



2010 TRANSMISSION DEVELOPMENT PLAN 2010 TRANSMISSION DEVELOPMENT PLAN 2010 TRANSMISSION DEVELOPMENT PLAN 2010 TRANSMISSION DEVELOPMENT PLAN 2010 TRANSMISSION DEVELOPMENT PLAN



2010

Transmission Development Plan

VOLUME 03: PART 02 - Metering Final Report

2010 TRANSMISSION DEVELOPMENT PLAN 2010 TRANSMISSION DEVELOPMENT PLAN 2010 TRANSMISSION DEVELOPMENT PLAN 2010 TRANSMISSION DEVELOPMENT PLAN 2010 TRANSMISSION DEVELOPMENT PLAN

1. PREFACE

The 2010 TDP consists of three volumes. This Volume III-Part 2 contains the proposed expansion, upgrade, rehabilitation and replacement programs of NGCP for Transmission Revenue Metering Facilities.

Volume III-Part 2 consists of six (6) Chapters.

Chapter 1 provides an overview of NGCP Metering Services' functions and services as mandated in the EPIRA.

Chapter 2 describes the System/Asset profiles of the metering installations at NGCP's load and generator customers in Luzon, Visayas and Mindanao.

Chapter 3 discusses the requirements of metering infrastructure based on its expansion, upgrade, rehabilitation and replacement analysis.

Chapter 4 explains the assessment made on the existing metering installations and the planning criteria to support the identified metering requirements for expansion, upgrade, rehabilitation and replacement activities.

Chapter 5 describes how the project will be developed and implemented.

Chapter 6 contains different appendices that support the discussions on relevant topics.

Provision, operation and maintenance of Revenue Metering Facilities are utility functions that TransCo assumed from the National Power Corporation (NPC) with the industry restructuring that was implemented as mandated by R.A. 9136, or the Electric Power Industry Reform Act (EPIRA).

Revenue metering became an integral part of TransCo's utility operations; specifically the metering requirements for its own Transmission Service. TransCo also became the "de facto" metering service provider of NPC and other Energy Suppliers for the purpose of billing their energy sales to their Customers.

The EPIRA also mandated the setting up and operation of the Philippine Wholesale Electricity Spot Market (WESM). The WESM Rules designates TransCo as the default Metering Service Provider for the WESM. As such, TransCo has undertaken the following projects:

- a) Upgrading of the metering facilities of delivery points from the Luzon, Visayas, and Mindanao Grids to Distribution Utilities and other Load Customers to make these metering facilities "WESM-ready".

- b) Putting up the “WESM-ready” revenue metering facilities for the injection points of NPC’s power plants into the Grids.
- c) Upgrading for WESM-readiness the metering facilities that measure the delivery of power of IPP’s into the Grids.
- d) Putting up the needed Automated Meter Data Retrieval (AMR) System to satisfy the requirement of the WESM for daily delivery by TransCo of Load Profile-type of meter data from all metering facilities that are required for the operation of the WESM.

The revenue metering capital assets consist of:

- 1. Revenue Metering Assets at Power Plants and at Load Customers’ Receiving Substations, consisting of:
 - 1.1 Instrument Transformers and their Mounting Structures (for selected metering points)
 - 1.2 Electronic Meters (Main and Alternate)
 - 1.3 Meter Test Blocks
 - 1.4 GSM Modems
 - 1.5 Lightning Arresters
 - 1.6 Meter Security Enclosures, Conduits and Wirings
- 2. Automated Meter Data Retrieval System, which consist of:
 - 2.1 The AMR Software System
 - 2.2 Server Equipment
 - 2.3 AMR Workstations
- 3. Metering Field Offices and Service Facilities
- 4. Metrology Laboratory Equipment and Measurement Standards for Revenue Metering Service
- 5. Field Calibration/Testing Equipment
- 6. Spares

Recovery capital investments in revenue metering assets and the operating costs in providing metering service is provided for under the ERC’s Transmission Wheeling Rates Guidelines, OATS Rules, and the WESM Rules.

One of the requirements for revenue metering capital projects to be recovered under the Transmission Wheeling Rate Guidelines is the inclusion of these projects in the annual 10-year Transmission Development Plan (TDP).

TransCo's role as WESM Metering Service Provider was transferred to the National Grid Corporation of the Philippines (NGCP) along with that of Transmission Provider and System Operator in accordance with the privatization of the Power Transmission Business.

2. SYSTEM/ASSET PROFILE

The Metering Systems/Asset Profiles, which present the

1. Asset categories,
2. Distribution,
3. Age, and
4. Condition

of the Revenue Metering Assets are attached as Annexes.

3. REQUIREMENT ANALYSIS

a) Requirements and Standards for Transmission-Level Revenue Metering Installations and Service Facilities

The technical and infrastructure requirements, which translate into capital assets such as revenue metering equipment to be installed at the metering facilities of grid-connected power plants and load customers, as well as the meter data retrieval system, service infrastructure for equipment testing and calibration are defined by the Philippine Grid Code, the WESM Metering Manual, and the ERC Guidelines for WESM Metering Service Providers.

These requirements are then translated into technical standards and specifications for metering equipment, Automated Meter Data Retrieval (AMR) System, and metering equipment testing and calibration facilities and equipment.

Rule	Requirements	Impacted Capital Assets
Philippine Grid Code	Metering Circuit Configuration & Accuracies	<ul style="list-style-type: none"> a. Instrument Transformers b. Electronic Billing Meter c. Lightning Arresters d. Security Enclosures
	Periodic Testing & Calibration of Metering Equipment	Metering Equipment Maintenance & Testing/Calibration Equipment
WESM Metering Manual	Load Profile Recording Metered Energy	Electronic Billing Meters
	Daily Collection, Validation and Delivery of Load Profile Meter Data	AMR System Hardware & Software for: <ul style="list-style-type: none"> a. Luzon AMR Station b. Vis/Min AMR Station c. National Back-up Station
ERC Guidelines for WESM MSP	MSP capabilities for: <ul style="list-style-type: none"> a. Establishing & maintaining measurement traceability b. Periodic calibration & accuracy testing of metering equipment 	<ul style="list-style-type: none"> a. AMR System compatible with the Market Operator’s Meter Data Collection System b. Metrology Laboratory & Secondary Standards for Revenue Metering Service c. Metering Field Testing/Calibration Equipment

b) Provisions of the Open Access Transmission (OATS) Rules on Metering Asset Ownership

The OATS Rules state that the Transmission Customer, which may be either a Generator or a Load Customer, may own/provide the metering equipment installed at the transmission metering facilities except for the revenue billing meter, which will be provided by the Transmission Provider.

Based on this premise, NGCP is not obligated to provide the instrument transformers and other assets to be installed at the metering facilities. NGCP may consider providing instrument transformers on the request of the Transmission Customer.

Appropriate tariff for provision of metering equipment and services under the OATS Rules:

- **Meter Only MSP Charge**, for metering facilities where TransCo/NGCP owns only the meter.
- **Full MSP Charge**, for metering facilities where TransCo/NGCP owns all the metering equipment.

c) Transmission System Expansion

Expansions of the Transmission System that involve the installation of new substations and feeder connection points should include revenue metering facilities at the sending end of the feeders, which serve as the asset boundaries with future Customers' connection assets.

The revenue metering facilities at the feeder connection points are to be included in the project scope for the Substations, which are covered in Volume I or II of the TDP.

Revenue-class metering facilities for measuring the Total Substation Energy Consumption are likewise to be included in the Project scope.

d) New Metering Facilities

The OATS Rules provisions on the supply of revenue metering equipment to be installed in the new metering assets of Generator Customers and Load Customers is that only the billing meter needs to be supplied by the Transmission Provider. The instrument transformers and lightning arresters as well as their mounting structures their mounting structures and other metering equipment may be supplied by the Customer subject to agreement.

Thus, capital assets for the metering facilities of new Generator and Load Customers to be connected to the transmission system, and for additional metering facilities of existing Customers will be provided as follows:

Asset Item	Scope of Provision		Remarks
	NGCP	Plant Owner	
1. Concrete Foundations and Steel Mounting Structures	--	Yes	
2. Instrument Transformers	--	Yes	May be provided by NGCP as agreed with the Customer.
3. Lightning Arresters	--	Yes	
4. Electronic Meter	Yes	--	
5. Telephone Modem	Yes	--	
6. Telephone Connection	GSM	PSTN	
7. HV Connectors, Insulators & Cables	--	Yes	
8. Meter Box & Conduits & Fittings	--	Yes	NGCP to provide the meter box design drawings.
9. LV Cables	--	Yes	
10. Meter Test Block	Yes	--	
11. Grounding Cable & Connectors	--	Yes	

e) Programmed Replacement and Upgrade of Installed Metering Assets

Installed metering equipment and other assets need to be replaced and upgraded to address the following conditions:

- 5.1 Asset ageing, or reaching of regulatory/economic asset life
- 5.2 Obsolescence
- 5.3 Failure rate
- 5.4 Asset condition (failed, under-rated due to increase in loading, etc.)
- 5.5 Non-compliance with the Grid Code & WESM Rules requirements

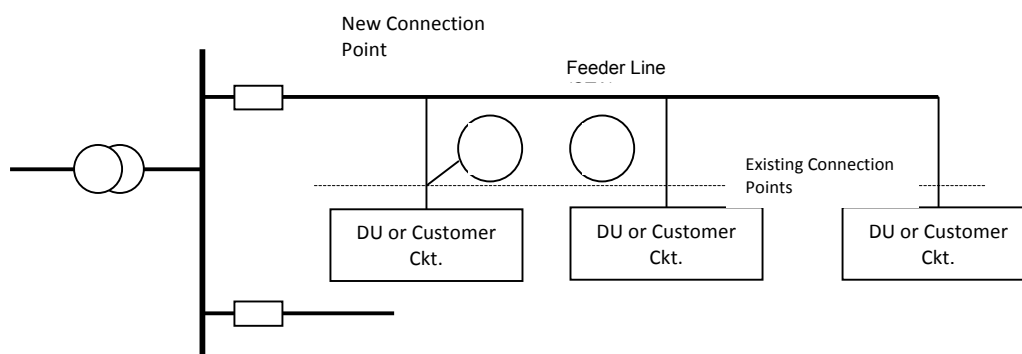
f) Procurement of Spare Metering Equipment

A standard quantity of 5% of the installed metering equipment will be stocked for replacement of installed equipment that may fail in service.

For asset types that exhibit higher failure rates, a correspondingly higher percentage of installed quantities will be stocked as spares.

g) Impact of Divestment of Sub-Transmission Assets on Metering Facilities

The divestment of Sub-Transmission Assets (STAs) consisting of Feeder Lines and power transformers to qualified Distribution Utilities will result in the Connection Points to the Transmission Networks moving “upstream” towards the sending end of the Feeder Lines. For a typical Feeder Line:



The existing metering points will be consolidated into one metering facility to be installed at the new Connection Point, where new metering equipment will have to be installed. Metering assets at the affected individual points consisting of meters, voltage and current transformers, and GSM modems will be retired.

h) Management Directives

Installation of revenue-class electronic billing meters for measuring the energy consumption of transmission substation was instructed by TransCo Management in CY2008, for implementation in CY2009-2011.

i) New Market Requirements

The installation of **load profile-capable** Alternate Meters at each metering point has become a requirement of the WESM.

j) RE Generation Facilities

Installation of revenue meter (Meter Only) for committed and indicative RE Generation Facilities for Wind Power Project, Solar Power Projects, Biomass Projects, Hydropower Projects and Geothermal Projects in Luzon, Visayas and Mindanao. These new large generating facilities may be directly connected to the grid while those small generating facilities may be embedded to load customers.

4. PLANNING CRITERIA

a) Transmission System Expansion

Revenue metering facilities associated with new transmission substations and upgrading of existing transmission substations initiated by Engineering will be covered in the Transmission Projects under TDP Volume I, such as:

- a. Revenue-class metering facilities for Substation Service Consumption.
- b. Revenue-class metering facilities at the sending end of the new Feeders.

b) New Metering Facilities for Generator and Load Customers

Capital assets for the metering facilities of new Transmission Customers (Generators and Loads) to be connected to the transmission system, and for additional metering facilities of Transmission Customers will be provided as follows:

Asset Item	Scope of Provision		Remarks
	NGCP	Plant Owner	
1. Concrete Foundations and Steel Mounting Structures	--	Yes	
2. Instrument Transformers	--	Yes	May be provided by NGCP as agreed with the Customer.
3. Lightning Arresters	--	Yes	
4. Electronic Meter	Yes	--	
5. Telephone Modem	Yes	--	
6. Telephone Connection	GSM	PSTN	
7. HV Connectors, Insulators & Cables	--	Yes	
8. Meter Box & Conduits & Fittings	--	Yes	NGCP to provide the meter box design drawings.
9. LV Cables	--	Yes	
10. Meter Test Block	Yes	--	
11. Grounding Cable & Connectors	--	Yes	

c) Programmed Replacement and Upgrading of Installed Metering Assets

Asset Categories	Primary Trigger	Secondary Triggers
1. Instrument Transformers	End of Asset Life (30 Years)	Asset Condition/Failure Rate
2. Lightning Arresters	End of Asset Life (30 Years)	Asset Condition/Failure Rate
3. Electronic Billing Meters*	End of Asset Life (10 Yrs. for Main, 15 Yrs. for Alternate)	Obsolescence/ Failure Rate
4. GSM Modems	End of Asset Life (10 Years)	Obsolescence & Failure Rate
5. Mounting Structures	End of Asset Life (25 Years)	Condition
6. Conduits and Meter Boxes	End of Asset Life (15 Years)	Condition
7. AMR System Hardware (Server and Workstation Equipment)	End of Asset Life (5 Years)	Obsolescence
8. AMR System Software	Obsolescence or End of Asset Life (7 Years)	Management Decision
9. Metrology Laboratory Equipment	End of Asset Life (12 Years)	Condition/New Technical Requirements.
10. Field Metering Test & Calibration Equipment	End of Asset Life (10 Years)	Condition/New Technical Requirements.
11. Office Equipment (Computers, Printers, etc.)	End of Asset Life (5 Years)	Asset Condition/Failure Rate

*Note: Electronic billing meters that are replaced at the end of asset life but are still serviceable may be installed as Alternate Meters.

d) Procurement of Spare Metering Equipment

A standard quantity of 3% of the installed metering equipment will be stocked for replacement of installed equipment that may fail in service. For asset types that exhibit higher failure rates, a correspondingly higher percentage of installed quantities will be stocked as spares.

e) Impact of Divestment of Sub-Transmission Assets on Metering Facilities

In accordance with the OATS Rules provision for the supply of the metering equipment for the new Connection Point is that NGCP may provide only the billing meter for the new metering point. The Customer may provide the other assets.

Metering assets, consisting of meters, voltage and current transformers, and GSM modems at the former metering points will be retired and will be included in the spares inventory.

f) Management Directives

Installation of revenue-class electronic billing meters for measuring the energy consumption of transmission substation was instructed by TransCo Management in CY2008, for implementation in CY2009-2011.

g) New Market Requirements

Among the new requirements that the WESM Market Operator and Trading Participants have communicated to TransCo/NGCP is the installation of Alternate Meters at each metering point whose metered energy is traded in the WESM.

h) RE Generation Facilities

In anticipation to the committed and indicative RE Generation Projects, that may be directly connected to the grid for large generators and may be embedded to load customers for small genartors, NGCP will procure and provide the revenue metering requirements (Meter Only) in Luzon, Visayas and Mindanao.

5. PROJECT DEVELOPMENT

1. Transmission System Expansion

Revenue metering facilities for new transmission substations and existing transmission substations being upgraded as initiated by Engineering will be covered in the Transmission Projects under TDP Volume I. These metering facilities consist:

- a. Revenue-class metering facilities for Substation Service Consumption
- b. Revenue-class metering facilities at the sending end of the new Feeders

2. New Metering Facilities for Generator and Load Customers

The arrangement for the provision of capital assets for the metering facilities of new Transmission Customers (Generators and Loads) to be connected to the transmission system, and for additional metering facilities of Transmission Customers as presented in the Planning Criteria will be followed.

For 2010 – 2011, new metering points of Generator and Load Customers that have already been communicated to NGCP will be placed in the CAPEX program.

For the years 2012 and beyond, the CAPEX Program will be based on the estimated numbers of new delivery points that would be connected to the Transmission Grids annually:

	Luzon	Visayas	Mindanao
Full	5	3	3
Meter Only	10	5	6
Total per year	15	8	9

3. Programmed Replacement and Upgrading of Installed Metering Assets

Information on asset age and condition contained in the Asset Profiles are extracted to serve as primary basis for the Metering CAPEX replacement program for installed metering equipment. Following the Planning Criteria:

- a. Installed metering assets such as Instrument Transformers, Lightning Arresters, Mounting Structures, Electronic Meters, GSM Modems, and Meter Boxes are to be replaced towards the end of their assigned Asset Life and when they exhibit impending failure.
Current Transformers that are operating at the upper limit of the current range will likewise be replaced.

Obsolescence will be an added consideration to be used for Electronic Meters and GSM Modems. Electronic Meters installed as Main meters that are still operable at the end of their Asset Life may be used as Alternate Meters.

Lightning Arresters will be likewise replaced towards the end of their assigned Asset Life.

- b. The AMR System Hardware will be replaced as they reach their assigned Asset Life or when they become obsolete or fail in service.

The AMR System Software (currently the MV-90 System), will be replaced at the end its 7 – year Asset Life or when it becomes obsolete and can no longer be supported even by in-house technical resources. A Management decision, driven by business considerations, can be an added consideration for replacing the System.

- c. The Metrology Laboratory Equipment for supporting the calibration and testing of metering equipment will also be replaced at the end of their Asset Life, or when they exhibit impending failure. New capabilities and features that address new technical requirements will be incorporated in the replacement units.
- d. Field Calibration and Testing Equipment for Installed Metering Equipment will likewise be replaced at the end of their Asset Life, or when they exhibit impending failure.
- e. Office Equipment such as computers and computer accessories will likewise be replaced after their age has exceeded their Asset Life or when they can no longer be used due to failure or obsolescence.

4. Procurement of Spare Metering Equipment

A standard quantity of 3% of the installed metering equipment will be stocked for replacement of installed equipment that may fail in service. For asset types that exhibit higher failure rates, a correspondingly higher percentage of installed quantities will be stocked as spares.

5. Impact of Divestment of Sub-Transmission Assets on Metering Facilities

In accordance with the OATS Rules provision for the supply of the metering equipment for the new Connection Point is that NGCP may provide only the billing meter for the new metering point. The Customer may provide the other assets.

Metering assets, consisting of meters, voltage and current transformers, and GSM modems at the former metering points will be retired and will be included in the spares inventory.

6. Substation Consumption Metering Upgrade

All transmission substations will be equipped with revenue-class electronic billing meters for measuring the energy consumption of transmission substation in CY2009-2010 as instructed by TransCo Management in CY2008.

7. Installation of Alternate Meters

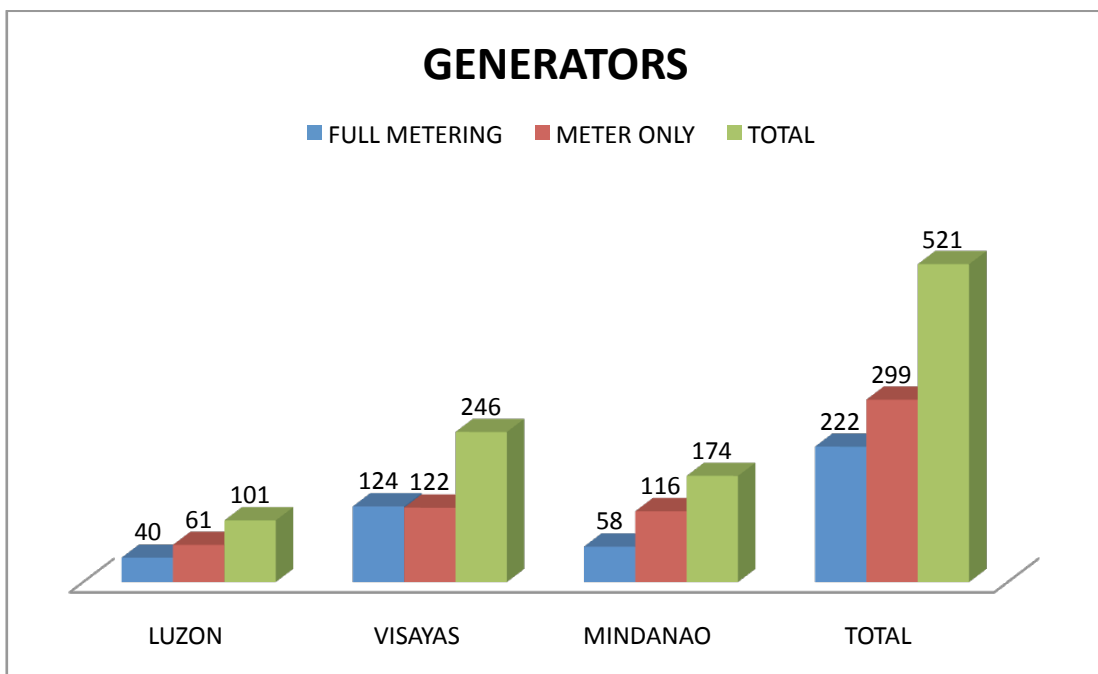
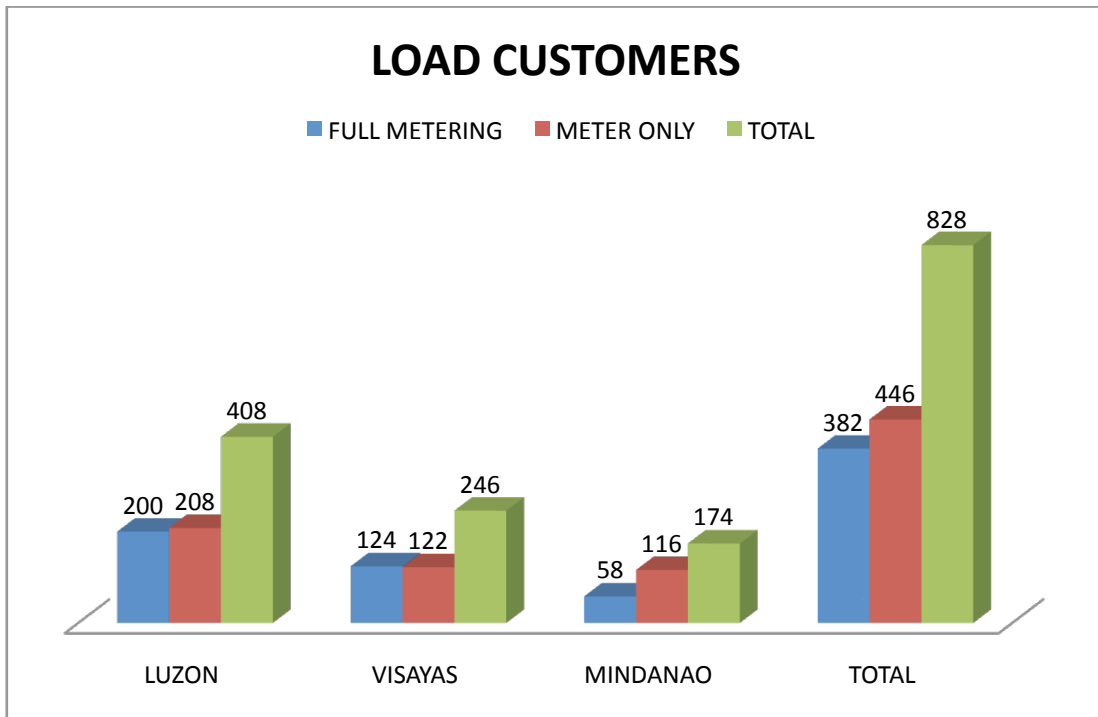
Alternate Meters will be installed in stages at all metering points in Luzon, Visayas and Mindanao starting in CY2009 until 2012. Priority will be given to metering points of Generators and Load Customers in Luzon, where the WESM already operates.

8. RE Generation Projects

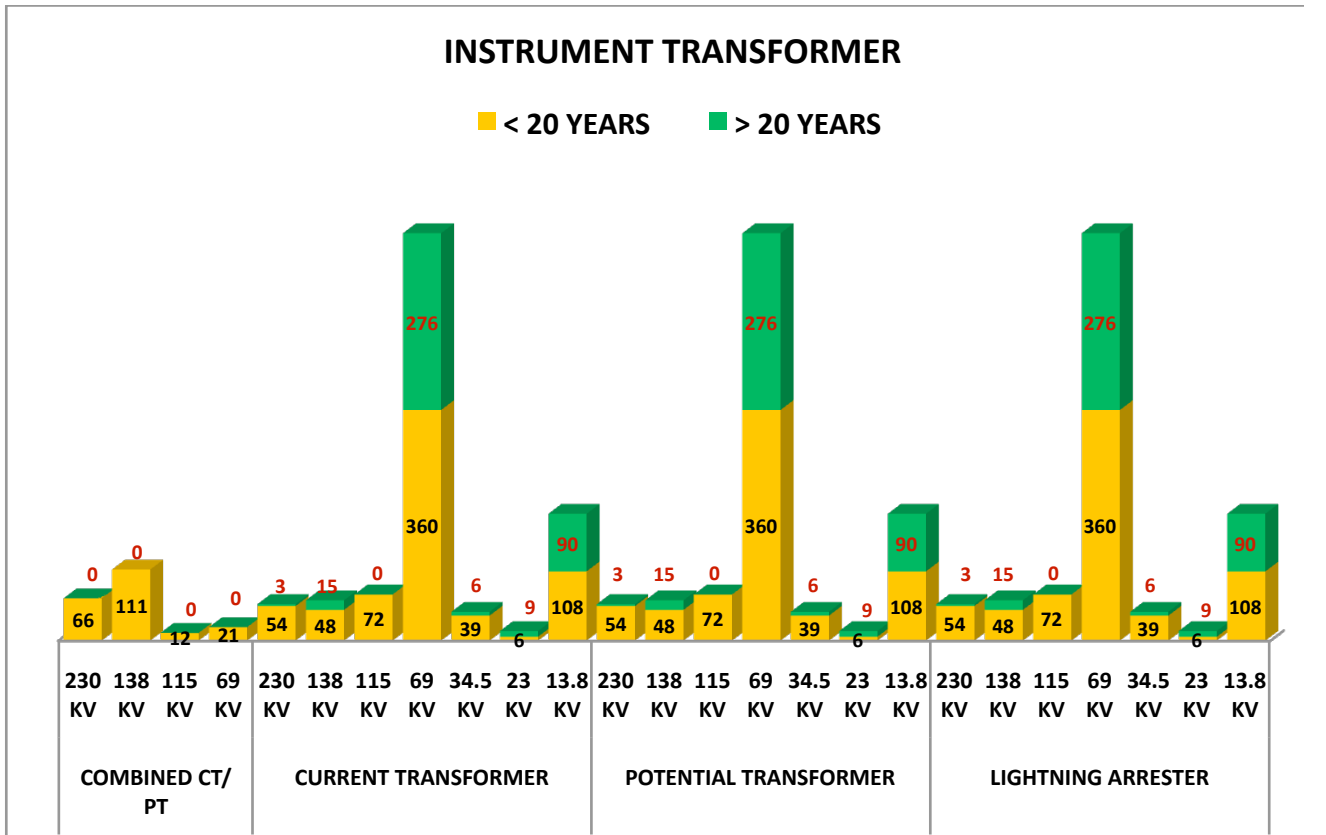
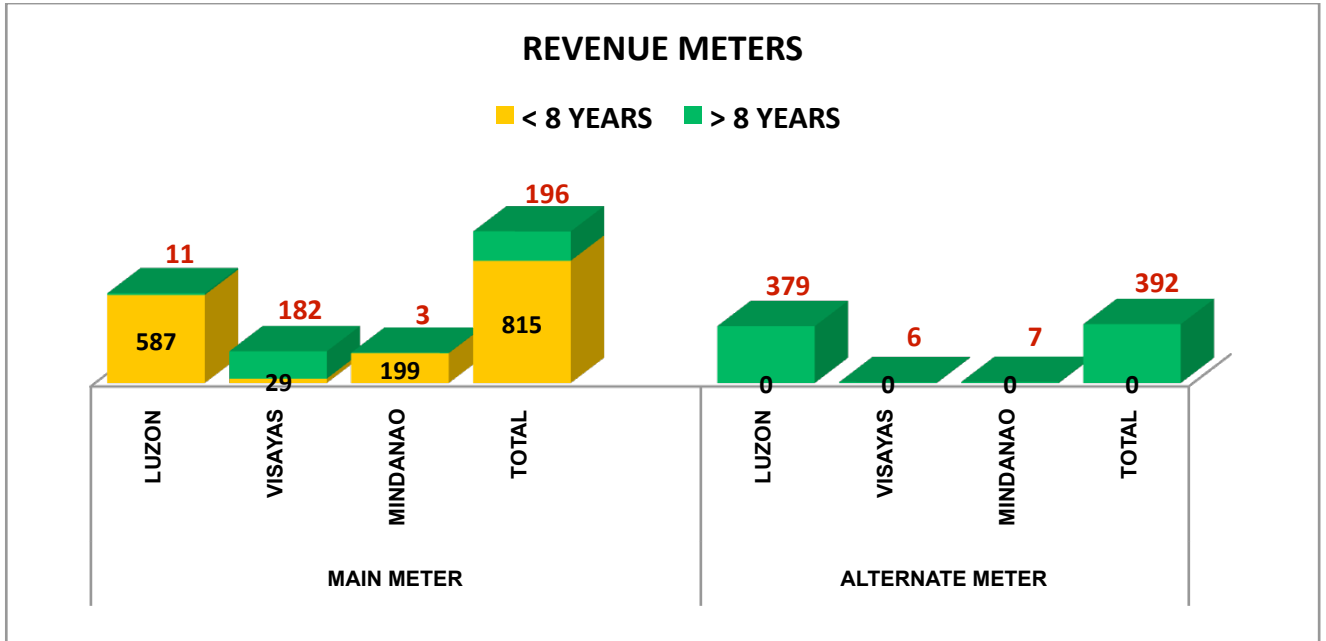
Provision for Meter Only requirements will be provided by NGCP for RE Generators metering points in Luzon, Visayas and Mindanao starting in CY2010 until 2019.

6. LIST OF ANNEXES

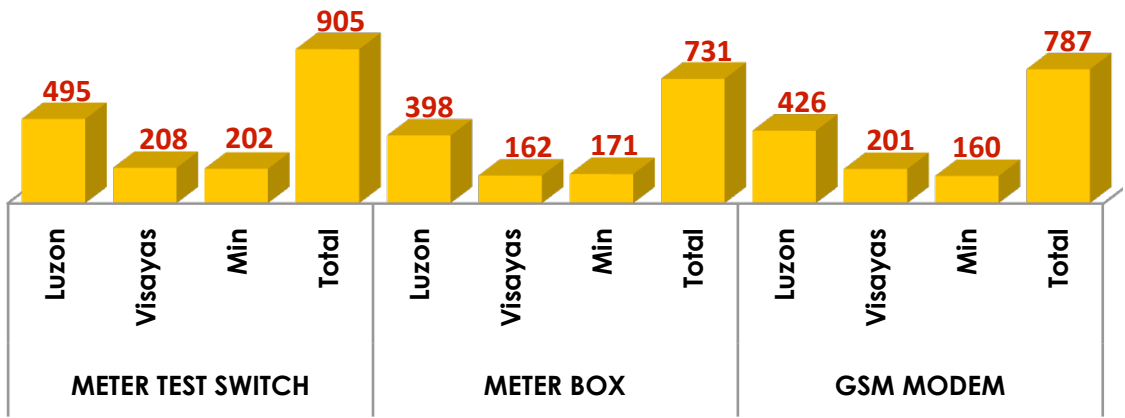
- a) Annex A – METERING ASSET PROFILE (Graphical)
- b) Annex B –METERING ASSET PROFILE (Tabulated)
- c) Annex C – ASSET REPLACEMENT PROGRAM
- d) Annex D – CAPEX PROGRAM

METERING INSTALLATION PROFILE

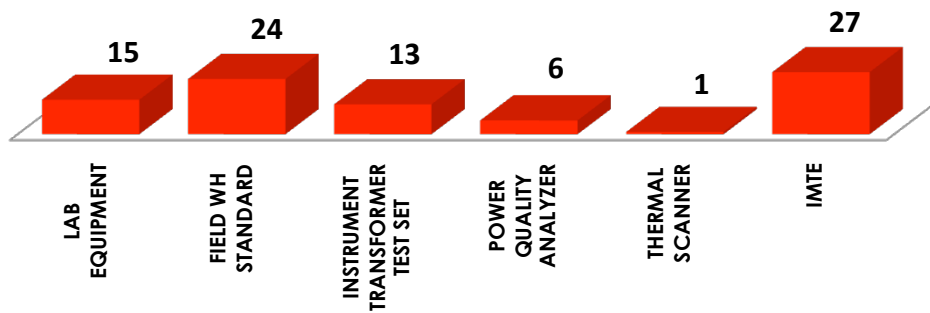
METERING ASSET PROFILE



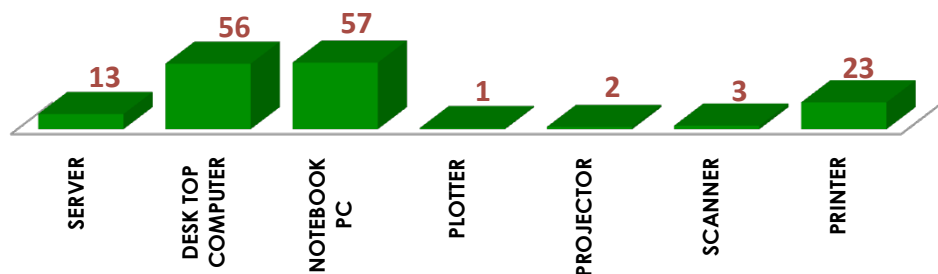
METERING ACCESSORIES



TEST EQUIPMENT



IS/IT EQUIPMENT



SUMMARY OF METERING INSTALLATION PROFILE

A. LOAD CUSTOMERS

GRID	VOLTAGE LEVEL	QUANTITY		
		FULL	METER ONLY	TOTAL
LUZON	500 KV	0	0	0
	230 KV	6	16	22
	138 KV	0	0	0
	115 KV	27	8	35
	69 KV	104	141	245
	34.5 KV	3	14	17
	23 KV	5	2	7
	13.8 KV	54	22	76
	< 13.8 KV	1	5	6
TOTAL FOR LUZON		200	208	408
VISAYAS	500 KV	0	0	0
	230 KV	0	0	0
	138 KV	5	0	5
	115 KV	0	0	0
	69 KV	105	100	205
	34.5 KV	1	4	5
	23 KV	0	0	0
	13.8 KV	13	17	30
	< 13.8 KV	0	1	1
TOTAL FOR VISAYAS		124	122	246
MINDANAO	500 KV	0	0	0
	230 KV	0	0	0
	138 KV	4	7	11
	115 KV	0	0	0
	69 KV	47	82	129
	34.5 KV	1	3	4
	23 KV	0	0	0
	13.8 KV	4	23	27
	< 13.8 KV	2	1	3
TOTAL FOR MINDANAO		58	116	174
TOTAL FOR LOAD CUSTOMERS		382	446	828

B. GENERATORS

GRID	VOLTAGE LEVEL	QUANTITY		
		FULL	METER ONLY	TOTAL
LUZON	500 KV	0	2	2
	230 KV	32	35	67
	138 KV	0	0	0
	115 KV	1	13	14
	69 KV	5	5	10
	34.5 KV	2	0	2
	23 KV	0	1	1
	13.8 KV	0	0	0
	< 13.8 KV	0	5	5
TOTAL FOR LUZON		40	61	101
VISAYAS	500 KV	0	0	0
	230 KV	1	4	5
	138 KV	20	3	23
	115 KV	0	0	0
	69 KV	0	14	14
	34.5 KV	0	8	8
	23 KV	0	0	0
	13.8 KV	1	3	4
	< 13.8 KV	0	0	0
TOTAL FOR VISAYAS		22	32	54
MINDANAO	500 KV	0	0	0
	230 KV	0	0	0
	138 KV	32	6	38
	115 KV	0	0	0
	69 KV	0	0	0
	34.5 KV	2	1	3
	23 KV	0	0	0
	13.8 KV	1	0	1
	< 13.8 KV	0	0	0
TOTAL FOR MINDANAO		35	7	42
TOTAL FOR LOAD CUSTOMERS		97	100	197

METERING ASSET PROFILE

REVENUE METER	CLASS/FAMILY	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)							
					1-2	3-4	5-6	7-8	9-10	11-12	13-14	
MAIN METER	NEXUS	10	Luzon	555	0	555	0	0	0	0	0	0
			Visayas	5	0	5	0	0	0	0	0	0
			Min	22	0	22	0	0	0	0	0	0
			Total	582	0	582	0	0	0	0	0	0
	ION	10	Luzon	32	29	3	0	0	0	0	0	0
			Visayas	24	24	0	0	0	0	0	0	0
			Min	147	147	0	0	0	0	0	0	0
			Total	203	200	3	0	0	0	0	0	0
	SIEMENS	10	Luzon	0	0	0	0	0	0	0	0	0
			Visayas	182	0	0	0	0	182	0	0	0
			Min	3	0	0	0	0	3	0	0	0
			Total	185	0	0	0	0	185	0	0	0
	TRANSDATA	10	Luzon	11	0	0	0	0	11	0	0	0
			Visayas	0	0	0	0	0	0	0	0	0
			Min	30	0	0	0	30	0	0	0	0
			Total	41	0	0	0	30	11	0	0	0
ALTERNATE METER	VECTRON SV4AR	15	Luzon	321	0	0	0	0	0	0	0	321
			Visayas	0	0	0	0	0	0	0	0	0
			Min	6	0	0	0	0	0	0	0	6
			Total	327	0	0	0	0	0	0	0	0
	GE KV2C	15	Luzon	35	0	0	0	0	0	0	0	35
			Visayas	6	0	0	0	0	0	0	0	6
			Min	0	0	0	0	0	0	0	0	0
			Total	41	0	0	0	0	0	0	0	0
	ABB	15	Luzon	11	0	0	0	0	11	0	0	0
			Visayas	0	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0	0
			Total	11	0	0	0	0	11	0	0	0
	QUANTUM	15	Luzon	5	0	0	0	0	0	5	0	0
			Visayas	0	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0	0
			Total	5	0	0	0	0	0	5	0	0
	FULCRUM	15	Luzon	7	0	0	0	0	0	7	0	0
			Visayas	0	0	0	0	0	0	0	0	0
				Min	0	0	0	0	0	0	0	0

REVENUE METER	CLASS/FAMILY	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)								
					1-2	3-4	5-6	7-8	9-10	11-12	13-14		
			Total	7	0	0	0	0	0	0	7	0	
	E-MAIL	15	Luzon	0	0	0	0	0	0	0	0	0	
			Visayas	0	0	0	0	0	0	0	0	0	0
			Min	1	0	0	0	0	0	1	0	0	0
			Total	1	0	0	0	0	0	1	0	0	0

INSTRUMENT TRANSFORMER	VOLTAGE LEVEL	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)							
					1-5	6-10	11-15	16-20	21-25	26-30	31-35	
COMBINED CT/PT	230 KV	30	Luzon	66	66	0	0	0	0	0	0	0
			Visayas	0	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0	0
			Total	66	66	0	0	0	0	0	0	0
	138 KV	30	Luzon	0	0	0	0	0	0	0	0	0
			Visayas	51	51	0	0	0	0	0	0	0
			Min	60	60	0	0	0	0	0	0	0
			Total	111	111	0	0	0	0	0	0	0
	115 KV	30	Luzon	12	12	0	0	0	0	0	0	0
			Visayas	0	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0	0
			Total	12	12	0	0	0	0	0	0	0
	69 KV	30	Luzon	0	0	0	0	0	0	0	0	0
			Visayas	18	18	0	0	0	0	0	0	0
			Min	3	3	0	0	0	0	0	0	0
			Total	21	21	0	0	0	0	0	0	0
CURRENT TRANSFORMER	230 KV	30	Luzon	54	27	6	18	0	0	3	0	
			Visayas	3	3	0	0	0	0	0	0	
			Min	0	0	0	0	0	0	0	0	
			Total	57	30	6	18	0	0	3	0	
	138 KV	30	Luzon	0	0	0	0	0	0	0	0	
			Visayas	51	33	6	0	0	0	12	0	
			Min	12	9	0	0	0	0	3	0	
			Total	63	42	6	0	0	0	15	0	
	115 KV	30	Luzon	72	0	42	30	0	0	0	0	
			Visayas	0	0	0	0	0	0	0	0	
			Min	0	0	0	0	0	0	0	0	
			Total	72	0	42	30	0	0	0	0	
	69 KV	30	Luzon	339	42	39	126	30	36	42	24	

INSTRUMENT TRANSFORMER	VOLTAGE LEVEL	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)						
					1-5	6-10	11-15	16-20	21-25	26-30	31-35
			Visayas	159	30	33	9	9	45	33	0
			Min	138	3	21	6	12	36	54	6
			Total	636	75	93	141	51	117	129	30
	34.5 KV	30	Luzon	36	6	3	27	0	0	0	0
			Visayas	0	0	0	0	0	0	0	0
			Min	9	3	0	0	0	0	6	0
			Total	45	9	3	27	0	0	6	0
	23 KV	30	Luzon	15	0	0	6	0	0	0	9
			Visayas	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0
			Total	15	0	0	6	0	0	0	9
	13.8 KV	30	Luzon	159	3	18	45	27	18	30	18
			Visayas	33	6	0	3	3	12	9	0
			Min	6	3	0	0	0	0	3	0
			Total	198	12	18	48	30	30	42	18
	480 V	30	Luzon	9	3	0	6	0	0	0	0
Visayas			0	0	0	0	0	0	0	0	
Min			0	0	0	0	0	0	0	0	
Total			9	3	0	6	0	0	0	0	
POTENTIAL TRANSFORMER	230 KV	30	Luzon	54	27	6	18	0	0	3	0
			Visayas	3	3	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0
			Total	57	30	6	18	0	0	3	0
	138 KV	30	Luzon	0	0	0	0	0	0	0	0
			Visayas	51	33	6	0	0	0	12	0
			Min	12	9	0	0	0	0	3	0
			Total	63	42	6	0	0	0	15	0
	115 KV	30	Luzon	72	0	42	30	0	0	0	0
			Visayas	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0
			Total	72	0	42	30	0	0	0	0
	69 KV	30	Luzon	339	42	39	126	30	36	42	24
			Visayas	159	30	33	9	9	45	33	0
			Min	138	3	21	6	12	36	54	6
			Total	636	75	93	141	51	117	129	30
34.5 KV	30	Luzon	36	6	3	27	0	0	0	0	
		Visayas	0	0	0	0	0	0	0	0	

INSTRUMENT TRANSFORMER	VOLTAGE LEVEL	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)							
					1-5	6-10	11-15	16-20	21-25	26-30	31-35	
			Min	9	3	0	0	0	0	6	0	
			Total	45	9	3	27	0	0	6	0	
	23 KV	30	Luzon	15	0	0	6	0	0	0	9	
			Visayas	0	0	0	0	0	0	0	0	
			Min	0	0	0	0	0	0	0	0	
			Total	15	0	0	6	0	0	0	9	
	13.8 KV	30	Luzon	159	3	18	45	27	18	30	18	
			Visayas	33	6	0	3	3	12	9	0	
			Min	6	3	0	0	0	0	3	0	
			Total	198	12	18	48	30	30	42	18	
	480 V	30	Luzon	9	3	0	6	0	0	0	0	
			Visayas	0	0	0	0	0	0	0	0	
			Min	0	0	0	0	0	0	0	0	
			Total	9	3	0	6	0	0	0	0	
	LIGHTNING ARRESTER	230 KV	30	Luzon	54	27	6	18	0	0	3	0
				Visayas	3	3	0	0	0	0	0	0
Min				0	0	0	0	0	0	0	0	
Total				57	30	6	18	0	0	3	0	
138 KV		30	Luzon	0	0	0	0	0	0	0	0	
			Visayas	51	33	6	0	0	0	12	0	
			Min	12	9	0	0	0	0	3	0	
			Total	63	42	6	0	0	0	15	0	
115 KV		30	Luzon	72	0	42	30	0	0	0	0	
			Visayas	0	0	0	0	0	0	0	0	
			Min	0	0	0	0	0	0	0	0	
			Total	72	0	42	30	0	0	0	0	
69 KV		30	Luzon	339	42	39	126	30	36	42	24	
			Visayas	159	30	33	9	9	45	33		
			Min	138	3	21	6	12	36	54	6	
			Total	636	75	93	141	51	117	129	30	
34.5 KV		30	Luzon	36	6	3	27	0	0	0	0	
			Visayas	0	0	0	0	0	0	0	0	
			Min	9	3	0	0	0	0	6	0	
			Total	45	9	3	27	0	0	6	0	
23 KV	30	Luzon	15	0	0	6	0	0	0	9		
		Visayas	0	0	0	0	0	0	0	0		
			Min	0	0	0	0	0	0	0		

INSTRUMENT TRANSFORMER	VOLTAGE LEVEL	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)						
					1-5	6-10	11-15	16-20	21-25	26-30	31-35
	13.8 KV	30	Total	15	0	0	6	0	0	0	9
			Luzon	159	3	18	45	27	18	30	18
			Visayas	33	6	0	3	3	12	9	0
			Min	6	3	0	0	0	0	3	0
			Total	198	12	18	48	30	30	42	18
	480 V	30	Luzon	9	3	0	6	0	0	0	0
			Visayas	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0
			Total	9	3	0	6	0	0	0	0

METERING ACCESSORIES	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)							
				1-5	6-7	8-9	10-11	12-13	14-15	16-17	> 17
METER TEST SWITCH	15	Luzon	495	164	25	36	50	47	74	13	86
		Visayas	208	81	20	5	16	10	6	4	66
		Min	202	41	15	11	11	12	14	10	88
		Total	905	286	60	52	77	69	94	27	240
METER BOX	15	Luzon	398	142	25	36	50	47	74	13	11
		Visayas	162	81	30	5	16	10	6	4	10
		Min	171	41	25	21	21	22	18	20	3
		Total	731	264	80	62	87	79	98	37	24
GSM MODEM	10	Luzon	426	426	0	0	0	0	0	0	0
		Visayas	201	201	0	0	0	0	0	0	0
		Min	160	160	0	0	0	0	0	0	0
		Total	787	787	0	0	0	0	0	0	0

LABORATORY & TEST EQUIPMENT	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)							
				1	2	3	4	5	6	7	> 7
LABORATORY STANDARD AND EQUIPMENT											
FLUKE, 7001, 10V 10V DC STANDARD	12	MDM	1	0	0	1	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	1	0	0	1	0	0	0	0	0
FLUKE, 7004N NANOSCAN DC REFERENCE MODULE SYSTEM	12	MDM	1	0	0	1	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	1	0	0	1	0	0	0	0	0
FLUKE, 742A-10K	12	MDM	2	0	0	2	0	0	0	0	

LABORATORY & TEST EQUIPMENT	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)								
				1	2	3	4	5	6	7	> 7	
FOUR TERMINAL RESISTANCE STD.		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	2	0	0	2	0	0	0	0	0	0
FLUKE, 8508A REFERENCE MULTI-METER	12	MDM	1	0	0	1	0	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	1	0	0	0	0	0	0
FLUKE, 910/910R GPS CONTROLLED FREQUENCY STD	12	MDM	1	0	0	1	0	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	1	0	0	0	0	0	0
FLUKE, 1620A "DEWK" THERMO-HYGROMETER	12	MDM	1	0	0	1	0	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	1	0	0	0	0	0	0
RADIAN, RD-22 DYTRONIC PRIMARY TRANSF. STD.	12	MDM	1	0	0	0	0	1	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	1	0	0	0	0
RADIAN, RD-31 THREE-PHASE ELECTRICITY STANDARD	12	MDM	1	0	0	0	0	1	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	1	0	0	0	0
MTE, PTS 3.3 INTEGRATED 3-PHASE CURR. & VOLTAGE SOURCE	12	MDM	1	0	0	0	0	1	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	1	0	0	0	0
INSTRUMENT TRANSFORMER STANDARD SPECIMEN	12	MDM	5	4	0	0	0	1	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	5	4	0	0	0	1	0	0	0	0
WATT-HOUR FIELD/WORKING STANDARD												
OMICRON CMC 256 THREE PHASE METER TEST SET	10	MDM	1	0	0	0	0	1	0	0	0	0
		M-Luzon	1	0	0	0	0	1	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	2	0	0	0	0	2	0	0	0	0
AMETEK,	10	MDM	1	0	0	0	1	0	0	0	0	

LABORATORY & TEST EQUIPMENT	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)							
				1	2	3	4	5	6	7	> 7
MERIDIAN POWER QUALITY ANALYZER		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	1	0	0	0	0
MTE, CALPORT 200.3 ELECT. METER & INST. TRANSF. TEST SET	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	5	0	0	0	0	4	0	0	1
		M-VisMin	3	0	0	0	0	3	0	0	0
		Total	8	0	0	0	0	7	0	0	1
MTE, PWS 2.3 THREE PHASE PORTABLE WORKING STD.	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	4	0	0	0	0	4	0	0	0
		M-VisMin	3	0	0	0	0	3	0	0	0
		Total	7	0	0	0	0	7	0	0	0
OMCRON CMC 156 THREE PHASE METER TEST SET	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	1	0	0	0	0	0	0	1	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	0	0	1	0
AVO, MA-10-01, SINGLE PHASE WATTHOUR STANDARD	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	1	0	0	0	0	0	0	0	1
		M-VisMin	0	0	0	0	0	0	0	0	
		Total	1	0	0	0	0	0	0	0	1
SC-60, SINGLE PHASE WATTHOUR STANDARD	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	1	0	0	0	0	0	0	0	1
		M-VisMin	1	0	0	0	0	0	0	0	1
		Total	2	0	0	0	0	0	0	0	2
SC-10, SINGLE PHASE WATTHOUR STANDARD	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	1	0	0	0	0	0	0	0	1
		M-VisMin	2	0	0	0	0	0	0	0	2
		Total	3	0	0	0	0	0	0	0	3
RADIAN, RM-10 PORTABLE WATTHOUR STANDARD	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	1	0	0	0	0	0	0	0	1
		Total	1	0	0	0	0	0	0	0	1
EDI ELECTRONIC ENG'G. LTD, ES 2002/3, 3-PHASE WH STANDARD	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	1	0	0	0	0	0	0	0	1
		Total	1	0	0	0	0	0	0	0	1
INSTRUMENT TRANSFORMER TEST SET											
MEGGER	10	MDM	0	0	0	0	0	0	0	0	0

LABORATORY & TEST EQUIPMENT	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)								
				1	2	3	4	5	6	7	> 7	
THREE PHASE TTR TEST SET		M-Luzon	2	2	0	0	0	0	0	0	0	0
		M-VisMin	2	2	0	0	0	0	0	0	0	0
		Total	4	4	0	0	0	0	0	0	0	0
MEGGER MT 520 5KV INSULATION TESTER	10	MDM	0		0	0	0	0	0	0	0	0
		M-Luzon	2	2	0	0	0	0	0	0	0	0
		M-VisMin	2	2	0	0	0	0	0	0	0	0
		Total	4	4	0	0	0	0	0	0	0	0
OMICRON CPC 100 INST. TRANSF. TEST SET	10	MDM	0		0	0	0	0	0	0	0	0
		M-Luzon	2	1	1	0	0	0	0	0	0	0
		M-VisMin	2	1	1	0	0	0	0	0	0	0
		Total	4	2	2	0	0	0	0	0	0	0
METREL INSULATION TESTER	10	MDM	0	0	0	0	0	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	1	1	0	0	0	0	0	0	0	0
		Total	1	1	0	0	0	0	0	0	0	0
POWER QUALITY ANALYZER												
FLUKE MODEL 438 POWER QUALITY ANALYZER	10	MDM	0	0	0	0	0	0	0	0	0	0
		M-Luzon	1	0	0	0	0	0	0	0	1	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	0	0	0	1	0
FLUKE, MODEL 41B, POWER HARMONIC ANALYZER	10	MDM	0	0	0	0	0	0	0	0	0	0
		M-Luzon	1	0	0	0	0	0	0	0	1	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	0	0	0	1	0
FLUKE MODEL 434 POWER QUALITY ANALYZER	10	MDM	0	0	0	0	0	0	0	0	0	0
		M-Luzon	1	0	0	1	0	0	0	0	0	0
		M-VisMin	1	0	0	1	0	0	0	0	0	0
		Total	2	0	0	2	0	0	0	0	0	0
FLUKE MODEL 435 POWER QUALITY ANALYZER	10	MDM	0	0	0	0	0	0	0	0	0	0
		M-Luzon	1	1	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	1	1	0	0	0	0	0	0	0	0
METREL, POWER QUALITY ANALYZER	10	MDM	0	0	0	0	0	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	1	1	0	0	0	0	0	0	0	0
		Total	1	1	0	0	0	0	0	0	0	0

LABORATORY & TEST EQUIPMENT	REGULATORY ASSET LIFE	QUANTITY	AGE IN SERVICE (NO. OF YEARS)								
			1	2	3	4	5	6	7	> 7	
THERMAL SCANNER											
FLUKE, T155FT-20 54MM, THERMAL IMAGER SCANNER	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	1	1	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	1	1	0	0	0	0	0	0	0
INSTRUMENT, MEASUREMENT AND TEST EQUIPMENT											
FLUKE MODEL 189 TRUE RMS MULTIMETER	10	MDM	1	0	0	0	0	1	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	1	0	0	0
FLUKE MODEL 87V TRUE RMS MULTIMETER	10	MDM	1	0	0	0	1	0	0	0	0
		M-Luzon	2	0	0	0	2	0	0	0	0
		M-VisMin	2	0	0	0	2	0	0	0	0
		Total	5	0	0	0	5	0	0	0	0
FLUKE MODEL 322 CLAMP METER	10	MDM	2	0	0	2	0	0	0	0	0
		M-Luzon	2	0	0	2	0	0	0	0	0
		M-VisMin	1	0	0	1	0	0	0	0	0
		Total	5	0	0	5	0	0	0	0	0
FLUKE MODEL 321 CLAMP METER	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	5	0	0	5	0	0	0	0	0
		M-VisMin	3	0	0	3	0	0	0	0	0
		Total	8	0	0	8	0	0	0	0	0
SANWA, DCM 60L CLAMP METER	10	MDM	1	0	0	0	1	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	1	0	0	0	0
KYORITSU, MINI CLAMP METER	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	1	0	0	0	0	0	0	1	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	0	0	1	0
FLUKE MODEL 177 DIGITAL MULTIMETER	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	1	0	0	0	0	0	0	1	0
		Total	1	0	0	0	0	0	0	1	0
FLUKE MODEL 8010A DIGITAL	10	MDM	0	0	0	0	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	1	0	0	0	0	0	0	1	0

LABORATORY & TEST EQUIPMENT	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)								
				1	2	3	4	5	6	7	> 7	
MULTIMETER		Total	1	0	0	0	0	0	0	0	1	0
FLUKE	10	MDM	0	0	0	0	0	0	0	0	0	0
MODEL 175		M-Luzon	2	0	2	0	0	0	0	0	0	0
DIGITAL		M-VisMin	0	0	0	0	0	0	0	0	0	0
MULTIMETER		Total	2	0	2	0	0	0	0	0	0	0
FLUKE, MODEL 30	10	MDM	0	0	0	0	0	0	0	0	0	0
CLAMP METER		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	2	0	0	0	0	0	0	0	2	0
		Total	2	0	0	0	0	0	0	0	2	0

ISIT EQUIPMENT	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)							
				1	2	3	4	5	6	7	> 7
SERVER	5	MDM	13	0	3	3	0	7	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	13	0	3	3	0	7	0	0	0
DESK TOP COMPUTER (WORKSTATION)	5	MDM	12	0	0	0	0	12	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	12	0	0	0	0	12	0	0	0
DESK TOP COMPUTER (CAD STATION)	5	MDM	2	0	0	0	0	2	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	2	0	0	0	0	2	0	0	0
DESK TOP COMPUTER (METER DATA PROCESSOR)	5	MDM	18	5	4	2	0	2	5	0	0
		M-Luzon	10	0	1	3	0	1	5	0	0
		M-VisMin	9	0	5	0	0	0	4	0	0
		Total	37	5	10	5	0	3	14	0	0
DESK TOP COMPUTER (OFFICE/ADMIN)	5	MDM	5	2	0	0	0	0	3	0	0
		M-Luzon	1	1	0	0	0	0	0	0	0
		M-VisMin	1	1	0	0	0	0	0	0	0
		Total	7	4	0	0	0	0	3	0	0
LAPTOP COMPUTER	5	MDM	4	0	1	0	0	3	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	1	1	0	0	0	0	0	0	0
		Total	5	1	1	0	0	3	0	0	0
LAPTOP	5	MDM	0	0	0	0	0	0	0	0	

ISIT EQUIPMENT	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)							
				1	2	3	4	5	6	7	>7
COMPUTER (METER DATA PROCESSOR)		M-Luzon	16	3	2	0	1	2	7	1	0
		M-VisMin	13	1	2	0	0	0	10	0	0
		Total	29	4	4	0	1	2	17	1	0
LAPTOP COMPUTER (METER DATA RETRIEVER)	5	MDM	7	0	0	0	0	5	2	0	0
		M-Luzon	10	0	0	0	0	1	9	0	0
		M-VisMin	6	0	1	0	0	0	5	0	0
		Total	23	0	1	0	0	6	16	0	0
GSM MODEM (DILIMAN & VISAYAS AMR STATION)	10	MDM	10	0	0	0	0	6	4	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	3	0	0	0	0	3	0	0	0
		Total	13	0	0	0	0	9	4	0	0
PLOTTER	5	MDM	1	0	0	0	0	0	1	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	0	1	0	0
MULTIMEDIA PROJECTOR	5	MDM	1	0	0	0	0	0	1	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	1	0	1	0	0	0	0	0	0
		Total	2	0	1	0	0	0	1	0	0
PRINTER	5	MDM	5	1	0	0	1	2	1	0	0
		M-Luzon	12	1	0	0	0	7	4	0	0
		M-VisMin	6	0	0	0	0	6	0	0	0
		Total	23	2	0	0	1	15	5	0	0
SCANNER	5	MDM	1	0	0	0	0	1	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	2	0	0	0	0	2	0	0	0
		Total	3	0	0	0	0	3	0	0	0
FACSIMILE	5	MDM	1	0	0	0	0	0	1	0	0
		M-Luzon	8	4	0	0	1	0	3	0	0
		M-VisMin	4	3	0	0	0	1	0	0	0
		Total	13	7	0	0	1	1	4	0	0
UPS	5	MDM	2	0	0	0	0	2	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	2	0	0	0	0	2	0	0	0
		Total	4	0	0	0	0	4	0	0	0
DIGITAL CAMERA	5	MDM	1	0	0	0	0	1	0	0	0
		M-Luzon	4	0	0	0	0	4	0	0	0

ISIT EQUIPMENT	REGULATORY ASSET LIFE	QUANTITY		AGE IN SERVICE (NO. OF YEARS)							
				1	2	3	4	5	6	7	>7
		M-VisMin	3	0	0	0	0	3	0	0	0
		Total	8	0	0	0	0	8	0	0	0
ROUTER	10	MDM	3	0	0	0	0	3	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	3	0	0	0	0	3	0	0	0
AMR STATION (MV90 SOFTWARE)	7	MDM	3	0	0	0	0	3	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0
		Total	3	0	0	0	0	3	0	0	0

METERING ASSET REPLACEMENT PROGRAM

REVENUE METER	CLASSIFICATION/ FAMILY	Asset Life (years)	GRID	REPLACEMENT SCHEDULE									
				2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
MAIN METER	ELECTRONIC REVENUE METER (Full-Function)	10	Luzon	21	20	55	500	0	0	3	0	29	50
			Visayas	192	0	5	0	0	0	0	0	24	0
			Min	13	30	22	0	0	0	0	0	147	0
			Total	226	50	82	500	0	0	3	0	200	50
ALTERNATE METER	ELECTRONIC REVENUE METER (Basic Function)	15	Luzon	5	356	12	11	5	5	5	5	5	5
			Visayas	5	6	30	5	5	5	5	5	5	5
			Min	5	76	70	5	5	5	5	5	5	5
			Total	15	438	112	21	15	15	15	15	15	15

INSTRUMENT TRANSFORMER	VOLTAGE LEVEL	Asset Life (years)	GRID	REPLACEMENT SCHEDULE									
				2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
COMBINED INSTRUMENT TRANSFORMER	230 KV	30	Luzon	6	0	0	6	0	0	8	0	0	0
			Visayas	0	0	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0	0	0
			Total	6	0	0	6	0	0	8	0	0	0
	138 KV	30	Luzon	0	0	0	0	0	0	0	0	0	0
			Visayas	0	6	0	0	6	0	0	8	0	0
			Min	0	6	0	0	6	0	0	8	0	0
			Total	0	12	0	0	12	0	0	16	0	0
	115 KV	30	Luzon	3	0	0	3	0	0	4	0	0	0
			Visayas	0	0	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0	0	0
			Total	3	0	0	3	0	0	4	0	0	0
	69 KV	30	Luzon	0	0	0	0	0	0	0	0	0	0
			Visayas	0	0	4	0	0	6	0	0	6	0
			Min	0	0	0	0	0	3	0	0	0	0
			Total	0	0	4	0	0	9	0	0	6	0
CURRENT TRANSFORMER	230 KV	30	Luzon	3	3	3	3	3	3	3	3	3	3
			Visayas	3	0	3	0	3	0	3	0	3	0
			Min	0	0	0	0	0	0	0	0	0	0
			Total	6	3	6	3	6	3	6	3	6	3
	138 KV	30	Luzon	0	0	0	0	0	0	0	0	0	0
			Visayas	3	12	3	3	3	3	3	3	3	3
			Min	3	3	3	0	3	0	3	0	3	0
			Total	6	15	6	3	6	3	6	3	6	3

INSTRUMENT TRANSFORMER	VOLTAGE LEVEL	Asset Life (years)	GRID	REPLACEMENT SCHEDULE										
				2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
	115 KV	30	Luzon	3	3	3	3	3	3	3	3	3	3	3
			Visayas	0	0	0	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0	0	0	0
			Total	3	3	3	3	3	3	3	3	3	3	3
	69 KV	30	Luzon	12	42	12	12	12	12	12	36	12	12	12
			Visayas	9	33	9	9	9	9	45	9	9	9	
			Min	6	54	6	6	6	6	36	6	6	6	
			Total	27	129	27	27	27	27	117	27	27	27	
	34.5 KV	30	Luzon	3	3	3	3	3	3	3	3	3	3	3
			Visayas	0	0	0	0	0	0	0	0	0	0	0
			Min	3	6	0	0	3	0	3	0	3	0	
			Total	6	9	3	3	6	3	6	3	6	3	
	23 KV	30	Luzon	0	0	0	0	0	0	0	0	0	0	0
			Visayas	0	0	0	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0	0	0	0
			Total	0	0	0	0	0	0	0	0	0	0	0
	13.8 KV	30	Luzon	6	30	6	0	6	0	18	0	0	0	6
			Visayas	3	9	0	3	0	0	12	0	0	0	3
			Min	3	3	0	3	0	0	0	0	0	0	3
			Total	12	42	6	6	6	0	30	0	0	0	12
POTENTIAL TRANSFORMER	230 KV	30	Luzon	3	3	3	3	3	3	3	3	3	3	
			Visayas	3	0	3	0	3	0	3	0	3	0	
			Min	0	0	0	0	0	0	0	0	0	0	
			Total	6	3	6	3	6	3	6	3	6	3	
	138 KV	30	Luzon	0	0	0	0	0	0	0	0	0	0	0
			Visayas	3	12	3	3	3	3	3	3	3	3	
			Min	3	3	3	0	3	0	3	0	3	0	
			Total	6	15	6	3	6	3	6	3	6	3	
	115 KV	30	Luzon	3	3	3	3	3	3	3	3	3	3	3
			Visayas	0	0	0	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0	0	0	
			Total	3	3	3	3	3	3	3	3	3	3	
	69 KV	30	Luzon	12	42	12	12	12	12	12	36	12	12	12
			Visayas	9	33	9	9	9	9	45	9	9	9	
			Min	6	54	6	6	6	6	36	6	6	6	
			Total	27	129	27	27	27	27	117	27	27	27	
	34.5 KV	30	Luzon	3	3	3	3	3	3	3	3	3	3	3

INSTRUMENT TRANSFORMER	VOLTAGE LEVEL	Asset Life (years)	GRID	REPLACEMENT SCHEDULE									
				2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
			Visayas	0	0	0	0	0	0	0	0	0	0
			Min	3	6	0	0	3	0	3	0	3	0
			Total	6	9	3	3	6	3	6	3	6	3
	23 KV	30	Luzon	0	0	0	0	0	0	0	0	0	0
			Visayas	0	0	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0	0	0
			Total	0	0	0	0	0	0	0	0	0	0
	13.8 KV	30	Luzon	6	30	6	0	6	0	18	0	0	6
			Visayas	3	9	0	3	0	0	12	0	0	3
			Min	3	3	0	3	0	0	0	0	0	3
			Total	12	42	6	6	6	0	30	0	0	12
	LIGHTNING ARRESTER	230 KV	30	Luzon	3	3	3	3	3	3	3	3	3
Visayas				3	0	3	0	3	0	3	0	3	0
Min				0	0	0	0	0	0	0	0	0	0
Total				6	3	6	3	6	3	6	3	6	3
138 KV		30	Luzon	0	0	0	0	0	0	0	0	0	0
			Visayas	3	12	3	3	3	3	3	3	3	3
			Min	3	3	3	0	3	0	3	0	3	0
			Total	6	15	6	3	6	3	6	3	6	3
115 KV		30	Luzon	3	3	3	3	3	3	3	3	3	3
			Visayas	0	0	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0	0	0
			Total	3	3	3	3	3	3	3	3	3	3
69 KV		30	Luzon	12	42	12	12	12	12	36	12	12	12
			Visayas	9	33	9	9	9	9	45	9	9	9
			Min	6	54	6	6	6	6	36	6	6	6
			Total	27	129	27	27	27	27	117	27	27	27
34.5 KV		30	Luzon	3	3	3	3	3	3	3	3	3	3
			Visayas	0	0	0	0	0	0	0	0	0	0
			Min	3	6	0	0	3	0	3	0	3	0
			Total	6	9	3	3	6	3	6	3	6	3
23 KV		30	Luzon	0	0	0	0	0	0	0	0	0	0
			Visayas	0	0	0	0	0	0	0	0	0	0
			Min	0	0	0	0	0	0	0	0	0	0
			Total	0	0	0	0	0	0	0	0	0	0
13.8 KV	30	Luzon	6	30	6	0	6	0	18	0	0	6	
		Visayas	3	9	0	3	0	0	12	0	0	3	

INSTRUMENT TRANSFORMER	VOLTAGE LEVEL	Asset Life (years)	GRID	REPLACEMENT SCHEDULE									
				2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
			Min	3	3	0	3	0	0	0	0	0	3
			Total	12	42	6	6	6	0	30	0	0	12

EQUIPMENT	ASSET LIFE (YEARS)	GRID	REPLACEMENT SCHEDULE									
			2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
METER TEST SWITCH	15	Luzon	74	47	20	30	18	18	10	15	20	164
		Visayas	6	10	6	10	5	5	10	20	20	81
		Min	14	12	5	6	5	6	5	10	20	41
		Total	94	69	31	46	28	29	25	45	60	286
METER BOX	15	Luzon	74	47	20	30	18	18	10	15	20	142
		Visayas	6	10	6	10	5	5	10	20	20	81
		Min	14	12	5	6	5	6	5	10	20	41
		Total	94	69	31	46	28	29	25	45	60	264
GSM MODEM	10	Luzon	25	25	25	25	25	80	310	36	20	25
		Visayas	25	25	25	25	25	25	25	201	20	25
		Min	25	25	25	25	25	25	25	25	160	25
		Total	75	75	75	75	75	130	360	262	200	75

LABORATORY & TEST EQUIPMENT	ASSET LIFE (YEARS)	QUANTITY	REPLACEMENT SCHEDULE										
			2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
LABORATORY STANDARD AND EQUIPMENT													
LABORATORY PRIMARY STANDARD TEST SET	12	MDM	1	0	0	0	0	0	0	1	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	0	0	1	0	0	0
REFERENCE MULTIMETER	12	MDM	2	0	1	0	0	0	0	1	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0	0
		Total	2	0	1	0	0	0	0	1	0	0	0
GPS CONTROLLED FREQ. STD.	12	MDM	1	0	0	0	0	0	0	0	1	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	0	0	0	1	0	0
THEMO HYGROMETER	12	MDM	1	0	0	0	0	0	0	1	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	0	0	1	0	0	0
THREE-PHASE PRIMARY TRANSFER STANDARD	12	MDM	2	0	0	0	0	0	2	0	0	0	
		M-Luzon	0	0	0	0	0	0	0	0	0	0	
		M-VisMin	0	0	0	0	0	0	0	0	0	0	
		Total	2	0	0	0	0	0	2	0	0	0	
INTEGRATED 3-	12	MDM	2	0	0	0	0	0	2	0	0	0	

LABORATORY & TEST EQUIPMENT	ASSET LIFE (YEARS)	QUANTITY		REPLACEMENT SCHEDULE									
				2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
PHASE CURR. & VOLTAGE SOURCE		M-Luzon	0	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0	0
		Total	2	0	0	0	0	0	0	2	0	0	0
INSTRUMENT TRANSFORMER STANDARD SPECIMEN	20	MDM	0	0	0	0	0	0	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	0	0	0	0	0	0	0
WATT-HOUR FIELD/WORKING STANDARD													
THREE-PHASE METER TEST SET (FIELD STANDARD)	10	MDM	0	0	0	0	0	0	0	0	0	0	0
		M-Luzon	14	1	0	4	0	9	0	0	0	0	0
		M-VisMin	12	3	0	3	0	6	0	0	0	0	0
		Total	26	4	0	7	0	15	0	0	0	0	0
INSTRUMENT TRANSFORMER TEST SET													
INSTRUMENT TRANSFORMER TEST SET	10	MDM	0	0	0	0	0	0	0	0	0	0	0
		M-Luzon	7	0	0	0	0	0	0	0	2	5	0
		M-VisMin	8	1	0	0	0	0	0	0	2	5	0
		Total	15	1	0	0	0	0	0	0	4	10	0
POWER QUALITY ANALYZER													
POWER QUALITY ANALYZER	10	MDM	1	0	0	0	0	0	1	0	0	0	0
		M-Luzon	4	0	0	2	0	0	0	1	0	1	0
		M-VisMin	3	0	1	0	0	0	0	1	0	1	0
		Total	8	0	1	2	0	0	1	2	0	2	0
THERMAL SCANNER													
THERMAL SCANNER	10	MDM	0	0	0	0	0	0	0	0	0	0	0
		M-Luzon	1	0	0	0	0	0	0	0	0	1	0
		M-VisMin	1	0	1	0	0	0	0	0	0	0	0
		Total	2	0	1	0	0	0	0	0	0	1	0
INSTRUMENT, MEASUREMENT AND TEST EQUIPMENT													
MULTIMETER	10	MDM	2	0	0	0	0	1	1	0	0	0	0
		M-Luzon	4	0	0	0	0	0	2	0	2	0	0
		M-VisMin	6	2	0	2	0	0	2	0	0	0	0
		Total	12	2	0	2	0	1	5	0	2	0	0
CLAMP METER	10	MDM	2	0	0	0	0	0	1	1	0	0	0
		M-Luzon	8	0	0	1	0	0	0	7	0	0	0
		M-VisMin	8	2	0	2	0	0	0	4	0	0	0
		Total	18	2	0	3	0	0	1	12	0	0	0

ISIT EQUIPMENT	ASSET LIFE (YEARS)	COST CENTER	REPLACEMENT SCHEDULE									
			2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
SERVER	5	MDM	7	3	3	0	0	7	3	3	0	3
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	7	3	3	0	0	7	3	3	0	3
DESK TOP COMPUTER (WORKSTATION)	5	MDM	7	0	0	0	5	7	0	0	0	5
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	7	0	0	0	5	7	0	0	0	5

ISIT EQUIPMENT	ASSET LIFE (YEARS)	COST CENTER	REPLACEMENT SCHEDULE									
			2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
DESK TOP COMPUTER (CAD STATION)	5	MDM	1	0	0	0	0	1	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	1	0	0	0	0
DESK TOP COMPUTER (OFFICE)	5	MDM/MS	0	3	7	8	0	0	3	7	8	0
		M-Luzon	5	7	0	0	0	5	7	0	0	0
		M-VisMin	3	0	5	0	4	0	0	5	0	4
		Total	8	10	12	8	4	5	10	12	8	4
LAPTOP COMPUTER	5	MDM/MS	0	1	0	0	1	0	1	0	0	1
		M-Luzon	0	0	1	0	0	0	0	0	0	1
		M-VisMin	1	0	0	1	0	0	0	0	0	1
		Total	1	1	1	1	1	0	1	0	0	3
LAPTOP COMPUTER (METER DATA RETRIEVER)	5	MDM	2	0	0	0	0	2	0	0	0	0
		M-Luzon	8	0	0	0	0	0	0	0	0	0
		M-VisMin	8	0	0	0	0	0	0	0	0	0
		Total	18	0	0	0	0	2	0	0	0	0
GSM MODEM (DILIMAN & VISAYAS AMR STATION)	10	MDM	0	0	0	4	6	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	4	6	0	0	0	0	0
PLOTTER	7	MDM	1	0	0	0	0	0	0	0	0	1
		M-Luzon	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	0	0	0	0	0	0	1
MULTIMEDIA PROJECTOR	7	MDM	1	0	0	0	0	0	0	0	0	1
		M-Luzon	1	0	0	0	0	0	0	0	0	1
		M-VisMin	0	0	0	0	1	0	0	0	0	0
		Total	2	0	0	0	1	0	0	0	0	2
PRINTER	5	MDM	3	1	0	0	0	0	0	0	0	3
		M-Luzon	4	0	0	0	0	0	0	0	0	4
		M-VisMin	4	0	0	0	0	0	0	0	0	4
		Total	11	1	0	0	0	0	0	0	0	11
SCANNER	7	MDM	1	0	0	0	0	0	0	0	0	1
		M-Luzon	4	0	0	0	0	0	0	0	0	4
		M-VisMin	4	0	0	0	0	0	0	0	0	4
		Total	9	0	0	0	0	0	0	0	0	9
FACSIMILE	7	MDM	1	0	0	0	0	0	0	0	0	1
		M-Luzon	3	0	1	0	0	0	0	0	0	4
		M-VisMin	1	0	0	0	0	3	0	0	0	4
		Total	5	0	1	0	0	3	0	0	0	9

ISIT EQUIPMENT	ASSET LIFE (YEARS)	COST CENTER	REPLACEMENT SCHEDULE										
			2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
UPS	12	MDM	0	0	0	0	0	0	0	2	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	0	0	0	2	0	0	0
DIGITAL CAMERA	7	MDM	0	1	0	0	0	0	0	0	0	0	1
		M-Luzon	0	4	0	0	0	0	0	0	0	0	4
		M-VisMin	1	3	0	0	0	0	0	0	0	0	4
		Total	1	8	0	0	0	0	0	0	0	0	9
ROUTER	10	MDM	0	0	0	0	3	0	0	0	0	0	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	3	0	0	0	0	0	0
AMR STATION (MV90 SOFTWARE)	7	MDM	0	1	0	0	0	0	0	0	0	1	0
		M-Luzon	0	0	0	0	0	0	0	0	0	0	0
		M-VisMin	0	0	0	0	0	0	0	0	0	0	0
		Total	0	1	0	0	0	0	0	0	0	0	0

ASSUMPTIONS & CONSIDERATIONS:

1. Regulatory Asset Life of the Metering Equipment, Devices and Accessories
2. Metering Equipment and Devices Failure Rates
3. Obsolescence of Equipment, Technological Advancement and Product Support
4. Load Growth Forecast

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
I. EXPANSION			
A. New Metering facilities for Load Customers			
A1. Full Metering			
1. Gallintina 69 kV	L	2010	
2. Misibis Land 69 kV	L	2012	
3. CWC 69 kV	L	2012	
4. Texas Instrument 69 kV	L	2010	Replacement CTs & PTs
5. AEC 3rd 69 kV Metering	L	2011	
6. TPC Sigpit T1 138 kV	V	2011	
7. TPC Sigpit T2 138 kV	V	2011	
8. District II 13.8 kV (7MP)	M	2011	
9. To be Identified 69 kV MI	L	2012-2019	29 Metering Points
10. To be Identified 115 kV MI	L	2012-2019	8 Metering Points
11. To be Identified 230 kV MI	L	2013-2019	7 Metering Points
12. To be Identified 69 kV MI	V	2012-2019	20 Metering Points
13. To be Identified 138 kV MI	V	2012-2019	8 Metering Points
14. To be Identified 69 kV MI	M	2012-2019	23 Metering Points
15. To be Identified 138 kV MI	M	2012-2019	8 Metering Points
A2. Meter Only			
1. CASURECO I Sipocot 69 kV	L	2010	
2. BRTHH 69 kV	L	2011	
3. RJS Rice Mill 69 kV	L	2010	
4. To be Identified 69 kV	L	2011-2019	75 Metering Points
5. To be Identified 13.8 kV	L	2011-2015	15 Metering Points
6. CEBECO I New Carcar 69 kV	V	2011	
7. CEBECO I Sambuan 69 kV	V	2011	
8. ESAMELCO Guian 69 kV	V	2011	
9. NORSAMELCO Bobon 69 kV	V	2011	
10. BLCI M3 69 kV	V	2011	
11. LEYECO Babatngon 69 kV	V	2012	
12. PECO 69 kV (3MP)	V	2011	
13. To be Identified 69 kV	V	2011-2019	39 Metering Points
14. ZAMCELCO M6 69 kV	M	2010	
15. ZAMSURECO I M6 69 kV	M	2010	
16. MORESCO II M7 69 kV	M	2010	
17. MORESCO I M14 69 kV	M	2010	
18. MORESCO I M15 69 kV	M	2011	
19. DLPC M14 69 kV	M	2011	

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
20. ANECO Cabadbaran 69 kV	M	2011	
21. SOCOTECO II Tupi 69 kV	M	2010	
22. To be Identified 69 kV MI	M	2011-2019	38 Metering Points
23. To be Identified 138 kV MI	M	2012-2019	16 Metering Points
B. New Metering Facilities for Generator Customers			
B1. Full Metering			
1. Tiwi A 25 MVA 69 kV S/S	L	2010	
2. Makban E 69 kV S/S	L	2010-2011	
3. Makban D 230 kV S/S	L	2010-2011	
4. Cawayan 230 kV S/S	L	2010-2011	
5. Botong 230 kV S/S	L	2010-2011	
6. Calaca U1 230 kV Sta. Service	L	2010-2011	
7. Calaca 69 kV 20MVA Sta. Service	L	2010-2011	
8. Angat HEP T1	L	2010-2011	
9. Angat HEP T2	L	2010-2011	
10. Angat HEP Aux T-A 115 kV	L	2010-2011	
11. KSPP U1 230 kV	L	2010	
12. KSPP U2 230 kV	L	2010	
13. KSPP U3 230 kV	L	2010	
14. KSPP U4 230 kV	L	2010	
15. BacMan U1 230 kV	L	2010	
16. BacMan U2 230 kV	L	2010	
17. Tiwi U1 230 kV	L		Completed
18. Tiwi U2 230 kV	L		Completed
19. Tiwi U6 230 kV	L	2010	
20. PHEP U2 230 kV	L	2010	Completed
21. Caliraya U1 115 kV	L	2010-2011	
22. Caliraya U2 115 kV	L	2010-2011	
23. Botocan U1 115 kV	L	2010	
24. Ambuklao HEP 230 kV	L	2011	
25. PGPP I 2-138 kV	V	2010	Completed
26. PGPP II 2-138 kV	V	2010	Completed
27. PDPP I 2-138 kV	V	2010	Completed
28. PDPP III 2-138 kV	V	2010	Completed
29. CDPP I TR1-138 kV	V	2010	Completed
30. CDPP I TR2-138 kV	V	2010	Completed
31. CTPP II 138 kV	V	2010	Completed
32. LGBT 138 kV	V	2010	Completed
33. CDPP I STA. SVC 13.8 kV	V	2010	Completed

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
34. CTPP II STA. SVC. 138kV	V	2011	
35. BDPP 2-69 kV	V		Completed
36. KSPC L1 138 kV	V	2011	
37. KSPC L2 138 kV	V	2011	
38. CEDC Talavera L1-138 kV	V	2011	
39. CEDC Talavera L2-138 kV	V	2011	
40. Agus VI U1 69 kV	M	2010-2011	
41. Agus VI U2 69 kV	M	2010-2011	
42. Agus VI U3 69 kV	M	2010-2011	
43. Agus VI U4 69 kV	M	2010-2011	
44. NMPC U1-138 kV	M	2011	
45. NMPC U2-138 kV	M	2011	
46. NMPC U3-138 kV	M	2011	
47. NMPC U4-138 kV	M	2011	
48. Pulangi 4 HEP U1-138 kV	M	2010-2011	
49. Pulangi 4 HEP U2-138 kV	M	2010-2011	
50. Pulangi 4 HEP U3-138 kV	M	2010-2011	
51. Agus I U1-138 kV	M	2010-2011	
52. Agus I U2-138 kV	M	2010-2011	
53. Agus II U1-138 kV	M	2010-2011	
54. Agus II U2-138 kV	M	2010-2011	
55. Agus II U3-138 kV	M	2010-2011	
56. Agus IV U1-138 kV	M	2010	
57. Agus IV U2-138 kV	M	2010	
58. Agus IV U3-138 kV	M	2010	
59. Agus V U1-138 kV	M	2010	
60. Agus V U2-138 kV	M	2010	
61. Agus VI 138 kV	M	2010-2011	
62. Agus VII U1-138 kV	M	2010-2011	
63. Agus VII U2-138 kV	M	2010-2011	
B2. Meter Only			
1. GN Power - 2 MP	L	2013	
2. PEDC 2-138 kV	V	2011	
3. CEDC U3-138 kV	V	2011	
4. CEDC VECO Naga-138 kV	V	2010	
5. PPC 2-138 kV	V	2011	
6. Avon Rivers Iloilo 138 kV	V	2011	
7. CASA Passi 69 kV	V	2010	
8. BDPP 2MP 13.8 kV STA. SVC	V	2010	
9. EAUC 69 kV - VECO Mabolo	V	2010	

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
10. To be Identified 69 kV	V	2017 & 2019	2 Metering Points
11. To be Identified 138 kV	V	2016 & 2018	2 Metering Points
12. DLPC Bajada 4 MPs	M	2011	
13. TMI Mobile I (PB 118)TR1-138 kV	M	2010	
14. TMI Mobile I (PB 118) TR2-138 kV	M	2010	
15. TMI Mobile 2 (PB 117) TR1-138 kV	M	2010	
16. TMI Mobile 2 (PB 117) TR2-138 kV	M	2010	
17. MGPP 1 U1 138 kV	M	2012	
18. MGPP 1 U2 138 kV	M	2012	
19. HEDCOR Sibulan	M	2010	
21. Conal HCFT 138 kV	M	2014	
22. WMPC U1 138 kV	M	2011	
23. WMPC U2 138 kV	M	2011	
24. APC 300 MW 138 kV	M	2014	
To be Identified 230 kV	M	2016 & 2018	2 Metering Points
25. To be Identified 138 kV	M	2016 & 2018	2 Metering Points
C. Installation of revenue meters for Renewable Energy (RE) Generators (Meter Only)			
1. NLUPCAC 30 MW Balaoi	L	2014	Wind Power Project
2. NLUPCAC 50 MW Caparispisan	L	2011	Wind Power Project
3. EDC 86 MW Burgos	L	2012	Wind Power Project
4. ELPI 120 MW Pasuquin	L	2015	Wind Power Project
5. PUPCAC 70 MW Labrador	L	2016	Wind Power Project
6. EDC 40 MW Balaoi	L	2016	Wind Power Project
7. PERC 40 MW Sual	L	2015	Wind Power Project
8. APHC 30 MW Aparri	L	2015	Wind Power Project
9. APHC 30 MW Sta. Ana	L	2015	Wind Power Project
10. APHC 30 MW Sta. Praxedes-Pagudpud	L	2015	Wind Power Project
11. FMIC 15 MW Gonzaga	L	2016	Wind Power Project
12. FMIC 15 MW Sanchez Mira	L	2017	Wind Power Project
13. FMIC 15 MW Claveria	L	2017	Wind Power Project
14. NPWPC 30 MW Aparri	L	2013	Wind Power Project
15. TAREC 45 MW Abulog-Ballesteros-Aparri	L	2014	Wind Power Project
16. TAREC 48 MW Aparri-Camalaniugan	L	2015	Wind Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
17. TAREC 12 MW Sta. Ana	L	2014	Wind Power Project
18. CPDC 50 MW Carranglan	L	2018	Wind Power Project
19. CMUPCAC 120 MW Carranglan	L	2019	Wind Power Project
20. APHC 30 MW Caliraya	L	2014	Wind Power Project
21. APHC 30 MW Tanay	L	2015	Wind Power Project
22. PHESI 10 MW Puerto Galera	L	2015	Wind Power Project
23. APHC 30 MW Abra de Ilog	L	2014	Wind Power Project
24. TAREC 130 MW Mercedes	L	2015	Wind Power Project
25. Energy Logics Phil 50 MW Solar Energy	L	2015	Solar Energy Project
26. ASEZA 1 MW Solar Energy	L	2015	Solar Energy Project
27. Green Power Pangasinan Phils., Inc. 17.5 MW	L	2014	Biomass Project
28. Sure Inc. 1.5 MW	L	2012	Biomass Project
29. Lucky PPH International, Inc. 6.48 MW	L	2012	Biomass Project
30. Hacienda Bioenergy 0.4 MW	L	2010	Biomass Project
31. Bataan 2020 Bioenergy 12.5 MW	L	2011	Biomass Project
32. San Jose City I Power 10 MW	L	2012	Biomass Project
33. Green Power Nueva Ecija Phils. Inc 17.5 MW	L	2014	Biomass Project
34. Unisan Biogen Corp. 10 MW	L	2012	Biomass Project
35. Bacavalley Energy 4 MW	L	2013	Biomass Project
36. HEDCOR, Inc. 2.6 MW San Gabriel HEP	L	2015	Hydro Power Project
37. Tubao 1 MW HEP	L	2016	Hydro Power Project
38. Pansian 0.7 MW MHP	L	2012	Hydro Power Project
39. HEDCOR, Inc. 5.9 MW Atok 1 HEP	L	2015	Hydro Power Project
40. HEDCOR, Inc. 5.5 MW Atok 2 HEP	L	2015	Hydro Power Project
41. HEDCOR, Inc. 6.5 MW Atok 3 HEP	L	2015	Hydro Power Project
42. Century Peak Energy Corp. 2.4 MW Ominong HEP	L	2015	Hydro Power Project
43. HEDCOR, Inc. 7.9 MW Bago HEP	L	2016	Hydro Power Project
44. Cordillera Hydro Electric Power Corp. 19.9 MW Kapangan 1 HEP	L	2015	Hydro Power Project
45. Cordillera Hydro Electric Power Corp. 38.4 MW Kapangan 2 HEP	L	2015	Hydro Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
46. Century Peak Energy Corp. 3 MW Agno HEP	L	2015	Hydro Power Project
47. HEDCOR, Inc. 5 MW Eddet HEP	L	2016	Hydro Power Project
48. HEDCOR, Inc. 8.7 MW Kabayan 1 HEP	L	2016	Hydro Power Project
49. HEDCOR, Inc. 15.2 MW Kabayan 2 HEP	L	2016	Hydro Power Project
50. HEDCOR, Inc. 14.3 MW Kabayan 3 HEP	L	2016	Hydro Power Project
51. PNOC-Renewables 45 MW Natalang B HEP	L	2016	Hydro Power Project
52. BENEKO 1.6 MW Man-asok HEP	L	2012	Hydro Power Project
53. HEDCOR, Inc. 2.1 MW Galiano HEP	L	2016	Hydro Power Project
54. HEDCOR, Inc. 8 MW Lomboy/Suyoc HEP	L	2016	Hydro Power Project
55. HEDCOR, Inc. 5.3 MW Lower Ampohaw HEP	L	2016	Hydro Power Project
56. AV Garcia 1 MW Abdao HEP	L	2014	Hydro Power Project
57. HEDCOR, Inc. 3.8 MW Irisan 1 HEP	L	2016	Hydro Power Project
58. HEDCOR, Inc. 4.2 MW Tuba 1 HEP	L	2016	Hydro Power Project
59. HEDCOR, Inc. 18.9 MW Tuba 2 HEP	L	2016	Hydro Power Project
60. HEDCOR, Inc. 9.8 MW Tublay HEP	L	2016	Hydro Power Project
61. HEDCOR, inc. 16.2 MW Cadaclan HEP	L	2017	Hydro Power Project
62. Sta. Clara Power Corp. 3 MW Tinoc 1 HEP	L	2015	Hydro Power Project
63. Sta. Clara Power Corp. 6.5 MW Tinoc 2 HEP	L	2015	Hydro Power Project
64. Sta. Clara Power Corp. 5 MW Tinoc 3 HEP	L	2015	Hydro Power Project
65. Sta. Clara Power Corp. 10 MW Tinoc 4 HEP	L	2015	Hydro Power Project
66. Hydrocore Corp. 4.5 MW Ibulao HEP	L	2012	Hydro Power Project
67. Kalinga Hydro 10 MW Upper Tabuk	L	2016	Hydro Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
68. PNOG-Renewables, Inc. 24 MW Saltan B HEP	L	2016	Hydro Power Project
69. PNOG-Renewables, Inc. 20 MW Pasil B HEP	L	2016	Hydro Power Project
70. PNOG-Renewables, Inc. 22 MW Pasil C HEP	L	2016	Hydro Power Project
71. AV Garcia 1 MW Amlusong Creek HEP	L	2014	Hydro Power Project
72. AV Garcia 1 MW Chapin-Ay Creek HEP	L	2014	Hydro Power Project
73. AV Garcia 1 MW Sandanga HEP	L	2014	Hydro Power Project
74. HEDCOR, Inc. 8.6 MW Abit HEP	L	2016	Hydro Power Project
75. HEDCOR, Inc. 4.8 MW Mainit HEP	L	2016	Hydro Power Project
76. HEDCOR, Inc. 6.8 MW Sabangan 1	L	2016	Hydro Power Project
77. HEDCOR, Inc. 17 MW Sabangan 2	L	2016	Hydro Power Project
78. Atok 4 0.3 MW MHP	L	2012	Hydro Power Project
79. Nalatang 75 MW HEP	L	2016	Hydro Power Project
80. Nalatang A 29 MW HEP	L	2016	Hydro Power Project
81. Kibungan 1 2.5 MW HEP	L	2016	Hydro Power Project
82. Kibungan 2 6 MW HEP	L	2016	Hydro Power Project
83. Kibungan 3 15.2 MW HEP	L	2016	Hydro Power Project
84. Kibungan 4A 9 MW HEP	L	2016	Hydro Power Project
85. Kibungan 4B 8 MW MHP	L	2015	Hydro Power Project
86. Amburayan A 33.8 MW HEP	L	2016	Hydro Power Project
87. Ibulao 1 6 MW MHP	L	2016	Hydro Power Project
88. Ibulao 2 8 MW MHP	L	2016	Hydro Power Project
89. Asin River 4 MW MHP	L	2016	Hydro Power Project
90. Lamut River 9 MW HEP	L	2016	Hydro Power Project
91. Bulanao RIS 0.3 MW	L	2012	Hydro Power Project
92. Malucsad 2 MW HEP	L	2017	Hydro Power Project
93. Binongan 175 MW HEP	L	2017	Hydro Power Project
94. Daguionan 1.5 MW HEP	L	2016	Hydro Power Project
95. Talubin 3 MW HEP	L	2016	Hydro Power Project
96. Lower Talubin 3 MW HEP	L	2016	Hydro Power Project
97. Lower Siffu 8 MW	L	2017	Hydro Power Project
98. Upper Siffu 8 MW	L	2017	Hydro Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
99. Sunwest Water & Electric Company, Inc. 8 MW Pinacanauan River HEP	L	2017	Hydro Power Project
100. Sunwest Water & Electric Company, Inc. 2 MW Dummon North Tributary HEP	L	2017	Hydro Power Project
101. Sunwest Water & Electric Company, Inc. 2 MW Dummon Main Tributary HEP	L	2017	Hydro Power Project
102. PNOC-Renewables 60 MW Abuan HEP	L	2016	Hydro Power Project
103. Sta. Clara Power Corp. 14 MW Tumauini (Upper Cascade)	L	2017	Hydro Power Project
104. Sta. Clara power Corp. 6 MW Tumauini (Lower Cascade)	L	2011	Hydro Power Project
105. Smith Bel mini-Hydro Corp. 1.8 MW Commonal-Uddiawan HEP	L	2011	Hydro Power Project
106. E-Power technologies Corp. 8 MW Matuno HEP	L	2015	Hydro Power Project
107. Tanglagan 1.5 MW	L	2016	Hydro Power Project
108. Ilaguen 60 MW HEP	L	2016	Hydro Power Project
109. Ilaguen B 25 MW HEP	L	2016	Hydro Power Project
110. Pasa River 0.5 MW HEP	L	2016	Hydro Power Project
111. Addalan 46 MW HEP	L	2015	Hydro Power Project
112. Matuno 1 6 MW HEP	L	2016	Hydro Power Project
113. Matuno 2 9 MW HEP	L	2016	Hydro Power Project
114. Constellation Energy Corp. 3 MW Dupinga HEP	L	2015	Hydro Power Project
115. First Gen prime 300 MW Pantabangan Pump Storage Plant	L	2018	Hydro Power Project
116. Sunwest Water & Electric Company, inc. 1 MW Davildavilan HEP	L	2014	Hydro Power Project
117. First Gen Prime 800 MW Angat Pump Storage Plant	L	2019	Hydro Power Project
118. Calaanan 2 MW HEP	L	2015	Hydro Power Project
119. Mapanuepe lake	L	2015	Hydro Power Project
120. Dilitiwan 2 MW MHP	L	2014	Hydro Power Project
121. Kanan 113 MW HEP	L	2015	Hydro Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
122. Kinanliman 1.6 MW HEP	L	2016	Hydro Power Project
123. Constellation Energy Corp. 20 MW Alag	L	2016	Hydro Power Project
124. Constellation Energy Corp. 10 MW Bongabong HEP	L	2016	Hydro Power Project
125. Sta. Clara Power Corp. 8 MW Catuiran	L	2011	Hydro Power Project
126. Sta. Clara Power Corp. 8 MW Catuiran Upper Cascade HEP	L	2015	Hydro Power Project
127. Sta. Clara Power Corp. 8 MW Cantakoy	L	2015	Hydro Power Project
128. PNOC-Renewables 18 MW Dulangan HEP	L	2015	Hydro Power Project
129. Oriental Mindoro Electric Cooperative, Inc. 2.1 MW Linao-Cawayan HEP (Lower Cascade)	L	2015	Hydro Power Project
130. Oriental Mindoro Electric Cooperative, Inc. 2.1 MW Linao-Cawayan HEP (Upper Cascade)	L	2015	Hydro Power Project
131. Langogan Power Corp. 6.8 MW Langogan MHP	L	2011	Hydro Power Project
132. Langogan Power Corp. 3.5 MW Batang-Batang MHP	L	2014	Hydro Power Project
133. Bulalakao 1 North River 0.34 MW	L	2015	Hydro Power Project
134. Bulalakao 2 South River 0.44 MW	L	2015	Hydro Power Project
135. Naocalitcalit 0.12 MW	L	2015	Hydro Power Project
136. Batacalan (Hydro) 0.15 MW	L	2015	Hydro Power Project
137. Aglubang 13.6 MW HEP	L	2015	Hydro Power Project
138. Babuyan (Hydro) 5.6 MW	L	2017	Hydro Power Project
139. Cabinbin 0.8MW HEP	L	2014	Hydro Power Project
140. Sunwest Water & Electric Co., Inc. 0.3 MW Vera Falls MHP	L	2012	Hydro Power Project
141. Sunwest Water & Electric Co., Inc. 0.2 MW Palai Falls HEP	L	2012	Hydro Power Project
142. Sunwest Water & Electric Co., Inc. 0.2 MW Cumaguingking MHP	L	2012	Hydro Power Project
143. NASCENT 0.4 MW Barit Irrigation Discharge HEP	L	2015	Hydro Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
144. SKI Mini-Hydro Corp. 0.35 MW Coyaoyao (Middle Cascade)	L	2014	Hydro Power Project
145. SKI Mini-Hydro Corp. 0.2 MW Coyaoyao (Upper Cascade)	L	2014	Hydro Power Project
146. SKI Mini-Hydro Corp. 0.4 MW Coyaoyao (Lower Cascade)	L	2014	Hydro Power Project
147. Sunwest Water & Electric Co., Inc. 1.5 MW Hitoma MHP	L	2010	Hydro Power Project
148. Sunwest Water & Electric Co., Inc. 2.4 MW Kapiipan MHP	L	2010	Hydro Power Project
149. Sunwest Water & Electric Co., Inc. 2.1 MW Solong MHP	L	2010	Hydro Power Project
150. Ranggas 1.8 MW MHP	L	2014	Hydro Power Project
151. Colasi 0.96 MW MHP	L	2010	Hydro Power Project
152. Hitoma 2 1.58 MW MHP	L	2010	Hydro Power Project
153. Pagsangahan 1.2 MW	L	2015	Hydro Power Project
154. Hinipaan 1 0.42 MW	L	2015	Hydro Power Project
155. Hinipaan 2 (0.84 MW)	L	2015	Hydro Power Project
156. Gigmoto 0.55 MW	L	2015	Hydro Power Project
157. Pangaldawan 0.6 MW	L	2015	Hydro Power Project
158. Lower Dugui 3.2 MW MHP	L	2011	Hydro Power Project
159. Acupa-Itogon 20 MW	L	2018	Geothermal Project
160. Daklan 60 MW	L	2016	Geothermal Project
161. Bugias-Tinoc 60 MW	L	2016	Geothermal Project
162. Batong-buhay 60 MW	L	2015	Geothermal Project
163. Cagua 45 MW	L	2019	Geothermal Project
164. Natib 40 MW	L	2016	Geothermal Project
165. Mabini 20 MW	L	2015	Geothermal Project
166. Maibarara 20 MW	L	2014	Geothermal Project
167. Montelago 40 MW	L	2016	Geothermal Project
168. Tanawon 40 MW	L	2013	Geothermal Project
169. Rangas 40 MW	L	2015	Geothermal Project
170. Manito Kayabon 40 MW	L	2016	Geothermal Project
171. Mt. Labo 65 MW	L	2016	Geothermal Project
172. Isarog 70 MW	L	2019	Geothermal Project
173. Buguias 0.6MW HEP	L	2012	Hydro Power Project
174. SCWPC 30 MW San Carlos	V	2016	Wind Power Project
175. TAREC 54 MW San Lorenzo	V	2012	Wind Power Project
176. Constellation Energy Corp. 30	V	2015	Wind Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
MW Ilog			
177. PetroEnergy Resources Corp. 40 MW Nabas	V	2015	Wind Power Project
178. TAREC 10 MW Malay	V	2015	Wind Power Project
179. TAREC 10 MW Ibajay	V	2015	Wind Power Project
180. TAREC 12 MW Barotac Nuevo	V	2015	Wind Power Project
181. TAREC 16 MW Sibunag	V	2014	Wind Power Project
182. TAREC 10 MW Nueva Valencia	V	2014	Wind Power Project
183. TAREC 9 MW San Joaquin	V	2017	Wind Power Project
184. TAREC 12 MW Dumangas	V	2018	Wind Power Project
185. FirstMaxpower International Corp. 15 MW Pulupandan	V	2017	Wind Power Project
186. Constellation Energy Corp. 30 MW Bayawan-Tanjay-Pamplona	V	2015	Wind Power Project
187. TAREC 10 MW Anda-Guindulman	V	2018	Wind Power Project
188. ASK Mining & Exploration Corp	V	2015	Solar Energy Project
189. Phil-Korean Energy Corp. 30 MW	V	2013	Biomass Project
190. First Farmers Holdings Corp. 10 MW	V	2010	Biomass Project
191. Victorias Milling Company 10 MW	V	2010	Biomass Project
192. Central Azucarera de San Antonio 7 MW	V	2010	Biomass Project
193. ASEA One Power Corp. 12 MW	V	2012	Biomass Project
194. Green Power Panay 17.5 MW	V	2010	Biomass Project
195. MW San Carlos Bioenergy 3.5 MW	V	2013	Biomass Project
196. San Carlos Biopower, Inc. 15 MW	V	2013	Biomass Project
197. Asea One Power Corp. 30 MW	V	2014	Biomass Project
198. Century Peak Energy Corp. 5.5 MW Sibalon River (Upper) MHP	V	2015	Hydro Power Project
199. Century Peak Energy Corp. 8 MW Sibalon River (Middle) MHP	V	2015	Hydro Power Project
200. Century Peak Energy Corp. 4 MW Sibalon River (Lower) MHP	V	2015	Hydro Power Project
201. Century Peak Energy Corp. 5 MW Maninila River (Upper) MHP	V	2015	Hydro Power Project
202. Century Peak Energy Corp. 10 MW Maninila River (Lower) MHP	V	2015	Hydro Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
203. Antique Electric Cooperative, Inc. 1 MW Caro-an HEP	V	2013	Hydro Power Project
204. Antique Electric Cooperative, Inc. 1.3 MW Ipayo HEP	V	2013	Hydro Power Project
205. Sunwest Water & Electric Co., Inc. 8 MW Villasiga MHP	V	2010	Hydro Power Project
206. Sunwest Water & Electric Co., Inc. 2 MW Guiamon San Ramon MHP	V	2015	Hydro Power Project
207. Sunwest Water & Electric Co., Inc. 3 MW Dalanas HEP	V	2014	Hydro Power Project
208. Sunwest Water & Electric Co., Inc. 2.1 MW Tibiao HEP	V	2014	Hydro Power Project
209. Oriental Energy & Power Gen. Corp. 18 MW Timbaban HEP	V	2015	Hydro Power Project
210. Sunwest Water & Electric Co., Inc. 2.4 MW Aklan HEP-Upper West	V	2016	Hydro Power Project
211. Sunwest Water & Electric Co., Inc. 2.4 MW Aklan HEP-Middle West	V	2016	Hydro Power Project
212. Sunwest Water & Electric Co., Inc. 3 MW Aklan HEP-Lower East	V	2016	Hydro Power Project
213. Sunwest Water & Electric Co., Inc. 15 MW Aklan Main River HEP	V	2015	Hydro Power Project
214. Century Peak Energy Corp. 8.1 MW Hilabangan River Lower	V	2015	Hydro Power Project
215. Century Peak Energy Corp. 5.7 MW Hilabangan River Upper	V	2015	Hydro Power Project
216. Century Peak Energy Corp. 8 MW Bago HEP	V	2017	Hydro Power Project
217. Century Peak Energy Corp. 1.1 MW Hamitican HEP	V	2014	Hydro Power Project
218. Century Peak Energy Corp. 1.1 MW Himogaan HEP	V	2014	Hydro Power Project
219. Vivant Corp. 5 MW Malugo HEP	V	2015	Hydro Power Project
220. Renouvel Dev't. Corp. 2 MW Iglanggam	V	2014	Hydro Power Project
221. Century Peak Energy Corp. 6 MW	V	2013	Hydro Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
Igbulo			
222. Century Peak Energy Corp. 2.1 MW Tigum	V	2016	Hydro Power Project
223. Century Peak Energy Corp. 1.7 MW Tipuluan	V	2014	Hydro Power Project
224. Century Peak Energy Corp. 1.2 MW Tumagboc	V	2014	Hydro Power Project
225. Century Peak Energy Corp. 1 MW Turao	V	2014	Hydro Power Project
226. PNOC-Renewables Corp. 20 MW Jalaur HEP	V	2019	Hydro Power Project
227. Bago-Prosperidad 1 6.2 MW HEP	V	2016	Hydro Power Project
228. Bago-Prosperidad 2 2 MW HEP	V	2016	Hydro Power Project
229. Bago-Prosperidad 3 1.1 MW HEP	V	2016	Hydro Power Project
230. Bago-Prosperidad 4 0.31 MW HEP	V	2016	Hydro Power Project
231. Upper Bago 1.2 MW HEP	V	2016	Hydro Power Project
232. Initihan 3 MW HEP	V	2016	Hydro Power Project
233. Dumalaylay 1.5 MW MHP Upper	V	2015	Hydro Power Project
234. Dumalaylay 4 MW MHP Lower	V	2015	Hydro Power Project
235. Bauang 17MW (Alternative) 1	V	2017	Hydro Power Project
236. Bauang 17MW (Alternative) 2	V	2017	Hydro Power Project
237. Bauang 24MW (Alternative) 3	V	2017	Hydro Power Project
238. Nayawan 5.4 MW HEP	V	2015	Hydro Power Project
239. PNOC-Renewables Corp. 17.8 MW Sicopong MHP	V	2013	Hydro Power Project
240. PNOC-Renewables Corp. 5.4 MW Siaton	V	2013	Hydro Power Project
241. PNOC-Renewables Corp. 33 MW Pacuan MHP	V	2013	Hydro Power Project
242. Natural Power Sources Integration, Inc. 3.2 MW Amlan A	V	2014	Hydro Power Project
243. Natural Power Sources Integration, Inc. 1.5 MW Amlan B	V	2014	Hydro Power Project
244. Natural Power Sources Integration, Inc. 0.8 MW Amlan C	V	2014	Hydro Power Project
245. Century Peak Energy Corp. 1 MW Balanan	V	2013	Hydro Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
246. PNOC-Renewables Corp. 11 MW Okoy	V	2013	Hydro Power Project
247. Meadowland Developers, Inc. 0.5 MW Basak II	V	2013	Hydro Power Project
248. Sta. Clara Power Corp. 8 MW Cantakoy	V	2015	Hydro Power Project
249. Tabud-Duguan 0.4 MW	V	2016	Hydro Power Project
250. PNOC-Renewables Corp. 3 MW Mauo	V	2016	Hydro Power Project
251. Amandaraga 4 MW HEP	V	2015	Hydro Power Project
252. Bolosao River HEP	V	2016	Hydro Power Project
253. Mandalagan 20 MW Geothermal Plant	V	2017	Geothermal Project
254. Nasulo 20 MW Geo Power Project	V	2013	Geothermal Project
255. Dauin 40 MW Geothermal Plant	V	2017	Geothermal Project
256. Southern Leyte 80 MW Geothermal Project	V	2019	Geothermal Project
257. Biliran 20 MW Geothermal Plant	V	2015	Geothermal Project
258. CEPALCO 5 MW Solar Power Project	M	2015	Solar Energy Project
259. Crystal Sugar 3 MW	M	2010	Biomass Project
260. PhilCarbon, Inc. 0.5 MW Pasonanca	M	2013	Hydro Power Project
261. PhilCarbon, Inc. 1 MW Pasonanca - Upstream	M	2013	Hydro Power Project
262. Salug Daku 6 MW MHP	M	2010	Hydro Power Project
263. Dapitan River 3.75 MW	M	2013	Hydro Power Project
264. Palandok River - Leon Postigo	M	2015	Hydro Power Project
265. Ingin River - Sindangan 3 MW	M	2015	Hydro Power Project
266. Lower Dapitan 3.8MW MHP	M	2013	Hydro Power Project
267. Upper Dapitan 3.6MW MHP	M	2013	Hydro Power Project
268. Middle Dapitan 4.4MW MHP	M	2013	Hydro Power Project
269. Oriental Energy & Power Gen. Corp. 3 MW Odiongan River - Upper	M	2015	Hydro Power Project
270. Oriental Energy & Power Gen. Corp. 10 MW Odiongan River - Middle	M	2015	Hydro Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
271. Oriental Energy & Power Gen. Corp. 9 MW Odiongan River - Lower	M	2015	Hydro Power Project
272. MINERGY 8 MW Cabulig MHP	M	2010	Hydro Power Project
273. Sta. Clara Power Corp. 5 MW Clarin	M	2013	Hydro Power Project
274. MOELC II 1.1 MW Pailan	M	2015	Hydro Power Project
275. Sta. Clara Power Corp. 9 MW Manupali	M	2013	Hydro Power Project
276. Sta. Clara Power Corp. 10 MW Mangina	M	2016	Hydro Power Project
277. First Gen Mindanao Hydro Power Corp. 8 MW Cagayan River 1	M	2014	Hydro Power Project
278. First Gen Mindanao Hydro Power Corp. 10 MW Cagayan River 2	M	2014	Hydro Power Project
279. First Gen Mindanao Hydro Power Corp. 20 MW Tagoloan HEP	M	2012	Hydro Power Project
280. First Gen Mindanao Hydro Power Corp. 8 MW Tumalaong River	M	2016	Hydro Power Project
281. First Gen Mindanao Hydro Power Corp. 8 MW Bubunawan River (Hydro)	M	2016	Hydro Power Project
282. Oriental Energy & Power Gen. Corp. 10 MW Culaman MHP	M	2015	Hydro Power Project
283. E-Power 8 MW Cagayan De Oro	M	2013	Hydro Power Project
284. Sta. Clara Power Corp. 3 MW Mat-I HEP	M	2013	Hydro Power Project
285. Mat-I Lower 2 MW HEP	M	2014	Hydro Power Project
286. Limbatangon 10 MW HEP	M	2015	Hydro Power Project
287. Impasugong 1 20 MW HEP	M	2016	Hydro Power Project
288. Impasugong 2 1.9 MW HEP	M	2016	Hydro Power Project
289. Kinapotan 2.5 MW HEP	M	2016	Hydro Power Project
290. Dila 1.1 MW HEP	M	2016	Hydro Power Project
291. Lower Atugan 3.5 MW HEP	M	2016	Hydro Power Project
292. Upper Atugan 2.6 MW HEP	M	2016	Hydro Power Project
293. Atugan Falls 0.5 MW HEP	M	2016	Hydro Power Project
294. Impasugong-Dumalaguig 1.4 MW	M	2016	Hydro Power Project
295. Pulangui V 300 MW HEP	M	2019	Hydro Power Project
296. Manupali 8 MW HEP	M	2016	Hydro Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
297. Bulanog Batang 150MW HEP	M	2018	Hydro Power Project
298. HEDCOR 20 MW Tamungan HEP	M	2015	Hydro Power Project
299. HEDCOR 16.5 MW Sibulan Plant A HEP	M	2016	Hydro Power Project
300. HEDCOR 26 MW Sibulan Plant B HEP	M	2016	Hydro Power Project
301. HEDCOR 14.9 MW Simod HEP	M	2015	Hydro Power Project
302. HEDCOR 9.5 MW Sita 1 HEP	M	2015	Hydro Power Project
303. HEDCOR 21.2 MW Sita 2 HEP	M	2015	Hydro Power Project
304. HEDCOR 11.6 MW Sita 3 HEP	M	2015	Hydro Power Project
305. HEDCOR 7 MW Suawan MHP	M	2011	Hydro Power Project
306. HEDCOR 10 MW Sibulan (Downstream)	M	2016	Hydro Power Project
307. HEDCOR 5 MW Sibulan (Upstream) HEP	M	2016	Hydro Power Project
308. Cateel E 17.5 MW	M	2016	Hydro Power Project
309. Talaingod 9 MW MHP	M	2012	Hydro Power Project
310. Conal Holdings Corp. 8.7MW Siguil 1 HEP	M	2016	Hydro Power Project
311. Conal Holdings Corp. 3.2MW Siguil 2 HEP	M	2016	Hydro Power Project
312. Conal Holdings Corp. 4.8MW Siguil 3 HEP	M	2016	Hydro Power Project
313. Liangan 12 MW HEP	M	2015	Hydro Power Project
314. Libungan 10MW HEP	M	2015	Hydro Power Project
315. Magpet 10MW HEP	M	2012	Hydro Power Project
316. Agus 3 225MW HEP	M	2011	Hydro Power Project
317. First Gen Mindanao Hydro Power Corp. 30MW Puyo River HEP	M	2015	Hydro Power Project
318. First Gen Mindanao Hydro Power Corp. 14MW Cabadbanan River HEP	M	2015	Hydro Power Project
319. Asiga 11.3MW HEP	M	2018	Hydro Power Project
320. Pugo A 18.7MW HEP	M	2019	Hydro Power Project
321. Pugo B 15.1MW HEP	M	2018	Hydro Power Project
322. Pugo D 11.4MW HEP	M	2017	Hydro Power Project
323. Pugo E 6.8MW HEP	M	2017	Hydro Power Project
324. Lake Mainit 25 MW HEP	M	2016	Hydro Power Project
325. Taguibo 8 MW MHP	M	2015	Hydro Power Project
326. Hubo 10 MW MHP	M	2015	Hydro Power Project

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
327. Tran River 30 MW	M	2019	Hydro Power Project
328. Lakewood 40 MW	M	2018	Geothermal Project
329. Ampiro 30 MW	M	2019	Geothermal Project
330. Amacan 20 MW	M	2015	Geothermal Project
331. Mt. Apo 50 MW	M	2014	Geothermal Project
D. Installation of revenue meters for NGCP S/S Station Service			
1. Luzon (NLN, NLS, SLN, SLS)	L	2010	
2. Visayas (East & West)	V	2010	
3. Mindanao (North & South)	M	2010	
II. REHABILITATION, UPGRADING & RELOCATION			
A. Relocation of Metering Installation to the prescribed connection point			
A1. Full Metering			
1. 4-230 kV Transformer Metering at Balintawak S/S	L	2012	
2. IRRI-2 13.8 kV Metering	L	2012	
3. AEC 1st 69 kV Metering	L	2011	
4. TEI 69 kV Metering at Concepcion S/S	L	2011	
5. Pan Century 69 kV	L	2013	
6. SORECO II Balogo 69 kV	L	2011	
7. ALECO Tabaco 69 kV	L	2011	
8. ISELCO I Alicia 69 kV	L	2011	
9. BENEKO Mankayan 69 kV	L	2012	
10. BENEKO Atok 69 kV	L	2012	
11. TARELCO VOA 230 kV	L	2013	
12. NORECO II Banaba 69 kV	V	2013	
13. NORECO II Siaton 69 kV	V	2012	
14. ANTECO Culasi 69 kV	V	2011	
15. ESAMELCO Borongan 69 kV	V	2013	
16. ESAMELCO Taft 69 kV	V	2012	
17. VECO Banilad TR4 138 kV	V	2011	
18. ASELCO M1 69 kV	M	2010	
19. TESDA 13.8 kV	M	2011	
20. LASURECO M1 69KV (Abaga)	M	2011	
21. LASURECO M3 69KV (Agus I)	M	2011	
A2. Meter Only			
1. CND-Meralco Totalizer Metering at CND S/S	L	2012	
2. CND-Meralco Totalizer	L	2012	

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
Metering at Bulualto			
3. 34.5 kV MECO Totalizer Metering at San Jose S/S	L	2011	
2. Limaland 69 kV at Batangas	L	2013	
4. 230 kV Bacnotan Metering at BCFTPP	L	2012	
5. MECO DASMA Ternate 115 kV	L	2013	
6. MECO DASMA 65DM4 115 kV (Tagaytay)	L	2010	
7. SBMA L3 Totalizer Metering	L	2010	
8. MECO Sta. Cruz 69 kV at Caliraya	L	2012	
9. MECO Lakeview 69 kV at Dasma	L	2012	
10. ALECO Ligao T2 69 kV	L	2013	
11. SORECO II Gubat 69 kV	L	2013	
12. CASURECO II Calabanga 69 kV	L	2012	
13. CASURECO II Tinambac 69 kV	L	2013	
14. CASURECO III Bula 69 kV	L	2012	
15. To be identified 69kV	L	2012-2015	
16. Totalizer Metering for VECO Paknaan and Cadiz Steel	V	2011	
17. NOCECO Sipalay at Maricalum S/S	V	2012	
18. NOCECO Cauayan at Maricalum S/S	V	2012	
19. Totalizer Metering at 53KB4 Kabangkalan S/S	V	2013	
20. Totalizer Metering at NOCECO-Mabinay Line	V	2013	
21. Totalizer Metering at 51BN4/124 Bacolod S/S	V	2013	
22. Totalizer Metering at 53BN8/124 Bacolod S/S	V	2013	
23. Totalizer Metering at PCB 52BT4 Butuan S/S (ANECO+NIA)	M	2011	
24. MORESCO I M11 at NMPC S/S	M	2012	

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
25. Totalizer Metering at 56TC4 Tacurong S/S (SOCOTECO I)	M	2012	
26. Totalizer Metering at PCB 52NS4 Nasipit S/S (MORESCO II+WilMar)	M	2012	
27. Totalizer Metering at 51KD4 Kidapawan S/S (COTELCO)	M	2012	
28. COTELCO-Totalizer Metering at BD261E Tacurong-Kidapawan Line (COTELCO)	M	2012	
29. MORESCO I M10 at Lugait S/S	M	2012	
30. MORESCO I M13	M	2010	
31. ASELCO M3	M	2011	
32. DANECO M6	M	2011	
33. DANECO M9	M	2011	
34. DANECO M12	M	2012	
35. MAGELCO M2	M	2012	
36. MAGELCO M4	M	2012	
37. SOCOTECO II M8	M	2012	
38. SOCOTECO II M11	M	2012	
B. Rehabilitation of Metering Structure			
1. LUELCO Bacnotan	L	2012	
2. ORICA	L	2012	
3. Gapan Ice Plant	L	2012	
4. DND	L	2014	
5. Pilmico	M	2011	
6. ECAC	M	2011	
C. Installation of back-up meters			
1. Luzon (NLN, NLS, SLN, SLS)	L	2012-2013	
2. Visayas (East & West)	V	2012-2013	
3. Mindanao (North & South)	M	2012-2013	
D. Upgrade of metering facilities			
D1. Conversion from 2 1/2, 2-element to 3-element metering scheme			
1. EEI	L	2011	
2. BBTI	L	2011	
3. AG&P	L	2011	
4. Cocochem 1	L	2011	
5. CBCI	L	2011	
6. QUEZELCO I Atimonan	L	2013	
7. SURSECO II M1	M	2011	

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
8. APEX Mining	M	2011	
9. MAGUELCO M1	M	2011	
10. CAMELCO M1	M	2011	
11. ANECO M3	M	2012	
12. ANECO M6	M	2012	
13. APEX MINING M1	M	2012	
14. SURSECO II M1	M	2013	
15. DANECO M7	M	2013	
16. DORECO M2	M	2013	
17. COTELCO M6	M	2013	
18. MAGELCO M1	M	2014	
19. SOCOTECO II M2	M	2014	
20. SOCOTECO II M3	M	2015	
21. SOCOTECO II M4	M	2015	
D2. Upgrade to dedicated CTPT			
1. CEPZA 45RS4-34.5 kV	L	2012	
2. 69 kV FPIC Gabaldon	L	2013	
III. REPLACEMENT PROGRAM			
A. Replacement of underrated and/or overrated Current Transformers			
1. CASURECO II Naga	L	2010	
2. SFELAPCO - Totalizer A	L	2011	
3. MEPZ2 Acoland 69 kV	V	2010	
B. Replacement of CTs and/or PTs with oil leak			
1. Edong Ice Plant 69 kV	L	2010	
2. MECO Balintawak-CND and Duhat 230 kV	L	2010	
3. MECO Teresa 115 kV	L	2011	
4. MECO PPC 115 kV	L	2011	
5. LUECO Bacnotan 69 kV Totalizer	L	2011	
C. Replacement of non-revenue class CTs and/or PTs with revenue accuracy class			
1. CEPZA 44RS4-34.5 kV	L	2014	
2. CEPZA 46RS4-34.5 kV	L	2014	
3. Totalizer Metering at PCB 54BT4 Butuan S/S	M	2013	
4. MCC-PNOC 69kV	M	2011	
E. Metering equipment, devices, accessories and Test equipment			
E1. Revenue Meters	LVM	2011-2019	
E2. Instrument Transformers	LVM	2011-2019	
E3. GSM Modem	LVM	2011-2019	

CAPEX PROGRAMS

PROGRAMS/ PROJECT NAME	GRID	PROJECT SCHEDULE	REMARKS
E4. Meter Box	LVM	2011-2019	
E5. Spares	LVM	2011-2019	
E6. Laboratory and Field Equipment	LVM	2011-2019	