuously overseeing the conduct of the NMMS software certification audit. Five (5) out of eight (8) NMMS modules have been certified by the independent auditor, Intelligent Energy Systems (IES), as follows:

- Market Dispatch Optimisation Model (MDOM);
- Market Projections;
- Market Participant Interface (MPI);
- Post Market Run Calculations (PMRC); and
- Market Operations Archiving Repository (MOAR).

The remaining modules (Compliance Monitoring, Load Forecasting, and Financial Transmission Rights) are expected to be completed by June 2019.

The PAC likewise have overseen the submission of IES' Judicial Affidavit, Audit Reports, and Software Certification on the above-mentioned five (5) modules that have been audited, and appearance before the ERC as PEMC's expert witness during the hearings on the proposed Price Determination Methodology (PDM) on 27 to 29 March 2019.

b. Conduct of Market Readiness Assessment (MRA) for the Implementation of the Enhanced WESM Design and Operations

The PAC has overseen the Market Readiness Assessment (MRA), which aims to provide the DOE with recommendations to ensure the effective transition and implementation of the enhanced WESM design and operations in Luzon and Visayas and WESM in Mindanao.

Below are the activities undertaken within the covered period:

Table 23. PAC-Participated MRA Recent Activities

Date	Activity
29 January 2019 – 13 February 2019	PEMC/IEMOP review of Draft Terms of Reference (TOR)
13 February 2019	PAC and DOE review of Draft TOR
14 February 2019	<ol style="list-style-type: none"> 1. PEMC President creation of Market Readiness Assessment Technical Working Group (TWG) to conduct the competitive bidding for the engagement of a Third-party Expert 2. TWG development of the selection process, criteria, and timeline
15 February 2019	PAC review and approval of the TOR and the TWG's selection process, criteria, and timeline of activities
18 February 2019	TWG issuance of Request for Proposals (RFP) to the following short listed firms: <ul style="list-style-type: none"> • Deloitte • Frontier Economics • Intelligent Energy Systems • Robinson Bowmaker Paul • RSM Bird Cameron • Sapere Research Group Limited
21 February 2019 – 28 February 2019	TWG issuance of Bid Bulletins <ul style="list-style-type: none"> • Four (4) bid bulletins were issued to respond to requests for clarification and extension of submission by bidders • The bid bulletins also addressed the changes in the schedule of procurement activities
11 March 2019	Opening and Evaluation of Technical Proposal
12 and 13 March 2019	Opening and Evaluation of Financial Proposal and Negotiation with Sapere Research Group Limited <ul style="list-style-type: none"> • Having passed the Technical Evaluation, the financial proposal of Sapere was opened and evaluated. Thereafter, the TWG proceeded with negotiation with Sapere.
13 March 2019	Contract Signing with Sapere Research Group Limited
19 March 2019	Issuance of Notice to Proceed / Notice of Award
21 to 31 March 2019	Review of Sapere's Inception Report
08-12 April 2019	Initial Stakeholder Consultation Meetings for the Market Readiness Assessment (MRA) Activity

C. Market Development Updates

Establishment of the Wholesale Electricity Spot Market (WESM) in Mindanao

As part of its continuing initiative to establish WESM in Mindanao, the DOE conducted three (3) Readiness Assessment meetings to evaluate readiness for WESM Mindanao commercial operations based on updates presented by various energy agencies tasked to undertake preparatory activities.

Based on the latest report from IEMOP, as of April 2019, 81 out of 86 or 94% expected WESM Mindanao participants have started the registration process. From these 81 WESM Mindanao participants, only two (2) have completed their registration requirements for WESM membership. However, 91% or 77 out of 86 Trading Participants have already attended trainings.

Meanwhile, PEMC recently commissioned the Sapere Research Group, an independent entity that shall assess the readiness of all stakeholders in implementing the WESM in Mindanao. On 11-12 April 2019, Sapere, along with PEMC and IEMOP, met with the Mindanao stakeholders, particularly NGCP (as System Operator and Metering Service Provider), Generation Companies,

Private Distribution Utilities, Electric Cooperatives, Directly Connected Customers, and the Mindanao Development Authority to discuss the market readiness assessment (MRA) activities that shall take place during the parallel operations program. The MRA activities commenced on 26 April 2019. The final market assessment results are targeted to be submitted to the DOE on 25 July 2019 for Luzon and Visayas and 25 August for Mindanao.

With regard to the approval of the price determination methodology (PDM) for the enhanced WESM design, the next evidentiary hearing of the ERC is scheduled on June 2019 to discuss the audit results of the remaining components of the New Market Management System (NMMS).

Following these developments, the DOE will continuously conduct assessment/coordination meetings, Information, Education and Communication (IEC) campaigns, and site visits, if necessary, to ensure stakeholders' readiness and ensure smooth transition of Mindanao under the WESM regime.

D. Status of Pending ERC Regulatory Filings

Approval of the Level of the Market Fees for the WESM (CY 2019)

On 30 October 2018, the Independent Electricity Market Operator of the Philippines (IEMOP) filed its Application for the Approval of Market Fees for the Philippine WESM for the budgetary requirements for both PEMC and IEMOP and sought approval of a fixed market fee charge.

On 27 December 2018, IEMOP received copies of the Order and Notice of Public Hearing, both dated 10 December 2018, finding the Application sufficient in form and substance and setting the same for hearing on its compliance with the jurisdictional requirements and expository presentations in Luzon and Visayas, as well as for pre-trial conference and presentation of evidence, on various dates in 2019.

During the hearing on 12 February 2019, the Presiding Officer directed the applicant and the intervenors to file their respective position papers on the issue of IEMOP's standing as the proper party to file the application for market fees with the ERC. In the meantime, the succeeding hearings set on 28 February 2019 and 28 March 2019 are put on hold until the issue is resolved.

However, on 01 March 2019, IEMOP filed its Motion to Withdraw its Application dated 26 October 2018 and manifested that it is no longer filing a position paper in view of such withdrawal.

All other ERC regulatory filings on the approval of market fees have no changes in their status.

Table 24. Market Fees Application from 2006 to 2019

Year	ERC Case	Requested	Approved	Date	Remarks
2006	2005-048 RC	549,555,829.00	433,624,276.00	22-Jun-06	None
2007	2007-124 RC	624,454,000.00	433,624,276.00	30-Jan-08	No approval was made thus previous year's was extended
2008	2007-124 RC		548,942,005.91	26-Jun-08	Application for CY2007 used for CY2008
2009	2008-050 RC 2010-038 RC				Revised the fixed market fee rate from 0.155PhP/kWh to 0.169 PhP/kWh for MMS PEMC was directed to refund the amount of 268,200,702.80 on 7 March 2011

Year	ERC Case	Requested	Approved	Date	Remarks
2010	2010-079 RC	990,946,000.00	588,510,675.00	06-Jun-11	None
2011		897,445,000.00	661,260,413.00		None
2012	2011-111 RC	840,759,416.00	737,887,097.00	03-Dec-12	None
2013	2012-084 RC	798,880,000.00	670,561,722.00	08-Jul-13	None
2014	2013-137 RC	814,529,000.00	702,984,728.00	15-Oct-14	None
2015	2014-092 RC	896,410,000.00		2/9/2016 2/19/2016	Authorized PEMC to continue imposing the approved MFs for the preceding year A protective order was issued on 19 Feb 2016 of same ERC Case No., granting confidential treatment
2016	2015-160 RC	1,066,837,000.00			None
2017		1,010,942,000.00			None
2018	2017-095 RC	822,208,000.00			On 01 March 2019, IEMOP filed its Motion to Withdraw its Motion for Substitution dated 11 October 2018.
2019	2018-105 RC	0.0135/kwH			None

MMS Loan Repayment

On 18 January 2019, IEMOP filed a Motion for Clarification with the ERC seeking clarification on the authority of IEMOP to comply with the demand for payment from PSALM and/or a confirmation that IEMOP's remittance of the total amount of P857.14M to PSALM constitutes a full payment of the MMS Project advances.

E. Establishment of Independent Market Operator (IMO)

Due to IEMOP's withdrawal of its application for Approval of Market Fees for Calendar Year 2018, as discussed in the preceding portion, the ERC in its letter to the DOE clarified the intent of the latter in issuing DC2018-01-0002 entitled "Adopting Policies for the Effective and Efficient Transition to the Independent Market Operator of the Wholesale Electricity Spot Market (WESM)", especially the creation of IEMOP as the new Market Operator.

On 08 March 2019, the DOE issued the Department Order No. DO2019-03-0009 entitled "Creating a Special Task Force to Assess the Performance of the Wholesale Electricity Spot Market (WESM) under the Governance of PEMC and Operations of the IMO". This issuance identified the creation of Special Task Force (STF) to conduct an assessment on the performance of WESM under the current structure of its operations. Likewise, among the responsibilities of the STF are the following: Assessment of PEMC as the governance arm of the WESM; Assessment of the performance of IEMOP as the IMO; Over-all performance of the WESM; and other functions necessary to effectively carry out the mandates of the task-force. Accordingly, the STF shall be the one to provide the necessary clarification on ERC's concerns after submission of its report within 45 days from its creation.

F. WESM Design Enhancement

The Department continued to monitor the completion of the software certification audit of the NMMS and has undertaken various activities to assist the MO in the successful deployment of its NMMS and CRSS. It should be noted that NMMS' operation is dependent on the approval of the amended WESM price determination methodology (PDM) which reflects the enhancements in WESM design made by the ERC.

To date, the IEMOP in collaboration with the PEMC, DOE and ERC, is finalizing the independent certification audit of the NMMS and CRSS to ensure that the said new developed softwares and system are in accordance with the market rules.

G. Retail Competition and Open Access (RCOA)

The Government, despite the challenges restraining the full implementation of RCOA, continuously exerts its effort in strengthening competition in the retail market and empower the contestable customers.

As of April 2019, the total RCOA prospective participants climbed to 2,033 from only 961 in June 2013 or an increase of 112%. The increase was mainly attributable to the entry of more Contestable Customers, including those with average demand of 750 kW, from 892 in June 2013 to 1,884 in April 2019. The total Contestable Customer comprised 93% of the total RCOA Participants while the number of Suppliers made up 3%. Within the period, total prospective CCs were observed to have a 112% increase while Suppliers increased by 72%.

Actual participation in the RCOA, i.e. registration in the Central Registration Body (CRB), improved by 393% from 275 registered participants in June 2013 to 1,356 as of April 2019. The 1,356 registered participants are comprised of 92% Contestable Customers, 3% Suppliers, 2% SOLR and about 4% RMSP.

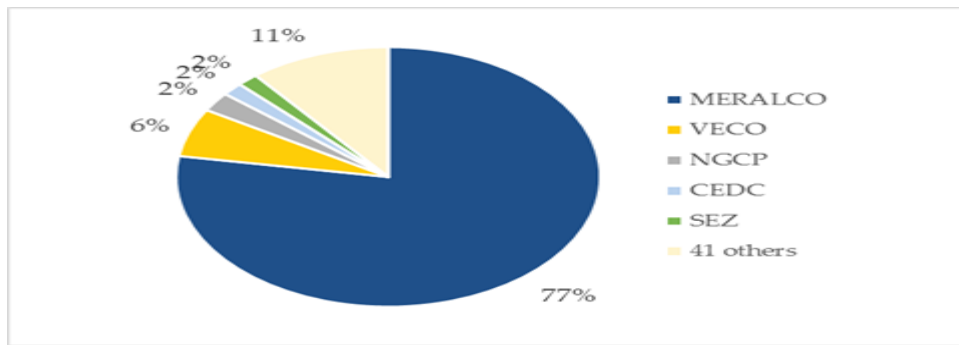
Table 26. Summary of RCOA Registration

Membership Category		Prospective			Registered		
		Jun 2013	April 2019	Increase	Jun 2013	April 2019	Increase
Contestable Customers	D ≥ 1MW	892	1,356	52%	239	999	318%
	750kW ≥ D > 1MW	0	528		0	241	
	<i>Total</i>	892	1,884	111%	239	1,240	419%
Suppliers	RES	19	30	58%	15	30	100%
	LRES	13	25	92%	3	14	367%
	<i>Total</i>	32	55	72%	18	44	144%
SOLR		9	46	411%	0	24	
RMSP		28	48	71%	18	48	167%
Grand Total		961	2,033	112%	275	1,356	393%

Source: ERC, PEMC

Figure below illustrates that the majority of the CCs are situated within the franchise area of MERALCO at 77%. 6% is in the franchise area of VECO, while NGCP has accounted for the 2% of the Directly Connected Contestable Customers (DCCC). The Clark Electric Distribution Corporation (CEDC) and Subic Enerzone (SEZ) both have 2% each, and the remaining 11% were distributed among the 41 other franchises.

Figure 13 - Registered Contestable Customers per Franchise Area as of April 2019



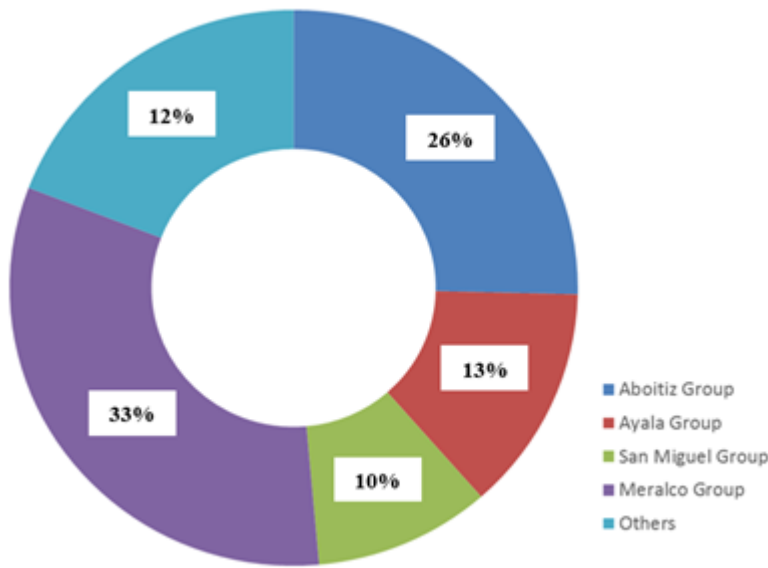
Of the 44 registered Suppliers, 29 are currently transacting with CCs, which include the four (4) biggest group of companies affiliated with more than one RES or Local RES. This is 66% of the total registered suppliers.

Table 27. List of Suppliers with Contestable Customers

Aboitiz Group
Aboitiz Energy Solutions, Inc.
AdventEnergy, Inc.
SN Aboitiz Power – RES Inc.
San Fernando Light & Power
PRISM Energy, Inc.
Mazzaraty Energy Corporation
Ayala Group
Econzone Power Management, Inc.
DirectPower Management, Inc.
AC Energy, Inc.
San Miguel Group
San Miguel Electric Corp.
SMC Consolidated Power Corp.
MERALCO Group
Manila Electric Co. (MPower)
Vantage Energy Solution and Management, Inc.
Clark Electric Distribution Corporation
Others
First Gen Energy Solutions
Global Energy Supply Corp.
GNPower Ltd. Co.
TEAM (Phils.) Energy Corp.
Masinloc Power Partners Co., Ltd.
Phinma Energy Corp.
Manta Energy, Inc.
KEPCO SPC Power Corporation
Premier Energy Resource Corp.
FDC Retail Electricity Sales Corporation
Kratos RES Inc.
Bac-Man Geothermal, Inc.
Citicore Energy Solutions
Corenergy, Inc.
Anda Power Corporation

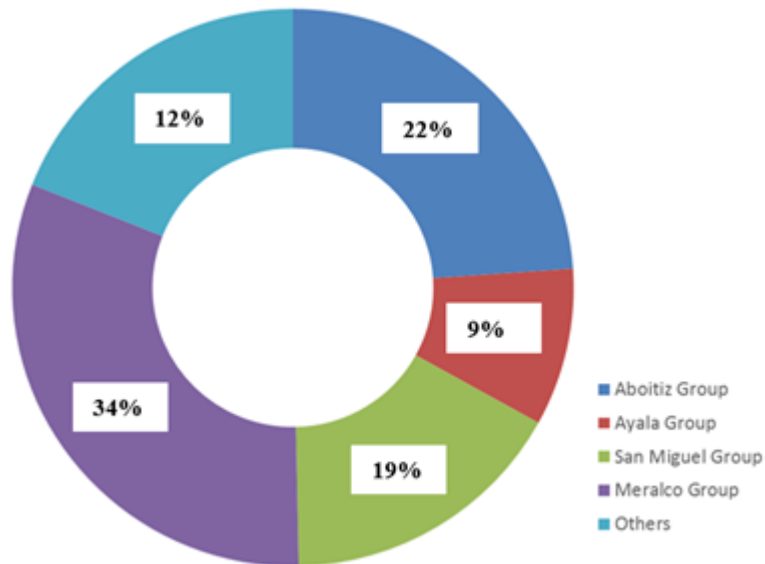
MERALCO group has the most number of CCs with 33% of the total share. Consolidated number of CCs of the Aboitiz group ranked second with 26% and followed by the Ayala Group with 13%. San Miguel Group garnered 10% while the remaining 12% were accounted to other suppliers.

Figure 14 - Number of CCs per Suppliers Group as of April 2019



Similarly, MERALCO group has the largest share of energy sales with 34% for the 1st quarter of 2019. Aboitiz group has a total 22% share while San Miguel Group accounted for 19%. Ayala group has 9% of the total sales to CCs while other Supplier combined for the remaining 12%.

Figure 15 - Sales per Supplier Groups' as of 1st Quarter of 2019



The average monthly metered quantities during the report period is recorded at 1,521 GWh. Of Which 95% was accounted for the the bilateral contracts and 5% were from the spot market. The highest metered quantity so far was in April 2019 at 1,583GWh. As the metered quantity increases along with the increase of demand and number of CCs, the spot quantity is averaging at nearly 6% from the initial commercial operation up to April 2019.

Since the commercial operation of the RCOA, monthly switching rate was recorded to be about 3.87 customer switches. The largest number of switches approved was 45 in February 2019 with

25 switches was previously served by Phinma Energy, while 17 switches contracted to MPower as new Supplier.

Department Circular No. DC2017-12-0013 provides for the timeline of lowering the demand threshold level in voluntary participation of the CCs on the retail market. In the said circular, it is expected to increase the number of eligible CCs which requires the updating and simplifying RCOA processes. Also, the DOE promulgated Department Circular No. DC2018-01-0002 providing the policies for the efficient transition of the WESM to the IMO which assumed the functions of the Market Operator while PEMC shall be the governing arm of the WESM.

Thus, in cognizant of the need to address policy gaps and ensure further development of the implementation of the RCOA, the DOE propose to issue a department circular entitled “Amending Various Issuances on the implementation of RCOA” which will include the voluntary registration of the CCs in the WESM as Trading Participants and designating the IMO as the Central Registration Body.

H. Generating Capacity Market Share and Concentration

Section 45 of the EPIRA provide cross-ownership and market share limitations as follows:

- a. No generation company, distribution utility, or its respective subsidiary or affiliate or stockholder or official of a generation company or distribution utility, or other entity engaged in generating and supplying electricity specified by ERC within the fourth civil degree of consanguinity or affinity, shall be allowed to hold any interest, directly or indirectly, in TRANSCO or its concessionaire;
- b. No company or related group can own, operate or control more than 30% of the installed generating capacity of a grid and/or 25% of the national installed generating capacity; and
- c. No distribution utility shall be allowed to source from bilateral power supply contracts more than 50% of its total demand from an associated firm engaged in generation.

Relative to above, following are the updates on the compliances of the electric power industry participants:

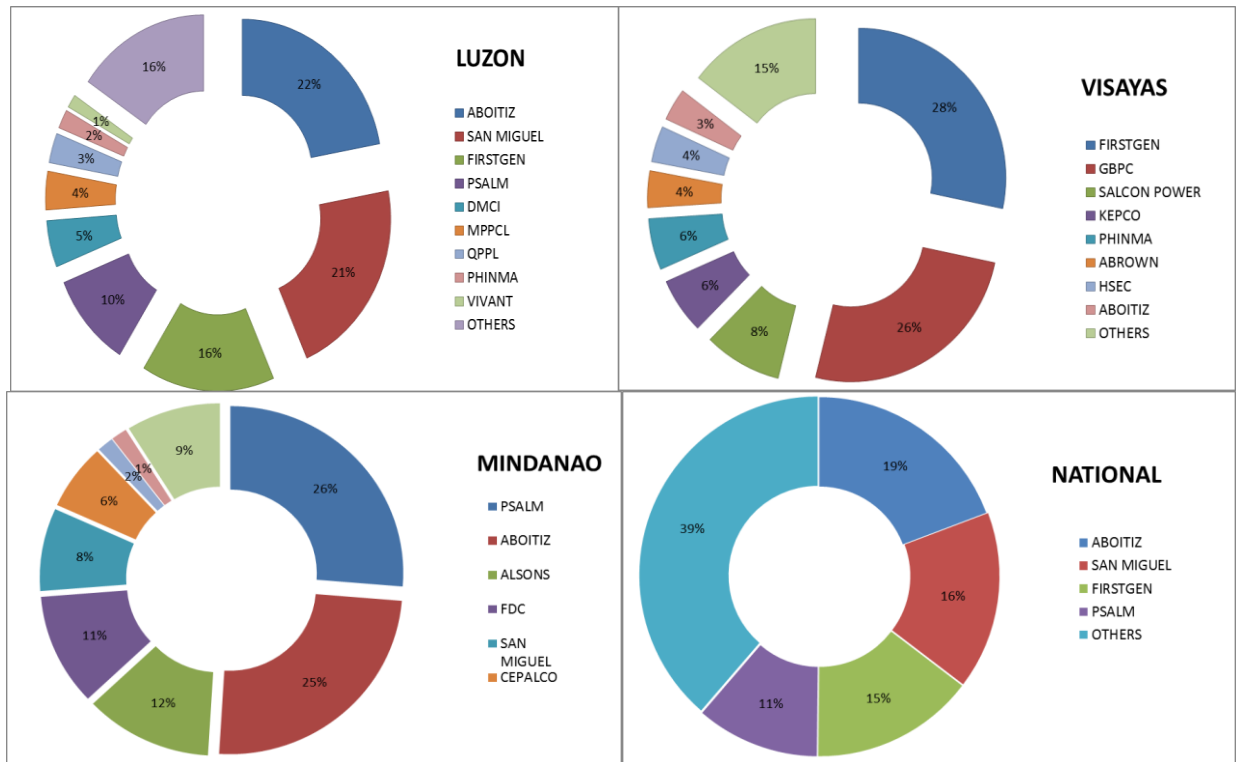
Table 28. Market Share Determination per Grid and National Grid as of December 2018

Grid	Installed Generating Capacity (MW)	% Market Share Limitation as per R.A. 9136	Installed Generating Capacity Limit (MW)
Luzon	16,133.04	30%	4,839.91
Visayas	3,409.60	30%	1,022.88
Mindanao	3,738.35	30%	1,121.50
National	23,280.98	25%	5,820.24

Source: DOE

Below is the graphical presentation of the dominant power market players with their respective percentage market share:

Figure 16 - Market Share Determination per Grid and National Grid



In Luzon, the Aboitiz Power with 3,560.94 MW total installed generating capacity is on top of the list of the power generation business which reaches 22% of the total installed capacity of 16,133.04 MW in Luzon Grid. It is followed by the San Miguel Power with 3,446.00 MW total installed generating capacity or 21% of the Luzon market share. Other generation company on the top of the list is the First Gen with a total installed generating capacity of 2,470.25 MW or 15% market share. This is followed by PSALM having an installed generating capacity of 1,615.89 MW or 10% of the market share.

In Visayas, the FirstGen with 964.55 MW covers the 28% of the total installed generating capacity of 3,409.60 of the Visayas Grid. The Global Business Power Corporation (GBPC) is placed as second on the list with 26% or 871.63 MW installed generating capacity followed by Salcon Power, KEPCO, PHINMA, ABROWN, HSEC and Aboitiz Power.

In Mindanao, the Government still holds the main portion of the power generation business through the IPP contracts of the PSALM and the NPC having an installed generating capacity of 982.81 MW or 26% share in the total installed generating capacity of 3,738.35 MW of the Mindanao Grid. The Aboitiz Power is placed as second on the list with 922.43 MW installed generating capacity or 25% followed by ALSONS with 12 %, FDC with 11%, and San Miguel with 8%.

In the National Grid, the Aboitiz Power gains the largest market share in totality, holding 19% of the 23,280.98 MW National installed capacity, followed by the San Miguel with 16% and FirstGen with 15% while the Government thru PSALM still has 11% market share remaining.

For the report period, it is determined that there is no power generation entity that exceeded the installed generating capacity and market share limitation per Grid and National Grid.

I. Market Concentration

To measure the current Philippine power market concentration, the DOE uses the Herfindahl-Hirschman index (HHI) computation. HHI⁵ is the most common measure used to assess concentration from shares of industry participants. In the US, the following thresholds are used as guidelines:

- 0-1000 unconcentrated
- 1000 – 1800 moderately concentrated
- Above 1800 highly concentrated.

Table 29. Herfindahl-Hirschman Index (HHI) Computation

Ranking	Market Players	Installed Generating Capacity (MW)	% Share (National Installed Generating Capacity)	% Share (squared)
1	ABOITIZ	4,483.37	19.26%	370.8568432
2	SAN MIGUEL	3,746.00	16.09%	258.9006065
3	FIRSTGEN	3,451.12	14.82%	219.7436756
4	PSALM	2,598.70	11.16%	124.5980231
5	OTHERS	9,001.79	38.67%	1495.049146
	TOTAL	23,280.98	100%	HHI = 2,469.15

Source: DOE

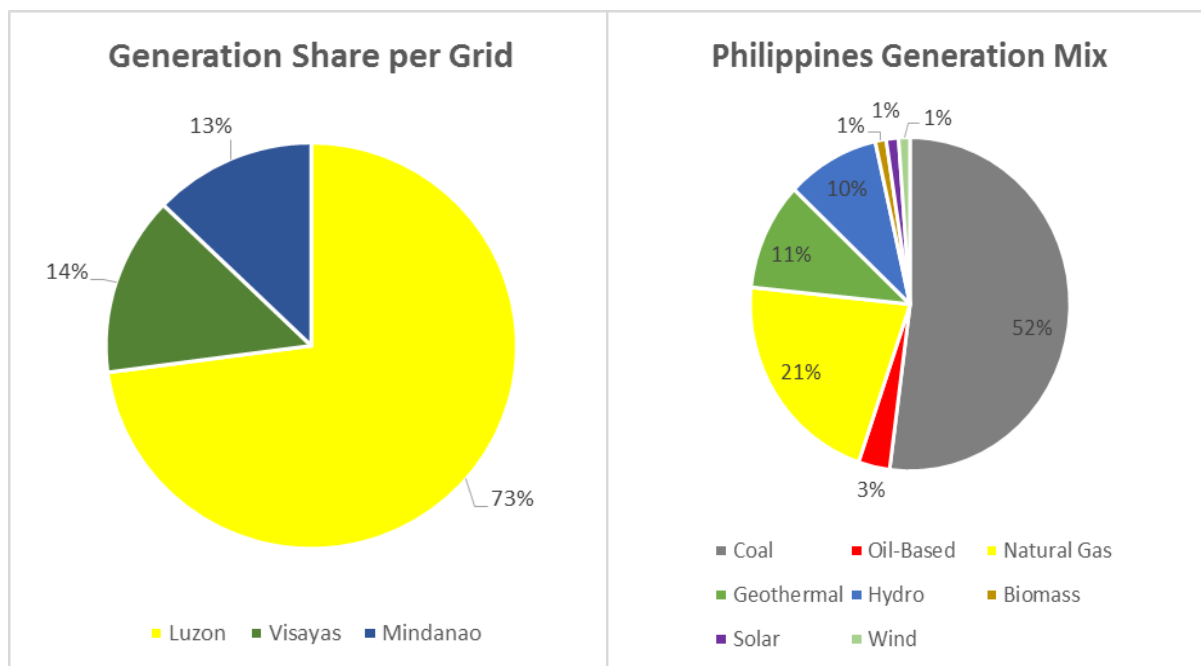
Based on the above computation, the HHI as of December 2018 is 2,469.15 which indicates a **moderately concentrated power market or a market with a rationally level of competition.**

⁵ The State of Competition in the Philippine Manufacturing Industry, Rafaelita Mercado-Aldaba

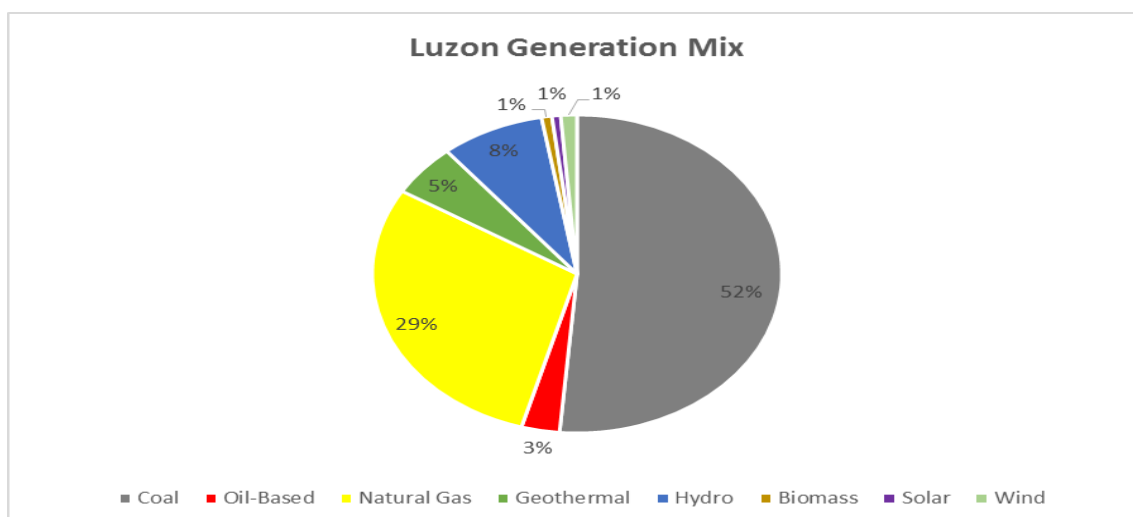
VI. POWER SUPPLY SECURITY AND RELIABILITY

A. Power Generation

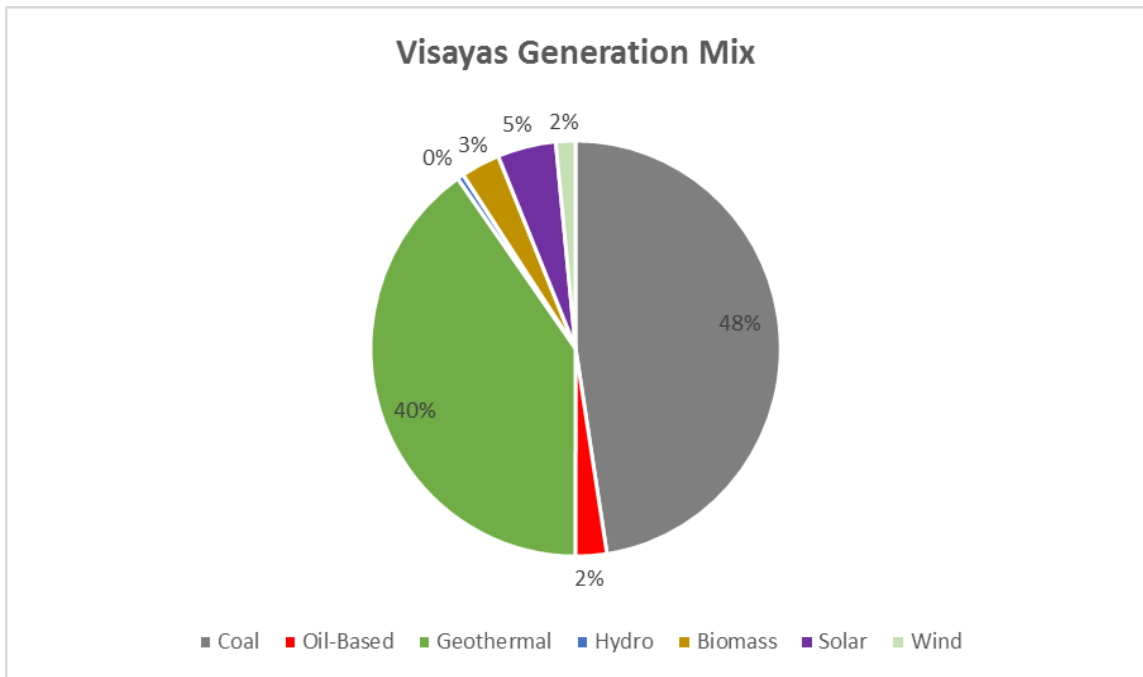
The gross generation of the country for 2018 increased to 99,765 GWh with a growth rate of 5.7% from the 2017 gross generation of 94,370,341 MWh. The majority of the generation was recorded in the Luzon grid with 72.9% contribution. Visayas and Mindanao grids recorded 14.3% and 12.8% share in the gross generation, respectively. Coal still dominated the power mix for 2018 with 52.1% share. Renewable energy technologies produced 23.4% generation. Natural gas contributed 21.4% in the mix while oil-based technologies remained the least contributor in the power mix at 3.2%.



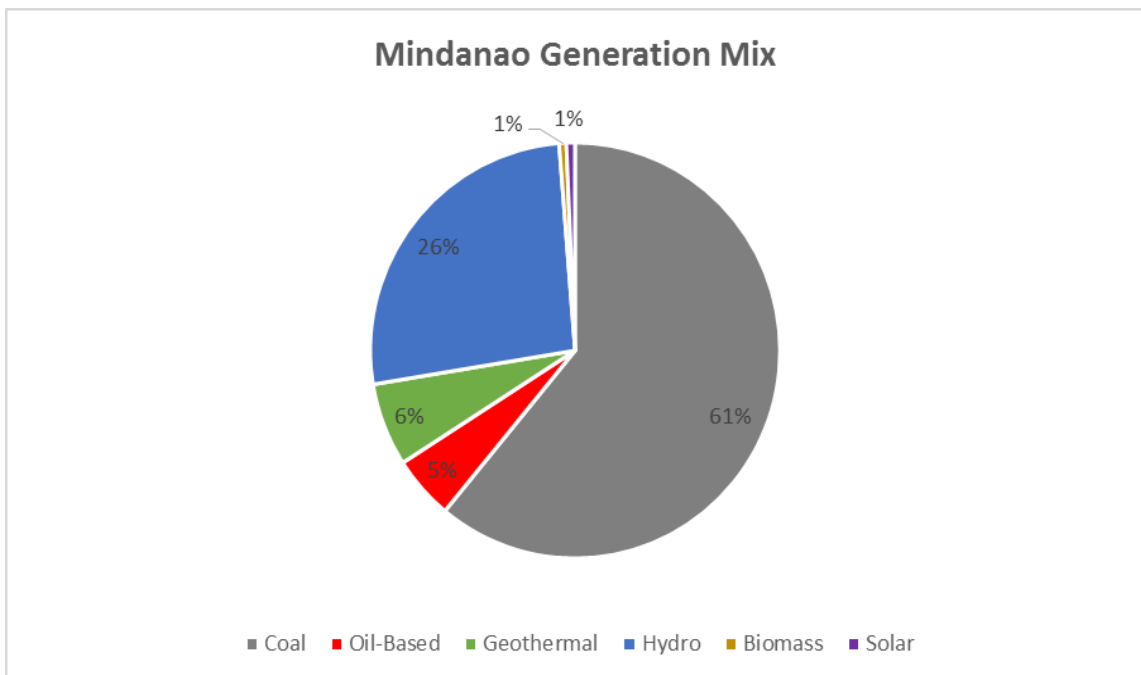
The gross generation of the Luzon grid reached 72,728 GWh for 2018 with a growth rate of 6.2% from 2017. The majority of the generation was sourced from coal with 51.4% share. Natural gas was recorded with the second highest share in the Luzon generation at 29.3%. Renewable energy contributed 16.3% of the generation with corresponding share from geothermal at 5.3%, hydro at 8.2%, biomass at 0.8%, solar at 0.7%, and wind at 1.3%. While oil-based technologies recorded the least share in generation with 3.0%.



The Visayas grid registered 14,266 GWh of gross generation in 2018. The bulk of the generation came from renewable energy technologies at 50.0% with contribution from geothermal at 40.2%, hydro at 0.5%, biomass at 3.1%, solar at 4.6%, and wind at 1.6%. Coal produced 47.6 % of generation while oil-based generated 2.4%.



The Mindanao Gross Generation amounted to 12,770 GWh for 2018. With the addition of 150 MW San Miguel Malita, coal generation increased and led more in the mix with 61% share. This increase is expected to continue when GN Power Kauswagan Coal-Fired Power Plant come online in 2019. Alternatively, Renewable Energy Sources contributed at 34.1% share, which were comprised of geothermal at 6.5%, hydro at 26.4%, biomass at 0.6%, and solar at 0.7%. Similar to the Luzon and Visayas grids, oil-based technologies recorded the least share with only 5.0%.



B. Installed and Dependable Capacity

The total power supply, in terms of installed capacity, grew by 4.8% from 21,730 MW in 2017 to 22,23,815 MW in 2018. As shown in Table 30, a total of 933.6 MW new capacities were added to the country's supply based in 2018 which include coal-fired (720 MW), oil-based (87.3 MW), geothermal (12 MW), hydropower (80.3 MW) and biomass (34 MW). In terms of share by grid, Luzon contributed additional capacity by 659.5 MW or 71% and Mindanao at 274.1 MW or 29% while Visayas has not developed any additional capacity for 2018.

Table 30. Newly Operational Power Plants for 2018

POWER PLANT		CAPACITY, MW		LOCATION	OWNER / OPERATOR	COMMERCIAL OPERATION DATE
FACILITY NAME	SUBTYPE	INS	DEP	MUNICIPALITY / PROVINCE		
LUZON		659.5	636.4			
COAL		570	555			
PAGBILAO U3	Pulverized Sub Critical Coal	420	420	Pagbilao, Quezon	Pagbilao Energy Corporation (PEC)	March 2018
SCPC U3	Circulating Fluidized Bed (CFB) Coal	150	135	Limay, Bataan	SMC Consolidated Power Corporation (SCPC)	March 2018
OIL-BASED		50	46			
SLPGC U3	Modular Gas Turbine	25	23	Calaca, Batangas	Southwest Luzon Power Generation Corporation (SLPGC)	March 2018
SLPGC U4	Modular Gas Turbine	25	23	Calaca, Batangas	Southwest Luzon Power Generation Corporation (SLPGC)	March 2018
GEOHERMAL		12	12			
MAIBARARA U2	Flash Type Steam recovery	12	12	Sto. Tomas, Batangas	Maibarara Geothermal Inc. (MGI)	May 2018
HYDRO		8.5	8			
Maris 1 Main Canal	Run-of-River type HEPP	8.5	8	Ramon, Isabela	SN Aboitiz Power (SNAP) - Magat, Inc.	November 2017
BIOMASS		19	15.4			
ACNC	Biogas	2	0.6	Tarlac City, Tarlac	Asian Carbon Neutral Power Corporation (ACNC)	October 2017
BBEC	Rice Husk-fired Cogeneration Plant	5	4	Pili, Camarines Sur	Bicol Biomass Energy Corporation (BBEC)	March 2017
SJC IPOWER PHASE II	Rice Husk-fired Cogeneration Plant	12	10.8	San Jose City, Nueva Ecija	San Jose City I Power Corporation	December 2017
VISAYAS		0	0			
MINDANAO		274.1	257.3			
COAL		150	135			
SMC MALITA U2	Circulating Fluidized Bed (CFB) Coal	150	135	Brgy. Culaman, Malita, Davao Occidental	San Miguel Consolidated Power Corporation (SCPC)	February 2018
DIESEL		37.3	37			
KEGI - JIMENEZ	Bunker/Diesel Internal Combustion Engine	7.8	7.5	Jimenez, Misamis Occidental	King Energy Generation Inc. (KEGI)	October 2017
PBI	Bunker/Diesel Internal Combustion Engine	10.4	10.4	Bukidnon	Peak Power Bukidnon. Inc. (PBI)	March 2018
PSFI 2	Bunker/Diesel Internal Combustion Engine	5.2	5.2	San Francisco, Agusan del Sur	Peak Power San Francisco (PSFI)	January 2018

POWER PLANT		CAPACITY, MW		LOCATION	OWNER / OPERATOR	COMMERCIAL OPERATION
PSI 2	Bunker/Diesel Internal Combustion Engine	13.9	13.9	General Santos City	Peak Power Soccsargen, Inc. (PSI)	September 2017
HYDRO		71.8	71.8			
New Bataan HEPP	Run-of-River type HEPP	3	3	New Bataan, Compostela Valley	Euro Hydro Power (Asia) Holdings, Inc.	March 2018
Manolo Fortich HEPP	Run-of-River type HEPP	68.8	68.8	Santiago, Manolo Fortich, Bukidnon	Hydro Electric Development Corporation (HEDCOR) Bukidnon, Inc.	U1 – July 2018 U2 – November 2018
BIOMASS		15	13.5			
Lamsan Power Corporation	Bagasse-fired Cogeneration Plant	15	13.5	Maguindanao	Lamsan Power Corporation	May 2018
TOTAL NEW CAPACITY FOR 2018 (MW)		933.6	893.7			

The country's installed capacity, as shown in the table below, which comes from both for grid and off-grid connected generating facilities, has increased significantly by 1,087 MW or 4.8% from 22,728 MW in 2017, the capacity grew to 23,815 MW in 2018. The total dependable capacity, rose by 3.5% or 21,241 MW in 2018 from 20,515 MW in 2017.

Table 31. Total Installed and Dependable Capacities per technologies, Philippines, 2018

FUEL TYPE	PHILIPPINES			
	Capacity (MW)		% Share (%)	
	Installed	Dependable	Installed	Dependable
Coal	8,844	8,368	37.1	39.4
Oil Based	4,292	2,995	18.0	14.1
<i>Diesel</i>	2,839	2,305	11.9	10.9
<i>Oil Thermal</i>	650	150	2.7	0.7
<i>Gas Turbine</i>	803	540	3.4	2.5
Natural Gas	3,453	3,286	14.5	15.5
Renewable Energy (RE)	7,227	6,592	30.3	31.0
<i>Geothermal</i>	1,944	1,770	8.2	8.3
<i>Hydro</i>	3,701	3,473	15.5	16.3
<i>Biomass</i>	258	182	1.1	0.9
<i>Solar</i>	896	740	3.8	3.5
<i>Wind</i>	427	427	1.8	2.0
TOTAL	23,815	21,241	100.0	100.0

Source: DOE

Note: Grid and off-grid generators included

C. Electricity Sales and Consumption

In spite of slowdown in the growth of the Philippine economy in 2018 to 6.2%, slower than the 6.7% registered in 2017 and below the government's downward revised target range of 6.5% to 6.9% for the year, the total electricity sales and consumption all over the country still posted a notable figure of 99,765 GWh in 2018 from 94,370 GWh in 2017, equivalent to 5.72% growth from the previous year. Out of these total sales and consumption, 56,036 GWh or 56.17% was contributed by Private Investor Owned Utilities (PIOU's), while 21,486 GWh or 21.54% was from the Electric Cooperatives. Non-utilities and Other Services were 4,318 GWh or 4.33%, 2,203 GWh or 2.21%, respectively. Total sales accounted to 84,043 GWh, corresponding to 84.24% share to total consumption. The electricity sales established a solid performance, grew significantly by 6.20% in the year of earth dog, from the previous year's

4.91%. “Own-use” of power plants and distribution utilities dropped further by 175 GWh (-2.10%) from 8,316 GWh in the previous year to 8,141 GWh in 2018. It is noted that “Losses” from generator, transmission and distribution has been on the upward trend since 2016, accounted for 9,007 GWh or 9.03% as shown in the figure below.

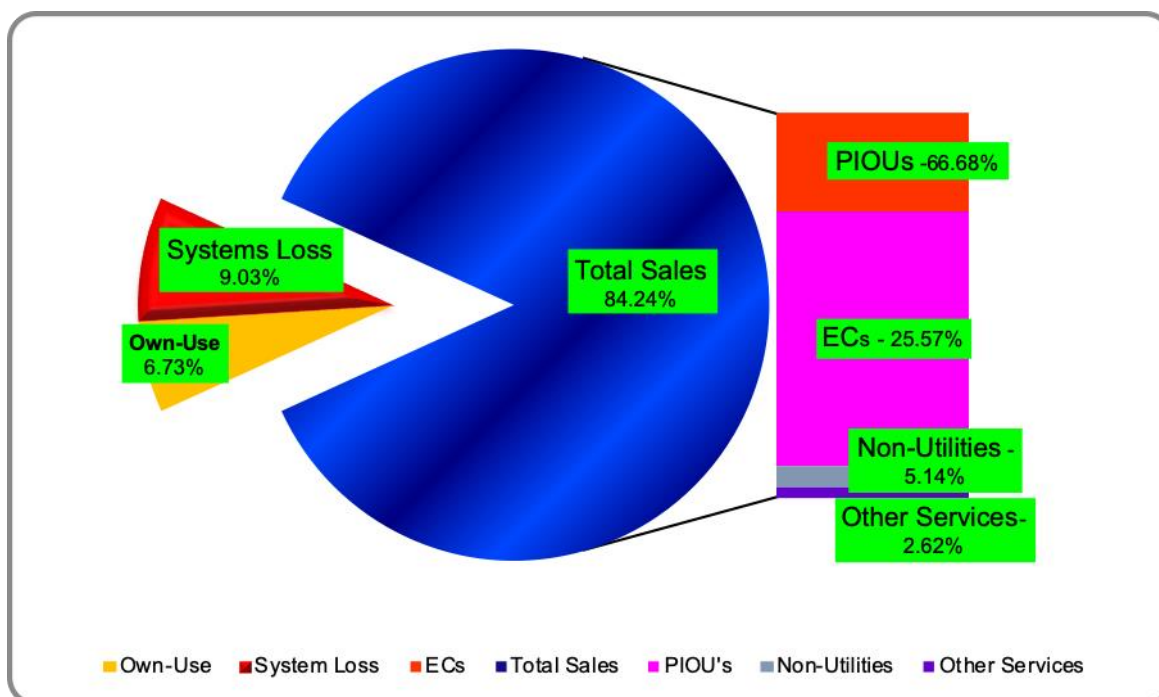


Table 32. 2018 Electricity Sales & Consumption of Distribution Utilities, by Grid

Type of Distribution Utilities	Luzon	Visayas	Mindanao	Philippines
Private Investors Owned Utilities (PIOUs)				
Residential	14,752	1,269	1,222	17,243
Commercial	18,466	620	599	19,684
Industrial	14,064	2,579	2,087	18,729
Others	193	103	83	379
Total Sales	47,475	4,571	3,990	56,036
Own-Use	65	5	5	75
System Loss	2,838	340	284	3,462
Total	50,378	4,916	4,279	59,573
Electric Cooperatives				
Residential	5,805	2,595	2,618	11,017
Commercial	2,225	1,085	1,022	4,332
Industrial	1,899	864	1,877	4,640
Others	660	425	412	1,497
Total Sales	10,589	4,969	5,928	21,486
Own-Use	20	9	15	44
System Loss	1,371	567	913	2,851
Total	11,980	5,544	6,856	24,380
Non-Utilities/Directly Connected	3,477	547	294	4,318
Other Services	1,426	745	31	2,203
Plant Station Used	4,157	1,471	968	6,596

Type of Distribution Utilities	Luzon	Visayas	Mindanao	Philippines
Transmission Losses	2,084	268	341	2,694
Total Electricity Sales & Consumption	73,503	13,492	12,770	99,765

The Philippine electricity sales and consumption continued to manifest resiliency in 2018 despite of the steep rise in inflation in 2018. The country's electricity sales and consumption moderately eased to 5.72% in 2018 from 3.93% in 2017, buoyed by the robust growth in the industry sector, albeit slower growth of 7.88% against 6.04% in 2017, which contributed 27.10% in the 2018 total consumption driven by the increased in the construction activity, attributable to the Administration's Build-Build-Build program.

The electricity sales in residential sector expanded drastically posting a remarkable growth of 5.5% in 2018 from 4.49 in 2017. The increase in the electricity sales from the residential customers can be traced to the substantial utilization of cooling system due to higher temperatures.

Commercial consumption increased at markedly lower rate from the resilient growth performance of 5.48% in 2018 to a modest growth of 4.58 % in 2017.

"Others" refer to public buildings, street lights, irrigation, agriculture and "others not elsewhere classified". This group continued to post a significant growth at faster pace by 3.12% from 2,670 GWh in 2017 to 2,753 GWh in 2018.

Total system loss of the Distribution Utilities accounted to 9,007 GWh, corresponding to 9.02% while the utilities' own-use for office and station use of the power plants significantly declined to 2.10% from 8,316 GWh in 2017 to 8,141 GWh in 2018.

Table 33. 2018 and 2017 Comparative Electricity Sales and Consumption (in GWh), Philippines

Sector	Philippines					
	2018		2017		Difference	
	GWh	%Share	GWh	%Share	GWh	% Growth Share
Residential	28,261	28.33%	26,782	28.38%	1,479	5.52%
Commercial	24,016	24.07%	22,768	24.13%	1,248	5.48%
Industrial	27,587	27.65%	25,573	27.10%	2,014	7.88%
Others	2,753	2.76%	2,670	2.83%	83	3.12%
Total Sales	82,617	82.81%	77,793	82.43%	4,824	6.20%
Own-Use	8,141	8.16%	8,316	8.81%	(175)	-2.10%
System Loss	9,007	9.03%	8,262	8.75%	745	9.02%
Total Consumption	99,765	100.00%	94,370	100.00%	5,394	5.72%

**Includes Off-Grid Sales*

Source: 2018 Power Statistics

Figure 17 - 2018 Electricity Sales & Consumption of Distribution Utilities by Sector, Philippines

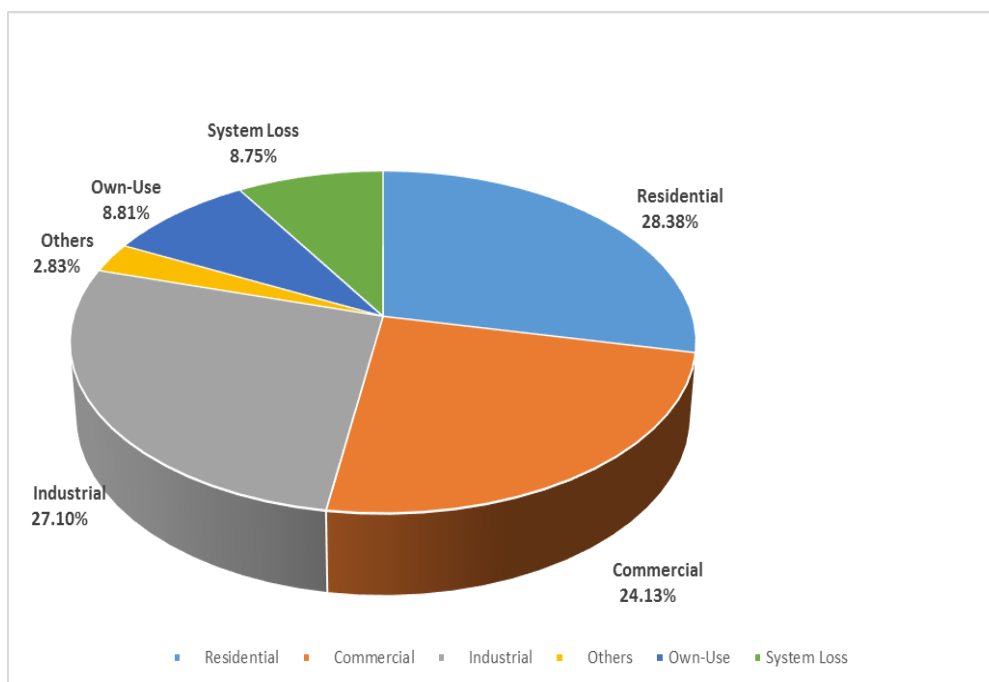


Table 34. 2018 and 2017 Comparative Electricity Sales of Distribution Utilities, by Sector, by Grid

Luzon	2018	2017	% Growth Rate
Residential	20,557	19,626	4.74%
Commercial	20,691	19,601	5.56%
Industrial	19,353	18,029	7.34%
Others	940	991	-5.17%
Total Sales	61,541	58,247	5.65%
Own-Use	5,669	5,940	-4.57%
System Loss	6,293	5,437	15.74%
Total Consumption	73,503	69,625	5.57%

Visayas	2018	2017	% Growth Rate
Residential	3,864	3,615	6.88%
Commercial	1,705	1,642	3.79%
Industrial	3,978	3,590	10.82%
Others	1,285	1,202	6.92%
Total Sales	10,831	10,049	7.79%
Own-Use	1,485	1,516	-2.01%
System Loss	1,175	1,377	-14.67%
Total Consumption	13,492	12,942	4.25%

Mindanao	2018	2017	% Growth Rate
Residential	3,840	3,541	8.45%
Commercial	1,621	1,525	6.27%
Industrial	4,256	3,955	7.63%
Others	527	476	10.77%
Total Sales	10,244	9,497	7.87%
Own-Use	987	860	14.80%
System Loss	1,538	1,448	6.27%
Total Consumption	12,770	11,804	8.18%

Philippines	2018	2017	% Growth Rate
Residential	28,261	26,782	5.52%
Commercial	24,016	22,768	5.48%
Industrial	27,587	25,573	7.88%
Others	2,753	2,670	3.12%
Total Sales	82,617	77,793	6.20%
Own-Use	8,141	8,316	-2.10%
System Loss	9,007	8,262	9.02%
Total Consumption	99,765	94,370	5.72%

*Includes Off-Grid Sales

Source: 2018 Power Statistics

On a per grid basis, the sustained accelerated growth in the Mindanao electricity sales and consumption resulted to 8.18% in 2018, relatively higher than the year-ago rate of 4.04%. The remarkable performance of Mindanao during 2018 in terms of electricity sales and consumption was mainly due to the recorded positive growth of all its sectors attributable to the adequate and stable supply of power in the Mindanao Grid due to the entry of additional capacities in 2018.

Meanwhile, electricity sales and consumption in the Luzon grid likewise revved up moderately, boosting the 2018 growth to 5.57% from 3.58% in the 2014. The normal operations of power plants in the grid during the period and less incidences as well as shorter duration of power plant outages were the major factors that contributed to the positive growth in Luzon's electricity sales and consumption in 2018.

Recovering from the effects of the 6.5 magnitude earthquake hit Jaro, Leyte, which massively caused power interruptions in the whole of Eastern Visayas and nearby Bohol Province, Visayas grid ranked the third in terms of growth in electricity sales and consumption of posting a slower pace turnaround growth of 4.25% from 5.08 % in 2017. The output growth was driven mainly by the robust rebound in all sector's activities across. The expansion was boosted by the continued collaborative programs/efforts of the government and support of private sectors to the reconstruction in areas affected by Leyte earthquake, and other smaller disasters in the grid.

D. Power Projects

To address the increasing demand caused by the infrastructure development, DOE encourages investors to invest in the power generation sector to augment the needed capacity in the power system. As shown in table below, capacities from committed power projects reached 6,329MW by the end of 2018. About 80% of these capacities are accounted

from coal-fired power projects that will provide baseload capacity in the system in the coming years. The indicative power projects capacity amounted to 33,199MW by the end of 2018. Coal-fired power projects contributed 31.5% of these indicative capacity, while 55.7% is expected to come from renewable energy technologies.

Table 35. Committed and Indicative Capacities, Philippines, as of 31 December 2018

Type of Power Plant	Committed			Indicative		
	No. of Proponents	Capacity (MW)	% Share	No. of Proponents	Capacity (MW)	% Share
Coal	10	5,085	80.3	10	10,463	31.5
Oil-Based	2	78	1.2	6	415	1.3
Natural Gas	1	650	10.3	5	4,060	12.2
Renewable Energy (RE)	30	516	8.2	152	18,261	55.0
<i>Geothermal</i>	2	81	1.3	3	200	0.6
<i>Hydro</i>	13	79	1.2	54	4,676	14.1
<i>Biomass</i>	12	215	3.4	20	343	1.0
<i>Solar</i>	3	141	2.2	62	10,199	30.7
<i>Wind</i>	0	-	0.0	13	2,843	8.6
TOTAL	44	6,329	100.0	173	33,200	100.0

Source: DOE

Table 36. Committed and Indicative Capacities, Luzon, as of 31 December 2018

Type of Power Plant	Committed			Indicative		
	No. of Proponents	Capacity (MW)	% Share	No. of Proponents	Capacity (MW)	% Share
Coal	6	3,950	82.7	7	8,935	33.3
Oil-Based	0	0	0	3	346	1.3
Natural Gas	1	650	13.6	5	4,060	15.1
Renewable Energy (RE)	12	175	3.7	77	13,464	50.2
<i>Geothermal</i>	1	31	0.7	1	130	0.5
<i>Hydro</i>	8	23	0.5	29	3,344	12.5
<i>Biomass</i>	2	6	0.1	11	164	0.6
<i>Solar</i>	1	115	2.4	30	8,550	31.9
<i>Wind</i>	0	0	0	6	1,275	4.7
TOTAL	19	4,775	100	92	26,805	100

Source: DOE

Table 37. Committed and Indicative Capacities, Visayas, as of 31 December 2018

Type of Power Plant	Committed			Indicative		
	No. of Proponents	Capacity (MW)	% Share	No. of Proponents	Capacity (MW)	% Share
Coal	2	435	56.8	1	600	15.4
Oil-Based	2	78	10.2	2	64	1.6
Natural Gas	0	0	0	0	0	0
Renewable Energy (RE)	10	253	33	37	3,240	83
<i>Geothermal</i>	1	50	6.5	1	40	1
<i>Hydro</i>	2	23	3	13	728	18.6
<i>Biomass</i>	6	179	23.3	2	60	1.5
<i>Solar</i>	1	1	0.2	14	844	21.6
<i>Wind</i>	0	-	0	7	1,568	40.2
TOTAL	14	766	100	40	3,903	100

Source: DOE

Table 38. Committed and Indicative Capacities, Mindanao, as of 31 December 2018

Type of Power Plant	Committed			Indicative		
	No. of Proponents	Capacity (MW)	% Share	No. of Proponents	Capacity (MW)	% Share
Coal	2	700	88.8	2	928	37.2
Oil-Based	0	-	0	1	6	0.2
Natural Gas	0	-	0	0	-	0
Renewable Energy (RE)	8	88	11.2	38	1,558	62.5
<i>Geothermal</i>	0	-	0	1	30	1.2
<i>Hydro</i>	3	33	4.2	12	603	24.2
<i>Biomass</i>	4	30	3.8	7	119	4.8
<i>Solar</i>	1	25	3.2	18	805	32.3
<i>Wind</i>	0	-	0	0	-	0
TOTAL	11	788	100	41	2,491	100

Source: DOE

E. Significant Incidents in Luzon, Visayas, and Mindanao

In terms of significant incidents for 2018, Luzon grid did not experience Red Alert occurrence. The non-issuance of Red alert notice implicates that there was no reserve inadequacy in the system that may cause rotating brownouts in the grid. However, Luzon grid still experienced seven occurrences of Yellow alerts during the following dates, wherein the reserve level is below the required contingency reserve of the grid:

- 26 February 2018 due to forced and unplanned outages of power plants, natural gas fuel restriction, and de-rating of power plants;
- 12 April 2018 due to forced and unplanned outages of power plants, and de-rating of power plants;
- 29-31 May 2018 due to high demand, forced and unplanned outages of power plants, and de-rating of power plants;
- 1 June 2018 due to forced and unplanned outages of power plants, and de-rating of power plants; and
- 4 June 2018 due to forced and unplanned outages of power plants, and de-rating of power plants.

On the other hand, Visayas is still experiencing problems in the power system that caused 15 recorded Red alert notices in the grid along with significant number of Yellow alert occurrences especially on instances where large power plants are on simultaneous outages, planned or forced. For Visayas, the peak demand usually occurs in the evening and the unavailability of solar power plants at this time of the day contributes to the low reserve level of the grid.

Mindanao also has improved in terms of having lesser Red and Yellow alert notices in 2018, compared to the previous years due to the development of additional stable capacity from large coal-fired power plants in the grid. There was only one recorded major incident in the Mindanao grid that cause a partial blackout due to transmission line tripping on 8 November 2018 that affected areas in Zamboanga peninsula as well as the provinces of Lanao and Misamis Oriental.

Luzon Transmission Line Outages In 2018

Years have passed and the electricity in our country is still in the state of modernization. And the population and industrialization of our country is rapidly increasing which is why the demand of electricity continues to grow and the expedition for the Electric Power has become a trend. In these upcoming years the government aims total electrification within the country and to develop the Philippine Smart Grid. Prior to this objective, it must first address the problem that the Power System is experiencing. This report formulated by the Department of Energy is based from the Daily Operation Reports (DOR) of the System Operator (SO), which is the National Grid Corporation of the Philippines (NGCP). It records all the Transmission Line Outages that occurred within the system which can be used as basis to address future interruptions for the stability, reliability and efficiency of the Grid.

Transmission Line Outages are categorized into three major aspects; Planned Outages (PO), Forced Outages within the SO's Responsibility (FO) and Forced Outages Outside the SOs Responsibility (OO). This report only contains the Forced/Unplanned Outages to determine the specific transmission lines that has to be evaluated and addressed.

The evaluation of transmission line outages used metrics, which can be classified into two; according to the frequency and duration of interruption and according to the cause of the system interruptions. It is important to consider both Frequency and Duration because both are essential in determining the constraints that the transmission line is experiencing. In this report, the frequency and duration of the system interruptions in the Luzon area, for the year 2018, has been evaluated.

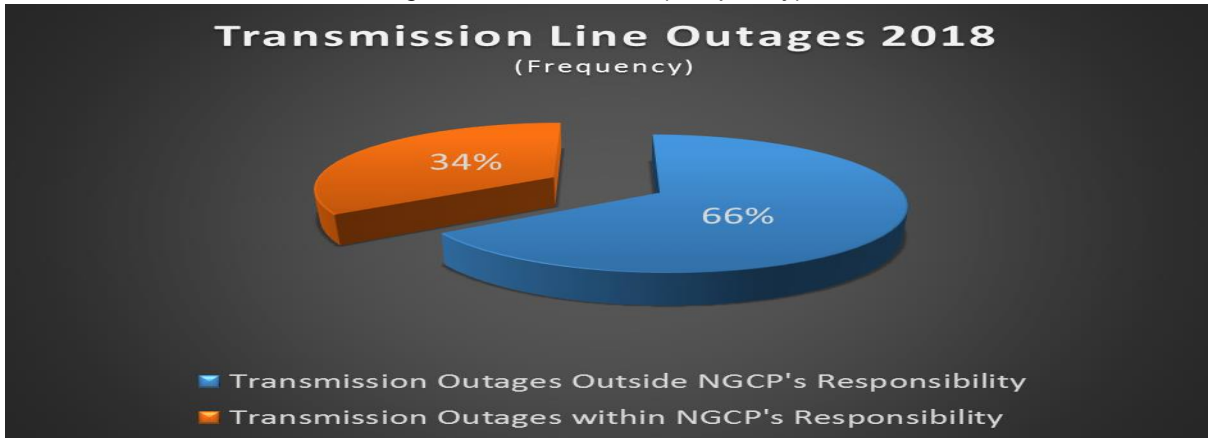
Frequency of Transmission Line Outages 2018

Given in this part of the report is the yearly review and summary of transmission line outages based on the number of times of tripping or the frequency of outages.

2018 Transmission Outages Frequency					
Month	Transmission Outages Outside NGCP's Responsibility, OO	Number of (OO) in %	Transmission Outages within NGCP's Responsibility, FO	Number of (FO) in %	Total Number of Transmission Outages
January	20	48%	22	52%	42
February	17	55%	14	45%	31
March	34	85%	6	15%	40
April	33	73%	12	27%	45
May	41	60%	27	40%	68
June	23	55%	19	45%	42
July	47	72%	18	28%	65
August	28	67%	14	33%	42
September	56	75%	19	25%	75
October	33	69%	15	31%	48
November	22	71%	9	29%	31
December	15	47%	17	53%	32
Total Yearly outage for 2018	369	66%	192	34%	561

The table above shows the summary of the number of outages per month based on the FO and OO outages. It can be observed that most of the outages based on frequency were attributed to the OO. This is caused by the continuing skyway project, Girder erections and due to Force majeure. There are a total of 561 Transmission line outages, of which 369 comes from OO and 192 comes from FO.

Figure 18 - FO vs OO (Frequency)



The above figure shows that only 34% of the Forced outages are accountable to NGCP and 66% are the outages outside NGCPs responsibility. The 34% FO are mostly attributed to the following: 1) Equipment Trouble particularly Power Transformer and protective relays; 2) Momentary interruption of Faults which are very short period-trippings; and 3) Sustained Interruption which are interruptions that are greater than 1 minute for transmission line and greater than 5 minutes for sub-transmission lines.

Figure 19 - Monthly Transmission Line Outages Frequency

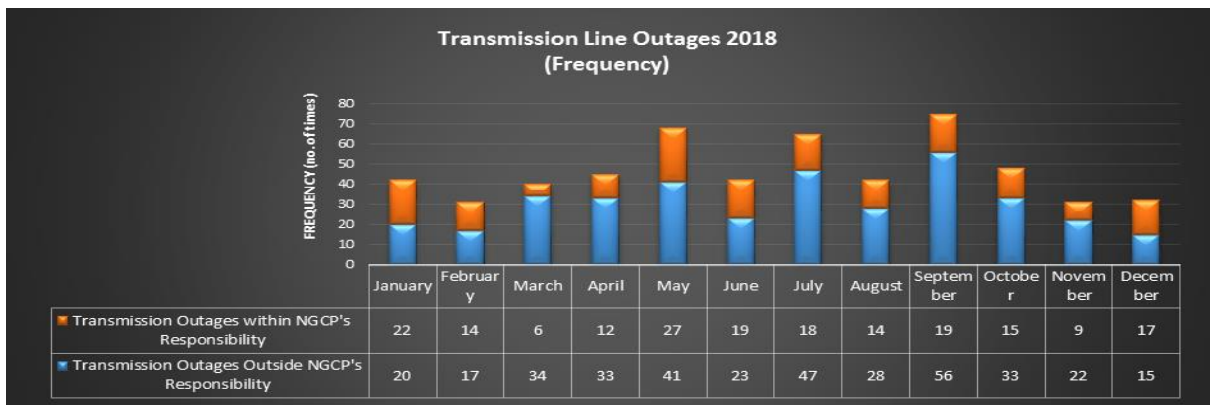
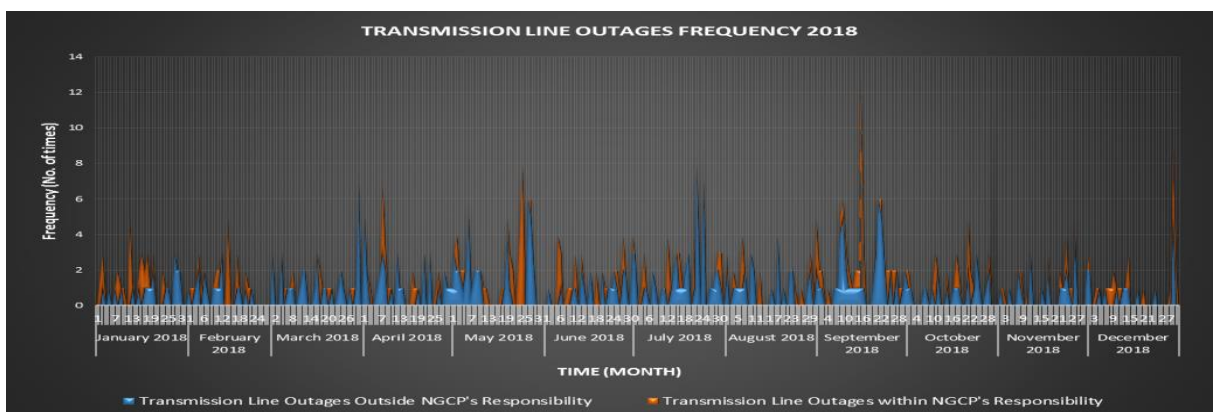


Figure 20 - Daily Transmission Line Outages Frequency



Outages Classification

The NGCP uses a coding system to easily determine and identify the causes of these Transmission Line interruptions as follows:

FORCED OUTAGES (Within NGCP's Responsibility)

CODE	OUTAGE TYPE
FO01	Momentary Outage / Interruption (Outage ≤ 1 Minute for T/L, ≤ 5 Minutes for ST/L)
FO02	<i>Purposely left vacant for future use</i>
FO03	Vegetation Within ROW
FO05	Substation Equipment Trouble
FO05AA	Power Transformer
FO05AB	125 Volts DC Power Supply System
FO05AC	Instrumentation and Controls System
FO05AD	Power Circuit Breaker
FO05AE	Disconnect Switch
FO05AF	Lightning Arrester
FO05AG	Air Compressors System
FO05AH	Instrument Transformer, Voltage
FO05AI	Instrument Transformer, Current
FO05AJ	Capacitor Bank
FO05AK	Shunt / Line Reactor
FO05AL	Power / Control Cable
FO05AM	Grounding / Earthing System
FO05AN	Mini (Molded) Circuit Breaker
FO05AO	Switchgear
FO05AP	Bus
FO06	Human Error
FO06AA	Human Error (Transmission Operation & Maintenance)
FO06AB	Human Error (Substation Operation & Maintenance)
FO06AC	Human Error (Project Implementation)
FO06AD	Human Error (SO Operation & Maintenance)
FO07	Misaligned / Broken Crossarm
FO08	Power Line Conductor
FO09	Insulator Failure
FO09AA	Insulator Failure
FO10	Damaged Pole / Tower
FO11	Defective Connector
FO12	Cut Guy Wire
FO13	<i>Purposely left vacant for future use</i>
FO14	Sustained Outage / Interruption (Outage > 1 Minute for TL, 5 Minutes for ST/L)
FO15	Overhead / Optical Ground Wire (OHGW / OPGW) Problem
FO15AA	Cut Overhead / Optical Ground Wire (OHGW / OPGW)
FO15AB	Defective OPGW
FO16	Line Equipment Trouble
FO16AA	Disconnect Switches
FO16AB	Capacitor
FO16AC	Lightning Arresters
FO16AD	Grounding / Earthing System
FO16AE	Circuit Breaker
FO16AF	Fuse Cut-out

OTHER OUTAGES (Outside NGCP's Responsibility)

CODE	OUTAGE TYPE
PO00	Planned / Scheduled Maintenance Outages
PO00AA	Planned / Scheduled Maintenance Outages
PO00AB	Planned Corrective Maintenance Outages
PO00AC	Planned Outage Required by Projects and Other Group Projects and Other Groups
PO00AD	Isolation Affected by Planned / Maintenance Outages
OO01	Force Majeure
OO01AA	Natural Calamity
OO01AB	Manmade Calamity / Manmade-Caused Outages
OO02	Manual Load Dropping due to Generation Deficiency
OO02AA	Generation Deficiency
OO02AB	Blocking and De-blocking of HVDC
OO03	Disconnection to Maintain System Integrity
OO04	Automatic Load Dropping
OO07	Customer and Other Entity - Caused Outage (Generating Companies / Distribution Utilities and Other Non-NGCP Utilities)
OO07AA	Uncoordinated Protection (with Validation)
OO07AB	Owned and Maintained Line
OO07AC	Substation Equipment Trouble
OO07AD	Generator-Caused Trouble
OO07AE	Outage Required by Customers
OO07AF	Outage Requested by Government Agencies and Other Entities Outside NGCP
OO08	Switching / Normalization of Load Affected by Customers
OO09	Voltage Correction due to Non-Availability of Ancillary Provider
OO10	Accidents / Intrusion / Incursion of Foreign Objects

The abovementioned notable outages are defined and classified as:

Outage Code		Outage Type/Description
Outages within NGCPs Responsibility (FO)	FO14	Sustained Outage
	FO01	Momentary Outage/ Interruption (Outage ≤ 1min for T/L, ≤ 5mins for ST/L)
	FO05AA	Substation Equipment Trouble – Power Transformer
	FO05AE	Substation Equipment Trouble – Disconnect Switch
Outages outside NGCPs Responsibility (OO)	OO07AE	Customer and other identity caused outages – outage required by customer
	OO07AF	Customer and other identity caused outages – outage requested by Government Agencies and other entities outside NGCP
	OO01AA	Customer and other identity caused outages – outage caused by uncoordinated protection (with violation)
	OO07AB	Customer and other identity caused outages – owned and maintained line
	OO19AA	Isolation due to force outage
	OO25	Outage caused by other parties, NGCP contractor uncontrollable by NGCP

Figure 21 shows the frequency of outages based on specific cause of Outages. These figures show the top 10 causes of outages on the transmission Lines.

Figure 21 - Transmission Line Outage Frequency Based on Classification

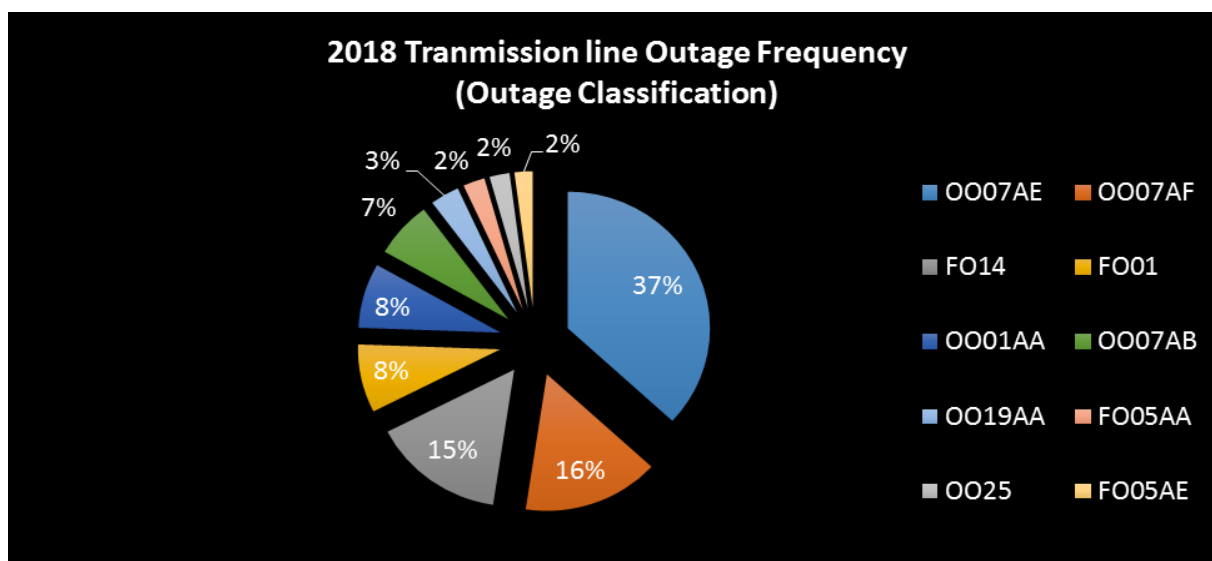


Table 39. Frequency of Outages on Transmission Lines

Transmission Line	Total no. of Outages
Araneta-Balintawak 230 Kv L	60
Araneta-Paco 230 Kv L	22
Balintawak-Mexico 230 Kv L	9
Balintawak-Cruz Na Daan 230 Kv L	9
Makban 230 Kv C-D Tie L (Co)	8
Kadampat-Masinloc 230 Kv L1	8

Based on the coding system of NGCP, the above table can be seen that 178 of the transmission line outages are due to OO07AE and are 75 due to OO07AF. This is because of the on-going Girder erection and providing clearance for work safety of the on-going skyway project at the Araneta-Balintawak 230 kV L and Araneta-Paco 230 kV L which is consistent with Table 39 that shows the transmission lines that are highly affected by these faults. However, these are outages that cannot be controlled by NGCP.

Notable FO outages are attributed by FO14 having a total of 73 outages and FO01 having a total of 39 outages. These outages are due to Single Line to Ground Fault which is a very common cause of Faults in transmission lines when one of the line conductors had contact with the earth/ground or the neutral wire which can be due to lightning, vegetation, high-speed winds, etc. These common faults takes only less than a minute to be addressed or reclosed which can be considered as Momentary Faults if the interruption is less than or equal to a minute for transmission lines and less than or equal to 5 minutes for Sub-transmission lines. If such fault exceeds the time, it is now considered as Sustained Fault/Interruption. Based on the data that has been gathered from the DOR of NGCP, most of these faults occur on Balintawak-Mexico 230 Kv L, Balintawak-Cruz Na Daan 230 kV L and Kalayaan-Gumaca 230 kV L2.

Power Grid Map (Luzon)



Duration of Transmission Line Outages 2018

Given in this part of the report is the yearly review and summary of transmission line outages based on the duration of outages.

Table 40. Monthly Transmission Line Outages Duration

2018 Transmission Outages Duration					
Month	Transmission Outages Outside NGCP's Responsibility (Hours)	Hours of (OO) in %	Transmission Outages within NGCP's Responsibility (Hours)	Hours of (FO) in %	Total no. of Transmission Outages (Hours)
January	162.78	37%	277.31	63%	440.10
February	926.43	95%	49.37	5%	975.80
March	2,099.25	99%	14.40	1%	2,113.65
April	1,939.75	94%	118.12	6%	2,057.87
May	644.00	87%	94.01	13%	738.01
June	280.98	78%	80.87	22%	361.85
July	1,423.05	97%	40.53	3%	1,463.58
August	246.57	65%	130.30	35%	376.87
September	886.48	95%	50.58	5%	937.07
October	316.68	78%	88.52	22%	405.20
November	189.85	83%	39.22	17%	229.07
December	618.83	80%	152.51	20%	771.34
Total Yearly Outage for 2018	9,734.67	90%	1,135.73	10%	10,870.40

Table 41 shows the summary of the duration in hours of outages per month based on the FO and OO outages. It can be observed that most of the outages based on duration were attributed to the OO. This is caused by the upgrading projects, installations of new electrical equipment to some transmission and sub-transmission line and due to tower relocation requested by other agency for construction projects. There are a total of 10,870.40hrs of interruption on Transmission lines, of which 9,734.67hrs comes from OO and 1,135.73 comes from FO.

Figure 22 - FO vs OO (Duration)

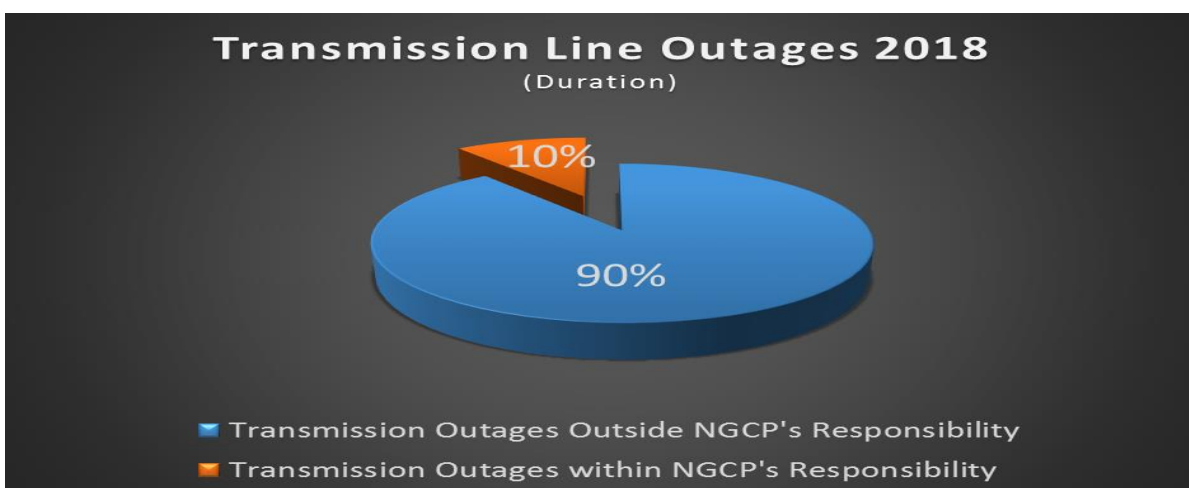


Figure 22 shows that based on duration, only 10% are accountable within NGCPs responsibility mainly because most of its interruptions are only Momentary and Sustained Faults which do not take long hours and can be addressed quickly. Most of the OO faults which is 90% of the total duration were due to some Upgrading Projects and Construction Projects that are beyond NGCPs control. However, it can be observed that in the month of

January 2018, the total duration of FO faults is greater to OO faults due to major part/equipment replacement where installation and test takes time

Total Duration of Transmission Line Outages Outside NGCPs Responsibility

Table below shows the top 10 transmission lines that have the longest duration of interruption that is beyond NGCPs responsibility. The long time duration of outage for Masinloc 230kV Bus A is due to upgrading of Bay 1 overhead line and dismantling of dummy bus of bay 2 and installation of new circuit breakers which took more than 3 months of installation. Another notable outage is the Balintawak-Cruz Na Daan 230 kV L which is due to the relocation of their steel towers due to the Plaridel Bypass Road Project of the DPWH which has affected the number 400 to 404 Towers of the NGCP.

Table 41. Duration of OO in Transmission Lines

Transmission Lines	Total Number of Hours
Masinloc 230kV Bus A	2026.62
Kadampat-Masinloc 230 Kv L2	1341.07
Kadampat-Masinloc 230 Kv L1	861.87
Balintawak-Cruz Na Daan 230 Kv L	448.47
Balintawak 220/115/13.8kv 300mva T8 (Co)	435.02
Araneta-Balintawak 230 Kv L	377.78
Santiago-Magat 230 Kv L2	345.43
Clark 230/69/13.8 Kv T01 (50mva) (Co)	344.60
Makban 230 Kv C-D Tie L (Co)	265.55
GN Power 230kV Bus B	264.93

Total Duration of Transmission Line Outages Within NGCPs Responsibility

Table below shows the top 10 transmission lines that have the longest duration of outages that is within NGCPs Responsibility. Zapote 230/115/13.8kV T4 (300MW) is due to the replacement of the transformer oil pump and oil purifier which took 9days of installation. Another notable outage is within Cruz Na Daan 230/115/13.8 kV T1 (100MVA) which is due to the explosion of the 230kV transformer TO1 bushing phase B that affected MERALCO's 69kV control and power cables that were damaged/burned by hot burning oil coming from the explode 230kV bushing that flow inside open cable trench. Such outage can be prevented by consistent test and thermal scanning for Hotspots to ensure the condition of equipment.

Table 42. Duration of FO in Transmission Lines

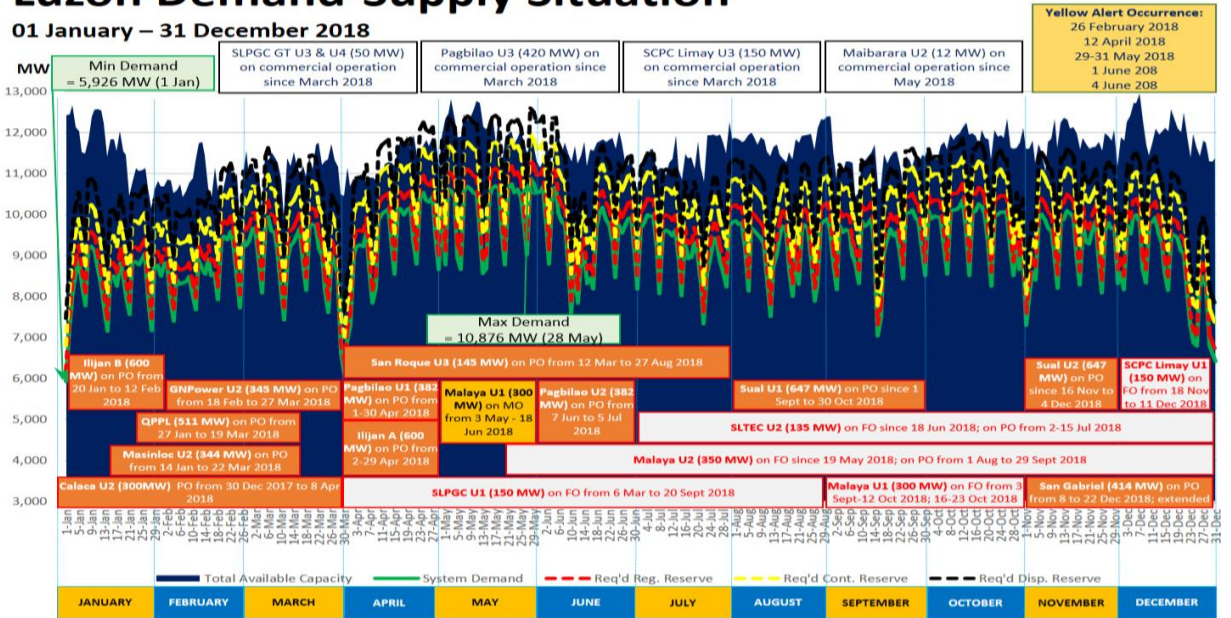
Transmission Lines	Total no. of Hours
Zapote 230/115/13.8 Kv T4 (300mw)	232.72
Cruz Na Daan 230/115/13.8 Kv T1 (100mva)	111.05
Tayabas-Naga 230 Kv L1	61.12
Mexico-Hermosa 230 Kv L2	58.58
Labo 230kV Bus A	47.05
San Lorenzo-Avion 230 Kv L (Co)	42.35
Dasmarinas 500/230/13.8 Kv T08 (600mva)	41.73
Gumaca-Labo 230 Kv L2	37.017
San Jose 230/115/13.8 Kv T2 (300mva)	30.60
Mexico-Hermosa 230 Kv L1	28.78

F. System Peak Demand

The country's total peak demand in 2018 was recorded at 14,782 MW, which is 993 MW or 7.2% higher than the 13, 789 MW in 2017. 10,876 MW or 74% of the total demand comes from the Luzon grid while Visayas and Mindanao has a share of 14% (2,053 MW) and 13% (1,853 MW), respectively. Among the three (3) grids, Luzon grid showed significant increase in peak demand since it grew by 822 MW or 8.2% from its last year's peak demand of 10,054 MW.

Luzon Demand-Supply Situation

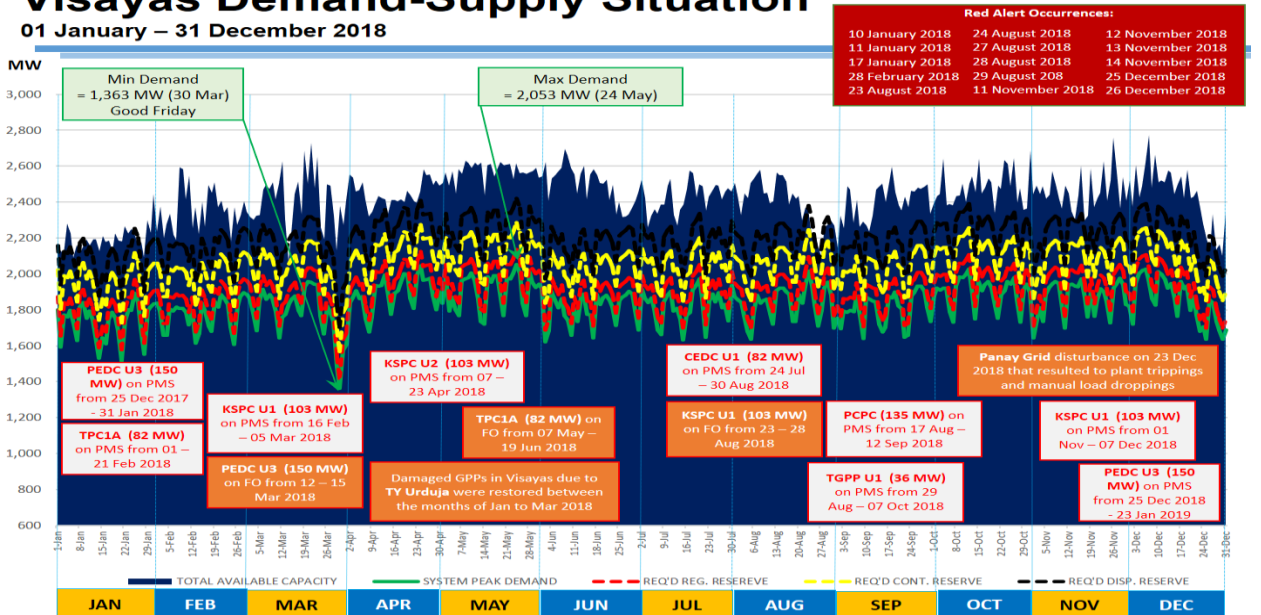
01 January – 31 December 2018



Source: National Grid Corporation of the Philippines (NGCP) Daily Operations Report

Visayas Demand-Supply Situation

01 January – 31 December 2018

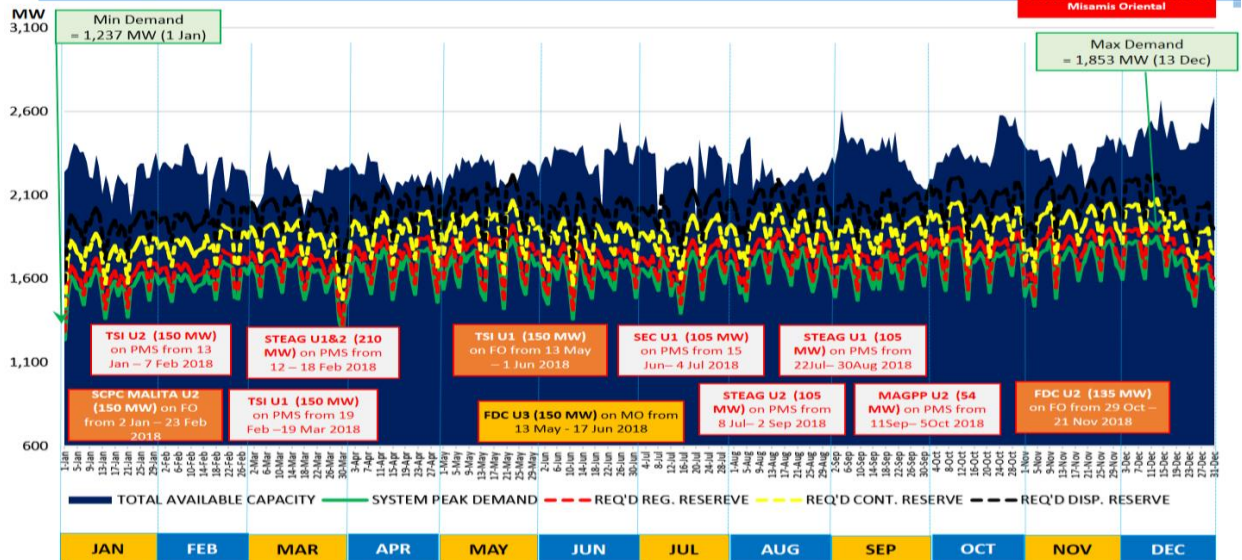


Source: National Grid Corporation of the Philippines (NGCP) Daily Operations Report

Mindanao Demand-Supply Situation

01 January – 31 December 2018

Partial Blackout on 8 Nov 2018 affecting Zamboanga Peninsula, Provinces of Lanao and Portion of Misamis Oriental



Source: National Grid Corporation of the Philippines (NGCP) Daily Operations Report

G. Status of Government Generating Assets

1. Agus VI HEPP (Units 1 & 2) Uprating Project

The Agus VI Units 1 and 2 Uprating Project was implemented to increase the power output of Units 1 and 2 from 25MW to 34.5MW each, and to extend their economic life to another thirty (30) years. The Project consists of engineering investigation, design, manufacturing and installation of new hydropower turbines and blades for the uprating of Units 1 and 2 from 25 MW to 34.5 MW per unit. The Project was awarded to the joint venture (JV) of Guangxi Hydroelectric Construction Bureau (GHCB) and ITP Construction Inc. in December 2013.

On 14 January 2019, PSALM transmitted the Operation and Maintenance Manuals and As-built drawings of Agus VI HEPP units 1 and 2 to GHCB.

As requested by GHCB, on 25-27 January and 28 February 2019, Agus VI units 1 and 2 were put on shutdown to facilitate the inspection, repair and testing of remote-control device of intake gates.

On 12 March 2019, PSALM informed JV that the installation of Annunciator Alarm Panel should be completed on or before 05 April 2019. PSALM also informed JV that certificate of completion will be issued upon completion by JV of the Distributed Control System (DCS) Training and Annunciator Alarm Panel.

In response to PSALM, JV, in its letter dated 12 April 2019 relayed that the annunciator alarm panel is impossible to install and cannot be connected to the SCADA system.

On 29 April 2019, PSALM requested for the conceptual design and/or drawings of each of the proposed solutions by the JV for the annunciator panel.

H. Status of Transmission Projects

NGCP ensures that the grid is prepared whenever new plants come online and when the demand for power in a certain area increases by anticipating these scenarios and constructing new facilities. Further, NGCP implements various transmission and substation projects in accordance with its 10-year Transmission Development Plan. Each project contributes to the over-all reliability and security of the grid.

During the report period, following is the status of the NGCP Projects.



POWER QUALITY

- Tuguegarao-Lal-Lo (Magapit) 230 kV T/L (PQ, LG)
 - Expected Time of Completion (ETC) – December 2019
 - Status:

Supply of Materials	Accomplishment
Schedule 1: Steel Towers	100%
Schedule 2: Power Conductors	100%
Schedule 3: Line Insulators	100%
Schedule 4: Line Hardwares	100%
Schedule 5: Optical Ground Wire	100%
Erection/Construction	
Tuguegarao S/S	38.21%
Lal-lo (Magapit) S/S	72.45%

- To improve the power quality and reliability of supply in the province of Cagayan and this will form part of the development of the Northern Luzon 230 kV Loop that will cater the wind power generation potential in the region.

SYSTEM RELIABILITY

- Ambuklao–Binga 230 kV T/L Upgrading
 - ETC – December 2021
 - Status – Preparation of Bid Documents
 - To address the old age condition of the line and accommodate the generation capacity addition in Cagayan Valley area.
- Binga–San Manuel 230 kV T/L
 - ETC – December 2021
 - Status - Preparation of Bid Documents; S/S of Stage 2 – 95.02%
 - To address the old age condition of the line and provide N-1 contingency during maximum dispatch of the generating power plants in North Luzon.



LOAD GROWTH

- Clark-Mabiga 69 kV Transmission Line Project
 - ETC – February 2020
 - Status:

Supply of Materials	Accomplishment
Schedule 1: Steel Poles	Manufacturing in progress
Schedule 2: Power Conductors	100%
Schedule 3: Line Insulators	100%
Schedule 4: Line Hardwares	Manufacturing in progress
Turn-key	
Clark S/S (1-230kV PCB & 3-69kV PCB)	90.10%

- To relieve the heavy loading of the existing Mexico-Clark Lines and address the low voltage issues in the area.

- Hermosa-Floridablanca 69 kV T/L Project
 - ETC – June 2019
 - Status – 100% Energized
 - To relieve the overloading of the existing Hermosa–Guagua line and address the low voltage issues in the area.



SYSTEM RELIABILITY

- Relocation of Steel Poles Along Duhat–Hermosa 230 kV T/L
 - ETC – June 2019
 - Status:

Supply of Materials	Accomplishment
Schedule 1: Steel Towers	100%
Schedule 2: Power Conductors	100%
Schedule 3: Line Insulators	100%
Schedule 4: Line Hardwares	100%
Erection/Construction	28.03%

- To ensure public safety in the Jose Abad Santos Avenue and to also protect the steel poles.
- San Jose–Angat 115 kV T/L Upgrading
 - ETC – December 2018
 - Status – 84.27% complete
 - To address the old age condition and reliability issues in the existing line serving the Angat Hydroelectric Power Plant.

- San Jose–Quezon 230 kV Line 3
 - ETC – March 2019
 - Status – 89.72% complete
 - To increase transfer capacity of the existing corridor and maintain the N-1 contingency provision.



GENERATION ENTRY

- Mariveles–Hermosa 500 kV T/L
 - ETC – September 2019
 - Status:

Transmission Line:

Supply of Materials	Accomplishment
Schedule 1: Steel Towers	100%
Schedule 2: Power Conductors	100%
Schedule 3: Line Insulators	100%
Schedule 4: Line Hardwares	100%
Schedule 5: Optical Ground Wire	100%
Erection/Construction	1.81%

Substation:

Supply of Materials	Accomplishment
Schedule 1: Power Circuit Breaker	100%
Schedule 2: Disconnect Switch	Manufacturing in progress
Schedule 3: Instrument Transformer	95%
Schedule 4: Surge Arrester	100%
Erection/Turnkey	Checking of Manufacturers Drawing

- To accommodate the connection of incoming generations in Bataan Peninsula by developing a common collector switching station for power generation in Mariveles and a new 500 kV transmission backbone from Mariveles going to Hermosa.

- Hermosa–San Jose 500 kV T/L

- ETC – December 2019
- Status:

Supply of Materials	Accomplishment
Schedule 1: Steel Towers	100%
Schedule 2: Power Conductors	100%
Schedule 3: Line Insulators	100%
Schedule 4: Line Hardwares	100%
Schedule 5: Optical Ground Wire	100%
Erection/Construction	8.78%
Hermosa EHV S/S Site Development	2.23%

- To develop new 500 kV corridor that will accommodate the bulk generation in Bataan and Zambales area and to improve the overall reliability, security and stability of the 500 kV system.

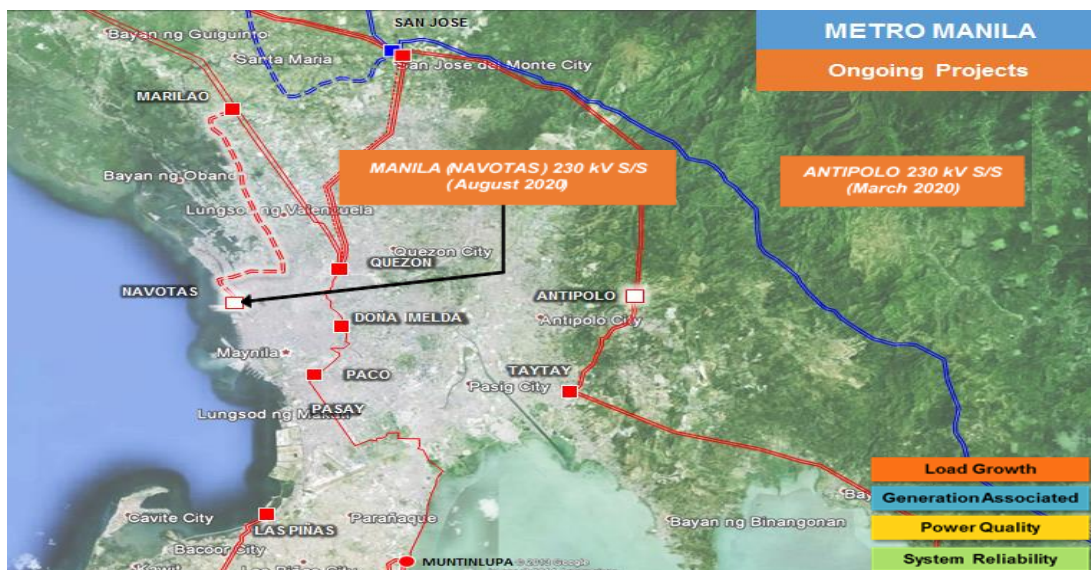
- Western 500 kV Backbone (Stage 1)

- ETC – June 2020
- Status:

Transmission Line:

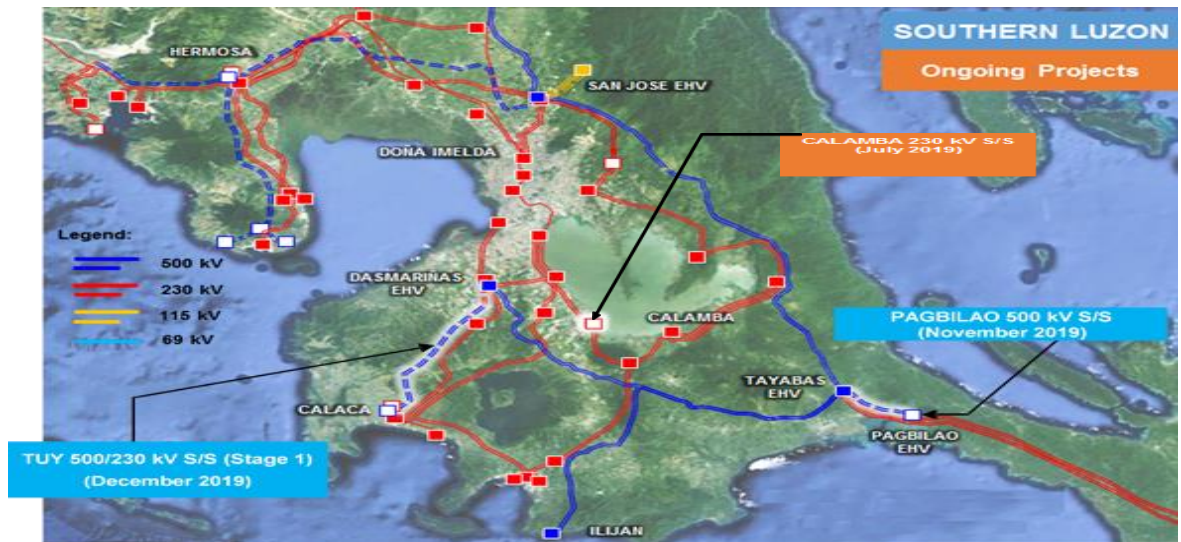
Supply of Materials	Accomplishment
Schedule 1: Steel Towers	100%
Schedule 2: Power Conductors	100%
Schedule 3: Line Insulators	100%
Schedule 4: Line Hardwares	100%
Schedule 5: Optical Ground Wire	100%
Erection/Construction	50.86%

- To develop a 500 kV western corridor that will accommodate the bulk generation in Zambales area and to improve the overall reliability, security and stability of the 500 kV system upon completion of the Stage 2.



- Manila (Navotas) 230 kV S/S
 - ETC – August 2020
 - Status – 40.24% complete
 - To provide additional substation capacity in Metro Manila to maintain the N-1 contingency provision for the transformers in Quezon, Marilao and Paco Substation.
- Antipolo 230 kV S/S
 - ETC – March 2020
 - Status:

Activity	Accomplishment
Site Development	Securing of LGU Permits
Supply of Materials	100%
Turnkey (Secondary Equipment)	Checking of manufacturer's drawing
 - To accommodate the demand increase in Metro Manila and maintain the N-1 contingency provision for Taytay Substation.



- Calamba 230 kV S/S
 - ETC – July 2019
 - Status:

Transmission Line:

Supply of Materials	Accomplishment
Schedule 1: Steel Towers	100%
Schedule 2: Power Conductors	100%
Schedule 3: Line Insulators	100%
Schedule 4: Line Hardwares	100%
Schedule 5: Optical Ground Wire	For Issuance of Purchase order
Erection/Construction	12.07%

Substation:

Activity	Accomplishment
Supply of High Voltage Equipment	100%
Turnkey of Secondary Equipment & Erection of High Voltage Equipment	6.92%

- The Calamba 230 kV Substation Project aims to cater the load growth in the Laguna Sector of MERALCO. This will address the single-outage contingency overloading in other adjacent 230 kV drawdown substations, Sta. Rosa and Calauan Substation, and the Calauan–Los Baños 115 kV distribution line.

GENERATION ENTRY

- Tuy 500/230 kV S/S (Stage 1)
 - ETC – December 2019
 - Status:

Transmission Line:

Supply of Materials	Accomplishment
Schedule 1: Steel Towers	68%
Schedule 2: Power Conductors	100%
Schedule 3: Line Insulators	100%
Schedule 4: Line Hardwares	100%
Schedule 5: Optical Ground Wire	100%

Substation:

Supply of Materials	Accomplishment
Schedule 1: Power Circuit Breaker	100%
Schedule 2: Disconnect Switch	100%
Schedule 3: Instrument Transformer	100%
Schedule 4: Surge Arrester	100%
Schedule 5: Optical Ground Wire	100%

- To allow the connection of the 2 X 350 MW Coal-Fired Power Plant (CFPP) Project of St. Raphael Power Generation Corporation (SRPGC) and allow full dispatch of all generating plants injecting at Calaca Substation.

- Pagbilao 500 kV S/S
 - ETC – November 2019
 - Status:

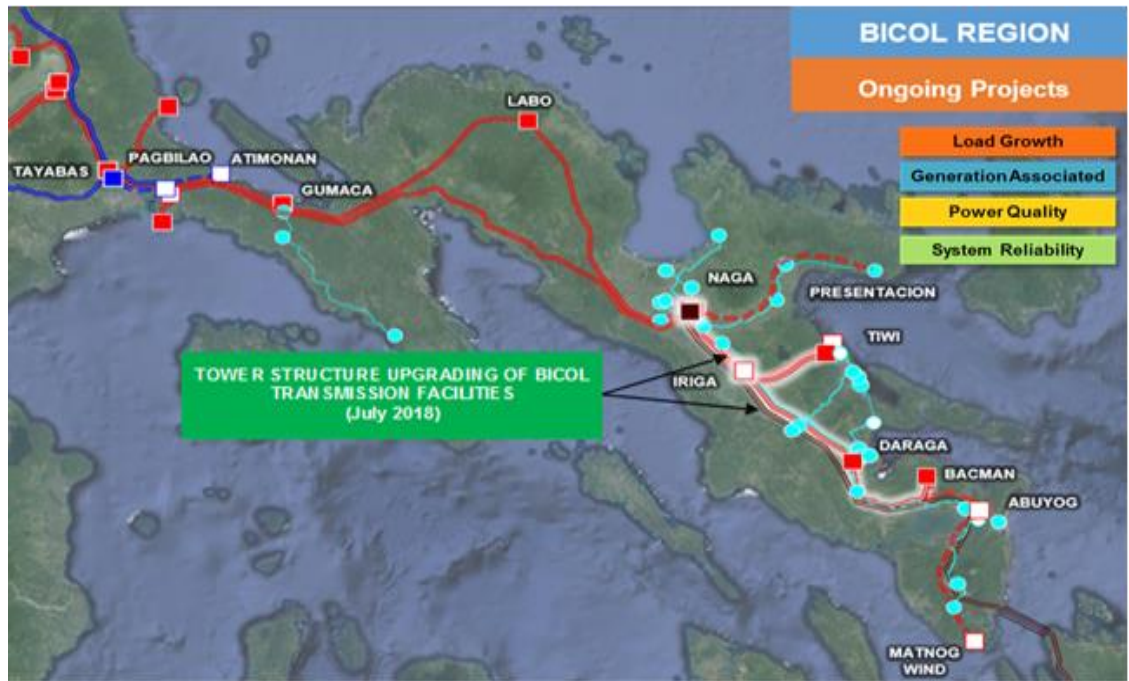
Transmission Line:

	Accomplishment
Supply of Materials	100%
Erection/Construction	85.17%

Substation:

	Accomplishment
Turnkey	Manufacturing in progress.

- To develop new 500 kV substation that aims to accommodate the connection of incoming power plants in Quezon Province.



SYSTEM RELIABILITY

- Tower Structure Upgrading Of Bicol Transmission Facilities
 - ETC – July 2018
 - Status:

Supply of Materials	Accomplishment
Schedule 1: Steel Towers	100%
Schedule 2: Power Conductors	100%
Schedule 3: Line Insulators	100%
Schedule 4: Line Hardwares	100%
Schedule 5: Optical Ground Wire	100%
Construction/Erection	Accomplishment
Schedule 1: Naga-Daraga T/L & Naga-Tiwi C T/L	57.77%
Schedule 2: Daraga-Tiwi A T/L & Naga-Tiwi C T/L	60.38%

- To provide permanent solution to address the limitations of the emergency restoration that made use of provisional light-weight modular tower and steel pole structures.

VISAYAS



SYSTEM RELIABILITY

- CNP 230 kV Backbone Project- Stage 1, GE & SR
 - ETC – December 2018
 - Status:

Transmission Lines:

Supply of Materials	Accomplishment
Bacolod-Magalona T/L	100%
Construction/Erection	79.89%

Substation:

Activity	Accomplishment
Supply of Materials	100%
Construction/Erection	99%
Note: Remaining Works associated with the T/L Completion	

- To increase transfer capacity of the existing corridor and maintain the N-1 contingency provision.

GENERATION ENTRY

- CNP 230 kV Backbone Project - Stage 2 (Cebu 230 kV Substation)
 - ETC – July 2019

- Status:

Transmission Line:

Activities	Accomplishment
Transmission Line	80.99%
Note: Awaiting for ERC Approval	

- To accommodate the entry of Therma Visayas Inc. 300MW Coal Fired Power Plant.

- CNP 230 kV Backbone (Stage 3)

- ETC - December 2020

- Status:

Phase 1

Transmission Line

Activities	Accomplishment
Submarine Cable	55.28%
Reconductoring/Bundling of 138kV T/L	80.99%

Substation

Supply of Materials	Accomplishment
Schedule 1: Power Transformer and Power Shunt reactor	100%
Schedule 2: Power Circuit Breaker	100%
Schedule 3: Disconnect Switch	100%
Schedule 4 Instrument Transformer	96.47%
Schedule 5: Surge Arrester	100%
Erection/Construction	Securing of LGU permits
Barotac Viejo S/S	3.45% Complete

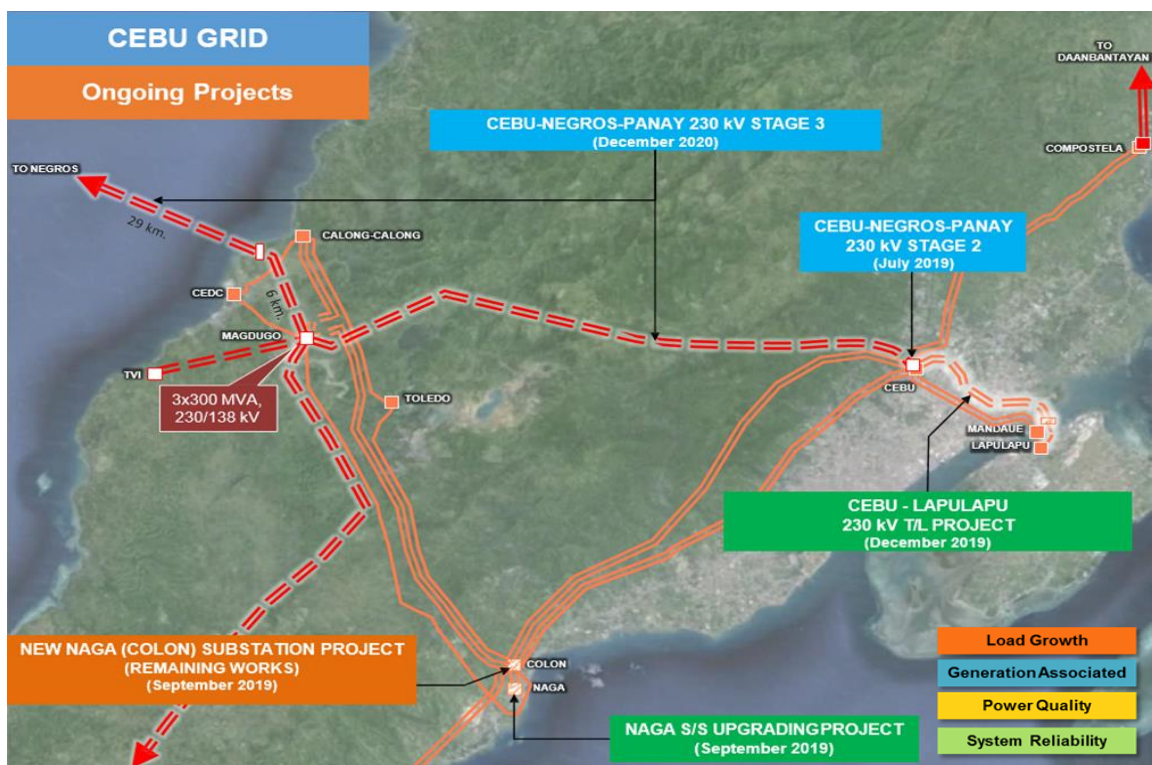
Phase 2

- Status:

Substation:

Supply of Materials	Accomplishment
Schedule 1: Power Transformer and Power Shunt reactor	100%
Schedule 2: Power Circuit Breaker	100%
Schedule 3: Disconnect Switch	100%
Schedule 4 Instrument Transformer	100%
Schedule 5: Surge Arrester	100%

- To accommodate the transmission of excess power from Panay and Negros Islands towards the rest of the Visayas Grid and possibly Luzon Grid.



LOAD GROWTH

- New Naga (Colon) Substation Project (Remaining Works)
 - ETC – September 2019
 - Status:

Activity	Accomplishment
Supply of Materials	80%
Construction/Erection	16.66%

- To upgrade existing substation to meet load growth.

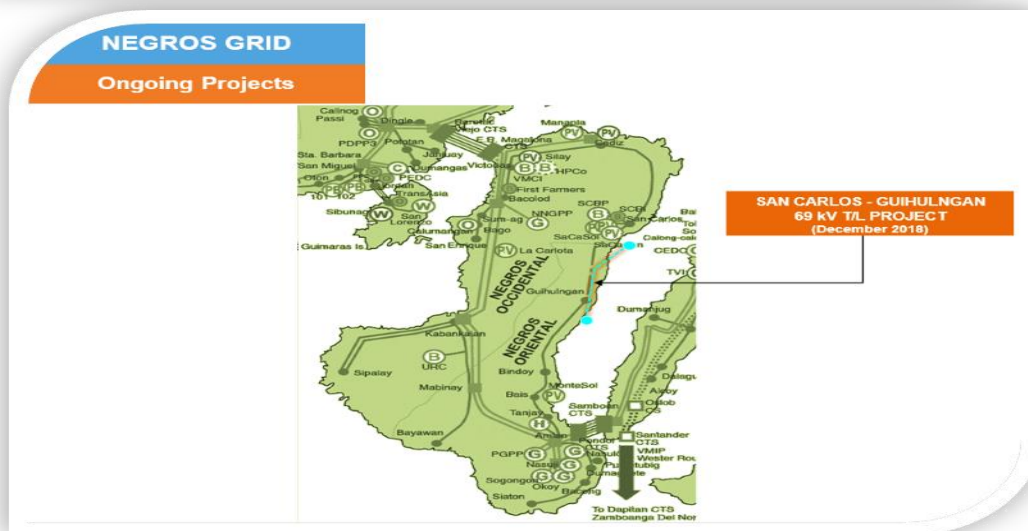
SYSTEM RELIABILITY

- Naga Substation Upgrading Project
 - ETC – September 2019
 - Status:

Activity	Accomplishment
Supply of Materials	80%
Construction/Erection	16.66%

- To replace and upgrade the existing antiquated and aging primary and secondary equipment and device in Naga Substation.

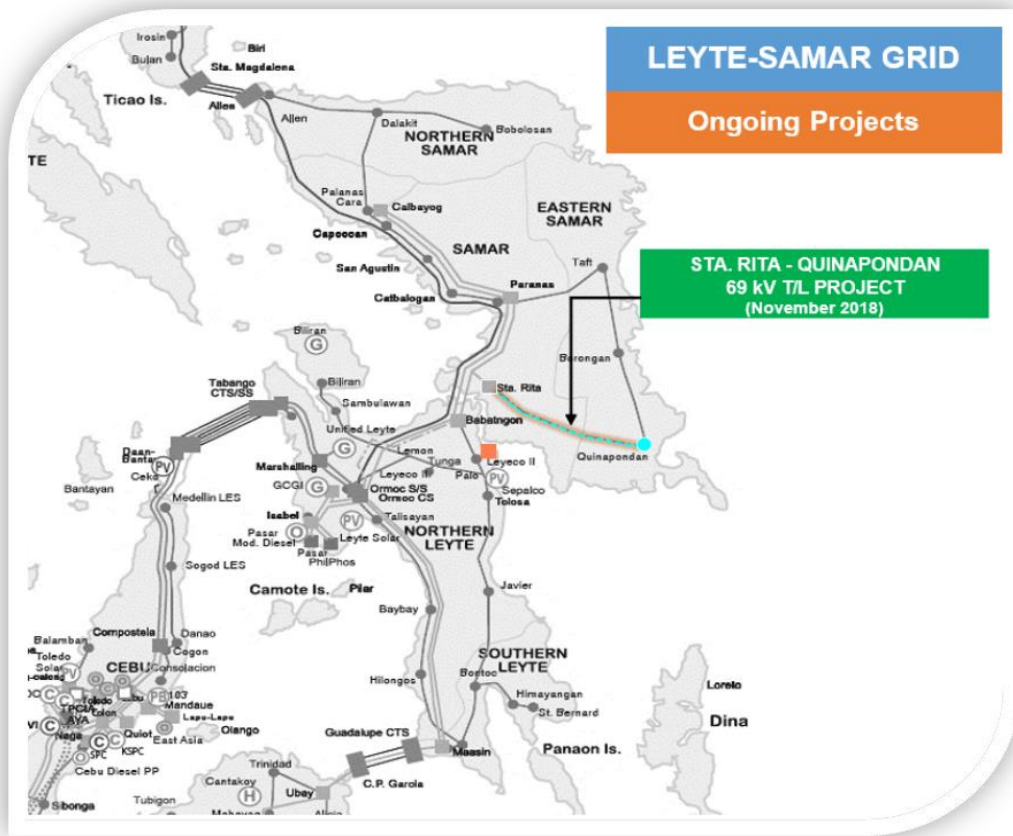
- Cebu – Lapulapu 230kV T/L Project
 - ETC – December 2019
 - Status: Substation part – 97.40% complete
 - To increase transfer capacity of the existing corridor and maintain the N-1 contingency provision.



- Panitan – Nabas 138 kV T/L Line 2 (2nd Circuit Stringing)
 - ETC – December 2019
 - Status - 100% Complete, ready for energization
 - To provide N-1 contingency along the Panitan-Nabas 138 kV Transmission Line, thus, improving the reliability of power transmission towards the northwestern part of Panay.

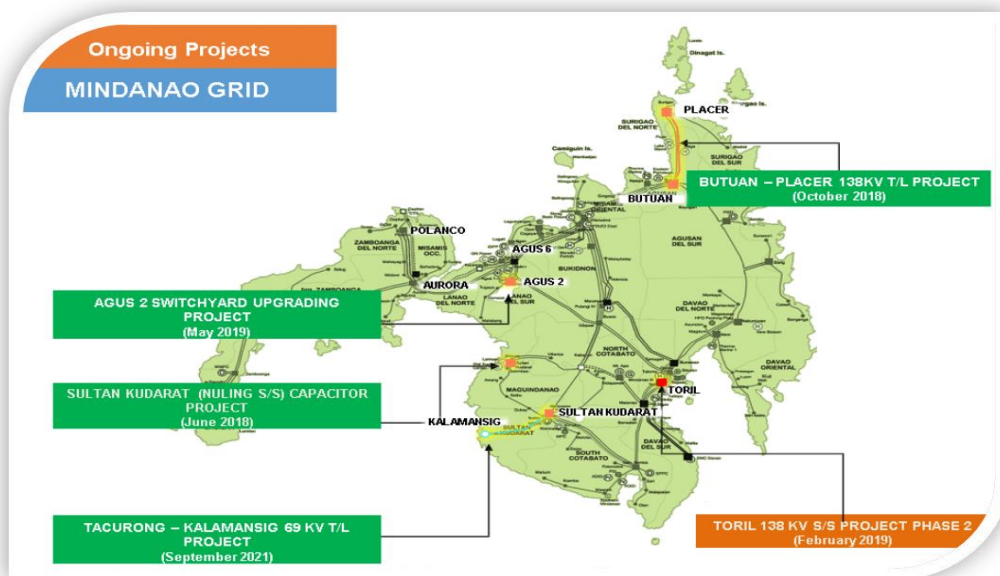
LOAD GROWTH

- **San Carlos – Guihulngan 69 kV Transmission Line Project**
 - ETC – December 2018
 - Status – 92.09% Complete
 - This project is intended to boost the power delivery service to accommodate increasing power demand in the Northeastern part of Negros Island by building a 69 kV loop between Cadiz and Amlan.



SYSTEM RELIABILITY

- Sta. Rita–Quinapondan 69 kV Transmission Line
 - ETC – November 2018
 - Status – 99.67% Complete
 - To provide a more reliable and quality transmission service to Eastern Samar



LOAD GROWTH

- Toril 138kV S/S Project Phase 2
 - ETC – February 2019
 - Status – 33.87% Complete
 - To add substation capacity to provide N-1 contingency.

SYSTEM RELIABILITY

- Butuan-Placer 138 kV Transmission Line Project

- ETC - October 2018

- Status:

Transmission Line:

Activity	Accomplishment
Supply of Materials	100%
Schedule 1: 46km 138kV line Erection	100%
Schedule 1: 48km 138kV line Erection	56.70%

Substation:

Activity	Accomplishment
Construction/Erection	100%

- To provide N-1 contingency to the existing corridor by installing a second circuit.

- Agus 2 Switchyard Upgrading Project/Rehabilitation Project

- ETC - May 2019

- Status:

Activity	Accomplishment
Supply of Materials	100%
Construction/Erection	81%

- To upgrade the existing antiquated and aging primary and secondary equipment and devices in Agus 2 Switchyard.

- Sultan Kudarat (Nuling S/S) Capacitor Project

- ETC – June 2018

- Status – Civil Works: 95.14% Complete

- To mitigate the projected low voltage problems in Maguindanao area.

- Tacurong– Kalamansig 69 kV Transmission Line Project

- ETC – September 2021

- Status: Pre-construction stage – Filed PA application on 5 January 2009

- To connect the currently off-grid part of southwestern area in Sultan Kudarat to the Mindanao Grid.



GENERATION ENTRY

- Balo-i-Kauswagan 230 kV Transmission Line Project (Formerly Balo-i-Kauswagan-Aurora 230 kV Transmission Line - Phase 1)
 - ETC – April 2018
 - Status:

Activity	Accomplishment
Supply of Materials	100%
Turnkey (Secondary Equipment)	98.70%
Construction/Erection	100%

- To accommodate the grid connection of GNPk’s 600 MW CFPP.
- Kauswagan–Lala 230 kV Transmission Line Project (Formerly Balo-i– Kauswagan–Aurora 230 kV Transmission Line (Phase 2), GE & SR)
 - ETC – December 2020
 - Status: Pre-Construction Stage
 - To enhance reliability of power delivery towards Zamboanga Peninsula. This will also complement the transmission of excess power from Mindanao Grid towards the Visayas Grid and vice versa.



GENERATION ENTRY

- Mindanao 230 kV Transmission Backbone Project

- ETC – March 2019

- Status:

Transmission Line:

Supply of Materials	Accomplishment
Schedule 1: Steel Towers	100%
Schedule 2: Power Conductors	100%
Schedule 3: Line Insulators	100%
Schedule 4: Line Hardwares	100%
Schedule 5: Optical Ground Wire	100%
Erection/Construction	62.19%

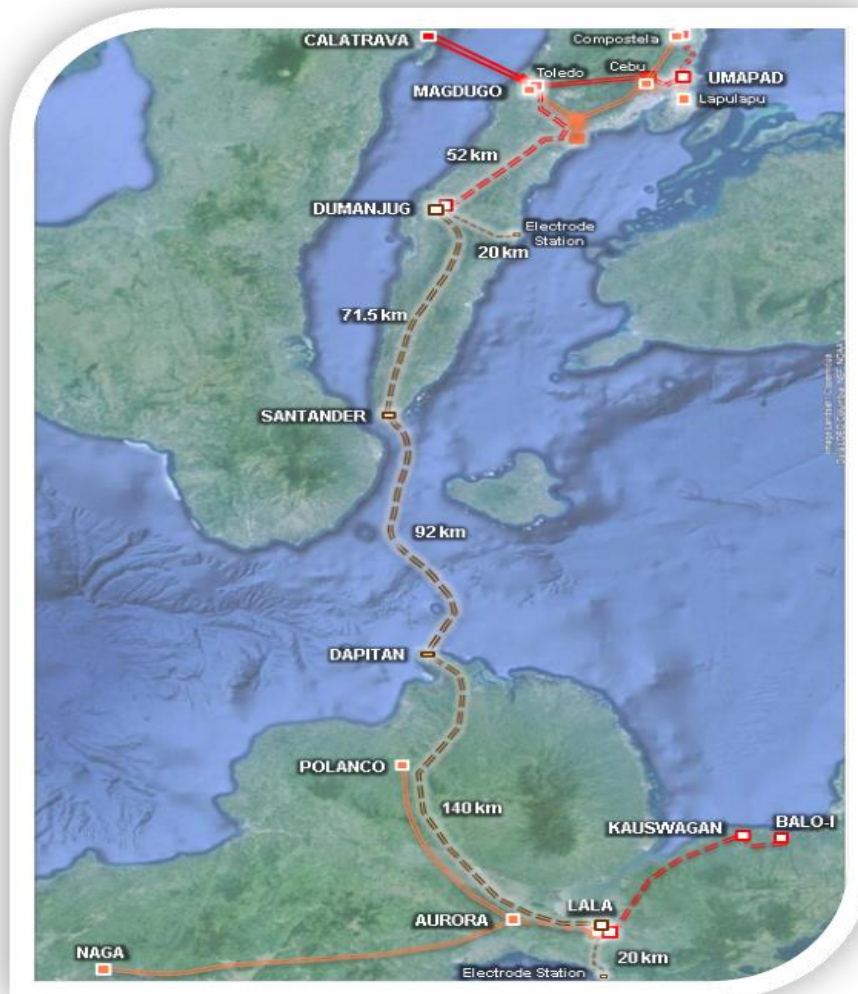
Substation:

Supply of Materials	Accomplishment
Power Transformer & Power Shunt Reactor	100%
High Voltage Equipment	99.12%
Turnkey of Secondary Equipment & Erection of HV Equipment	
Schedule 1: Culaman/Matanao/Toril/Bunawan	60.08%
Schedule 2: Baloi/Villanueva/Maramag	88.24%

- To increase transfer capacity of the existing corridor and maintain the N-1 contingency provision.

MINDANAO-VISAYAS INTERCONNECTION PROJECT

The Mindanao-Visayas Interconnection Project was previously known as Visayas-Mindanao Interconnection Project (VMIP). The change to MVIP aims to indicate the importance and priority given to Mindanao Grid which has long been isolated. Luzon and the Visayas Grids are already interconnected since 1998 and with electricity market in operation since 2006 and 2008, respectively. The name MVIP indicates further support to boost the development of the country's electricity market to include the Mindanao Grid.



- ETC – December 2020
- Status:
 - Submarine Cable: Checking of Manufacturer’s Drawing
 - Slander CTS-Dapitan CTS HVDC
 - Substation: Checking of Manufacturer’s Drawing
 - Dumanjug Converter Station & S/S
 - Lala Converter Station & S/S
 - Aurora S/S
 - Magdugo S/S
 - Transmission Line:
 - Package A: Dumanjug-Magdugo HVAC T/L – Checking of manufacturer’s Drawing
 - Package B: Kauswagan-Lala HVAC T/L & Aurora-Lala HVAC T/L – For issuance of Notice to Proceed
 - Package C: Dumanjug-Santander HVDC OHTL & Lala-Dapitan HVDC OHTL – Checking of Manufacturer’s Drawing
 - Package D: Alegria-Dumanjug Electrode Line & Kolambugan-Lala Electrode Line - Checking of Manufacturer’s Drawing.
 - Package E: Magdugo-Cebu 230kV T/L & Talavera-Magdugo 230kV T/L - Checking of Manufacturer’s Drawing.

I. Distribution Infrastructure Projects

ERC-Approved Capital Expenditure (CAPEX) Projects

Section 43 (f) of the Republic Act No. 9136, otherwise known as the EPIRA, provides that any significant operating costs or projects investment of DU which shall become part of the rate base shall be subject to verification by the ERC to ensure that the contracting and procurement of the equipment, assets and services have been subjected to transparent and accepted industry procurement and purchasing practices to protect the public interest.

On the other hand, the accompanying application for authority to secure loan from the NEA in connection with the funding source for the proposed projects, is being filed pursuant to Section 20 e) of Commonwealth Act No. 146 otherwise known as the Public Service Act, which requires every public service to secure the approval and authorization of the Commission for issuance of any bonds or other evidence of indebtedness payable in more than one year.

For this report period, the ERC granted approval to the Capital Expenditure (CAPEX) Projects application filed by Palawan Electric Cooperative, Inc. Details of the project is shown in Annex 3.

VII. TOTAL ELECTRIFICATION

Under *Sec. 2(a) of the EPIRA 2001*, it is the declared policy of the State to ensure and accelerate the total electrification of the country. Said law also mandates the DUs to provide universal service in their franchise areas including unviable areas at a reasonable time. The Government has implemented a massive and focused action to increase and accelerate access to electricity services by the country's unenergized communities and households while contributing to poverty alleviation. Previous programs and activities of the Government resulted to almost 100% barangay electrification, with only six (6) barangays out of the total of 41,974 potential barangays remaining as unenergized due to geographical and security reasons. The current program of the Government aims to attain 90% household electrification by 2017.

1. Status of Household Electrification

For the report period, the household electrification level of the country is estimated at 96.12% based on the latest status of energization provided by NEA and other LGUOUs and PIOUs as of April 2019. Said level corresponds to 22.1 million energized HHs out of 22.98 million identified and targeted HH population based from the 2015 Census of the Philippine Statistics Authority (PSA).

Table 43. Household Electrification Level

Distribution Utility	Household			
	Potential Households	Served	Underserved (Potential-Served)	%
Electric Cooperatives	14,337,216	12,843,313	1,493,903	89.58%
MERALCO	6,475,870	7,171,805	-	100.00%
Other DUs	2,171,316	2,078,664	92,652	95.73%
Total	22,985,402	22,093,782	1,586,555	96.12%

Source: DOE

2. On-going and Planned Programs and Activities

- Grid Electrification

- a. NEA's Expanded Sitio Electrification Program (Expanded SEP)

This refers to NEA's program of attaining 100% sitio electrification in the country while providing house wiring and connection assistance to eligible HHs. For the year 2018, NEA managed to complete and energized a total of 1,984 sitios with total project cost of PhP2.3 billion based on NEA's report on the initiatives and activities on rural electrification and NEA intervention on ailing ECs.

- b. NEA's Barangay Line Enhancement Program (BLEP)

This aims to rehabilitate those barangays previously energized by off-grid solutions but deemed unsustainable. To enhance the program, it shall only cover those off-grid barangays that are already economically feasible for distribution line extension. NEA shall assist in recovering the existing off-grid electrification facilities still owned by the Government for reconfiguration and transfer to other far-flung areas that can be best served by off-grid solutions.

For year 2018, no funding were allocated for the BLEP Projects despite the remaining target of 101 barangays.

c. Rationalization of Implementation of Energy Regulations 1-94 Electrification Funds

Under this concept, DOE shall effectively administer ER 1-94 EF to support the total electrification of the identified host barangays and municipalities consistent with the policies set forth under the guidelines. This aims of bringing electricity to all households in the communities hosting the power generating facilities and/or energy resources following the radiating order, prioritizing the host cities/municipalities project proposal for DOE's funding approval under the ER 1-94 Electrification Fund.

On the 3rd Quarter of CY2018, a major development on the provision of financial benefits to Host Communities has been made. On the previous scheme, the one-centavo per kilowatt-hour sale of the generations companies was remitted to a trust accounts established by generations companies which are administered by DOE. On 23 August 2018, DC2018-08-0021 "Providing for the Amendments to Rule 29 Part (A) of the Implementing Rules and Regulations of Republic Act No. 9136" was issued where in the financial benefits will directly remitted to the Host Communities to ensure that the benefits may be utilized immediately to accelerate the socio-economic development and immediate implementation of project of Host Communities.

For the period of December 2018 to April 2019, twenty-five (25) DLF projects were completed and inspected amounting to PhP45.5 Million and twenty-one (21) RWMHEEF projects were completed and inspected amounting to PhP46 Million. For EF, three (3) electrification projects were completed and inspected amounting to PhP11 Million.

Fund Type	No. of Projects	Total Approved Project Cost
Electrification Fund	3	11 M
Development and Livelihood Fund	25	45.5 M
Reforestation, Watershed Management, Health and/or Environment Enhancement Fund	21	46 M

d. Nationwide Intensification of Household Electrification (NIHE) Program

Approved in 2014, the NIHE project is 3-year program that aims to implement measures and grant assistance to intensify household electrification. Under NIHE, DUs are encouraged to adopt more pro-active and innovative marketing strategies to fast-track electrification of the remaining unelectrified households both in rural and urban areas of the country. Technical assistance to be undertaken by the NIHE Project include streamlining of connection process, LGU-DU partnership for assistance in connection permits, and policy support to address the issue of slum electrification and flying connections, among others.

For the 2015 NIHE Program, 21,621 household are reported energized out of 30,512 approved and allocated with House-wiring and KWH meter subsidy as of 15 March 2019.

For the 2016 NIHE Program, 56,920 household are reported energized out of 116,592 approved and allocated with House-wiring and KWH meter Subsidy.

For 2017 NIHE, 19,828 household are reported energized out of 115,216 approved and allocated with House-wiring and KWH meter subsidy as of 15 March 2019.

For 2018 NIHE, a total of 81,770 households were approved as beneficiaries of the program.

- Off-Grid Electrification

The access to Sustainable Energy Program aims to support the Government of the Philippines in achieving inclusive growth through access to electricity and energy services by greater number of Filipinos as specified under the Philippine Development Plan and DOE’s Household Electrification Development Plan.

EU Provided a grant amounting to EUR60 million, which was signed and made effective on December 15, 2015. The total program cost was PhP4.89 billion consisting of PhP2.82 billion EU Grant and a GOP Counterpart of PhP2.03 billion (broken down as PhP364.99 million as national counterpart; PhP18.87 million as LGU Contribution; and PhP1,646 million private sector contribution).

PV Mainstreaming is the program of the Government and part of Component 2: Investment Support/Grants. In this off grid electrification scheme, the ECs shall install operates and maintain 50-watt peak solar home systems to remote areas in electric cooperatives franchise area as a new business line. Over project implementation period ASEP PVM aims to accomplish/ energize 40,500 potential households and 11,113 households under the GOP Counterpart.⁴

ASEP GOP 2018			
Distribution Utility	No. of HHs	Total Amount (Php)	Status
SULECO	2,575	60,512,500.00	Fund Released Feb. 2019 Delivery May 2019
ILECO II	706	16,591,000.00	Fund Released Feb. 2019 Delivery May 2019
ZAMSURECO I	1,129	26,531,500.00	Awaiting release of fund Delivery May 2019
TOTAL	4,410	103,635,000.00	

ASEP GOP 2019			
Distribution Utility	No. of HHs	Total Amount (Php)	Status
BISELCO	1,129	26,531,500.00	For Endorsement for Approval
TOTAL	1,129	26,531,500.00	

3. Qualified Third Party (QTP) Approach

With the issuance of the Department Order No. 2018-05-0010 in May 2018, “*Creation of a Task Force to Ensure Access to Electricity for the Communities that Remain Unserved and Underserved by Distribution Utilities,*” all ECs were required to submit their Electrification Plan to include areas that are proposed for alternative service providers or QTPs and National Power Corporation’s Small Power Utilities Group (NPC-SPUG). Based on this submission, the DOE and NEA shall conduct site verification to determine which among the proposed sites have potential for private sector investment. Thereafter will be the posting of these sites inviting potential investors to provide electricity services on the same through a competitive selection process to be undertaken by the DOE.

Meanwhile, the DOE issued Department Circular No. 2019-01-0001 “Prescribing the Omnibus Guidelines on Enhancing Off-grid Power Development and Operation,” in 25 January 2019. These Omnibus Guidelines apply to entities such as the QTPs that are engaged in the provision of electricity services in offgrid areas. Apart from ensuring power reliability, stability, efficiency and accountability in electricity services in off-grid areas, the Circular also indicated the need to rationalize the use of the universal charge for missionary electrification, in which

the supplementary Circular to this effect will be issued sometime third quarter of 2019. This is foreseen that such rationalization policy will impact on the attractiveness of the QTP program for private sector investment.

Following are the updates on the QTP Program:

a. Rio Tuba QTP Project in Bataraza, Palawan

PowerSource Philippines, Inc. (PSPI) continues to operate outstandingly as QTP in Barangay Rio Tuba with a Subsidized Approved Retail Rate of PHP8.50/kWh. To date, overall installed capacity is 1.60MW (3x350 kW + 1x500 kW + 1x50kW gensets) with average system loss of 10.5%

For the reporting period, there are 1,893 households connected to the Rio Tuba micro-grid. PSPI continues to coordinate with the LGU to address connection concerns of the remaining un-electrified households such as zonal restrictions and absence of documentation on land/house ownership.

Currently, PSPI undertakes feasibility study for the hybridization of its existing diesel generating sets with solar PV with the intention of extending their electricity services in the nearby barangay of Riotuba.

b. Malapascua QTP Project in Malapascua Island, Logon, DaanBantayan, Cebu

For the reporting period, there are now 1,031 households, 67 commercials (resorts and diving facilities) and 16 juridical connected to the mini-grid system. PSPI is looking at connecting the remaining unconnected 116 households in Malapascua. The average kWh sales 236,000 per month and with the average system loss of 6.66%.

PSPI exerts efforts to address the complaints from the households on the “noise pollution” brought about by the generating sets and improve on their cooling system.

c. Liminangcong, Taytay, Palawan

Residents of Bgy. Liminangcong is enjoying 24 hours of electricity service provided by PSPI. The installed capacity in the coastal barangay of Liminangcong is 1.20mW (3x225 + 3x176 kW gensets) with substation 2x300kVA. Upgrading and extension of about 2km line of Purok Bancoro was completed in January 2018.

Currently, 839 households, 44 commercials and 21 juridical are connected to Liminangcong microgrid system. PSPI is still searching for ways reach more households in Liminangcong. The average system loss for November 2018 to December 2019 is 7.12%. The microgrid has average kWh sales of 102,000 for the given period. PSPI is charging PHP8.50/kWh to all its customers.

ERC has scheduled in April 25, 2019, an expository hearing for PSPI’s application for line extension from Brgy. Liminangcong to Brgy. Tumbod.

d. Brgys. Candawaga and Culasian in Rizal, Palawan

PSPI is now operating 24 hours with an approved Subsidized Approved Retail Rate of PHP9.9082/Kwh. The installed capacity in the coastal barangay of Candawaga-Culasian is 135kW (1x45kW + 1x90kW gensets) with substation 3x167kVA. Average monthly electricity sales is 34,650kWh while average system loss is 1.53%.

As of now, there are 836 households connected to Candawaga-Culasian system. The team is currently working on upgrading of the existing line and possible extension of distribution lines to capture the unserved market considering the growing demand in the area and nearby barangay.

e. Brgy. Cabayugan , Puerto Princesa City, Palawan

SREC will operate a hybrid system 1.4MW Solar, 1.2MW Diesel genset and 2.3MWh to provide electricity to about 791 households in Brgy. Cabayugan. 562 consumers pending electrical wiring in their premises for connection to the grid. 88 consumers consisting of both commercial and residential had completed the wiring and are ready for connection. ERC approved two-tier tariff of 12PHP/kWh for residential and public buildings and 15PHP/kWh for commercial establishments.

As of the reporting period, SREC has already completed installation of the solar PV array and powerhouse for the diesel generating sets and energy management system. On the distribution systems, electrical posts were erected while cabling is ongoing. Overall plant test and commissioning is scheduled on the first week of May 2019.

SREC continues checking on the residential and commercial consumers' compliance with the LGU's requirement for the eventual connections.

Below is the summary status of the QTP Projects.

PROJECT LOCATION	TECHNOLOGY	TARGET HHs	PROPONENT	STATUS
Rio Tuba, Bataraza, Palawan	1.05 MW Diesel - Biomass	1,893+	PSPI	Operational, Authority to Operate (ATO) issued by ERC , 2010
Malapascua, Daan-Bantayan, Cebu	750 kW Diesel	1,227	PSPI	Operational, Permanent ATO issued by ERC, 2016
Sabang, Puerto Princesa City, Palawan	Hybrid : 1.4 MW Solar + 1.2 MW Diesel + 2.3 MWh Battery	791	SREC	Authority to Operate (ATO) issued by ERC 05 October 2016
Candawaga & Culasian, Rizal, Palawan	268 kW Diesel	998	PSPI	Interim Relief , April 2018
Balut Island, Saranggani, Davao Occidental	690 kW Diesel	3570	PSPI	Interim Relief , April 2018
Liminangcong, Taytay, Palawan	108 kW Diesel	1,200	PSPI	Provisional ATO issued by ERC, 2016
Brgy. Tumbod, Taytay, Palawan	Line extension from Brgy. Liminangcong	395	PSPI	For expository hearing with ERC, April 2019
Lahuy Island, Haponan Island in Municipality of Caramoan and Quinasalag Island in the Municipality of Garchitorena, Camarines Sur	Lahuy Island: 246 kWp Solar + 400 kW Diesel + 79kWh Battery Haponan Island: 51.4 kWp Solar + 100 kW Diesel + 19 kWh Battery Quinalasag Island: 331 kWp Solar + 500 kW Diesel + 80kWh Battery	Lahuy: 550 HHs Haponan: 87 HHs Quinalasag: 705 HHs	FPIEC	Endorsed to ERC, Jan 2019

PROJECT LOCATION	TECHNOLOGY	TARGET HHs	PROPONENT	STATUS
Bgy. Poblacion, Dumarang, Palawan	Hybrid: 132.8 kWp Solar + 144 kW Diesel + 351.1 kWh Battery	331	PSPI	Endorsed to ERC, March 2019
Bgy. Manamoc, Cuyo, Palawan	216 kW Diesel	560	PSPI	Endorsed to ERC, March 2019
Bgy. Port Barton, San Vicente, Palawan	Hybrid: 200 kWp Solar + 609.5 kW Diesel + 200 kWh Battery	900	PSPI	Endorsed to ERC, March 2019

VIII. PROMOTION OF RURAL ELECTRIFICATION

Pursuant to Section 58 of the EPIRA, as additional mandate, the National Electrification Administration (NEA) shall develop and implement programs in strengthening the technical capability and financial viability of the rural ECs as electric utilities and to prepare the said ECs to operate and compete in deregulated electricity market, specifically in environment open access and retail wheeling.

1. Financial Assistance

As of 30 April 2019, NEA released a total of PhP2,353.5 Million loans to 64 ECs with the following break down:

Particulars		EC Grantees	Amount (PhP in Million)
Short-term Credit Facility (average)	1	Quezon I Electric Cooperative, Inc. (QUEZELCO I)	20
Subtotal			20
Stand-by Credit Facility (average)	2	Zamboanga City Electric Cooperative, Inc. (ZAMCELCO)	145
Subtotal			145
Capital Projects	3	Ilocos Norte Electric Cooperative, Inc. (INEC)	146.2
	4	Ilocos Sur Electric Cooperative, Inc. (ISECO)	37
	5	Batanes Electric Cooperative, Inc. (BATANELCO)	3
	6	Cagayan II Electric Cooperative, Inc. (CAGELCO II)	95
	7	Aurora Electric Cooperative, Inc. (AURELCO)	61
	8	Tarlac I Electric Cooperative, Inc. (TARELCO I)	53.5
	9	Nueva Ecija II Electric Cooperative, Inc. (NEECO II) (Area 1)	61
	10	Zambales I Electric Cooperative, Inc. (ZAMECO I)	11
	11	Zambales II Electric Cooperative, Inc. (ZAMECO II)	25
	12	First Laguna Electric Cooperative, Inc. (FLECO)	28.5
	13	Tablas Island Electric Cooperative, Inc. (TIELCO)	7
	14	Quezon I Electric Cooperative, Inc. (QUEZELCO I)	39
	15	Quezon II Electric Cooperative, Inc. QUEZELCO II	8
	16	Lubang Electric Cooperative, Inc. (LUBELCO)	8
	17	Occidental Mindoro Electric Cooperative, Inc. (OMEKO)	13.6
	18	Oriental Mindoro Electric Cooperative, Inc. (ORMECO)	7
	19	Romblon Electric Cooperative, Inc. (ROMELCO)	5
	20	Camarines Norte Electric Cooperative, Inc. (CANORECO)	7
	21	Camarines Sur I Electric Cooperative, Inc. (CASURECO I)	163.4
	22	Camarines Sur III Electric Cooperative, Inc. (CASURECO III)	40.2
	23	Sorsogon I Electric Cooperative, Inc. (SORECO I)	45.2
	24	First Catanduanes Electric Cooperative, Inc. (FICELCO)	5
	25	Masbate Electric Cooperative, Inc. (MASELCO)	4
	26	Ticao Island Electric Cooperative, Inc. (TISELCO)	14.7
	27	Iloilo I Electric Cooperative, Inc. (ILECO I)	29
	28	Iloilo II Electric Cooperative, Inc. (ILECO II)	24
	29	Guimaras Electric Cooperative, Inc. (GUIMELCO)	50
	30	Central Negros Electric Cooperative, Inc. (CENECO)	8

Particulars		EC Grantees	Amount (PhP in Million)
	31	Bohol II Electric Cooperative, Inc. (BOHECO II)	10
	32	Don Orestes Romualdez Electric Cooperative, Inc. (DORELCO)	22
	33	Leyte III Electric Cooperative, Inc. (LEYECO III)	6
	34	Leyte IV Electric Cooperative, Inc. (LEYECO IV)	11
	35	Southern Leyte Electric Cooperative (SOLECO)	12
	36	Zamboanga City Electric Cooperative, Inc. (ZANECO)	23
	37	Zamboanga del Sur I Electric Cooperative, Inc. (ZAMSURECO I)	18
	38	Misamis Oriental I Electric Cooperative, Inc. (MORESCO I)	13
	39	Misamis Oriental II Electric Cooperative, Inc. (MORESCO II)	7
	40	First Bukidnon Electric Cooperative, Inc. (FIBECO)	14
	41	Davao Oriental Electric Cooperative, Inc. (DORECO)	36
	42	Davao Del Norte Electric Cooperative, Inc. (DANECO)	21
	43	Davao del Sur Electric Cooperative, Inc. (DASURECO)	34
	44	Cotabato Electric Cooperative, Inc. (COTELCO)	11
	45	South Cotabato I Electric Cooperative, Inc. (SOCOTECO I)	31
	46	Sultan Kudarat Electric Cooperative, Inc. (SUKELCO)	4
	47	Tawi-Tawi Electric Cooperative, Inc. (TAWELCO)	10
	48	Siasi Electric Cooperative, Inc. (SIASELCO)	12
	49	Agusan del Norte Electric Cooperative, Inc. (ANECO)	22
	50	Agusan del Sur Electric Cooperative, Inc. (ASELCO)	31
	51	Siargao Electric Cooperative Inc. (SIARELCO)	34
	52	Zamboanga del Norte Electric Cooperative, Inc. (ZANECO)	91.8
	53	Bukidnon Second Electric Cooperative, Inc. (BUSECO)	17.3
	54	Cotabato Electric Cooperative, Inc. – PPALMA (COTELCO-PPALMA)	13.3
	55	Sulu Electric Cooperative, Inc. (SULECO)	5
	56	Dinagat Island Electric Cooperative, Inc. (DIELCO)	45.3
	57	Central Pangasinan Electric Cooperative, Inc. (CENPELCO)	45.7
	58	Davao Del Norte Electric Cooperative, Inc. (DANECO)	20.1
	59	Capiz Electric Cooperative (CAPELCO)	10
	60	Agusan del Sur Electric Cooperative, Inc. (ASELCO)	7.7
	61	ABRA ELECTRIC COOPERATIVE, INC. (ABRECO)	10
		Subtotal	1,647.5
Modular Generator	52	Misamis Oriental I Electric Cooperative, Inc. (MORESCO I)	39
	53	Misamis Oriental II Electric Cooperative, Inc. (MORESCO II)	44
	54	Sultan Kudarat Electric Cooperative, Inc. (SUKELCO)	66
	55	Agusan del Norte Electric Cooperative, Inc. (ANECO)	19
		Subtotal	168
Working Capital	56	Abra Electric Cooperative, Inc. (ABRECO)	18
	57	Nueva Ecija II Electric Cooperative, Inc. (NEECO II) (Area 2)	30

Particulars		EC Grantees	Amount (PhP in Million)
	58	Occidental Mindoro Electric Cooperative, Inc. (OMECCO)	58
	59	Marinduque Electric Cooperative, Inc. (MARELCO)	67
	60	Sorsogon I Electric Cooperative, Inc. (SORECO I)	29
	61	Aklan Electric Cooperative, Inc. (AKELCO)	65
	62	Negros Oriental I Electric Cooperative, Inc. (NORECO I)	20
	63	Camotes Electric Cooperative, Inc. (CELCO)	7
	64	Misamis Oriental II Electric Cooperative, Inc. (MORESCO II)	79
		Subtotal	373
		TOTAL AMOUNT	2,353.5

Further to this, NEA was able to release PhP98 Million calamity loans to six (6) ECs affected by typhoons.

	ECs	Amount (PhP in Million)
Calamity Loan	Biliran Electric Cooperative, Inc. (BILECO)	12
	Isabela II Electric Cooperative, Inc. (ISELCO II)	39
	First Bukidnon Electric Cooperative, Inc. (FIBECO)	10
	Lanao del Norte Electric Cooperative, Inc. (LANECO)	17
	Lanao del Sur Electric Cooperative, Inc. (LASURECO)	12
	Surigao del Norte Electric Cooperative, Inc. (SURNECO)	8
	TOTAL AMOUNT	98

2. Competency Seminars and Training Programs for EC Personnel

In increasing the learning curve of NEA and ECs through competency programs for EC personnel, NEA conducted the following activities accordingly:

Date	Title of Training/Seminar	No. of Participants
November 5 – 9, 2018	Cooperative Management Course I & III	88
November 6 – 9, 2018	Capacity Building Program for Prospective Lead Assessors	16
November 12–17, 2018	Seminar-Workshop on Meter Reading, Billing, Connection and Disconnection Enhancement	96
November 13 -15, 2018	Advanced Leadership Training	34
November 19 – 20, 2018	Gender Sensitivity Training for Energy Sector	42
November 19 – 24, 2018	Line Enhancement Course (ISELCO II)	36
December 11-14, 2018	Quality Customer Relations	117
December 11-15, 2018	Seminar-Workshop on Meter Reading, Billing, Connection and Disconnection Enhancement	81
December 17 – 18, 2018	Gender Sensitivity Training for Energy Sector	41
January 22 - January 25, 2019	Basic Occupational Safety and Health (BOSH) Training Course	21

Date	Title of Training/Seminar	No. of Participants
January 29 - January 31, 2019	Seminar-Workshop on Meter Reading, Billing and Collection and Disconnection Enhancement (MRBCD)	40
February 7 - February 8, 2019	Seminar-Workshop on Work Attitude and Values Enhancement at Workplace (WAVE-W) for EC Employees - Batch 3	59
February 12 - February 13, 2019	WAVE-W for EC Employees - Batch 4	36
February 14 - February 15, 2019	WAVE-W for EC Employees - Batch 5	46
February 26 - February 28, 2019	Personality Development Training	50
March 5 - March 6, 2019	Seminar-Workshop on Work Attitude and Values Enhancement at Workplace (WAVE-W) for EC Employees - ILECO III Batch 1	66
March 7 - March 8, 2019	Seminar-Workshop on Work Attitude and Values Enhancement at Workplace (WAVE-W) for EC Employees - ILECO III Batch 2	65
March 12 - March 15, 2019	Essentials and Practice of Internal Auditing Batch 1	38
March 19 - March 22, 2019	Essentials and Practice of Internal Auditing Batch 2	51

3. Approved Policies/Guidelines

In accordance with its expanded powers, functions and privileges under Section 5 of Republic Act 10531 and Section 5 of the IRR, the NEA has formulated several policies and guidelines geared towards the fulfillment of NEA's mandate and to provide assistance and guidance to the ECs in the performance of their franchise obligations as distribution utilities:

- a. Revised Salary Scale for Electric Cooperative General Managers;
- b. Proposed Dissemination of Revised Implementing Rules and Regulation (IRR) of NEA's Policy in the conduct of Competitive Selection Process (CSP) of the Electric Cooperatives' Power Supply Agreement (PSA) as approved by the Department of Energy (DOE);
- c. Revised Policy on Retirement Plan for General Managers of Electric Cooperatives (3rd Revision);
- d. Policy Guidelines on the Conduct of Examination and Interview for Applicant to the Position of General Managers of Electric Cooperatives;
- e. Policy Amending NEA Memorandum No. 2015-007 on "Revised Guidelines on Benefits, Allowances and Incentives of Electric Cooperative Officials and Employees";
- f. Policy on Assignment of Acting General Manager and/or Project Supervisor to Electric Cooperatives;
- g. Revised Guidelines for the Selection and Appointment of NEA Representative to the Electric Cooperative Board of Directors; and
- h. Policy Guidelines on the Implementation of Strategized Electrification Program (STEP).

ANNEXES

Annex 1. TransCo Inspection Report Based on Concession Agreement (November 2018 to April 2019)

No.	Inspection Report No.	Location	Name of Project/ Transmission Facilities	Inspection Date
LUZON				
1	SLR-MA-18-55	South Luzon	South Luzon MTD-A Office in Calamba, Laguna	November 5-9, 2018
2	SLR-D1-18-56	District 1 South Luzon	Dasmariñas, Biñan, Muntinlupa, Las Piñas, Batangas, Salong, Ternate, Calaca & Rosario Substations, Bolbok and Taal Load End Substation	November 5-9, 2018
3	NLR-D5-18-57	District 5 North Luzon	Hermosa, Limay, Olongapo, Botolan, SBMA & Subic Substations and BCCPP Switching Station	November 5-9, 2018
4	NLR-NC-18-58	North Luzon	National Control Center & Luzon System Operations	Nov. 19-20, 23, 27-28, 2018
5	SLR-AC-18-62	South Luzon	Southern Tagalog Area Control Center, Tamayo & Haligue Silangan (Dela Paz) Repeater Stations	December 3-7, 2018
6	NLR-D3-19-04	District 3 North Luzon	San Manuel, Nagsaag, Bolo, Labrador, and Balingueo Substations	January 7-11, 2019
7	NLR-D7-19-05	District 7 North Luzon	San Jose, Malaya, Quezon, Doña Imelda, Taytay Substations, Angat & San Mateo Repeater Stations, and Angat Power House	January 21-25, 2019
8	NLR-MB-19-08	North Luzon	North Luzon MTD-B Office in Mexico	February 4-8, 2019
9	NLR-RS-19-10	North Luzon	Cuyapo, San Isidro, and Dasol Repeater Stations	February 4-8, 2019
10	NLR-D4-19-11	District 4 North Luzon	Santiago, Tuguegarao, Gamu & Bayombong Substations and Ilagan & Lagawe Load End Substations	February 18-22, 2019
11	NLR-D7-19-17	District 7 North Luzon	San Jose, Taytay & Malaya 230 kV T/L	March 4-8, 2019
12	SLR-D2-19-20	District 2 South Luzon	Tyabas, Gumaca, Lumban, San Juan, Caliraya and Bay Substations, Famy, Calamba, Los Banos, Pitogo, Mulanay and Lopez LES and Maunong RS	March 12-22, 2019
13	SLR-RS-19-23	South Luzon	Camalig, Bocalbocalan & Manito Repeater Stations	Apr. 22-26, 2019
14	NLR-MA-19-25	North Luzon	North Luzon MTD-A Office in San Fernando City, La Union	Apr. 22-26, 2019
VISAYAS				
1	VIS-AC-18-59	Visayas	Negros Area Control Center & Murcia Repeater Station	December 3-7, 2018
2	VIS-AC-19-01	Visayas	Leyte Area Control Center, Matag-ob & Isabel Repeater Stations	January 7-11, 2019
3	VIS-AC-19-02	Visayas	Bohol ACC, Buenavista & Loon Repeater Stations	January 7-11, 2019
4	VIS-D4-19-06	District 4 Visayas	Sta. Barbara, Barotac Viejo, Dingle, Panit-an, Nabas, Concepcion & San Jose Substations, San Juan Cable Terminal Station and Boracay Load-End Station	January 21-25, 2019
5	VIS-AC-19-07	Visayas	Iligan Area Control Center and Manticao & Talacogon Repeater Stations	February 4-8, 2019
6	VIS-D2-19-09	District 2 Visayas	Corella, Tagbilaran, & Ubay Substations, West Poblacion & Trinidad Capacitor Bank Stations, Garcia Hernandez Load End Station and C.P. Garcia Cable Terminal Station	February 4-8, 2019
7	VIS-RS-19-12	Visayas	Borbon (Muagao), Poro (Camotes) and Compostela Repeater Stations	February 18-22, 2019
8	VIS-MA-19-14	Visayas	Visayas Maintenance and Testing Division – A (MTD-A) Office in Talamban, Cebu City	February 18-22, 2019
9	VIS-D2-19-16	District 2 Visayas	Cebu, Naga, Colon, Quiot, Toledo, Calong-Calong, Campostela & Daanbantayan SS, Mandaue & Lapu-Lapu GIS, Pajo, Medellin, Lugo, Danao & Sibonga LES, and Daanbantayan & Sambaoan CTS	March 4-8, 2019
10	VIS-D2-19-18	District 2 Visayas	Campostela-Daanbantayan 230 kV/T/L	March 18-22, 2019
11	VIS-RC-19-21	Visayas	Visayas System Operations, Minglanilla (Majic) & Babag (Busay) Repeater Stations	April 1-5, 2019
12	VIS-D3-19-22	District 3 Visayas	Bacolod, Cadiz, Kabankalan, Sipalay, Amlan, Mabinay S/S, Victorias Capacitor Bank Station and E. B. Magalona, Pondol Cable Terminal Stations	April 1-5, 2019

No.	Inspection Report No.	Location	Name of Project/ Transmission Facilities	Inspection Date
13	VIS-PR-19-03	Visayas	San Carlos - Guihulngan 69 kV Transmission Line Project	April 2-5, 2019
MINDANAO				
1	MIN-AC-18-60	Mindanao	Zamboanga ACC, Tumaga (Lunzuran), Sangali and Mercedes Repeater Station	December 3-7, 2018
2	MIN-AC-18-61	Mindanao	Butuan ACC and Mainit Repeater Station	December 3-7, 2018
3	MIN-D2-19-03	District 2 Mindanao	Iligan, Balo-i, Agus 6/7 & Lugait Substations and Agus 5 HEP & Switchyard	January 7-11, 2019
4	MIN-PR-19-01	Mindanao	Aurora-Polanco 138 kV Transmission Line Project	January 22-25, 2019
5	MIN-D6-19-13	District 6 Mindanao	General Santos, Tacurong, Kidapawan & Sultan Kudarat Substations	February 18-22, 2019
6	MIN-PR-19-02	Mindanao	Sultan Kudarat Substation in Maguindanao	February 20-22, 2019
7	MIN-RS-19-15	Mindanao	Catarman & Gingoog Repeater Stations	March 4-8, 2019
8	MIN-D5-19-19	District 5 Mindanao	Davao, Culaman, Matanao, Nabunturan, Maco, Bunawan, and Toril Substations	March 18-22, 2019
9	MIN-D3-19-24	District 3 Mindanao	Cagayan De Oro, Opol, Tagoloan, Jasaan, Villanueva Maramag and Kibawe Substations	April 22-26, 2019

Source: Transco

Annex 2. NGCP Related Petitions to ERC as of April 2019

DECISION/CASE NO./ DATE OF FILING	NATURE OF PETITION	GROUND FOR FILING	STATUS
ERC Case No. 2019-022 RC/March 14, 2019	Application for the Approval of the Palawan - Mindoro Interconnection Project (Stage 1)	<ol style="list-style-type: none"> 1. Immediately ISSUE an Order provisionally authorizing the implementation of Palawan-Mindoro Interconnection Project-Stage 1; and 2. APPROVE, after notice and hearing, the Application for the implementation of Palawan-Mindoro Interconnection Project-Stage 1. 	Awaiting ERC Order/Notice of Hearing
ERC Case No. 2019-016 RC/ February 22, 2019	Application for Approval of the Ancillary Services Procurement Agreement Between the National Grid Corporation of the Philippines and SN Aboitiz Power Magat Inc.	<ol style="list-style-type: none"> 1. Immediately ISSUE a provisional authority to implement the subject ASPA executed on 14 January 2019; and 2. APPROVE, after notice and hearing, the subject ASPA. 	As per ERC Order dated 4 April 2019, the Commission set hearing for determination of compliance with the jurisdictional requirements, expository presentation, pre-trial conference, and presentation of evidence on 22 May 2019, 10:00 AM, at the Mango Suites City Road, Brgy. Calao East, Santiago City.
ERC Case No. 2019-015 RC/ February 22, 2019	Application for Approval of the Ancillary Services Procurement Agreement Between the National Grid Corporation of the Philippines and SN Aboitiz Power - Benguet Inc. (for Binga).	<ol style="list-style-type: none"> 1. Immediately ISSUE a provisional authority to implement the subject ASPA executed on 14 January 2019; and 2. APPROVE, after notice and hearing, the subject ASPA. 	As per ERC Order dated 12 March 2019, the Commission set hearing for determination of compliance with the jurisdictional requirements, expository Presentation, pre-trial conference, and presentation of evidence on 29 May 2019 (Wednesday), at ten o'clock in the morning (02:00 P.M.), at Azalea Residences 7 Leonard Wood Road,Baguio City.
ERC Case No. 2019-014 RC/ February 22, 2019	Application for Approval of the Ancillary Services Procurement Agreement Between the National Grid Corporation of the Philippines and SN Aboitiz Power - Benguet Inc. (for Ambuklao).	<ol style="list-style-type: none"> 1. Immediately ISSUE a provisional authority to implement the subject ASPA executed on 14 January 2019; and 2. APPROVE, after notice and hearing, the subject ASPA. 	As per ERC Order dated 12 March 2019, the Commission set hearing for determination of compliance with the jurisdictional requirements, expository presentation, pre-trial conference, and presentation of evidence on 29 May 2019 (Wednesday), at ten o'clock in the morning (10:00 A.M.), at Azalea Residences 7 Leonard Wood Road,Baguio City.
ERC Case No. 2019-011RC/ February 14, 2019	Application for Approval of the Ancillary Services Procurement Agreement Between the National Grid Corporation of the Philippines and SPC Power Corporation.	<ol style="list-style-type: none"> 1. Immediately ISSUE a provisional authority to implement the subject ASPA executed on 18 December 2018; and 2. APPROVE, after notice and hearing, the subject ASPA. 	Awaiting ERC Order/Notice of hearing
ERC Case No. 2018-120RC/ December 19, 2018	In the Matter of the Application for Approval of the Ancillary Services Procurement Agreement Between the National Grid Corporation of the Philippines (NGCP) and SPC Island Power Corporation (SIPC) (Filed December 19, 2018)	<ol style="list-style-type: none"> 1. Immediately ISSUE a provisional authority to implement the subject ASPA executed on 20 November 2018; and 2. APPROVE, after notice and hearing, the subject ASPA. 	Provisionally Approved per ERC Order dated 26 February 2019.

DECISION/CASE NO./ DATE OF FILING	NATURE OF PETITION	GROUNDS FOR FILING	STATUS
ERC Case No. 2018-117RC/ December 19, 2018	Application of the National Grid Corporation of the Philippines for the Approval of Force Majeure (FM) Event Regulated FM Pass Through for Severe Tropical Storm Urduja in the Visayas, Typhoon Vinta in Mindanao, Tropical Storm Basyang in the Visayas and Mindanao, and Flash Flood in Mindanao in Accordance with the Rules for Setting Transmission Wheeling Rates	<ol style="list-style-type: none"> 1. DECLARE Severe Tropical Storm Urduja in the Visayas, Typhoon Vinta in Mindanao, Tropical Storm Basyang in the Visayas and Mindanao, and flash flood in Mindanao as Force Majeure Events (FME); 2. Immediately GRANT PROVISIONAL APPROVAL to implement and bill the following FM Pass-Through Amounts to Visayas and Mindanao customers starting January 2019 billing month to December 2020 billing month or until such time that the amount incurred is fully recovered; 3. APPROVE the FME CAPEX/OPEX amounting to Sixty-Three Million Eight Hundred Seventy Thousand Seven Hundred Eighty-Six Pesos and 10/100 (PhP63,870,786.10) incurred by NGCP for the repair, restoration, and rehabilitation of the damaged transmission assets and other related facilities due to Severe Tropical Storm Urduja in the Visayas, Typhoon Vinta in Mindanao, Tropical Storm Basyang in the Visayas and Mindanao, and flash flood in Mindanao; 4. APPROVE, after due notice and hearing, the proposed FM Pass Through Amount to be collected from the Visayas and Mindanao customers starting January 2019 billing month to December 2020 billing month or until such time that the amount incurred is fully recovered; 5. APPROVE and ALLOW the recovery of the Net Fixed Asset Value of the transmission assets and other related facilities damaged by Severe Tropical Storm Urduja in the Visayas, Typhoon Vinta in Mindanao, Tropical Storm Basyang in the Visayas and Mindanao, and flash flood in Mindanao, amounting to Two Million Fourteen Thousand Five Hundred Sixty-Five and 43/100 (PhP2,014,565.43). given that it would have been fully recovered by NGCP if these transmission assets and other related facilities have not been damaged or destroyed by the Subject Force 	<p>Pursuant to ERC Order dated 16 January 2019 the Commission conducted hearings on the following dates and venue:</p> <ul style="list-style-type: none"> • Feb. 21, 2019 – Jurisdictional and Expository Presentation at ERC Pasig • Feb. 28, 2019 – Expository and Pre-Trial Conference at ERC Visayas Field Office. • March 07, 2019 – Pre-Trial Conference and Evidentiary at ERC Mindanao Field Office in Davao.

DECISION/CASE NO./ DATE OF FILING	NATURE OF PETITION	GROUND FOR FILING	STATUS
		<p>Majeure Events; and</p> <p>6. EXCLUDE the proposed Pass-Through Amounts from the side constraint calculation.</p>	
ERC Case No. 2018-109RC/November 16, 2018	Application for Approval of the Ancillary Services Procurement Agreement Between the National Grid Corporation of the Philippines and Toledo Power Company	<p>1. Immediately ISSUE a provisional authority to implement the subject ASPA; and</p> <p>2. APPROVE, after notice and hearing, the subject ASPA.</p>	<p>Pursuant to ERC Order dated 7 January 2019, the Commission conducted the hearing on 31 January 2019 at Toledo city Cebu.</p> <p>The hearing was likewise concluded and Co-Applicants were directed to submit its Formal Offer or Evidence.</p>
ERC Case No. 2018-108 RC/ November 9, 2018	Application for Approval of the Ancillary Services Procurement Agreement Between the National Grid Corporation of the Philippines and Panay Power Corporation	<p>1. Immediately ISSUE a provisional authority to implement the subject ASPA; and</p> <p>2. APPROVE, after notice and hearing, the subject ASPA.</p>	<p>Pursuant to ERC Order dated 7 January 2019, the Commission set the hearing on 7 February 2019 at Boracay Island, Malay Aklan.</p>
ERC Case 2018-100-RC/ October 2, 2018	Application for the Approval of Force Majeure (FM) Event Regulated FM Pass Through for the Bombing /Sabotage Incidents in Mindanao and Luzon, and Lightning/ Thunder Incident	<p>3. DECLARE the Bombing/Sabotage Incidents in Mindanao and Luzon, as well as the Lightning/Thunder Incident in Luzon as Force Majeure Events (FME);</p> <p>4. GRANT PROVISIONAL APPROVAL to implement and bill the FM Pass-Through Amounts to Mindanao and Luzon customers starting November 2018 billing month to December 2020 billing month or until such time that the amount incurred is fully recovered;</p> <p>5. APPROVE the FME CAPEX amounting to Three Million Four Hundred Sixteen Thousand Seven Hundred Twelve Pesos and 11/100 (PhP3,416,712.11) incurred by NGCP for the repair, restoration , and rehabilitation of the damaged transmission assets and other related facilities due to the Subject Force Majeure Events;</p> <p>6. APPROVE, after due notice and hearing, the proposed FM PassThrough Amount to be collected from the Mindanao and Luzon customers starting November 2018 billing month to December 2020 billing month or until such time that the amount incurred is fully recovered;</p> <p>7. APPROVE and ALLOW the recovery of the Net Fixed Asset Value of the transmission assets and other related facilities damaged by the Subject Force</p>	<p>Pursuant to ERC Order dated 15 November 2018 the Commission conducted the following hearings:</p> <ul style="list-style-type: none"> • Jan. 15, 2019 -Jurisdictional and Expository Presentation at ERC Pasig • Jan. 16, 2019 – Expository presentation at ERC Mindanao Field Office. • Jan. 24, 2019 – Pre-Trial Conference and Evidentiary at ERC Pasig. • March 12, 2019 - Continuance of evidentiary hearing.

DECISION/CASE NO./ DATE OF FILING	NATURE OF PETITION	GROUNDS FOR FILING	STATUS
		<p>Majeure Events amounting to Four Million Three Hundred Thirty One Thousand Eighty Nine Pesos and 77/100 (PhP4,331,089.77) given that it would have been fully recovered by NGCP if these transmission assets and other related facilities have not been damaged or destroyed by the Subject Force Majeure Events; and</p> <p>8. EXCLUDE the proposed Pass-Through Amounts from the side constraint calculation.</p>	
ERC Case No. 2018-094 RC/ September 20, 2018	Application for Approval of the Ancillary Services Procurement Agreement Between the National Grid Corporation of the Philippines and Western Mindanao Power Corporation	<p>1. Immediately ISSUE a provisional authority to implement the ASPA between NGCP and WMPC; and</p> <p>2. APPROVE, after notice and hearing, the ASPA between NGCP and WMPC.</p>	Provisionally Approved per ERC Order dated 8 January 2019 (docketed April 22, 2019)
ERC Case 2018-073 RC/ July 5, 2018	Application for the approval of Force Majeure Event Regulated FM Pass-Through for Earthquake in Leyte in the Visayas Region In Accordance with the Rules for Setting Transmission Wheeling Rates	<p>3. DECLARE the earthquake in Leyte in the Visayas region as Force Majeure Events (FME);</p> <p>4. Immediately GRANT Provisional Approval to implement and bill the following FM Pass-Through Amounts starting August 2018 billing month to December 2020 for Visayas, or until such time that the amounts incurred are fully recovered;</p> <p>5. APPROVE the FME CAPEX and OPEX amounting to One Hundred Fifty-Four Million Eight Hundred Fifty-Three Thousand Forty Pesos and 16/100 (PhP154,853,040.16) incurred by NGCP for the repair, restoration and rehabilitation of the damaged transmission assets and other related facilities due to FME Earthquake in Leyte;</p> <p>6. APPROVE, after due notice and hearing, the proposed FM Pass-Through amounts to be collected from the Visayas customers starting August 2018 billing month or until such time that the amounts incurred are fully recovered;</p> <p>7. APPROVE and ALLOW the recovery of the Net Fixed Asset Value of the transmission assets and other related facilities damaged by the FME Earthquake in Leyte amounting to Thirty-Nine Million Two Hundred Ninety</p>	On March 18, 2019, NGCP filed a motion requesting the Commission to set continuance of hearing on April 23, 2019.

DECISION/CASE NO./ DATE OF FILING	NATURE OF PETITION	GROUNDS FOR FILING	STATUS
		<p>Thousand Five Hundred Thirty-Four Pesos and 84/100 (PhP39,290,534.84) given that it would have been fully recovered by NGCP if these transmission assets and other related facilities have not been damaged or destroyed by the said FME; and</p> <p>8. EXCLUDE the proposed Pass-Through Amounts from the side constraint calculation.</p>	
ERC Case No. 2017-100 RC/ Oct. 26, 2017	In the Matter of Application for the Approval of the Connection Charges and Residual Subtransmission Charges for Calendar Years 2014 and 2015 on Subtransmission Assets of the National Grid Corporation of the Philippines, with Prayer for Provisional Authority	<p>9. ISSUE a Provisional Authority to implement and commence the billing and collection of the proposed CY 2015 CC/RSTC beginning the billing month of January 2018.</p> <p>10. APPROVE the recovery of the computed CY 2014 and 2015 CC/RSTC provided in this application from all Transmission Customers.</p> <p>11. ALLOW NGCP to bill and collect under-recoveries resulting from the difference in the actual collection made by NGCP for CY 2015 and 2016 vis-a-vis the proposed CY2014 and 2015 CC/RSTC which should have been collected for the years CY2015 and 2016; and DIRECT NGCP to refund any over-recovery arising from such difference.</p> <p>12. ALLOW NGCP to bill and collect the deferred CC/RSTC for disposed sub-transmission assets;</p> <p>13. ALLOW NGCP to impose a 3% Franchise Tax on CC/RSTC to be reflected as a separate line item in the Power Bill.</p>	<p>On February 21, 2019 at ERC Visayas Field Office in Cebu city the Commission conducted the continuance of the evidentiary hearing.</p> <p>On March 14, 2019 (2:00PM), the continuance of the evidentiary hearing was conducted at ERC Pasig City.</p>

Source: Transco

Annex 3. ERC Approved Capital Expenditure Projects as of 30 November 2018 – 20 March 2019

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
Palawan Electric Cooperative, Inc. (PALECO) ERC CASE NO. 2017-039 RC	FIVE-YEAR CAPITAL EXPENDITURE PROJECTS (2017-2021)			
	Installation of Primary Lines to Overextended Secondary Lines and Service Drop Wires	The proposed project is intended to maintain a safe, efficient and reliable distribution system. It shall basically comply with the safety requirements of the Philippine Electrical Code.	23,279,512.25	09 May 2017/ 06 November 2018
	Construction of Three-Phase Primary Line going to SM Mall	The proposed project is intended to cater incoming spot/large load, particularly the SM Mall along the Municipality of Poblacion.	1,702,873.83	
	Line Conversions to Three-Phase from Rizal, Taytay and Roxas Distribution Stand Alone Systems	The proposed project shall meet the required line configuration of the new load customers that will connect to the said feeders.	3,212,002.34	
	Installation of additional Distribution Transformers (DTs)	The installation of additional DTs to the network is a continuing process in the distribution utility to address the increase of additional loads. Additional loads require additional capacity in the distribution network assets.	23,935,442.79	
	Extension of Secondary Distribution Lines using Duplex and Poly-insulated Conductors	The secondary distribution line extension is a continuing process in the distribution utility to address the increase of additional loads. The electrification of forecasted additional demand and customers would require extension of secondary distribution lines.	29,948,405.22	
	Metering Equipment Accessories and Service Drops	The DU is mandated to provide its new customers the required metering facilities consistent with the standard prescribed in the distribution code.	88,104,968.71	
	Installation of 5-MVA substation at Barangay Manalo, Puerto Princesa City and Single to Three-Phase Line Conversion from Barangay San Rafael to Barangay Langogan, Puerto Princesa City	The proposed projects shall correct the power quality issues of San Jose feeder of the Puerto Princesa 1 Substation. The power quality performance of the said substation will definitely get worse if the proposed projects are not implemented.	36,202,240.71	
	Installation of 5-MVA Substation at Barangay Montible, Puerto Princesa City	The proposed new substation and associated subtransmission line shall correct the power quality issues of Iwahig feeder of the Puerto Princesa 1 Substation. The power quality performance of the said substation will definitely get worse if the proposed projects are not implemented.	29,144,184.00	
	Single to Three-Phase Line Conversion from Barangay Villa Libertad to Barangay Bucana, El Nido and Sitio Logadia to Sitio Bobolungan, Corong Corong, El Nido	The proposed project shall meet the required line configuration of the new large load customer and correct the power quality issues of the existing El Nido Feeder.	9,709,550.65	
	Extension of distribution lines to un-energized 23 barangays and 208 sitios	The proposed project shall comply with the DUs mandate to provide total electrification on remote sitios of the entire franchise.	437,339,161.03	
	Installation of additional Sectionalizing Equipment and Devices	The proposed project shall improve the entire system's reliability performance.	27,528,000.00	
Buffer Stocks of Line Materials and Equipment	The proposed projects intends to ensure availability of vital materials	36,623,600.00		

APPLICANT	PROJECT DESCRIPTION	RATIONALE	PROJECT COST (PhP)	DATE FILED/ APPROVED
		and equipment for immediate restoration/rehabilitation of distribution lines damaged by disasters and calamities. This project is vital in terms of better reliability performance of the EC considering that usual interruption period due to said force majeure events will be reduced.		
	Replacement of Old and Defective Kilowatt-Hour Meters	The proposed project shall improve the entire system's efficiency performance.	43,500,000.00	
	Installation of Amorphous Metal Distribution Transformers	The proposed project shall improve the system's efficiency performance of the DU considering that aged distribution transformers contribute significantly to the system losses of the entire network.	52,752,200.00	
	Installation of Photo Switch for Street Lights	The proposed project shall improve the system's efficiency performance of the DU by avoiding the non-technical loss brought about by the existing billing scheme of the DU to the LGU on street lights consumptions.	1,020,500.00	
	Installation of Advance Communication System for Substations	The proposed project is intended for the DU to have a compact scheme for monitoring, controlling and protecting the entire grid as well as providing quality and reliable power service.	38,927,728.00	
	Land and Land Rights / Structures and Improvements	The implementation of the sub-office project will establish a long term solution of avoiding costs from office rental expenditures. It will also provide convenience to the member-consumers as well as the office employees during the necessary transactions.	61,110,000.00	
	Transportation Equipment	The acquisition of service vehicles are intended for the officials and pertinent staff of the cooperative. The said vehicles will be used for important and official travel outside the office.	63,341,845.00	
	Laboratory and Miscellaneous Equipment / Tools, Shop, Safety Gadgets and Garage Equipment	The engineering tools and equipment is an important asset in the constant monitoring of the performance assessment and maintenance of the distribution system.	48,052,297.25	
	Information System Equipment / Communication Plant and Equipment / Office Furniture and Equipment	Information system will basically aid the concerned personnel to do their task effectively and efficiently. Mobile radios will be installed to some of the proposed vehicles and handheld radios will be used by crews assigned at satellite and extension offices. The procurement of office equipment and appliances shall be conducive for both the DU's personnel and paying customers during the office hours and customer transactions.	27,257,922.00	

Source: ERC