ANNEX B

DOE-EPIMB DDP FORM 2021-01-001

Instruction Manual

ABSTRACT

This instruction manual has been developed to guide the Distribution Utilities (DUs) in using the DOE–EPIMB DDP Form 2021-01-001 which requires information related to Electricity Demand and Supply Forecasts, Capital Infrastructure and Expenditures, Power Supply Procurement Plan, Barangay/Sitio/Household Electrification Plans and Programs, and other related information on a historical and ten-year planning period that are necessary for DUs to identify existing and potential issues that may impede DUs services to customers and connections to its system of any customer within its franchise area and supply electricity in the least cost manner.

TABLE OF CONTENTS

I. Introduction 5
1. Module 1: Power Supply Procurement Plan (PSPP) 6
2. Module 2: Distribution Development Plan Form (DDP) 7
II. Instruction in the use of DOE–EPIMB DDP Form 2021-01-001 8
1. Preparation of DOE–EPIMB DDP FORM 2021-01-001 8
1.1. System Requirements 8
1.2. Package 9
1.3. Sectors 10
1.4. Energy Flow 10
1.5. Initialization 11
2. PSPP Data 11
2.1. Filling-up Sheet Offtake, MWh Offtake for Last Historical Year 13
2.2. Filling-up Sheet Hist, Historical Consumption Data 13
2.3. Filling-up Sheet LP, Load Profile for Previous Year 16
2.4. Filling-up Sheet Forc, Forecasted Consumption Data 17
2.5. Filling-up Sheet PSA1, Power Supply Agreements - Contracted 20
2.6. Filling-up Sheet PSA2, Power Supply Agreements - Pending 21
2.7. Filling-up Sheet CSP, Competitive Selection Process 22
2.8. Filling-up Sheet Capt, Historical and Forecasted Captive Connections in Sector 23
2.9. Checking the Sheets for Correctness 24
3. Processing Input Data for PSPP 24
4. Editing the Draft PSPP 25
4.1. Historical Consumption Data 26
4.2. Previous Year's Load Profile 27
4.3. Forecasted Consumption Data 28
4.4. Power Supply 30
4.5. Captive Customer Connections 31
4.6. Finalizing the PSPP 31
5. DDP Data 31
5.1. Filling-up Sheet HistForc, Historical and Forecasted Consumption Data 32
5.2. Filling-up Sheet Cust, Historical and Forecasted Customer Data 33
5.3. Filling-up Sheet CAPEX-1, Planned CAPEX Program Details 34
5.4. Filling-up Sheet CAPEX-2, Historical Infrastructure Quantities 36
5.5. Filling-up Sheet CAPEX-3, Historical Capital Expenditures, Million PhP 36
5.6. Filling-up Sheet CurrInf, Current Infrastructure Quantities 37
5.7. Filling-up Sheet SSTx, Forecasted Loads per Substation Transformer 37
5.8. Filling-up Sheet Subs, Subsidized Projects 38
5.9. Filling-up Sheet HH, Household Electrification 39
5.10. Filling-up Sheet Elec, General Electrification 41
5.11. Filling-up Sheet Cont, Contestable Customers 43
5.12. Filling-up Sheet GEOP, GEOP Customers 44
5.13. Filling-up Sheet NM, Net Metering Customers 45
5.14. Filling-up Sheet RPS, Renewable Portfolio Standards 46
5.15. Filling-up Sheet Rel, Historical Distribution-side Interruptions 47

5.16. Checking the Sheets for Correctness 47
6. Processing Input Data for DDP 48
7. Editing the Draft DDP 49
7.1. General Information 50
7.2. Historical and Forecasted Consumption Data 50
7.3. Historical and Forecasted Customer Data 51
7.4. Capital Projects 52
7.5. Distribution System Assets 52
7.6. Subsidized Projects 53
7.7. Household Electrification 53
7.8. General Electrification 53
7.9. Contestable Customers 53
7.10. GEOP Customers 54
7.11. Net Metering Customers 54
7.12. Historical Reliability Indices 54
7.13. Finalizing the DDP 55
8. Next Year's Inputs 55
8.1. Next Year's PSPP Inputs 55
8.2. Next Year's DDP Inputs 56
9. Submission to DOE 56
III. Flow Chart on the preparation of DOE-EPIMB DDP Form 2021-01-001 57

I. Introduction

The main objective of the Distribution Development Plan (DDP) is to guide the Distribution Utilities (DUs) in planning for the future power requirements of their respective franchise areas brought about by foreseen economic developments to include infrastructure projects that will accommodate load growth and improve system reliability and efficiency. The DDP will also serve as reference for investment promotion and project prioritization as it contains the future supply requirements of a certain franchise area.

Equally important is that the DDP serves as a critical input in developing energy policies for an integrated and comprehensive exploration, development, utilization, distribution and conservation of energy resources, with preferential bias for environment-friendly, indigenous and low-cost sources of energy and to ensure energy reliability, the Department of Energy (DOE) is directed by Electric Power Industry Reform Act of 2001 (EPIRA) to prepare and update annually the Power Development Program (PDP) and Philippine Energy Plan (PEP). The PDP shall then consider and integrate the DDP of the DUs.

These DDPs provided by each DU serve as the foundation for analysis and policy recommendations. To carry out this Distribution Development Planning, DUs shall prepare and submit to the DOE an annual DDP not later than 15th of March each year. In the case of Electric Cooperatives (ECs), such plans shall be submitted through National Electrification Administration (NEA) for review and consolidation. Thus, NEA shall submit to DOE the consolidated DDP of ECs not later than 15th of March each year (Rule 7, Section 4 of the EPIRA Implementing Rules and Regulations). Since the PEP covers the ten-year planning horizon, the DUs are then required to extend the five-year energy and demand forecast to a ten-year projection to be consistent with the PEP.

The PEP as described in Section 37, Chapter III of EPIRA has the structure as shown in Figure 1-1.

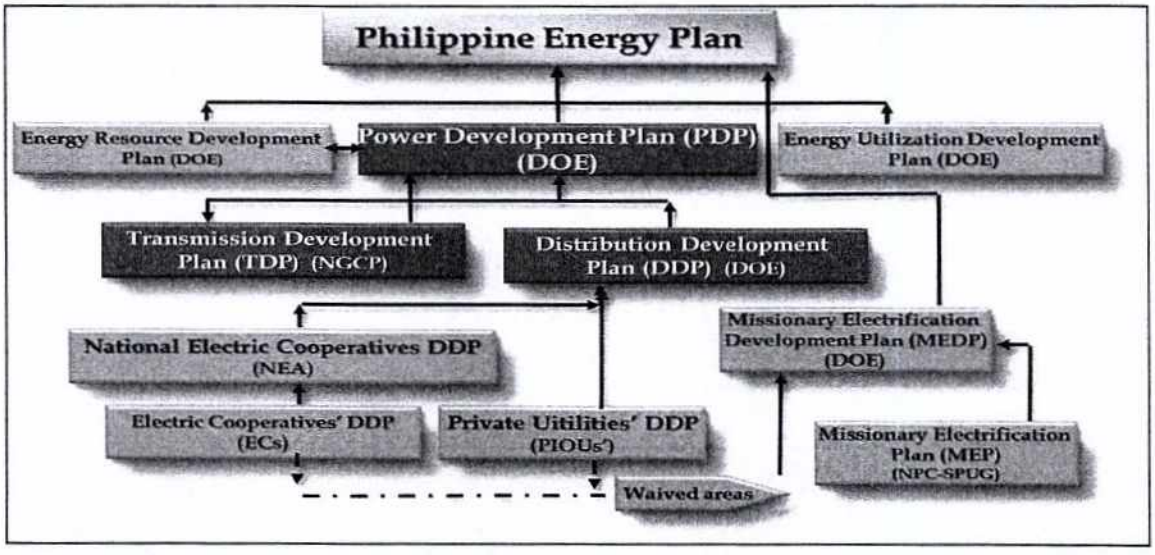


Figure 1. Framework of Philippine Energy Plan

As can be gleaned from Figure 1, data gathered from DDP submissions will be consolidated into a database and analysed to enable DOE to have an analytic foundation to guide policy formulation and serves as a critical input to the PDP which is the indicative plan for managing electricity demand through energy-efficient programs and for the upgrading, expansion, rehabilitation, repair and maintenance of power generation and transmission facilities, similarly formulated and updated yearly by the DOE in coordination with the generation, transmission and distribution utility companies.

To assists the DU's in performing its mandate under EPIRA, DOE created a comprehensive universal DOE–EPIMB DDP Form 2021-01-001 that is responsive to the dynamic electric power industry, among others, that will contribute, as a planning tool, to the continuity of electricity service to captive customers through anticipative actions by the DU on when distribution projects are needed, considering construction lead time, and when to enter into new Power Supply Agreements (PSA) though peak demand projections using historical information and best available information on new upcoming customers.

An accomplished DOE-EPIMB DDP Form 2021-01-001 is also a marketing tool in that it will show that a DU is well-managed. This will lower the perceived counterparty risk, possibly enabling a DU to secure lower generation rates in the future. Corollary, an accomplished DOE-EPIMB DDP Form 2021-01-001 Template is a strategic tool.

The DOE-EPIMB DDP Form 2021-01-001 creates automated summaries using VBA programming. Though thoroughly tested, the DOE-EPIMB DDP Form 2021-01-001 Template may still manifest defects that are inherent to newly developed systems. Thus, end-users who encounter defects are encouraged to inform DOE through doe.ddpsubmissions@gmail.com. Said defects will be immediately redressed by DOE.

The DOE–EPIMB DDP Form 2021-01-001 is composed of two (2) modules namely the Power Supply Procurement Plan (PSPP) and the Distribution Development Plan. Though encoding of data in both modules are required, the PSPP will ultimately serve as an input to the DDP. The PSPP and DDP will require the following data:

1. **Module 1: Power Supply Procurement Plan (PSPP)**

    1.1. **Consumption Data**. This worksheet consists of the vital data necessary in the preparation of DDP such as progression of historical and forecasted coincident peak, offtake and input, output per customer class based on a different classification and system loss.

    1.2. **Load Profile.** This worksheet consists of the DUs' load profile for the previous year for each metering point.

    1.3. **Power Supply.** This worksheet consists of the details on each contracted PSA approved by the Energy Regulatory Commission (ERC), pending before the ERC for approval, and supply requirements for Competitive Selection Process (CSP).

1.4. **Captive Customer Data.** This worksheet consists of the historical and forecasted number of captive customer connections per customer class based on different classifications.

2. Module 2: Distribution Development Plan Form (DDP)

2.1 **General Information**. This worksheet consists of the general information of the DU, including a brief description of its franchise area and brief narrative of the supply situation.

2.2 **Power Supply Procurement Plan.** This worksheet consists of the consolidated data from Module 1.

2.3 **Customer Data.** This worksheet consists of the historical and forecasted number of energized and un-energized barangays and households, customers outside franchise, captive and contestable customers, Green Energy Option Program (GEOP) customers, customers with net metering and Renewable Energy (RE) Self-Generation Facilities (SGF) for DUs' own use.

2.4 **Capital Expenditures (CAPEX).** This worksheet consists of the historical and current infrastructure quantities and its corresponding historical CAPEX details of the planned CAPEX Program and forecasted loads per substation transformer.

2.5 **Subsidized Projects.** This worksheet consists of the information on all government-subsidized projects.

2.6 **Electrification.** This worksheet consists of the information on the current household electrification situation and the information on all electrification activities planned to be undertaken from the first forecast year onwards, whether sitio electrification, household electrification, turn-over to another DU, or a declaration to waive.

2.7 **Contestable Customers.** This worksheet consists of the list of DUs' existing and potential contestable customers with regard to their classifications: 1 MW and above, 750 kW to less than 1MW, and 501 kW to less than 750 kW.

2.8 **GEOP Customers.** This worksheet consists of information on all customers that switched to GEOP within the DU's franchise area.

2.9 **Net Metering (NM) Customers.** This worksheet consists of the details of the number of customers with NM and its corresponding energy injected to the DU.

2.10 **Renewable Portfolio Standards (RPS).** This section consists of the details of existing and future energy supply from eligible renewable energy generators in compliance to RPS rules.

2.11 **Reliability Indices.** This section consists of the information on DUs historical distribution-side interruptions.

An RPS Requirement and Compliance Form will also form part of the DUs submission of their DDPs. The Renewable Energy Management Bureau (REMB) of the DOE has already issued RPS Requirement and Compliance Form for grid. REMB will also issue the RPS Form for off-grid and the corresponding Instruction Manuals, both for grid and off-grid, in filling-up the said Forms.

II. Instruction in the use of DOE–EPIMB DDP Form 2021-01-001

1. PREPARATION OF DOE–EPIMB DDP FORM 2021-01-001

1.1. System Requirements

Use a computer with an operating system of Windows 7 or Windows 10. Ensure that there is a working installation of Microsoft Office 2013 or higher versions.

The filled samples should execute perfectly in a compatible computer. To test this, open the samples, enable macros, and click the Proceed button. The raw output of the process should be the same as the attached sample draft DDP and PSPPs. If there is faulty execution in exporting to a draft, try the following steps:

1. On any cell in any MS Excel file, type "1/5". If the cell value transforms to anything resembling "5 January" then the date settings are correct. If the reflected value is anything resembling "1 May" then the format for Short date in the computer's Date and Time Settings must be changed to "M/d/yyyy".



Figure 2. Formatting of Date and Time

2. In MS Excel, click File → Options → Trust Center → Trust Center Settings → Macro Settings. Then, select "Disable all macros with notification".



Figure 3. Disabling of macros in settings

3. In MS Excel, click File → Options → Add-Ins. In the box "Manage", select "COM Add-Ins" and click "Go". From the window, uncheck all COM Add-Ins.

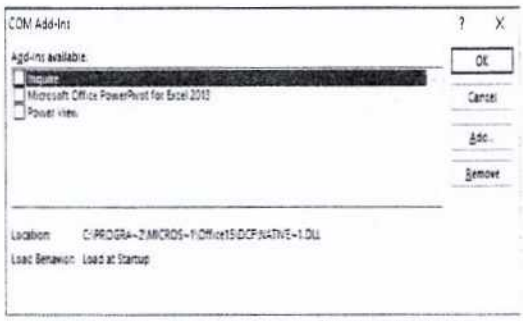


Figure 4. Management of COM Add-Ins

If there is faulty execution even if the steps indicated above are followed, the templates can still be used for inputting. However, a suitable computer must be found to maximize the capabilities of the templates.

1.2. Package

The DOE-EPIMB DDP Form 2021-01-001 Template Package is a folder which consists of five (5) files and one (1) subfolder:

File	Description
01 DDP.XLSM	The main DDP template
02 PSPP.XLSM	The PSPP template which serves as partial input to the main DDP template
03 Barangays.XLSX	Contains a list of barangays
04 Draft DDP.DOCX	A file that serves as a pattern for the draft DDP which will contain the tables and charts generated by **01 DDP.XLSM**
05 Draft PSPP.DOCX	A file that serves as a pattern for the draft PSPP which will contain the tables and charts generated by **02 PSPP.XLSM**
Help	Contains 25 .DOCX files, each containing select sections of this manual

Figure 5. DOE-EPIMB DDP Form 2021-01-001 Template Package

1.3. Sectors

For purposes of this manual, "Sector" is defined as a portion of the Distribution System that has its own supply and demand situation. Most DUs will only have one Sector. However, some DUs, especially those operating Small Islands and Isolated Grids (SIIG), can have multiple Sectors. For example, MARELCO will have a Mainland Sector for its Mainland Marinduque operations and three more Sectors corresponding to Maniwaya, Mongpong, and Polo islets unless these become connected to Mainland Marinduque by submarine cable. Another example of a Sector is the Municipality of Palimbang which is within the franchise area of SUKELCO but served by SOCOTECO II under a Sale for Resale Agreement.

A PSPP shall be required for each Sector. However, if some Sectors are too small and numerous (e.g. BOHECO I's mini grids), a single PSPP shall suffice. Further, for Sale for Resale Sectors (S4R), only the Buying DU is required to create a PSPP.

1.4. Energy Flow

The DOE-EPIMB DDP Form 2021-01-001 Template adopts the following convention with respect to MWh flow through each Sector:

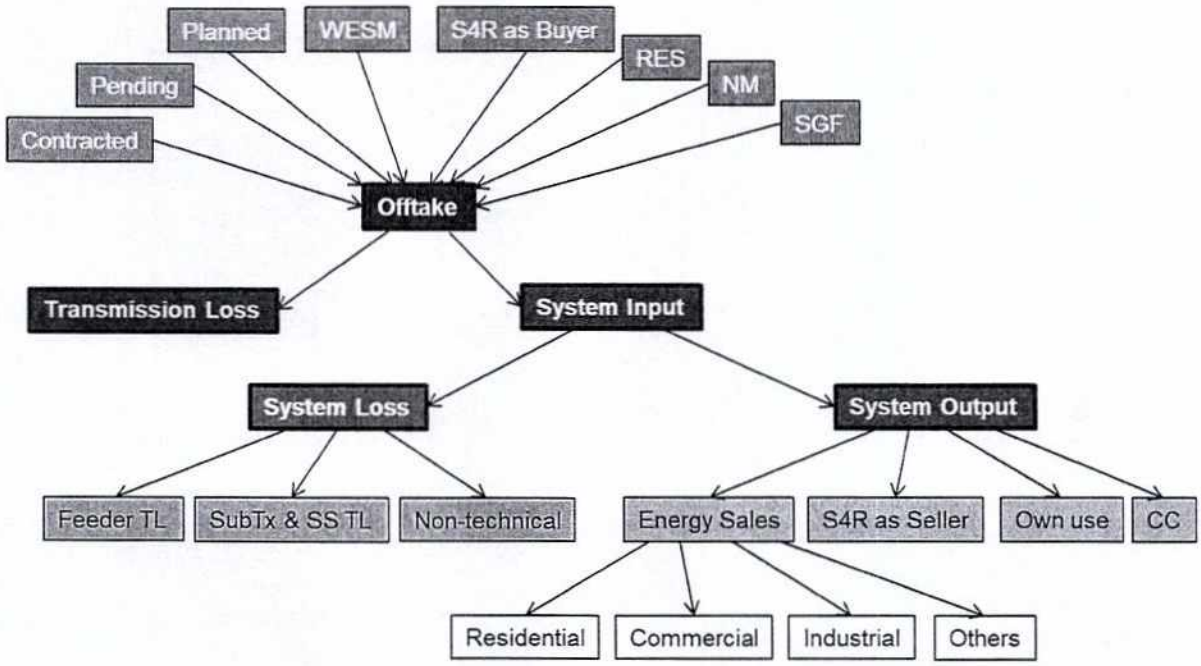


Figure 6. Inflow and outflow of electricity in the DU system

For purposes of this manual, PSAs are classified into three: Contracted, Pending, and Planned. Contracted PSAs are those that are already approved by the ERC, those undertaken with the National Power Corporation – Small Power Utilities Group (NPC-SPUG) with or without ERC approval, and Renewable Energy Supply Agreements (RESA). Pending PSAs are those already filed but not yet approved by ERC, including those with provisional approval. Planned PSAs are either those to be subjected to CSP in the near term, or those that are not yet lined up for CSP but recognized as necessary to cover the demand. MWh derived from Contracted, Pending, and Planned PSAs, the

Wholesale Electricity Spot Market (WESM), other DUs through Sale for Resale Agreements, Retail Electricity Suppliers (RES), NM customers, and SGF form the Offtake.

The portion of Offtake that is not delivered to any of the DU's metering points is Transmission Loss. The portion of Offtake that is delivered is System Input.

The portion of System Input that is neither used by the DU nor converted to revenues is System Loss, segregated into Feeder Technical Loss, Subtransmission and Substation Technical Loss, and Non-technical Loss. The portion of System Input that is utilized is System Output, segregated into Energy Sales, energy delivered to other DUs through Sale for Resale Agreements, Own Use, and energy delivered to switched Contestable Customers. Energy Sales is in turn segregated into sales to Residential, Commercial, Industrial, and Other customers. Sales to Others is broken down further.

Before the advent of NM, Energy Sales for Residential, Commercial, Industrial and Others is merely the total consumption as energy is only imported. However, as a customer with NM has somewhat of a dual identity as it has both energy imports and exports, calculations for Energy Sales and Offtake from NM will depend on the DU's perspective on the treatment of NM customers.

Treatment	Energy Sales	NM
Both generator and load	Sum ($Import_{non\text{-}NM}$) + Sum ($Import_{NM}$)	Sum (Export)
Solely as generator	Sum ($Import_{non\text{-}NM}$)	Sum (Export) – Sum ($Import_{NM}$)

Figure 7. Treatment of Net Metering in DDP

1.5. Initialization

First, make a clean back-up copy of the DOE-EPIMB DDP Form 2021-01-001 Package in a safe location. Then, copy the package folder to the working location. If there are two or more Sectors, create additional copies of **02 PSPP.XLSM**. Then, rename the files for each sector with the constraint that the first characters shall be "02 PSPP". If there is only one Sector, there is no need to rename. Do not rename **01 DDP.XLSM** to avoid breaking a hidden link with the PSPP file(s).

Accomplish the steps in Sections 2 through 4 of this manual for all PSPPs. Then, accomplish the steps in Sections 5 through 7 for DDP.

2. PSPP DATA

Open the pertinent copy of **02 PSPP.XLSM** for the Sector. If a Security Warning "Macros have been disabled." appears, click "Enable Content". A navigation menu will then appear. This can be used to navigate among the sheets. The menu may be placed anywhere on the screen to avoid obstructing the view. Should the menu be closed, navigation among the sheets is still possible in the usual manner.

There will be eight worksheets: **Offtake**, **Hist**, **LP**, **Forc**, **PSA1**, **PSA2**, **CSP**, and **Capt**. Do not rename or delete sheets manually.

Input fields are indicated by an orange header typically with an adjacent asterisk. Do not remove the asterisks as these serve as markers for the program. In general, while working on the sheets, do not manually insert or remove rows and columns. Let the appropriate function do its job. Also avoid and do not edit spinner cells. These are the cells whose values change with a click of the spinner. Avoid making draft calculations or notes in the PSPP template. When left behind intentionally or unintentionally, these may interfere with the calculations. Lastly, do not merge or unmerge the cells. In general, limit interaction with the workbook to inputting to the input cells and clicking the spinner buttons as needed.

Inputs should be directly typed in or pasted as values as pasting in the usual manner will override the formatting. Referencing to a different workbook should be avoided as there may be reference errors when files are moved or renamed. Further, during processing, when rows and columns are moved about, there may be reference errors even if the reference is within the same workbook. Finally, do not input text values to cells requiring numerical values.

Clicking the 🔍 button runs the procedure **HelpFiles**, which opens a new MS Word window showing the section of this manual relevant to the active sheet. The window contains only a copy of a file in the **Help** folder so unwanted changes will not be saved. Hit 🔍 every time there is a concern regarding inputs.

After inputting to each sheet, to check for correctness, save the file, then hit the 🔍 button at the upper-left corner of the screen. This will run the procedure **InspectSheet**, which is a useful tool not only for error detection but also for quick revision. **InspectSheet** will check mostly for input errors such as text values entered into numerical fields. If an erroneous entry is found, there will be a prompt and the problematic cell will be selected for the user to address. If no erroneous entry is found, **InspectSheet** generally creates a preview of the output table(s) and/or chart(s) in a new MS Excel window. In case faulty execution of **InspectSheet** occurs, exit without saving and reopen the file.

To begin, input data to cells B5 and C5 as follows:

Condition	Input to Sector	Input to Type
Sector is connected to the Main Grids	Type in "Grid"	Select "Grid" from the drop-down list
Sector is an SIIG	Type in a descriptive name, (e.g. "Marinduque Mainland", "DICADIDI Area", "Sacol Island")	Select "SIIG" from the drop-down list
Sector is within the DU's franchise area but served by another DU under a Sale for Resale Agreement	Type in the name of Selling DU, (e.g. "CANORECO", "QUEZELCO I")	Select "S4R" from the drop-down list

Figure 8. Input fields on Sector and Type of PSPP

To check for correctness, save the file then hit .

Clicking for Sheet **Start** yields an error message as follows, as applicable:

Input Field	Condition
Type	Not in the drop-down list
Sector	Blank
Type, **Sector**	**Type** = "Grid" but **Sector** ≠ "Grid"

Figure 9. Error prompts in Sheet Start

2.1. Filling-up Sheet Offtake, MWh Offtake for Last Historical Year

The table should contain the breakdown of Offtake for the past year.

The input fields are as follows:

Input Field	Description
Source	The supplier or energy provider
Jan through **Dec**	MWh Offtake for the month from **Source**

Figure 10. Input fields on monthly offtake for last historical year

The table will have its first row reserved for "WESM" which should be left blank for Sectors that do not participate in WESM. The second row will be reserved for "S4R as Buyer". The Buying DU shall have a PSPP for a Sector served by the Selling DU under a Sale for Resale Agreement. In said PSPP, the Buying DU shall populate the row for "S4R as Buyer" according to the energy sold by the Selling DU. The succeeding rows will be reserved for RES, NM customers, and SGF (generation from embedded generators not covered by a PSA may be lumped with SGF). The five reserved rows should be left as such even if **Jan** through **Dec** will not be populated.

Add entries below the five reserved rows as needed. If applicable, populate **Source** with the ERC Case Number of the PSA. If not, any suitable identifier will do.

Populate the input fields as applicable. To check for correctness, save the file then hit . To clear the contents of the table, click the Clear button.

Clicking for Sheet **Offtake** yields a summary window if there are no errors, or an error message if there is a text value where none should be.

2.2. Filling-up Sheet Hist, Historical Consumption Data

The table should contain the historical MW and MWh consumption of the Sector.

Annual historical data is required from 2000 to 2015. Monthly historical data is required from 2016 onwards. Clicking the up-spinner button will add twelve columns, one for each month of the following year. This is useful for using the same file for future DDP submissions. Clicking the down spinner button will delete the twelve columns for the months of the last historical year unless it is 2018. This cannot be undone.

The input fields are as follows:

Input Field	Description
Coincident Peak MW	Coincident peak or system peak in MW for the Sector for the year or month, with generation from NM customers and SGF taken into account
MWh Offtake	Total energy in MWh purchased from Generators, WESM, and other DUs through Sale for Resale Agreements, plus the total energy in MWh generated by RES for the DU's switched contestable Customers, plus the total energy in MWh injected by NM Customers, SGFs (generation from embedded generators not covered by a PSA may be lumped with SGF), DU-owned plants, and embedded plants for the Sector for the year or month
WESM	Energy in MWh purchased from WESM for the Sector for the year or month (may be negative if the quantities sold to the spot market exceed the quantities purchased)
MWh Input	MWh Offtake less Transmission Loss for the Sector for the year or month
[MWh Sales (Old)] = Residential, Commercial, Industrial, Public Buildings, Streetlights, Water Systems, All Others	MWh Sales for each customer class for the Sector for the year or month
[MWh Sales (New)] = Residential, Low Voltage, Higher Voltage	MWh Sales for each customer class for the Sector for the year or month based on a different classification
S4R as Seller	Energy Sales in MWh to other DUs through Sale for Resale Agreements for the Sector for the year or month (to be populated only by the Selling DU)
Own Use	Own Use in MWh for the Sector for the year or month
Switched Contestable Customers	Energy in MWh delivered to Contestable Customers served by RES
Feeder Technical Loss	Losses in MWh incurred by the distribution network downstream of the distribution substations for the Sector for the year or month
SubTx & SS Technical Loss	Losses in MWh incurred by the sub-transmission network and the distribution substations for the Sector for the year or month
Non-technical Loss	Non-technical component of System Loss in MWh for the Sector for the year or month

Figure 11. Input fields on historical consumption data

Before populating the table, click the Refresh button to populate **MWh Offtake** with the sum of the entries in **Offtake**, and **WESM** with the contents of the second row of **Offtake**, for the last historical year. The rest of the cells of **MWh Offtake** and **WESM** will have to be filled in manually.

For Grid Sectors, **MWh Input** shall be the quantity measured at the metering points, which is expected to deviate from **MWh Offtake**, which is basically the total purchased quantity. Transmission Loss accounts for this difference. For SIIG and S4R Sectors, it is expected that **MWh Offtake** is equal to **MWh Input** as there is no valid Transmission Loss.

The Buying DU shall have a PSPP for a Sector served by the Selling DU under a Sale for Resale Agreement. In said PSPP, the Buying DU shall populate **MWh Offtake** and **MWh Input** according to the energy sold by the selling DU and populate **MWh Sales (Old)** and **MWh Sales (New)** accordingly. **S4R as Seller** must be left blank.

The Selling DU shall indicate in its PSPP for "Grid" the energy sold to the Buying DU in **S4R as Seller** and not in **MWh Sales (Old)** and **MWh Sales (New)**.

The DU's consumption should be in **Own Use** and not in **Commercial**.

As required by the "Methodology for Segregating Distribution System Loss" under the "Rules for Setting the Distribution System Loss Cap and Establishing Performance Incentive Scheme for Distribution Efficiency" adopted under ERC Resolution No. 20, Series of 2017, **Feeder Technical Loss** and **SubTx & SS Technical Loss** shall be determined based on Load Flow Analysis. However, if there is no System Loss segregation in place, input the entire quantity to **Feeder Technical Loss**. Likewise, input the entire quantity to **Feeder Technical Loss** if the technical component of System Loss is known but cannot be segregated further. For such cases, include the necessary narrative to the Draft PSPP.

Any imbalance between **MWh Input** and the sum of **MWh Sales (Old)**, **S4R as Seller**, **Own Use**, **Switched Contestable Customers**, **Feeder Technical Loss**, **SubTx & SS Technical Loss**, and **Non-technical Loss** will be reflected as a non-zero value in **MWh Discrepancy** below the table. The corresponding cell will be colored blue (input excess or output shortfall) or red (input shortfall or output excess). Don't manipulate the data just to force **MWh Discrepancy** to a value of zero.

Any imbalance between **MWh Offtake** and **MWh Input** will be reflected as a non-zero value in **MWh (Input – Offtake)** below the table. The corresponding cell will be colored blue (offtake excess or input shortfall) or red (offtake shortfall or input excess). The same imbalance will be used to calculate **Transmission Loss**. For a correct set of data, **Transmission Loss** will not have a negative value and should be positive as **MWh Offtake** is higher than **MWh Input**.

Any imbalance between **MWh Sales (Old)** and **MWh Sales (New)** will be reflected as a non-zero value in **MWh Sales (New vs Old)** below the table. The corresponding cell will be colored blue ("Old" excess or "New" shortfall) or red ("Old" shortfall or "New" excess). Regardless of any conflict, **MWh Sales (Old)** will be the one used in calculations.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌔. To clear the contents of the table, click the Clear button.

Clicking for Sheet **Hist** yields a summary window if there are no errors, or an error message if there is a text value where none should be.

2.3. Filling-up Sheet LP, Load Profile for Previous Year

The table should contain the instantaneous MW for each metering point in the Sector.

Clicking the up-spinner button will add a column for a metering point. Clicking the down spinner button will delete the last column unless only one remains. This cannot be undone.

The input fields are as follows:

Input Field	Description
Metering Point	Name of the metering point (or substation) where load profile data was measured
Substation MVA	Substation capacity in MVA if **Metering Point** is located in a DU substation, or the load-carrying capacity in MVA of the DU's subtransmission line that tapped to an upstream transmission line, as applicable.
DateTime	The date and time a measurement was made, with the constraint that the sampling interval must be constant
MW	The instantaneous load in MW at the substation at the date and time of measurement

Figure 12. Input fields on previous year's load profile

Metering Point must be filled with metered data as logged by the DU or as provided by the National Grid Corporation of the Philippines (NGCP).

The inputs to **DateTime** and **MW** must come from a reputable data logging system. Otherwise, there may be a need to pre-process the data outside of the PSPP template to follow the format.

A constant sampling interval of one hour is good enough. A sampling interval of less than five minutes will slow down the processing too much. Be careful in manipulating data as non-uniform increments can be difficult to detect and can lead to failed charting of the load curve.

For Sale for Resale Sectors, it is possible that data logging equipment are not in place at the tapping point. In such a case, just leave the table as it is but include a narrative to the Draft PSPP.

If meter data provided by NGCP is in kW, divide by 1,000 before pasting as values to the table. It was generally observed that using the same dataset from NGCP, the values for **DateTime** may be obtained by adding the date and time in a separate column and pasting as values into **DateTime**. Do not use the Concatenate function as it yields text values.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌔. To clear the contents of the table, click the Clear button.

Clicking ⌔ for Sheet **LP** yields a summary window if there are no errors, or an error message as follows:

Input Field	Condition
Metering Point	Duplicate values
Substation MVA	Text value
DateTime	Text value or blank
MW	Text value

Figure 13. Error prompts in previous year's load profile

2.4. Filling-up sheet Forc, Forecasted Consumption Data

This sheet is the most important component of the workbook as it should contain the forecasted MW and MWh consumption of the Sector.

There is a fixed number of columns, corresponding to each month of the first forecast year through the tenth forecast year. The years are set by the spinner buttons in **Hist**.

The basic input fields are as follows:

Input Field	Description
Coincident Peak MW	Forecasted coincident peak or system peak in MW for the Sector for the month, with generation from NM customers and SGF taken into account
WESM	Energy in MWh to be purchased from WESM for the Sector for the month (may be negative if the quantities sold to the spot market exceed the quantities purchased)
S4R as Buyer	Forecasted MWh from another DU through a Sale for Resale Agreement for the Sector for the month (to be populated only by the Buying DU)
Retail Electricity Suppliers MWh	Forecasted MWh from RES for the Sector for the month
Net Metering Customers	Forecasted MWh from NM for the Sector for the month
Self-generation Facilities	Forecasted MWh from SGF for the Sector for the month (generation from embedded generators not covered by a PSA may be included)
Retail Electricity Suppliers MW	Supply in MW corresponding to the coincident demand of switched Contestable Customers for the Sector for the month

Input Field	Description
[MWh Sales (Old)] = Residential, Commercial, Industrial, Public Buildings, Streetlights, Water Systems, All Others	Forecasted MWh Sales for each customer class for the Sector for the month
[MWh Sales (New)] = Residential, Low Voltage, Higher Voltage	Forecasted MWh Sales for each customer class for the Sector for the month based on a different classification
S4R as Seller	Forecasted MWh to other DUs through Sale for Resale Agreements for the month (to be populated only by the Selling DU)
Own Use	Forecasted Own Use in MWh for the Sector for the month
Feeder Technical Loss	Forecasted losses in MWh to be incurred by the distribution network downstream of the distribution substations for the Sector for the year or month
SubTx & SS Technical Loss	Forecasted losses in MWh to be incurred by the sub-transmission network and the distribution substations for the Sector for the year or month
Non-technical Loss	Forecasted non-technical component of System Loss in MWh for the Sector for the month

Figure 14. Input fields on forecasted consumption data

To add fields for a Contracted PSA, click the first up-spinner button. A dialog box will appear. Type in the Case Number for the PSA application filed with ERC (e.g. "2017-999RC"), and press Enter. If there is no case number, type in any suitable identifier, observing consistency with the corresponding input in **Offtake** as applicable. A second dialog box will appear for the portion of load served. Type in "B" for base load, "I" for intermediate, and "P" for peaking, and press Enter. Note that the input is case-sensitive and the dialog box will keep on cycling until the correct input is made. A similar dialog box will appear for RPS eligibility. Type in "Y" for "Yes" if the PSA is with an RPS-eligible resource (an RE plant that commenced operation after the effectivity of RA 9513), or "N" for "No" if otherwise, and press Enter.

As a guideline, a PSA is for base load requirements if its expected utilization (MWh Offtake divided by the number of period hours divided by the pertinent generating capacity in MW) is 70% or higher. A PSA is for intermediate or mid-merit requirements if its expected utilization is between 20% and 70%. A PSA is for peaking requirements if its expected utilization is 20% or lower. However, due to changing circumstances, the assignments may change. For example, an intermediate PSA may be "promoted" to base load if it proves cheaper later on, or if there is substantial increase in minimum load requirements.

A row with a dark blue label will be inserted under the Contracted MWh heading and another one with a light blue label will be inserted under the Contracted MW heading. Both will be labelled as inputted. Clicking the first down spinner button will lead to the deletion of the rows corresponding to the last Contracted PSA added. This cannot be undone.

Except for clicking the second or third spinner buttons instead of the first, the same procedures apply for Pending and Planned PSAs, respectively. However, for Planned PSAs, any descriptive text (e.g. "2022 Peaking") may be inputted to the first dialog box.

The process for adding fields for Contracted, Pending, and Planned PSAs cannot be aborted. Thus, if any up-spinner button is accidentally clicked, dummy inputs must be made without any effort to cancel. Then, once the two rows for the dummy inputs are inserted, simply click the corresponding down spinner button to remove the rows, thereby reverting to the previous state.

Do not add fields for Offtakes from WESM, Sale for Resale, NM customers, and SGF as no MW field was intended. It is understood that the MW shortfall of Grid-connected Sectors will be procured from WESM, that whatever is supplied by the Selling DU will be off-taken by the Buying DU, and that **Coincident Peak MW** already took into account generation from NM customers and SGF.

The PSA input fields are as follows:

Input Field	Description
Contracted MWh for PSA	Energy in MWh to be purchased for the Sector for the month through a PSA approved by ERC, or undertaken with NPC-SPUG, or a RESA (MWh forecasted to be off-taken regardless of minimum energy off-take indicated in the PSA)
Pending MWh for PSA	Energy in MWh to be purchased for the Sector for the month through a PSA pending final approval by ERC
Planned MWh for PSA	Energy in MWh to be purchased for the Sector for the month through a PSA to be procured through CSP
Contracted MW for PSA	Contracted capacity in MW secured for the Sector for the month through a PSA approved by ERC or undertaken with NPC-SPUG (MW available for nomination regardless of actual need)
Pending MW for PSA	Capacity in MW to be secured for the Sector for the month through a PSA pending final approval by ERC
Planned MW for PSA	Capacity in MW to be secured for the Sector for the month through a PSA to be procured through CSP

Figure 15. Input fields on contracted, pending and planned capacity/energy

It is recognized that a PSA may not have definite MW or MWh quantities. In such a case, just provide the estimate using load factor. Further, take care to ensure that the MW and MWh quantities for a PSA do not lead to utilization above 100%.

The Buying DU shall have a PSPP for a Sector served by the Selling DU under a Sale for Resale Agreement. In said PSPP, the Buying DU shall populate **S4R as Buyer**

according to the energy forecasted to be sold by the selling DU and populate **[MWh Sales (Old)]** and **[MWh Sales (New)]** accordingly. **S4R as Seller** must be left blank.

The Selling DU shall indicate in its PSPP for "Grid" the energy forecasted to be sold to the Buying DU in **S4R as Seller** and not in **MWh Sales (Old)** and **MWh Sales (New)**.

The DU's consumption should be in **Own Use** and not in **Commercial**.

Note that only the conduct of Load Flow Analysis can lead to accurate estimates of **Feeder Technical Loss** and **SubTx & SS Technical Loss**. However, if there is no System Loss segregation in place, input the entire quantity to **Feeder Technical Loss**. Likewise, input the entire quantity to **Feeder Technical Loss** if the technical component of System Loss is known but cannot be segregated further. For such cases, include the necessary narrative to the draft PSPP.

Any imbalance between the sum of **Contracted MWh** for PSA, **Pending MWh** for PSA, **Planned MWh** for PSA, **WESM**, **S4R as Buyer**, **Retail Electricity Suppliers MWh**, **Net Metering Customers**, and **Self-generation Facilities** and the sum of **MWh Sales (Old)**, **S4R as Seller**, **Own Use**, **Switched Contestable Customers**, **Feeder Technical Loss**, **SubTx & SS Technical Loss**, and **Non-technical Loss** will be reflected as a non-zero value in **MWh (Output + Loss - Offtake)** below the table. The corresponding cell will be colored blue (offtake excess or input shortfall) or red (offtake shortfall or input excess). The same imbalance will be used to calculate **Transmission Loss**. For a correct set of data, **Transmission Loss** will not have a negative value, it should be positive as **MWh Offtake** is higher than the sum of **MWh Output** and **MWh System Loss**.

Any imbalance between **MWh Sales (Old)** and **MWh Sales (New)** will be reflected as a non-zero value in **MWh Sales (New vs Old)** below the table. The corresponding cell will be colored blue ("Old" excess or "New" shortfall) or red ("Old" shortfall or "New" excess). Regardless of any conflict, **MWh Sales (Old)** will be the one used in calculations.

The main differences of this sheet from **Hist** are the breakdown of **MWh Offtake** and the lack of entry for **MWh Input**. For SIIG and S4R Sectors, the sum of the output and system loss fields shall be equal to the sum of the offtake fields. For Grid Sectors, the sum of the offtake fields shall be slightly larger to account for the difference between the offtake and the input based on historical data, which is the Transmission Loss.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌔. To clear the contents of the table, click the Clear button.

Clicking ⌔ for Sheet **Forc** yields a summary window if there are no errors, or an error message if there is a text value where none should be.

2.5. Filling-up Sheet PSA1, Power Supply Agreements - Contracted

The rows in this sheet will correspond to the Contracted PSAs in **Forc**. If there are no Contracted PSAs, the table will have no rows and there will be no need to fill it.

Populate this sheet only when inputting to Sheet **Forc** is complete. Further, if there are no rows formatted automatically with borders and drop-down lists, do not input anything to avoid inconsistency with the Contracted PSAs in **Forc**.

The input fields are as follows:

Input Field	Description
Case No.	As inputted in **Forc**
Type	As inputted in **Forc**
GenCo	Counterparty for the PSA, constrained to list
Minimum MW	The guaranteed capacity for the life of the PSA
Minimum MWh/yr	The minimum annual energy offtake
PSA Start	Date of first day of delivery of electricity
PSA End	Date of last day of delivery of electricity

Figure 16. Input fields on PSA - Contracted

If the counterparty for the PSA is not within the list, select "DU-owned" or "Other", as applicable, at the bottom of the list for **GenCo**.

It is possible that a PSA may not have definite MW and MWh quantities. In such a case, just provide the estimate as computed from load factor.

Populate the input fields as applicable. To check for correctness, save the file then hit . To clear the contents of the table, click the Clear button.

Clicking for Sheet **PSA1** yields an error message as follows, as applicable:

Input Field	Condition
GenCo	Not in the drop-down list
Minimum MW	Text value
Minimum MWh/yr	Text value
PSA Start	Text value, or blank, or not a proper date
PSA End	Text value, or blank, or not a proper date

Figure 17. Error prompts in PSA - Contracted

2.6. Filling-up Sheet PSA2, Power Supply Agreements - Pending

The rows in this sheet will correspond to the Pending PSAs in **Forc**. If there are no Pending PSAs, the table will have no rows and there will be no need to fill it.

Populate this sheet only when inputting to Sheet **Forc** is complete. Further, if there are no rows formatted automatically with borders and drop-down lists, do not input anything to avoid inconsistency with the Pending PSAs in **Forc**.

The input fields are as follows:

Input Field	Description
Case No.	As inputted in **Forc**
Type	As inputted in **Forc**
GenCo	Counterparty for the PSA, constrained to list

Input Field	Description
Minimum MW	The guaranteed capacity for the life of the PSA
Minimum MWh/yr	The minimum annual energy offtake
PSA Start	Date of first day of delivery of electricity
PSA End	Date of last day of delivery of electricity

Figure 18. Input fields on PSA - Pending

If the counterparty for the PSA is not within the list, select "DU-owned" or "Other", as applicable, at the bottom of the list for **GenCo**.

It is possible that a PSA may not have definite MW and MWh quantities. In such a case, just provide the best estimate.

Populate the input fields as applicable. To check for correctness, save the file then hit . To clear the contents of the table, click the Clear button.

Clicking for Sheet **PSA2** yields an error message as follows, as applicable.

Input Field	Condition
GenCo	Not in the drop-down list
Minimum MW	Text value
Minimum MWh/yr	Text value
PSA Start	Text value, or blank, or not a proper date
PSA End	Text value, or blank, or not a proper date

Figure 19. Error prompts in PSA - Pending

2.7. Filling-up Sheet CSP, Competitive Selection Process

The rows in this sheet will correspond to the Planned PSAs in **Forc**. If there are no Planned PSAs, the table will have no rows and there will be no need to fill it.

Populate this sheet only when inputting to Sheet **Forc** is complete. Further, if there are no rows formatted automatically with borders, do not input anything to avoid inconsistency with the Planned PSAs in **Forc**.

The input fields are as follows:

Input Field	Description
Supply Label	As inputted in **Forc**
Type	As inputted in **Forc**
Minimum MW	The guaranteed capacity for the life of the PSA
Minimum MWh/yr	The minimum annual energy offtake
PSA Start	Date of first day of delivery of electricity
PSA End	Date of last day of delivery of electricity
Publication	Date of first publication of invitation to bid

Figure 20. Input fields on For CSP

It is recognized that a PSA may not have definite MW or MWh quantities. In such a case, just provide the best estimate.

Even if a Planned PSA is not yet lined up for CSP, populate its fields, especially **Publication**, so that the future need can be kept in mind. It is safe to set **Publication** to a date two years before **PSA Start**.

Populate the input fields as applicable. To check for correctness, save the file then hit . To clear the contents of the table, click the Clear button.

Clicking for Sheet **CSP** yields a summary window if there are no errors, or an error message as follows:

Input Field	Condition
Minimum MW	Text value
Minimum MWh/yr	Text value
PSA Start	Text value, or blank, or not a proper date
PSA End	Text value, or blank, or not a proper date
Publication	Text value, or blank, or not a proper date

Figure 21. Error prompts in For CSP

2.8. Filling-up Sheet Capt, Historical and Forecasted Captive Connections in Sector

The table should contain the counts of captive connections. Cells for historical data are colored gray while cells for forecasted data are colored white. The years are set by the spinner button in **Hist**.

The input fields are as follows:

Input Field	Description
[Customers (Old)] = Residential, Commercial, Industrial, Public Buildings, Streetlights, Water Systems, All Others	Number of captive connections for the Sector for year
[Customers (New)] = Residential, Low Voltage, Higher Voltage	Number of captive connections for the Sector for year based on a different classification

Figure 22. Input fields on Captive Connections

Include Contestable Customers that are not served by RES in the customer counts.

In Sheets **Hist** and **Forc**, the DU's consumption should be in **Own Use** and not in **Commercial**. For consistency, do not include DU offices in the customer counts.

Any imbalance between **Customers (Old)** and **Customers (New)** will be reflected as a non-zero value in **Customers (New vs Old)** below the table. The corresponding cell will be colored blue ("Old" excess or "New" shortfall) or red ("Old" shortfall or "New" excess). Regardless of any conflict, **Customers (Old)** will be the one used in calculations.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌒. To clear the contents of the table, click the Clear button.

Clicking ⌒ for Sheet **Capt** yields a summary window if there are no errors, or an error message if there is a text value where none should be.

2.9. Checking the Sheets for Correctness

For most sheets, when ⌒ is clicked and there are no errors, the summary windows will show the processed data in chart and/or table form. As the inputs may be erroneous even if provided in the proper format, the summary windows can be used to assess the correctness of the inputs. For example, if System Loss shows a very high value or if a line's pattern is questionable, the data should be scrutinized before inputs can be committed.

Once inputting and checking per sheet is complete, save the file and click the Sweep button in sheet **Start**. The program will go through each sheet to redundantly ensure that errors are addressed. It will stop at a problematic sheet that must be cleaned up using ⌒ as above. If no errors can be found, the Sweep button will yield "*Sweep complete. No error detected*."

Note that a submitted PSPP file that yields errors when the Sweep button is clicked is likely to be deemed not appropriate as a planning tool of the DU.

3. PROCESSING INPUT DATA FOR PSPP

Once checking is complete, save the file. Close all instances of MS Word to avoid interference, especially as there is an unresolved inconsistent problem with exporting to MS Word. If possible, close other instances of MS Excel as well. Click the Proceed button in sheet **Start** to process the input data. After a while, a beep will be heard, indicating that processing is complete, and a dialog box will appear. Do not click OK yet. Execution is put on pause so the output can be unlinked. If the links remain, there will be errors in the contents of the output.

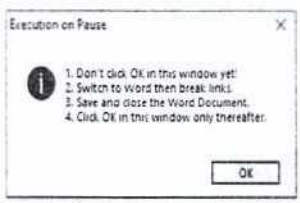


Figure 23. Reminder in Generation of PSPP Report

Switch to the MS Word window for a file created using **05 Draft PSPP.DOCX**. This is the Draft PSPP for the Sector with a timestamp in its filename. Break links to the MS Excel file as follows:

1. Click File → Edit Links to Files.
2. In the Links window, select all links then click Break Link and confirm by clicking Yes.



Figure 24. Link-breaking requirement for Generation of PSPP Report - 1

3. Afterwards, there will be no more links and any changes to the PSPP Template will not be reflected in the Draft PSPP.

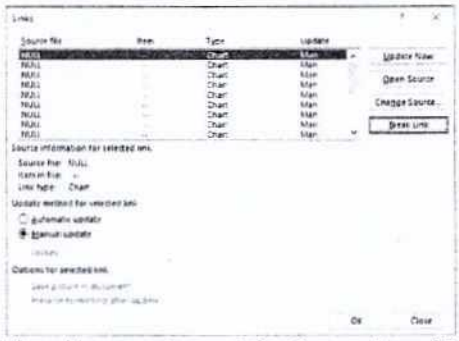


Figure 25. Link-breaking requirement for Generation of PSPP Report - 2

4. Save and close the Draft PSPP.

5. Return to the PSPP Template. Click OK to finish execution. Failing to do so may cause the program to crash.

If execution is disrupted in any way, close and reopen. If failed, try running in a different computer.

Inspect the resulting Draft PSPP for any damaged output. For example, there could be missing tables or charts. Attachment 1 shows a sample raw output of this process with no damages. If there are missing tables or charts, activate the pertinent sheet in the PSPP Template and click ⌔. From the summary window, copy the missing chart into the Draft PSPP then break links as above. This can also be done if there are changes to a specific chart that must be reflected and running the entire process is too cumbersome.

4. EDITING THE DRAFT PSPP

The Draft PSPP will have tables and charts exported from the workbook, which are the same as those in the summary windows shown when ⌔ is clicked. These may be formatted as desired. Also, the tables and charts may be resized to enhance the presentation based on the user's preference. Further, if a particular section is not applicable to the DU, it may be removed entirely.

Even with the tables and charts, the Draft PSPP is still incomplete. Narratives must be added to explain the summarized quantities. Below the charts and tables are narrative guides to assist in making discussions. However, do not constrain the discussion to the pre-built narratives.

To begin, type the first forecast year and the name of the Sector on the cover page of the Draft PSPP.

4.1. Historical Consumption Data

A table based on the inputs in **Hist** will be in the Draft PSPP as follows:

Field	Description
Coincident Peak MW	As inputted, the maximum per year as applicable
MWh Offtake	As inputted, summed per year as applicable
WESM	As inputted, summed per year as applicable
MWh Input	As inputted, summed per year as applicable
MWh Output	Sum (**MWh Sales (Old)**) + Sum (**S4R as Seller**) + Sum (**Own Use**) + Sum (**Switched Contestable Customers**), summed per year as applicable
MWh System Loss	Sum (**Feeder Technical Loss**) + Sum (**SubTx & SS Technical Loss**) + Sum (**Non-technical Loss**), summed per year as applicable
Load Factor	**MWh Input** ÷ 8760 ÷ **Coincident Peak MW**
Discrepancy	[(**MWh Output** + **MWh System Loss**) ÷ **MWh Input**] – 1
Transm'n Loss	1 – (**MWh Input** ÷ **MWh Offtake**)
System Loss	**MWh System Loss** ÷ **MWh Input**

Figure 26. Contents of PSPP Report – Table on Historical Consumption Data

A non-zero value for **Discrepancy** indicates a mismatch between **MWh Input** and the total of **MWh Output** and **MWh System Loss**. In such a case, if possible, input the correct values to **Hist** and re-run to avoid erroneous results. However, don't manipulate the data just to force **MWh Discrepancy** to a value of zero. If all values are zero, delete the column.

Add a short discussion below each of the five charts in the Draft PSPP based on **Hist**, and **Offtake**, as follows:

Chart	Description
Historical Consumption	**MWh Output** stacked with **MWh System Loss**, superimposed with **Coincident Peak MW**
Historical Losses	**Transmission Loss** and **System Loss**
Previous Year's Shares of Energy Sales	Pie chart showing the consumption shares of each customer class for the last historical year

Chart	Description
MWh Offtake for Last Historical Year	Stack of MWh Offtakes per **Source**
WESM Share Over Time	**WESM** superimposed with **MWh Input**

Figure 27. Contents of PSPP Report – Charts on Historical Consumption Data

For the "Historical Consumption" chart, as the x-axis pertains to the year, its range can be adjusted. Right-click the x-axis, click "Format Axis", then select "Date axis". The lower and upper limits of the range can then be changed. Unfortunately, the numerical representation within MS Word is not the same as the displayed value. For example, the year 2000 is shown as 6/22/1905 or 22 June 1905. Thus, to adjust the year range, a corresponding date must be inputted. For example, if there is no data prior to 2009, the input to "Minimum" must be 7/1/1905 or 6/22/1905 + (2009 – 2000). The same method can be used for similar charts.

4.2. Previous Year's Load Profile

Add a short discussion below each of the three charts in the Draft PSPP based on **LP**, as follows:

Chart	Description
Previous Year's Load Duration Curve	Load in MW plotted against a percentage of the time it is exceeded
Previous Year's Load for Peak MWh and MW Days	Load curves for the day with the highest total consumption and the day with the highest coincident peak (which may not necessarily be the same), superimposed with the available supply for January of the first forecast year
Previous Year's Loading Summary	A comparison of the Total Substation Capacity, Non-coincident Peak MW, Coincident Peak MW, Average Load, and 5th Percentile Load

Figure 28. Contents of PSPP Report – Charts on Previous Year's Load Profile

The 5th Percentile Load is the load in MW exceeded 5% of the time. It is a better indicator of low loading levels than the minimum load, which could be zero due to Force Majeure and Fortuitous Events or other analogous circumstances events.

A table based on the inputs in **LP** will be in the Draft PSPP as follows:

Field	Description
Metering Point	As inputted
Substation MVA	As inputted
Substation Peak MW	Maximum demand measured from the substation as determined from the data log

Figure 29. Contents of PSPP Report – Table on Previous Year's Load Profile

Note that the total of **Substation Peak MW** is the Non-coincident Peak MW for the Sector. Add a short discussion below the table.

4.3. Forecasted Consumption Data

A table based on the inputs in **Forc** will be in the Draft PSPP as follows:

Field	Description
Coincident Peak MW	As inputted
Contracted MW	Sum (**Contracted MW** for PSA)
Pending MW	Sum (**Pending MW** for PSA)
Planned MW	Sum (**Planned MW** for PSA)
Retail Electricity Suppliers MW	As inputted
Existing Contracting Level	**Contracted MW** ÷ (**Coincident Peak MW - Retail Electricity Suppliers MW**)
Target Contracting Level	(**Contracted MW** + **Pending MW** + **Planned MW**) ÷ (**Coincident Peak MW** - **Retail Electricity Suppliers MW**)
MW Surplus / Deficit	(**Contracted MW** + **Pending MW** + **Planned MW**) – (**Coincident Peak MW** - **Retail Electricity Suppliers MW**)

Figure 30. Contents of PSPP Report – Table 1 on Forecasted Consumption Data

As the table has numerous rows, it is necessary to set the top row as the header row in MS Word. Then, adjust the borders of the first row of each page accordingly. Add a short discussion below the table.

Existing Contracting Level is a quantity that indicates how much of the peak demand attributed to captive customers will be covered by PSAs. A value above 100% for a month will not necessarily indicate over-contracting as the peak demand normally increases yearly. **Target Contracting Level** is a similar quantity which takes into account PSAs that are yet to be approved by ERC including those with provisional approval, or those yet to be procured. **MW Surplus / Deficit** is a similar indicator, although it is in terms of absolute MW. The charts of these calculated fields are probably the most important contents of the Draft PSPP.

Add a short discussion below each of the five charts in the Draft PSPP based on **Forc**, as follows:

Chart	Description
Forecasted Supply vs Demand [1]	Stack of **Contracted MW**, **Pending MW**, **Planned MW**, and **Retail Electricity Suppliers MW** superimposed with **Coincident Peak MW**
Forecasted Supply vs Demand [2]	Stack of the breakdown of **Contracted MW**, **Pending MW**, and **Planned MW**, and **Retail Electricity Suppliers MW** superimposed with **Coincident Peak MW**, with **Retail Electricity Suppliers MW** (if non-zero) and base load PSAs at the bottom and peak load PSAs at the top
Procurement Timing	Stack of the breakdown of **Planned MW**, with base load PSAs at the bottom and peak load PSAs at the top

Chart	Description
Contracting Levels	**Existing Contracting Level** and **Target Contracting Level**
MW Surplus / Deficit	**MW Surplus / Deficit**

Figure 31. Contents of PSPP Report – Charts on Forecasted Consumption Data-1

Another table based on the inputs in **Hist** will be in the Draft PSPP as follows:

Field	Description
MWh Offtake	Sum (**Contracted MWh** for PSA) + Sum (**Pending MWh** for PSA) + Sum (**Planned MWh** for PSA) + Sum (**WESM**) + Sum (**S4R as Buyer**) + Sum (**Retail Electricity Suppliers MWh**) + Sum (**Net Metering Customers**) + Sum (**Self-generation Facilities**)
MWh Output	Sum (**MWh Sales (Old)**) + Sum (**S4R as Seller**) + Sum (**Own Use**) + Sum (**Switched Contestable Customers**)
MWh System Loss	Sum (**Feeder Technical Loss**) Sum (**SubTx & SS Technical Loss**) + Sum (**Non-technical Loss**)
Transm'n Loss	1 – [(**MWh Output** + **MWh System Loss**) ÷ **MWh Offtake**]
System Loss	**MWh System Loss** ÷ (**MWh Output** + **MWh System Loss**)

Figure 32. Contents of PSPP Report – Table 2 on Forecasted Consumption Data

As the table has numerous rows, it is necessary to set the top row as the header row in MS Word. Then, adjust the borders of the first row of each page accordingly. Add a short discussion below the table.

Add a discussion on the latest Load Flow Analysis conducted to determine the readiness or adequacy of facilities to utilize the incoming contracted capacities, as well as the expected level of System Loss. Note that this is required by DOE prior to the conduct of CSP under Section 8.2.2 of the 2018 CSP Policy adopted through Department Circular No. 2018-02-0003.

Add a short discussion below each of the two charts in the Draft PSPP based on **Forc**, as follows:

Chart	Description
Forecasted Consumption	**MWh Output** stacked with **MWh System Loss**, superimposed with **Coincident Peak MW**
Forecasted Losses	**Transm'n Loss** and **System Loss**

Figure 33. Contents of PSPP Report – Charts on Forecasted Consumption Data-2

4.4. Power Supply

For Contracted and Pending PSAs, tables based on the inputs in **PSA1** and **PSA2**, respectively, will be in the Draft PSPP as follows:

Field	Description
Case No.	As inputted
Type	As inputted
GenCo	As inputted
Minimum MW	As inputted
Minimum MWh/yr	As inputted
PSA Start	As inputted
PSA End	As inputted

Figure 34. Contents of PSPP Report – Power Supply

If at least one **GenCo** has a value of "DU-owned" or "Other", change the value of **GenCo** in the Draft PSPP to reflect the name of the counterparty for the PSA. Add a short discussion which will serve as the due diligence report for existing PSAs required by DOE prior to the conduct of CSP under Section 8.2.3 of the 2018 CSP Policy.

For each PSA to be procured, a table based on the inputs in **CSP** will be in the Draft PSPP as follows:

Field	Description
Type	As inputted
Minimum MW	As inputted
Minimum MWh/yr	As inputted
PSA Start	As inputted
PSA End	As inputted
Publication	As inputted
Pre-bid	Set three weeks after **Publication**
Opening	Set two months after **Pre-bid**
Awarding	Set one month after **Opening**
PSA Signing	Set one month after **Awarding**
Joint Filing	Set 150 days after **Publication**

Figure 35. Contents of PSPP Report – Table on Power Supply

The dates for **Pre-bid** through **PSA Signing** are only indicative and must not be interpreted as prescribed by DOE. DUs are not bound to follow the timelines and are merely guided on how to meet the deadline for joint filing which is set by DOE to be 150 days (five months) after CSP launch under Section 8.10 of the 2018 CSP Policy.

A "Procurement Schedule" chart based on the inputs in **CSP** will be shown. It is an indicative timeline of activities for each PSA to be procured. Add a short discussion below.

4.5. Captive Customer Connections

A "Historical and Forecasted Captive Connections in Sector" chart based on the inputs in **Capt** will be shown. It shows a stack of **Residential**, **Commercial**, **Industrial**, and **Others**. Add a short discussion below.

4.6. Finalizing the PSPP

Once all the discussions are finished, save the document. Then, export to .PDF format and/or rename if desired.

5. DDP DATA

After accomplishing the PSPP template(s), open **01 DDP.XLSM**. If a Security Warning "Macros have been disabled." appears, click "Enable Content". A navigation menu will then appear. This can be used to navigate among the sheets. The menu may be placed anywhere on the screen to avoid obstructing the view. Should the menu be closed, navigation among the sheets is still possible in the usual manner.

There will be fifteen worksheets: **HistForc**, **Cust**, **CAPEX-1**, **CAPEX-2**, **CAPEX-3**, **CurrInf**, **SSTx**, **Subs**, **HH**, **Elec**, **Cont**, **GEOP**, **NM**, **RPS**, and **Rel**. Do not rename or delete sheets manually.

Input fields are indicated by an orange header typically with an adjacent asterisk. Do not remove the asterisks as these serve as markers for the program. In general, while working on the sheets, do not manually insert or remove rows and columns. Let the appropriate function do its job. Also avoid and do not edit spinner cells. These are the cells whose values change with a click of the spinner. Avoid making draft calculations or notes in the DDP template. When left behind intentionally or unintentionally, these may interfere with the calculations. Lastly, do not merge or unmerge the cells. In general, limit interaction with the workbook to inputting to the input cells and clicking the spinner buttons as needed.

Inputs should be directly typed in or pasted as values as pasting in the usual manner will override the formatting. Referencing to a different workbook should be avoided as there may be reference errors when files are moved or renamed. Further, during processing, when rows and columns are moved about, there may be reference errors even if the reference is within the same workbook. Finally, do not input text values to cells requiring numerical values.

Clicking the 🔍 button runs the procedure **HelpFiles**, which opens a new MS Word window showing the section of this manual relevant to the active sheet. The window contains only a copy of a file in the **Help** folder so unwanted changes will not be saved. Hit 🔍 every time there is a concern regarding inputs.

After inputting to each sheet, to check for correctness, save the file, then hit the 📡 button at the upper-left corner of the screen. This will run the procedure **InspectSheet**, which is a useful tool not only for error detection but also for quick revision. **InspectSheet** will check mostly for input errors such as text values entered into

numerical fields. If an erroneous entry is found, there will be a prompt and the problematic cell will be selected for the user to address. If no erroneous entry is found, **InspectSheet** generally creates a preview of the output table(s) and/or chart(s) in a new MS Excel window. In case faulty execution of **InspectSheet** occurs, exit without saving and reopen the file.

To begin, select cell B5 in Sheet **Start** and select the pertinent DU from the list. Next, provide the following information about the DU:

Input Field	Description
Location	Location of the DU's head office
Contact Person	Contact person for DDP matters
Position	Position of **Contact Person**
Tel. No.	Telephone number(s) of **Contact Person**
Fax No.	Fax number(s) of **Contact Person**
Email	Email address of **Contact Person**
Franchise Area Size (sqkm)	Estimated land area of the franchise area
Franchise Area Population	Estimated population of the franchise area
Supply Highlights	Brief narrative of the supply situation, limit to 1,200 characters

Figure 36. Input fields on General Information

Populate the input fields as applicable. To check for correctness, save the file then hit ⌔.

Clicking ⌔ for Sheet **Start** yields an error message as follows, as applicable:

Input Field	Condition
All	Blank
Franchise Area Size (sqkm)	Text value
Franchise Area Population	Text value
Supply Highlights	Exceeds 1,200 characters

Figure 37. Error prompts in General Information

Fill up the DDP template one sheet at a time as shown below.

5.1. Filling-up Sheet HistForc, Historical and Forecasted Consumption Data

This worksheet consolidates consumption data from the PSPPs. The only input field is **Filename**, which should contain the exact filenames of all PSPPs in the same folder as the workbook. For example, if the PSPPs are named **02 PSPP A.XLSM** and **02 PSPP B.XLSM**, the table should contain the values "02 PSPP A" and "02 PSPP B". The program will not run if no PSPP files are entered into the table.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌔. To clear the contents of the table, click the Clear button.

Clicking ⌔ for Sheet **HistForc** yields a summary window if there are no errors, or an error message as follows:

Input Field	Condition
Filename	Empty
Filename	PSPP file does not exist in the same folder
Forecast Year Ranges	Not the same among PSPP files and the DDP Template

Figure 38. Error prompts in Historical and Forecasted Consumption Data

5.2. Filling-up Sheet Cust, Historical and Forecasted Customer Data

The table should contain data on barangays, households, and customers.

Cells for historical data are colored gray while cells for forecasted data are colored white. Clicking the up-spinner button will add columns for the following year. This is useful for using the same file for future DDP submissions. Clicking the down spinner button will delete the column for last forecast year unless it is 2028. This cannot be undone. Before proceeding, ensure that the year labels correspond to those in sheets **Capt** in the PSPPs.

The input fields are as follows:

Input Field	Description
[X1] = Energized, served by this DU through **Unenergized, waived (no ASP)**	Number of barangays in franchise area for the year, both historical and forecasted
[X2] = Energized, served by this DU through **Unenergized, waived (no ASP)**	Number of households in franchise area for the year, both historical and forecasted
Number of barangays outside franchise being served	Number of barangays outside franchise area being served, both historical and forecasted
[Y1] = Residential, Commercial, Industrial, Others	Number of customer connections outside franchise area for the year, both historical and forecasted
[Y2] = Residential, Commercial, Industrial, Others	Number of captive customer connections for the year, both historical and forecasted, as derived from PSPPs
Unserved by RES, ≥ 1 MW through **Switched, (500 kW, 750 kW)**	Number of contestable customers, both historical and forecasted
NCP MW of switched contestable customers	Non-coincident peak MW of Contestable Customers served by RES, both historical and forecasted
Total MWh of switched contestable customers	MWh consumption of contestable customers served by RES, both historical and forecasted
[Z1] = Solar, Wind, Biomass or Biogas, Other RE System	Number of NM customers, both historical and forecasted
[Z2] = Solar, Wind, Biomass or Biogas, Other RE System	MWh generation of NM customers, both historical and forecasted
Number of GEOP Customers	Number of customers that avail of the GEOP, both historical and forecasted

Input Field	Description
NCP MW of GEOP customers	Non-coincident peak MW of GEOP customers, both historical and forecasted
Total MWh of GEOP customers	MWh consumption of GEOP customers, both historical and forecasted
Number of RE Self-generation Facilities	Number of Renewable Energy SGFs, both historical and forecasted
Total MW of RE Self-generation Facilities	Aggregate capacity in MW of Renewable Energy SGFs, both historical and forecasted
Total MWh of RE Self-generation Facilities	MWh generation of Renewable Energy SGFs, both historical and forecasted

Figure 39. Input fields on Historical and Forecasted Customer Data

Y2 shall only be filled by clicking the Refresh button to capture and sum the values in each PSPP. The Refresh button will not work if **HistForc** is empty.

The values for **Z2** must come from Renewable Energy Certificate (REC) meters as required under Section 10 of the "Amended Rules Enabling the Net Metering Program for Renewable Energy" adopted under ERC Resolution No. 06, Series of 2019.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌔. To clear the contents of the table, click the Clear button.

Clicking ⌔ for Sheet **Cust** yields a summary window if there are no errors, or an error message if there is a text value where none should be.

5.3. Filling-up Sheet CAPEX-1, Planned CAPEX Program Details

The table should contain information on CAPEX projects that are yet to be implemented, whether or not filed with ERC.

The input fields are as follows:

Input Field	Description
Type	Constrained to list
Category	Constrained to list
Name	Name of project
Description	Brief description; limit to 200 characters if possible
Project Benefit	Brief narrative of project benefit; limit to 200 characters if possible
Impact if not Implemented	Brief narrative of impact if not implemented; limit to 200 characters if possible
Target Completion Date	Target completion date
Project Cost, PhP	Project cost
Quantity (ckm, MVA, MVAr, MW)	Quantity in ckm, MVA, MVAr, or MW as applicable

Figure 40. Input fields on Planned CAPEX Program

The entries should not be separated by empty rows.

The allowable values for **Type** are limited to the following:

Values for Type
Safety
Capacity
Power Quality
Reliability
System Loss
Other CAPEX
Non-network Projects
Electrification
Resiliency
Efficiency
Flexibility / Sustainability
Consumer Empowerment

Figure 41. Types of CAPEX Projects

The allowable values for **Category** are limited to the following:

Values for Category
Subtransmission Facilities: Acquisition and Expansion
Subtransmission Facilities: Replacement and Rehabilitation
Distribution Facilities: Acquisition and Expansion
Distribution Facilities: Replacement and Rehabilitation
Substation: Additional
Substation: Uprating
Substation: Retirement
Substation: Stand-by
Reactive Power Compensation: Substation
Reactive Power Compensation: Distribution
Electrification Projects
Other Network Assets
Non-network Assets
Resiliency: Improved Facility Withstand Capability
Resiliency: System Reliability / Flexibility
Resiliency: Equipment Stockpiling
Resiliency: System Response & Recovery
Smart Grid
DU's Self-generation

Figure 42. Categories of CAPEX Projects

The field **Quantity (ckm MVA, MVAr, MW)** shall contain the corresponding circuit kilometers for subtransmission and distribution projects, or the corresponding capacity in MVA for substation projects, or the corresponding capacity in MVAr for reactive power compensation projects, or the corresponding capacity in MW for self-generation projects. It should be left blank for all other projects. For substation retirement projects, the values for **Quantity (ckm, MVA, MVAr, MW)** must be negative (text will be in red). Once a cell under **Quantity (ckm, MVA, MVAr, MW)** is selected, the cell to the right will show the pertinent unit based on **Category**.

It could happen that a single project has more than one quantity among **ckm**, MVA, MVAr, and MW. For example, a substation project may have MVA for the transformers and **ckm** for subtransmission lines. In such cases, create multiple instances of the same project, differing only in **Category**, **Project Cost, PhP**, and **Quantity (ckm, MVA, MVAr, MW)**. However, if the cost cannot be broken down accordingly, it can be lumped in **Project Cost, PhP** of any one instance.

Populate the input fields as applicable. To check for correctness, save the file then hit . To clear the contents of the table, click the Clear button.

Clicking for Sheet **CAPEX-1** yields a summary window if there are no errors, or an error message as follows:

Input Field	Condition
Type	Not in the drop-down list
Category	Not in the drop-down list
Target Completion Date	Text value, or blank, or not a proper date
Project Cost, PhP	Text value
Quantity (ckm, MVA, MVAr, MW)	Text value

Figure 43. Error prompts in CAPEX-1

5.4. Filling-up Sheet CAPEX-2, Historical Infrastructure Quantities

The table should contain information on the quantities of CAPEX projects that are already implemented. The years are set by the spinner buttons in **Cust**. The quantities acquired for each project type and subtype per year shall be inputted, not the cumulative quantities. Note that the values for **Substation: Retirement (MVA)** must be negative (text will be in red).

Populate the input fields as applicable. To check for correctness, save the file then hit . To clear the contents of the table, click the Clear button.

Clicking for Sheet **CAPEX-2** yields a summary window if there are no errors, or an error message if there is a text value where none should be.

5.5. Filling-up Sheet CAPEX-3, Historical Capital Expenditures, Million PhP

The table should contain information on the amounts of CAPEX projects that are already implemented. The years are set by the spinner buttons in **Cust**. The amounts in Million Pesos for the quantities acquired for each project type per year shall be inputted, not the cumulative amounts.

Populate the input fields as applicable. To check for correctness, save the file then hit . To clear the contents of the table, click the Clear button.

Clicking for Sheet **CAPEX-3** yields a summary window if there are no errors, or an error message if there is a text value where none should be.

5.6. Filling-up Sheet CurrInf, Current Infrastructure Quantities

This worksheet is a collection of six tables pertaining to different asset types.

The first and second tables pertain to sub-transmission and distribution lines, respectively. The fields are as follows:

Input Field	Description
V Line-to-Line	Pre-filled with voltage levels
ckm	Corresponding circuit kilometers

Figure 44. Input fields for Sub-transmission and Distribution Lines

The third table pertains to sub-transmission and distribution poles. The fields are as follows:

Input Field	Description
Type	Pre-filled with pole types
Count	Corresponding count

Figure 45. Input fields for Poles

The fourth and fifth tables pertain to substation and distribution transformers, respectively. The fields are as follows:

Input Field	Description
Max kVA	Maximum transformer kVA
Count	Corresponding count

Figure 46. Input fields for Substation and Distribution Transformers

The sixth table pertains to substation and distribution capacitors. The fields are as follows:

Input Field	Description
Max kVAr	Maximum capacitor kVAr
Count	Corresponding count

Figure 47. Input fields for Substation and Distribution Capacitors

Populate the input fields as applicable. To check for correctness, save the file then hit ⌔. To clear the contents of the table, click the Clear button.

Clicking ⌔ for Sheet **CurrInf** yields a summary window if there are no errors, or an error message if there is a text value where none should be.

5.7. Filling-up Sheet SSTx, Forecasted Loads per Substation Transformer

The table should contain the forecasted maximum load in MVA per substation transformer. The 10 forecast years are set by the spinner buttons in **Cust**.

The input fields are as follows:

Input Field	Description
Transformer	Name of the substation transformer
Max MVA	Maximum MVA rating of the substation transformer
Jan through **Dec**	Forecasted maximum load in MVA for the substation transformer for the month

Figure 48. Input fields on Forecasted Loads per Substation Transformer

The entries should not be separated by empty rows.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌒. To clear the contents of the table, click the Clear button.

Clicking ⌒ for Sheet **SSTx** yields a summary window if there are no errors, or an error message if there is a text value where none should be.

5.8. Filling-up Sheet Subs, Subsidized Projects

The table should contain information on all government-subsidized projects whose funding was released from 2010 onwards. Projects may be lumped together as long as there is only one subsidizing agency and the funds are released on the same date (e.g. projects with the same Notice to Proceed (NTP)).

The input fields are as follows:

Input Field	Description
Name	The NTP Number or any suitable identifier for a project batch
Description	Brief description; limit to 200 characters if possible
Date of Fund Release	Date of fund release, or if done in multiple tranches, the date of release of the first tranche
Project Cost, PhP	Project cost
Funding Source	Constrained to list
Completion Date	Completion date
Completion Level	Completion level in percent

Figure 49. Input fields on Subsidized Projects

The entries should not be separated by empty rows.

Populate **Funding Source** according to the following allowable values:

Value	Description
DOE ER 1-94	DOE Energy Regulations No. 1-94, as amended
DOE PVM	DOE PV Mainstreaming
DOE Other	Other DOE funding
NEA BLEP	NEA Barangay Line Enhancement Program
NEA SEP	NEA Sitio Electrification Program
NEA Other	Other NEA funding

Value	Description
Other	Funding source other than DOE and NEA

Figure 50. List of Funding Source on Subsidized Projects

For completed projects, **Completion Date** must be filled, and **Completion Level** must have a value of 100%. For in-progress projects, **Completion Date** must be left blank and **Completion Level** must have a value less than 100%.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌔. To clear the contents of the table, click the Clear button.

Clicking ⌔ for Sheet **Subs** yields a summary window if there are no errors, or an error message as follows:

Input Field	Condition
Date of Fund Release	Text value, or blank, or not a proper date
Project Cost, PhP	Text value
Funding Source	Not in the drop-down list
Completion Date, **Completion Level**	**Completion Date** is filled but **Completion Level** < 100%
Completion Date, **Completion Level**	There is a text value or blank in **Completion Date** but **Completion Level** = 100%
Completion Date	Not a proper date
Completion Level	Blank

Figure 51. Error prompts in Subsidized Projects

5.9. Filling-up Sheet HH, Household Electrification

The table should contain information on the current electrification situation. It will be pre-populated with Barangays which form part of the DU's area of operation. The contents are drawn from **03 Barangays.XLSX** based on the value of cell B5 in Sheet **Start**.

The input fields are as follows:

Input Field	Description
Province, **Municipality / City**, **Barangay**	Pre-filled
Terrain Type	Constrained to list
Service Provider	Constrained to list
Year Energized	Year **Barangay** was energized, if so
Year De-energized	Year **Barangay** was de-energized, if so
Operating Hours	Number of operating hours if underserved
Operating Schedule	Schedule of electricity service if underserved
Grid-connected	The number of households energized through connection to the Main Grids within the portion of **Barangay** where the DU operates as of 31 December of the last historical year

Input Field	Description
Not Grid-connected	The number of households energized through means other than connection to the Main Grids within the portion of **Barangay** where the DU operates as of 31 December of the last historical year
Notes, Remarks	Notes, remarks

Figure 52. Input fields on Household Electrification

The entries should not be separated by empty rows.

Populate **Terrain Type** according to the following allowable values:

Value	Description
Flatland	Terrain is accessible by land from a major municipality or city, located inland, and has minimal changes in elevation regardless of elevation above sea level
Rolling	Terrain is accessible by land from a major municipality or city, located inland, and has significant changes in elevation
Coastal	Terrain is accessible by land from a major municipality or city and not located inland
Island	Terrain is not accessible by land from a major municipality or city

Figure 53. Terrain Type for Electrification Projects

Populate **Service Provider** according to the following allowable values:

Value	Description
This DU	**Barangay** is being served by the DU
Another DU	**Barangay** is being served by another DU
ASP (to waive)	**Barangay** is not being served by the DU and is already waived or is planned to be waived from its franchise obligations

Figure 54. List of Electricity Service Provider of Barangays

Populate **Year Energized** if **Barangay** is energized. Populate **Year De-energized** if **Barangay** was energized previously but is now unenergized.

For purposes of this manual, an area is "underserved" if it does not have 24-hour electricity service. Populate **Operating Hours** and **Operating Schedule** only if **Barangay** is underserved. The input to **Operating Schedule** must follow the 24-hour format "HHMM to HHMM" (e.g. "0800 to 1600").

Note that if **Barangay** is not connected to the Main Grids, **Grid-connected** must have values of zero.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌔. To clear the contents of the table, click the Clear button.

Clicking for Sheet **HH** yields a summary window if there are no errors, or an error message as follows:

Input Field	Condition
Terrain Type	Not in the drop-down list
Service Provider	Not in the drop-down list
Year Energized	Text value, or not a proper year
Year De-energized	Text value, or not a proper year
Operating Hours	Text value
Operating Hours, **Operating Schedule**	**Operating Hours** is filled but **Operating Schedule** is not
Grid-connected	Text value
Not Grid-connected	Text value

Figure 55. Error prompts in Household Electrification

5.10. Filling-up Sheet Elec, General Electrification

The table should contain information on all electrification activities planned to be undertaken from the first forecast year onwards, whether sitio electrification, household electrification, turn-over to another DU, or a declaration to waive.

The input fields are as follows:

Input Field	Description
Province	Province covering **Barangay** or **Sitio**
Municipality / City	Municipality or City covering **Barangay** or **Sitio**
Barangay	As applicable, barangay to be energized
Sitio	As applicable, sitio to be energized
Terrain Type	Constrained to "Flatland", "Rolling", "Coastal", and "Island" as above
(To-be) Service Provider	Constrained to list
Electrification Solution	Constrained to list
Initial HH to Serve	The portion of the potential number of household connections in the area that may be energized ahead of the rest
Additional kW	Target additional generating capacity in kW if underserved
Additional Operating Hours	Target number of additional operating hours if underserved
Target Operating Schedule	Target schedule of electricity service with additional operating hours if underserved
Funding Source	Constrained to list
Project Cost, PhP	Project cost
Target Completion Date	Target completion date
Notes, Remarks	Notes, remarks

Figure 56. Input fields on General Electrification

The entries should not be separated by empty rows.

Populate **(To-be) Service Provider** according to the following allowable values:

Value	Description
This DU	**Barangay / Sitio** will be served by the DU
Another DU	**Barangay / Sitio** will be served by another DU
ASP (to waive)	**Barangay / Sitio** is planned to be waived from the DU's franchise obligations

Figure 57. List of (To-be) Service Provider

Populate **Electrification Solution** according to the following allowable values:

Value	Description
Regular connection	Regular connection to the DU's distribution lines
Line extension	Extension of the DU's distribution lines
SHS	Solar home system
Communal Solar	Solar-powered system serving multiple households as a hub for charging batteries
New mini-grid	Creation of a new small independent electrical system with its own dedicated generator
Mini-grid extension	Extension of an existing mini-grid's lines
Other	Other electrification solution

Figure 58. List of Electrification Solution

Populate **Additional kW**, **Additional Operating Hours**, and **Target Operating Schedule** only if the area is underserved, as applicable. Populate **Additional kW** only if the underserved area is served by a mini-grid that will have additional generating capacity. Populate **Additional Operating Hours** if the underserved area will have an extended operation of electricity service, then cascade changes to **Target Operating Schedule**. The input to **Target Operating Schedule** must follow the 24-hour format "HHMM to HHMM" (e.g. "0800 to 1600").

Populate **Funding Source** according to the following allowable values:

Value	Description
CAPEX Program	Capital Expenditure (to be) filed with ERC
DOE ER 1-94	DOE Energy Regulations No. 1-94, as amended
DOE PVM	DOE PV Mainstreaming
DOE Other	Other DOE funding
NEA BLEP	NEA Barangay Line Enhancement Program
NEA SEP	NEA Sitio Electrification Program
NEA Other	Other NEA funding
Loan	Loan from NEA or banks
Grant	Grant from aid agencies like USAID, UNDP, JICA, and INFUNDE
JV/PP	Joint venture or private participation
Other	Other funding source

Figure 59. List of Funding Source on General Electrification

Populate the input fields as applicable. To check for correctness, save the file then hit ⌔. To clear the contents of the table, click the Clear button.

Clicking ⌔ for Sheet **Elec** yields a summary window if there are no errors, or an error message as follows:

Input Field	Condition
Terrain Type	Not in the drop-down list
(To-be) Service Provider	Not in the drop-down list
Electrification Solution	Not in the drop-down list
Initial HH to Serve	Text value
Additional kW	Text value
Additional Operating Hours	Text value
Additional Operating Hours, **Target Operating Schedule**	**Additional Operating Hours** is filled but **Target Operating Schedule** is not
Funding Source	Not in the drop-down list
Project Cost	Text value
Target Completion Date	Text value, or blank, or not a proper date

Figure 60. Error prompts in General Electrification

5.11. Filling-up Sheet Cont, Contestable Customers

The table should contain information on all Contestable Customers within the DU's franchise area.

The input fields are as follows:

Input Field	Description
Customer Name	Name of the customer (or customer number if there are concerns on data privacy)
Nature of Business	Nature of business of the customer (e.g. "Shopping Mall")
Customer Class	Constrained to "Residential", "Commercial", "Industrial", and "Others"
Service Provider	Constrained to "This DU" and "RES"
Lowest	Lowest monthly peak kW for previous year
Highest	Highest monthly peak kW for previous year
Average	Mean monthly peak kW for previous year
TOU Meter	Whether or not a Time-of-Use (TOU) meter is used, constrained to "Yes" and "No"
Voltage	Voltage at the connection point, constrained to "LV", "MV", and "HV" as defined by the Philippine Distribution Code (PDC)
Owner	Owner of the connection point, constrained to "This DU", "NGCP", "Customer", and "Other"
Cert. of Cont'bility	Whether or not a Certificate of Contestability is issued, constrained to "Yes" and "No"

Figure 61. Input fields on Contestable Customers

The entries should not be separated by empty rows.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌔. To clear the contents of the table, click the Clear button.

Clicking ⌔ for Sheet **Cont** yields a summary window if there are no errors, or an error message as follows:

Input Field	Condition
Customer Class	Not in the drop-down list
Service Provider	Not in the drop-down list
Lowest	Text value
Highest	Text value
Average	Text value
TOU Meter	Not in the drop-down list
Voltage	Not in the drop-down list
Owner	Not in the drop-down list
Cert. of Cont'bility	Not in the drop-down list

Figure 62. Error prompts in Contestable Customers

If the customer counts in **Cont** and the last historical year in **Cust** are not the same, the summary chart will indicate "Discrepancy".

5.12. Filling-up Sheet GEOP, GEOP Customers

The table should contain information on all GEOP customers within the DU's franchise area.

The input fields are as follows:

Input Field	Description
Customer Name	Name of the customer (or customer number if there are concerns on data privacy)
RE Resource	Constrained to "Solar", "Wind", "Biomass or Biogas", and "Other RE Resource"
Lowest	Lowest monthly peak kW for previous year
Highest	Highest monthly peak kW for previous year
Average	Mean monthly peak kW for previous year
TOU Meter	Whether or not a TOU meter is used, constrained to "Yes" and "No"
Voltage	Voltage at the connection point, constrained to "LV", "MV", and "HV" as defined by PDC
Owner	Owner of the connection point, constrained to "This DU", "NGCP", "Customer", and "Other"

Figure 63. Input fields on GEOP Customers

The entries should not be separated by empty rows.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌔. To clear the contents of the table, click the Clear button.

Clicking ⌒ for Sheet **GEOP** yields a summary window if there are no errors, or an error message as follows:

Input Field	Condition
RE Resource	Not in the drop-down list
Lowest	Text value
Highest	Text value
Average	Text value
TOU Meter	Not in the drop-down list
Voltage	Not in the drop-down list
Owner	Not in the drop-down list

Figure 64. Error prompts in GEOP Customers

If the customer counts in **GEOP** and the last historical year in **Cust** are not the same, the summary chart will indicate "Discrepancy".

5.13. Filling-up Sheet NM, Net Metering Customers

The table should contain information on all NM customers within the DU's franchise area.

The input fields are as follows:

Input Field	Description
Customer Name	Name of the customer (or customer number if there are concerns on data privacy)
RE Resource	Constrained to "Solar", "Wind", "Biomass or Biogas", and "Other RE Resource"
Installed kW	Installed capacity in kW
Import (M1)	Energy in kWh imported or drawn from the Distribution System for the previous year
Export (M2)	Energy in kWh exported or injected to the Distribution System for the previous year
Gross (M3)	Generated kWh

Figure 65. Input fields on Net Metering Customers

The entries should not be separated by empty rows.

The values for **Gross (M3)** must come from REC meters as required under Section 10 of the "Amended Rules Enabling the Net Metering Program for Renewable Energy" adopted under ERC Resolution No. 06, Series of 2019.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌒. To clear the contents of the table, click the Clear button.

Clicking ⌒ for Sheet **NM** yields a summary window if there are no errors, or an error message as follows:

Input Field	Condition
RE Resource	Not in the drop-down list

Input Field	Condition
Installed kW	Text value
Import (M1)	Text value
Export (M2)	Text value
Gross (M3)	Text value
Export (M2), Gross (M3)	**Export (M2) > Gross (M3)**

Figure 66. Error prompts in Net Metering

If the customer counts in **NM** and the last historical year in **Cust** are not the same, the summary chart will indicate "Discrepancy".

5.14. Filling-up Sheet RPS, Renewable Portfolio Standards

The table should contain information on compliance with RPS Standards. Its contents must be consistent with the RPS certification submitted to the DOE. The years are set by the spinner buttons in **Cust**. Cells for historical data are colored gray while cells for forecasted data are colored white.

The input fields are as follows:

Input Field	Description
4. Net electricity sales	Sum of yearly **MWh Sales (Old)** from all PSPPs
8. Generation from eligible RE plants with PSAs	Sum of yearly MWh Offtake from PSAs that are RPS-eligible from all PSPPs
9. Generation from net metering customers	Sum (**Z2**)
10. RE generation for DU's own use	MWh generation from the DU's own RE facilities allocated for own use
11. Generation from supply contracts under GEOP	As inputted in **Cust**
12. RE Market	MWh purchases from the Renewable Energy Market
Generation from RE SGF > 100 kW	As inputted in **Cust**

Figure 67. Input fields on RPS

At first, the table will be empty. Clicking the Refresh button will fully populate fields **4**, **9**, **11**, and **Generation from RE SGF > 100 kW**. Field **8** will be populated only as far as the forecast goes. Historical values will have to be manually filled in. Likewise, fields **10** and **12** have to be populated manually or from existing sources.

Field **4** corresponds to the total energy sales and does not include **Own Use** and **S4R as Seller**.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌒. Note, however, that clicking the Refresh button after populating the table will wipe out the existing contents.

Clicking ⌒ for Sheet **RPS** yields an error message if there is a text value where none should be.

5.15. Filling-up Sheet Rel, Historical Distribution-side Interruptions

The table is similar in form to the Interruption Reports table in Annex A-1 of ERC Resolution No. 12, Series of 2006.

The input fields are as follows:

Input Field	Description
DateTime Start	Date and time service was interrupted
DateTime End	Date and time service was restored
Area Affected	Municipality, barangay, sitio, or any geographical area affected by the interruption
Circuit Affected	Number or name of circuit affected
Customers Affected	Number of customers affected by the interruption
Category	Constrained to "Power Supplier", "Major Storm Disaster", "Scheduled", and "All Others"

Figure 68. Input fields on Historical Distribution-side Interruptions

The entries should not be separated by empty rows.

Only outages from 2013 onwards shall be inputted to the table for consistency with the data in Sheet **Cust**.

Generally, in using the Interruption Reports, the values for **DateTime Start** and **DateTime End** may be obtained by adding the corresponding dates and times in separate columns and pasting as values into **DateTime Start** and **DateTime End**. Do not use the Concatenate function as it yields text values.

Populate the input fields as applicable. To check for correctness, save the file then hit ⌒. To clear the contents of the table, click the Clear button.

Clicking ⌒ for Sheet **Rel** yields a summary window if there are no errors, or an error message as follows:

Input Field	Condition
DateTime Start	Text value or blank
DateTime End	Text value or blank
DateTime Start, **DateTime End**	**DateTime Start** > **DateTime End**
Customers Affected	Text value
Category	Not in the drop-down list

Figure 69. Error prompts in Historical Distribution-side Interruptions

5.16. Checking the Sheets for Correctness

For most sheets, when ⌒ is clicked and there are no errors, the summary windows will show the processed data in chart and/or table form. As the inputs may be erroneous even if provided in the proper format, the summary windows can be used to assess the correctness of the inputs. For example, if System Loss shows a very

high value or if a line's pattern is questionable, the data should be scrutinized before inputs can be committed.

Once inputting and checking per sheet is complete, save the file and click the Sweep button in sheet **Start**. The program will go through each sheet to redundantly ensure that errors are addressed. It will stop at a problematic sheet that must be cleaned up using ⌒ as above. If no errors can be found, the Sweep button will yield "Sweep complete. No error detected."

Note that a submitted DDP file that yields errors when the Sweep button is clicked is likely to be deemed non-compliant with DOE's requirements and should be considered not appropriate for the DU planning.

6. PROCESSING INPUT DATA FOR DDP

Once checking is complete, save the file. Close all instances of MS Word to avoid interference, especially as there is an unresolved inconsistent problem with exporting to MS Word. If possible, close other instances of MS Excel as well. Click the Proceed button in sheet **Start** to process the input data. After a while, a beep will be heard, indicating that processing is complete, and a dialog box will appear. Do not click OK yet. Execution is put on pause so the output can be unlinked. If the links remain, there will be errors in the contents of the output.

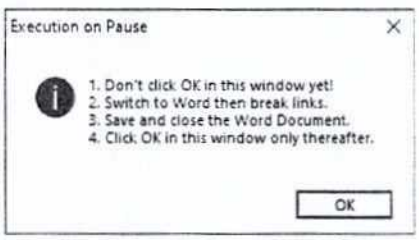


Figure 70. Reminder in Generation of DDP Report

Switch to the MS Word window for a file created using **04 Draft DDP.DOCX**. This is the Draft DDP with a timestamp in its filename. Break links to the MS Excel file as follows:

1. Click File → Edit Links to Files.

2. In the Links window, select all links then click Break Link and confirm by clicking Yes.



Figure 71. Link-breaking requirement for Generation of DDP Report - 1

3. Afterwards, there will be no more links and any changes to the DDP Template will not be reflected in the Draft DDP.

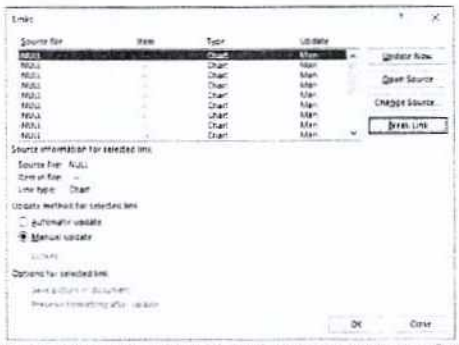


Figure 72. Link-breaking requirement for Generation of DDP Report - 2

4. Save and close the Draft DDP.

5. Return to the DDP Template. Click OK to finish execution. Failing to do so may cause the program to crash.

If execution is disrupted in any way, close and reopen. If failed, try running in a different computer.

Inspect the resulting Draft DDP for any damaged output. For example, there could be missing tables or charts. Attachment 2 shows a sample raw output of this process with no damages. If there are missing tables or charts, activate the pertinent sheet in the DDP Template and click ⌒. From the summary window, copy the missing chart into the Draft DDP then break links as above. This can also be done if there are changes to a specific chart that must be reflected and running the entire process is too cumbersome.

7. EDITING THE DRAFT DDP

The Draft DDP will have tables and charts exported from the workbook, which are the same as those in the summary windows shown when ⌒ is clicked. These may be formatted as desired. Also, the tables and charts may be resized to enhance the presentation based on the user's preference. Further, if a particular section is not applicable to the DU, it may be removed entirely.

Even with the tables and charts, the Draft DDP is still incomplete. Narratives must be added to explain the summarized quantities. Below the charts and tables are narrative guides to assist in making discussions. However, do not constrain the discussion to the pre-built narratives and expound data sets for better appreciation and analysis of DU management.

To begin, type the first forecast year and the DU's name on the cover page of the Draft DDP.

7.1. General Information

The first page of the Draft DDP is structured to accommodate discussions of franchise area details. Fill in as necessary.

7.2. Historical and Forecasted Consumption Data

Data from **Hist** and **Forc** from PSPP workbooks are consolidated in a table in the Draft DDP as follows:

Field	Description
Non-coincident Peak MW	Sum of yearly **Coincident Peak MW** in all PSPPs. If there is only one Sector, the label becomes **Coincident Peak MW**
MWh Offtake	Sum of yearly **MWh Offtake** in all PSPPs
MWh Transm'n Loss	Sum of yearly **MWh Offtake** – (**MWh Sales (Old)** + **MWh S4R as Seller** + **MWh Own Use** + **MWh Switched Contestable Customers** + **MWh System Loss**) from all PSPPs
MWh Residential, **MWh Commercial**, **MWh Industrial**, **MWh Others**	Sum of yearly MWh Sales for each customer class from all PSPPs
MWh S4R as Seller	Sum of yearly **S4R as Seller** in MWh from all PSPPs
MWh Own Use	Sum of yearly **Own Use** in MWh from all PSPPs
MWh Switched Contestable Customers	Sum of yearly **Switched Contestable Customers** in MWh from all PSPPs
MWh System Loss	Sum of yearly **Feeder Technical Loss**, **SubTx & SS Technical Loss**, and **Non-technical Loss** in MWh from all PSPPs

Figure 73. Contents of DDP Report – Table 1 on Historical and Forecasted Consumption Data

As the table has numerous rows, it is necessary to set the top row as the header row in MS Word. Then, adjust the borders of the first row of each page accordingly. Add a short discussion below the table.

Other calculated fields from **Hist** and **Forc** from PSPP workbooks are consolidated in a table in the Draft DDP as follows:

Field	Description
Transm'n Loss	**MWh Transm'n Loss ÷ MWh Offtake**
System Loss	**MWh System Loss** ÷ (**MWh Sales (Old)** + **MWh S4R as Seller** + **MWh Own Use** + **MWh Switched Contestable Customers** + **MWh System Loss**)

Field	Description
Load Factor	(**MWh Sales (Old) + MWh S4R as Seller + MWh Own Use + MWh Switched Contestable Customers + MWh System Loss**) ÷ 8760 ÷ **Non-coincident Peak MW**
Switched Contestable Customers	**MWh Switched Contestable Customers ÷ (MWh Sales (Old) + MWh S4R as Seller + MWh Own Use + MWh Switched Contestable Customers + MWh System Loss**)

Figure 74. Contents of DDP Report – Table 2 on Historical and Forecasted Consumption Data

A "Historical and Forecasted Consumption" chart based on the table above will be shown. It is a breakdown of **MWh Input** superimposed with **Non-coincident Peak MW**. Add a short discussion correspondingly.

For the "Historical and Forecasted Consumption" chart, as the x-axis pertains to the year, its range can be adjusted. Right-click the x-axis, click "Format Axis", then select "Date axis". The lower and upper limits of the range can then be changed. Unfortunately, the numerical representation within MS Word is not the same as the displayed value. For example, the year 2000 is shown as 6/22/1905 or 22 June 1905. Thus, to adjust the year range, a corresponding date must be inputted. For example, if there is no data prior to 2009, the input to "Minimum" must be 7/1/1905 or 6/22/1905 + (2009 – 2000). The same method can be used for similar charts.

7.3. Historical and Forecasted Customer Data

A table based on the inputs in **Cust** will be in the Draft DDP as follows:

Field	Description
Number of barangays in franchise	Sum (**X1**)
Number of households in franchise	Sum (**X2**)
Number of barangays outside franchise being served	As inputted
Number of customer connections outside franchise	Sum (**Y1**)
Number of captive customer connections	Sum (**Y2**)
Number of contestable customers	Sum (**Unserved by RES, ≥ 1 MW** through **Switched, (500 kW, 750 kW)**)
NCP MW of switched contestable customers	As inputted
Total MWh of switched contestable customers	As inputted

Figure 75. Contents of DDP Report – Table on Historical and Forecasted Customer Data

Add a short discussion below the table.

Add a short discussion below each of the two charts in the Draft DDP based on **Cust**, as follows:

Chart	Description
Historical and Forecasted Households in Franchise	**Number of households in franchise** shown as a stack of **X2**
Historical and Forecasted Captive Customer Connections in Franchise	**Number of captive customer connections** shown as a stack of **Y2**

Figure 76. Contents of DDP Report – Charts on Historical and Forecasted Customer Data

7.4. Capital Projects

Add a short discussion below each of the two charts in the Draft DDP based on **CAPEX-3** and **CAPEX-1** as follows:

Chart	Description
Historical Capital Expenditures, MP	Project cost per historical year shown as a stack of component costs per **Category**
Planned Capital Expenditures, MP	Project cost per forecast year shown as a stack of component costs per **Category**

Figure 77. Contents of DDP Report – Capital Projects

7.5. Distribution System Assets

A table based on the inputs in **CurrInf** will be in the Draft DDP as follows:

Field	Description
Subtransmission Line ckm	Sum (**ckm**) from the first table
Distribution Line ckm	Sum (**ckm**) from the second table
Pole Count	Sum (**Count**) from the third table
Substation Transformer MVA	Sum (**Max kVA** x **Count**) ÷ 1,000 from the fourth table
Distribution Transformer MVA	Sum (**Max kVA** x **Count**) ÷ 1,000 from the fifth table
Capacitor MVAr	Sum (**Max kVAr** x **Count**) ÷ 1,000 from the sixth table

Figure 78. Contents of DDP Report – Current Infrastructure

Add a short discussion below the table.

A table based on the inputs in **SSTx** will be in the Draft DDP as follows:

Field	Description
Transformer	As inputted
Max MVA	As inputted
Months to Reach 70%	The number of months from December of the last historical year for the forecasted maximum load in MVA to reach 70% of **Max MVA**

Figure 79. Contents of DDP Report – Substation Transformer

Add a short discussion below the table.

7.6. Subsidized Projects

A "Subsidized Projects, MP" chart summarizing the contents of **Subs** will be shown. It shows **Project Cost, PhP** divided by 1 M and summed per **Funding Source** and segregated into complete and incomplete based on **Completion Level**. Add a short discussion correspondingly.

7.7. Household Electrification

A table based on the inputs in **HH** will be in the Draft DDP as follows:

Field	Description
Province	As pre-populated
Municipality / City	As pre-populated
Energized, Grid-connected	Sum (**Grid-connected**) for **Municipality / City**
Energized, Not Grid-connected	Sum (**Not Grid-connected**) for **Municipality / City**
Total Energized	**Energized, Grid-connected** + **Energized, Not Grid-connected**

Figure 80. Contents of DDP Report – Household Electrification

If the table has numerous rows, it may be necessary to set the top row as the header row in MS Word and adjust the borders of the first row of each page accordingly.

Add a short discussion below the table.

7.8. General Electrification

Add a short discussion below each of the three charts in the Draft DDP based on **Elec**, as follows:

Chart	Description
Cost of Electrification Projects, MP	Sum (**Project Cost, PhP**) per **Funding Source** divided by 1 M
Electrification Sites	Number of electrification sites per **(To-be) Service Provider**
Initial Households to Serve	Sum (**Initial HH to Serve**) per year based on **Target Completion Date**

Figure 81. Contents of DDP Report – General Electrification

7.9. Contestable Customers

A "Monthly Peak kW of Contestable Customers" chart summarizing the contents of **Cont** will be shown. It shows the sum of **Lowest**, **Highest**, and **Mean** segregated according to **Service Provider**.

If there is an unresolved discrepancy with the last historical year in **Cust**, "(Discrepancy)" will be indicated in the chart label. In such a case, input the correct values to **Cust** or **Cont** and re-run to avoid erroneous results. If "(Discrepancy)" is not indicated, add a short discussion below the table.

7.10. GEOP Customers

A "Monthly Peak kW of __ GEOP Customers" chart summarizing the contents of **GEOP** will be shown. It shows the sum of **Lowest**, **Highest**, and **Mean** segregated according to **RE Resource**.

If there is an unresolved discrepancy with the last historical year in **Cust**, "(Discrepancy)" will be indicated in the chart label. In such a case, input the correct values to **Cust** or **GEOP** and re-run to avoid erroneous results. If "(Discrepancy)" is not indicated, add a short discussion below the table.

7.11. Net Metering Customers

A "kWh Quantities for __ Net Metering Customers with __ kW" chart summarizing the contents of **NM** will be shown. It shows the following calculated fields:

Field	Description
Gross (M3)	Sum (**Gross (M3)**)
Export (M2)	Sum (**Export (M2)**), also shown as a percentage of **Gross (M3)**
Consumed (M3 – M2)	**Gross (M3) – Export (M2)**, also shown as a percentage of **Gross (M3)**
Import (M1)	Sum (**Import (M1)**)
Net Import (M1 – M2)	**Import (M1) – Export (M2)**, positive if overall net importer and zero otherwise
Net Export (M2 – M1)	**Export (M2) – Import (M1)**, positive if overall net exporter and zero otherwise

Figure 82. Contents of DDP Report – Net Metering

If there is an unresolved discrepancy with the last historical year in **Cust**, "(Discrepancy)" will be indicated in the chart label. In such a case, input the correct values to **Cust** or **NM** and re-run to avoid erroneous results. If "(Discrepancy)" is not indicated, add a short discussion below the table.

7.12. Historical Reliability Indices

One table per **Category** based on the inputs in **Rel** will be in the Draft DDP with the following calculated fields:

Field	Description
SAIFI	Sum (**Customers Affected**) by Sustained outages for the year ÷ (**Y2** + **Switched, ≥ 1 MW** through **Switched, (500 kW, 750 kW)**) for the year from **Cust**

Field	Description
MAIFI	Sum (**Customers Affected**) by Momentary outages for the year ÷ (**Y2 + Switched, ≥ 1 MW** through **Switched, (500 kW, 750 kW)**) for the year from **Cust**
SAIDI (h)	Sum (**Customers Affected** * minutes (**DateTime Start – DateTime End**)) for the year ÷ (**Y2 + Switched, ≥ 1 MW** through **Switched, (500 kW, 750 kW)**) for the year from **Cust** ÷ 60
CAIDI (h)	**SAIDI (h)** ÷ (**SAIFI** + **MAIFI**)

Figure 83. Contents of DDP Report – Reliability Indices

The program classifies each outage in sheet **Rel** based on minutes (**DateTime Start – DateTime End**). Outages below five minutes in duration are classified as Momentary while all others are classified as Sustained. **SAIFI** and **MAIFI** are the average number of Sustained and Momentary interruptions per customer for the year, respectively. **SAIDI (h)** is the average cumulative hours of interruption per customer for the year. **CAIDI (h)** is the average time in hours required to restore service after an interruption for the year.

Add a short discussion below each table, especially regarding targets set by ERC, if any.

A "Number of Customers Affected per Hour" chart summarizing the contents of **Rel** will be shown. It shows a stack of the sum of **Customers Affected** every hour per year. Add a short discussion below.

7.13. Finalizing the DDP

Once all the discussions are finished, save the document. Then, export to .PDF format and/or rename if desired.

8. NEXT YEAR'S INPUTS

8.1. Next Year's PSPP Inputs

After clicking the up-spinner button in Sheet **Hist**, the same PSPP file can be used for next year's submission with the following general adjustments:

Sheet	Adjustments
Offtake	Clear, input fresh values
Hist	Append fresh values
LP	Clear, input fresh values
Forc	Clear, input fresh values
PSA1	Edit as needed
PSA2	Edit as needed
CSP	Edit as needed

Sheet	Adjustments
Capt	Manually clear old forecast, append fresh values

Figure 84. Adjustments on PSPP for next year's inputs

8.2. Next Year's DDP Inputs

After clicking the up-spinner button in Sheet **Cust**, the same DDP file can be used for next year's submission with the following general adjustments:

Sheet	Adjustments
HistForc	Edit as needed
Cust	Manually clear old forecast, append fresh values
CAPEX-1	Clear, input fresh values
CAPEX-2	Append fresh values
CAPEX-3	Append fresh values
CurrInf	Edit as needed
SSTx	Clear, input fresh values
Subs	Append fresh values
HH	Edit as needed
Elec	Edit as needed
Cont	Edit as needed
GEOP	Edit as needed
NM	Edit as needed
RPS	Refresh, input fresh values
Rel	Append fresh values

Figure 85. Adjustments on DDP for next year's inputs

9. SUBMISSION TO DOE

Note that submitted DDP and PSPP files that yield errors when the Sweep button is clicked are likely to be deemed non-compliant with DOE's requirements.

DOE reserves the right to reject DDP submissions that are not up to standard. Following the instructions in this manual will lead to a DDP that satisfies DOE's minimum requirements. That said, DUs may enhance their DDP submissions as deemed necessary.

Submit to DOE through doe.ddpsubmissions@gmail.com the following files:

- DDP
  - Filled **01 DDP.XLSM** (do not rename)
  - Edited output .DOCX file (and .PDF file if so desired)
- Each PSPP
  - Filled **02 PSPP _.XLSM** (the first characters shall be "02 PSPP")
  - Edited output .DOCX file (and .PDF file if so desired)

The message title should be "[DU] DDP [Year]", where [Year] stands for the first forecast year (e.g. "CASURECO IV DDP 2020" for a DDP submitted by 15 March 2020 by Camarines Sur IV Electric Cooperative, Inc.).

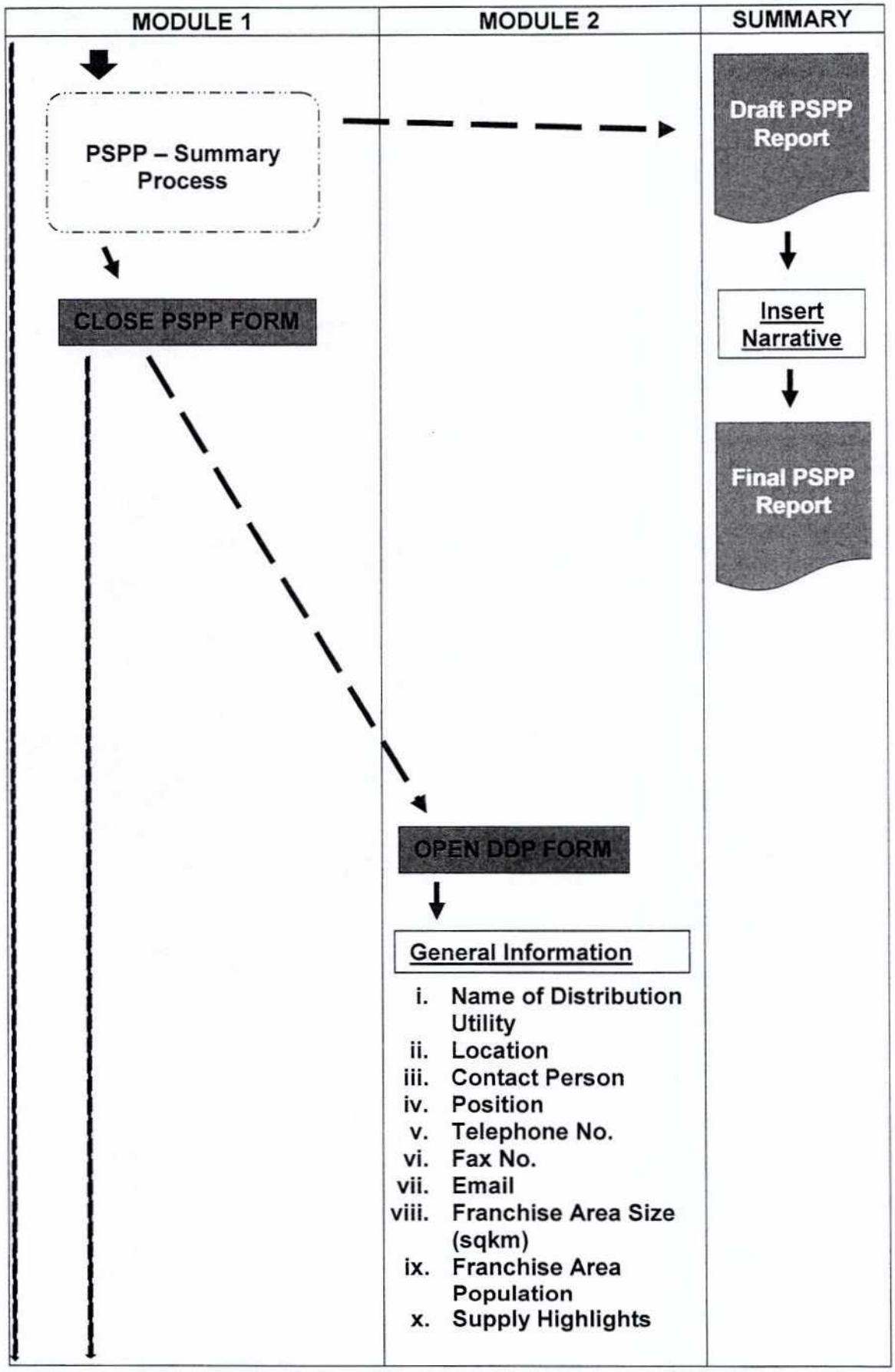
III. Flow Chart on the Preparation of DOE-EPIMB DDP Form 2021-01-001

MODULE 1	MODULE 2	SUMMARY
START ↓ **OPEN PSPP FORM** ↓ **Sector:** i. **Grid** ii. **SIIG** (Small Island and Isolated Grid) iii. **S4R** (Sale for Resale) ↓ **Offtake** (MWh Offtake for Last Historical Year) i. **WESM** (Wholesale Electricity Spot Market) ii. **S4R As Buyer** iii. **Retail Electricity Suppliers** iv. **Net Metering Customers** v. **Self-generation Facilities** ***Note:*** *Check for correctness, save the file, and then hit* ***(InspectSheet)*** ↓ **Hist** (Historical Consumption Data) ➢ Click **Refresh** i. **Coincident Peak MW** ii. **MWh Offtake** a. WESM iii. **MWh Input** iv. **MWh Output**		

MODULE 1	MODULE 2	SUMMARY
a. MWh Sales (Old) b. MWH Sales (New) c. S4R as Seller d. Own Use e. Switched Contestable Customers **v. MWh System Loss** a. Feeder Technical Loss b. SubTx (Subtransmission) and (SS) Substation Technical Loss c. Non-Technical Loss ***Note:*** *Check for correctness, save the file, and then hit* ***(InspectSheet)*** ↓ **LP** (Load Profile for Previous Year) **i. Metering Point** **ii. Substation MVA** **iii. Date Time** **iv. MW** ***Note:*** *Check for correctness, save the file, and then hit* ***(InspectSheet)*** ↓ **Forc** (Forecasted Consumption Data) **i. Coincident Peak MW** **ii. MWh Offtake** a. Contracted MWh b. Pending MWh c. Planned MWh d. WESM e. S4R as Buyer f. Retail Electricity Suppliers MWh g. Net Metering Customers h. Self-generation Facilites **iii. Contracted MW** **iv. Pending MW**		

MODULE 1	MODULE 2	SUMMARY
v. **Planned MW** vi. **Retail Electricity Suppliers MW** vii. **MWh Output** a. MWh Sales (Old) b. MWh Sales (New) c. S4R as Seller d. Own Use e. Switched Contestable Customers viii. **MWh System Loss** a. Feeder Technical Loss b. SubTx and SS Technical Loss c. Non-technical Loss ***Note:*** *Check for correctness, save the file, and then hit* ***(InspectSheet)*** ↓ **PSA1** (Power Supply Agreements – Contracted) i. **Case No.** ii. **Type** iii. **Genco** iv. **Minimum MW** v. **Minimum MWh/yr** vi. **PSA Start** vii. **PSA End** ↓ **PSA2** (Power Supply Agreements – Pending) i. **Case No.** ii. **Type** iii. **Genco** iv. **Minimum MW** v. **Minimum MWh/yr** vi. **PSA Start** vii. **PSA End** ↓ **CSP** (Competitive Selection Process)		

MODULE 1	MODULE 2	SUMMARY
i. **Supply Label** ii. **Type** iii. **Minimum MW** iv. **Minimum MWh/yr** v. **PSA Start** vi. **PSA End** vii. **Publication** ***Note:*** *Check for correctness, save the file, and then hit* ***(InspectSheet)*** ↓ **Capt** (Historical and Forecasted Captive Connections in Sector) i. **Captive Customers (Old)** ii. **Captive Customers (New)** ***Note:*** *Check for correctness, save the file, and then hit* ***(InspectSheet)*** ↓ **SWEEP** ↓ **PROCEED** ➢ Close all instances of MS Word ↓ **Execution on Pause** ➢ Don't click Ok in the window yet ➢ Switch to Word then break links ➢ Save and close the Word Document ➢ Click OK in the window only thereafter		


MODULE 1
MODULE 2
SUMMARY
PSPP – Summary Process
Draft PSPP Report
CLOSE PSPP FORM
Insert Narrative
Final PSPP Report
OPEN DDP FORM
General Information
i. Name of Distribution Utility
ii. Location
iii. Contact Person
iv. Position
v. Telephone No.
vi. Fax No.
vii. Email
viii. Franchise Area Size (sqkm)
ix. Franchise Area Population
x. Supply Highlights

MODULE 1	MODULE 2	SUMMARY
	HistForc (Power Supply Procurement Plan) ➢ Copy **Filename** of the PSPP/s ↓ **Cust** (Historical and Forecasted Customer Data for Franchise Area) i. **Number of barangays in franchise** ii. **Number of households in franchise** iii. **Number of barangays outside franchise being served** iv. **Number of customer connections outside franchise** v. **Number of captive customer connections** ➢ Click **Refresh** vi. **Number of contestable customers** vii. **NCP (Non-Coincident Peak) MW of switched contestable customers** viii. **Total MWh of switched contestable customers** ix. **Number of customers with Net Metering** x. **MWh Generation of customers with Net Metering** xi. **Number of GEOP (Green Energy Option Program) customers**	

MODULE 1	MODULE 2	SUMMARY
	xii. **NCP MW of GEOP customers** xiii. **Total MWh of GEOP customers** xiv. **Number of RE (Renewable Energy) Self-generation Facilities** xv. **Total MW of RE Self-generation Facilities** xvi. **Total MWh of RE Self-generation Facilities** ***Note:*** *Check for correctness, save the file, and then hit* ⌔ ***(InspectSheet)*** ↓ **CAPEX-1** (Planned CAPEX Program Details) i. **Type** ii. **Category** iii. **Name** iv. **Description** v. **Project Benefit** vi. **Impact if not implemented** vii. **Target Completion Date** viii. **Project Cost, Php** ix. **Quantity (ckm, MVA, MVAr, MW)** ***Note:*** *Check for correctness, save the file, and then hit* ⌔ ***(InspectSheet)*** ↓ **CAPEX-2** (Historical Infrastructure Quantities) i. **Subtransmission Facilities** ii. **Distribution Facilities** iii. **Substation**	

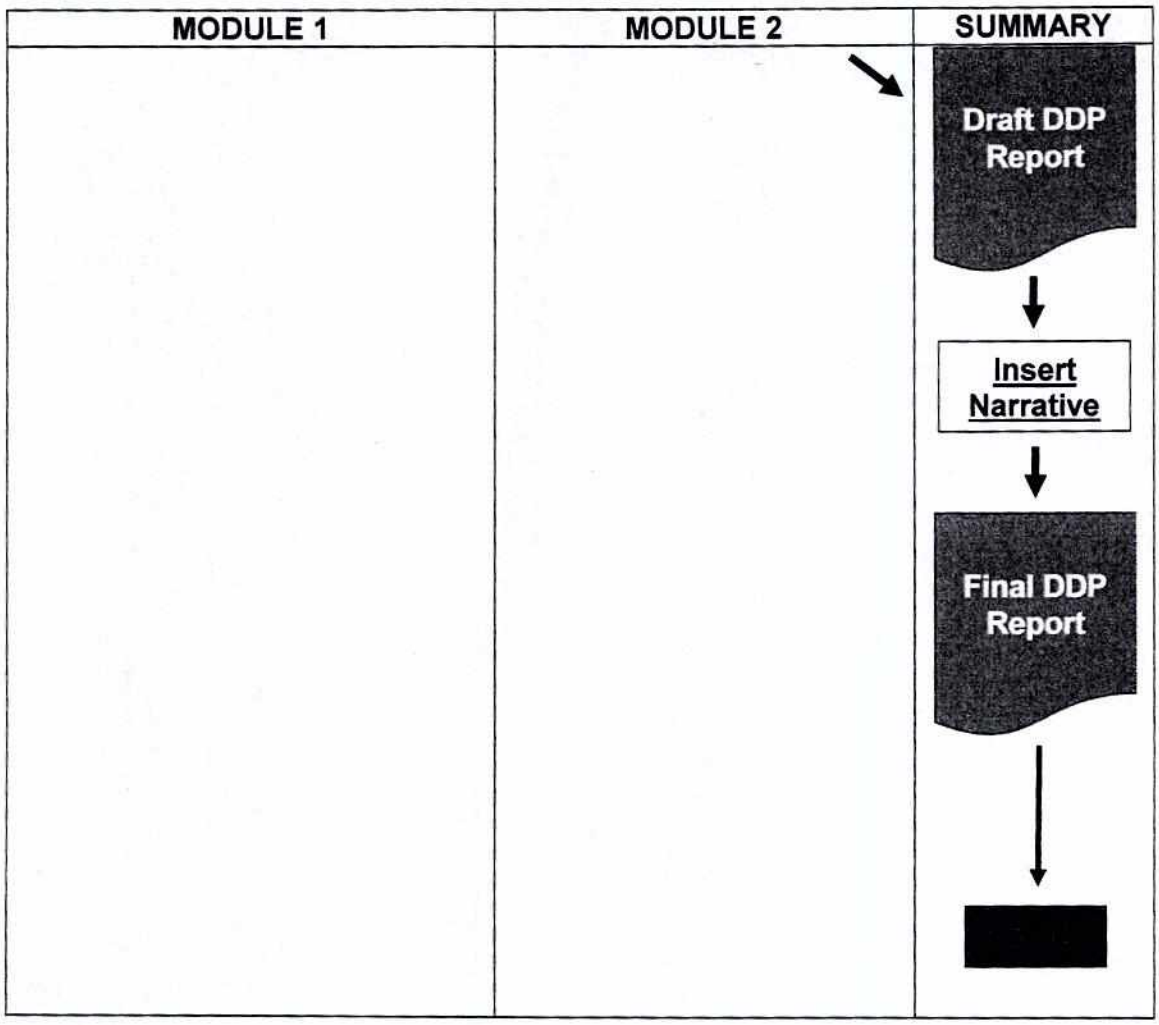
MODULE 1	MODULE 2	SUMMARY
	iv. **Reactive Power Compensation** ⬇ **CAPEX-3** (Historical Capital Expenditures, Million PhP) i. **Subtransmission Facilities** ii. **Distribution Facilities** iii. **Substation** iv. **Reactive Power Compensation** v. **Electrification Projects** vi. **Other Network Assets** vii. **Non-network Assets** viii. **Others** ***Note:*** *Check for correctness, save the file, and then hit* ⌔ ***(InspectSheet)*** ⬇ **CurrInf** (Current Infrastructure Quantities) i. **Subtransmission Lines** ii. **Distribution Lines** iii. **Poles** iv. **Substation Transformers** v. **Distribution Transformers** vi. **Substation and Distribution Capacitors** ***Note:*** *Check for correctness, save the file then hit* ⌔ ***(InspectSheet)*** ⬇	

MODULE 1	MODULE 2	SUMMARY
	SSTx (Forecasted Loads per Substation Transformer) i. **Transformer** ii. **Max MVA** ***Note:*** *Check for correctness, save the file, and then hit* ↷ ***(InspectSheet)*** ↓ **Subs** (Subsidized Projects) i. **Name** ii. **Description** iii. **Date of Fund Release** iv. **Project Cost, PhP** v. **Funding Source** vi. **Completion Date** vii. **Completion Level** ***Note:*** *Check for correctness, save the file then hit* ↷ ***(InspectSheet)*** ↓ **HH** (Household Electrification) i. **Location** ii. **Terrain Type** iii. **Service Provider** iv. **Year Energized** v. **Year De-energized** vi. **If Underserved** vii. **Energized HH** viii. **Notes, Remarks** ***Note:*** *Check for correctness, save the file, and then hit* ↷ ***(InspectSheet)***	

MODULE 1	MODULE 2	SUMMARY
	↓ **Elec** (General Electrification) i. **Location** ii. **Terrain Type** iii. **(To-be) Service Provider** iv. **Electrification Solution** v. **Initial HH to Serve** vi. **If Underserved** vii. **Funding Source** viii. **Project Cost, Php** ix. **Target Completion Date** x. **Notes, Remarks** ***Note:*** *Check for correctness, save the file, and then hit* ⌔ ***(InspectSheet)*** ↓ **Cont** (Contestable Customers) i. **Customer Name** ii. **Nature of Business** iii. **Customer Class** iv. **Service Provider** v. **Monthly Peak kW for Previous Year** vi. **Connection Point** vii. **Certificate of Contestability** ***Note:*** *Check for correctness, save the file, and then hit* ⌔ ***(InspectSheet)*** ↓ **GEOP** (GEOP Customers) i. **Customer Name** ii. **RE Resource**	

MODULE 1	MODULE 2	SUMMARY
	iii. **Monthly Peak kW for Previous Year** iv. **Connection Point** ***Note:*** *Check for correctness, save the file, and then hit* ↷ ***(InspectSheet)*** ↓ **NM** (Net Metering Customers) i. **Customer Name** ii. **RE Resource** iii. **Installed kW** iv. **Previous Year's kWh** ***Note:*** *Check for correctness, save the file, and then hit* ↷ ***(InspectSheet)*** ↓ **RPS** (Renewable Portfolio Standards) i. **Net Electricity Sales** ii. **Generation from eligible RE plants with PSAs** iii. **Generation from net metering customers** iv. **RE generation from DU's own use** v. **Generation from supply contracts under GEOP** vi. **RE Market** vii. **Generation from RE SGF > 100 kW** ↓ **RelI** (Historical Distribution-side Interruptions) i. **Date Time Start**	

MODULE 1	MODULE 2	SUMMARY
	ii. **Date Time End** iii. **Area Affected** iv. **Circuit Affected** v. **Customers Affected** vi. **Category** ***Note:*** *Check for correctness, save the file then hit* ***(InspectSheet)*** ↓ **SWEEP** ↓ **PROCEED** ➢ Close all instances of MS Word ↓ **Execution on Pause** ➢ Don't click Ok in the window yet ➢ Switch to Word then break links ➢ Save and close the Word Document ➢ Click OK in the window only thereafter ↓ **DDP – Summary Process** ↘ CLOSE DDP FORM ↘	



Legend:

- Input

- Notes

- Process

ANNEX B.1

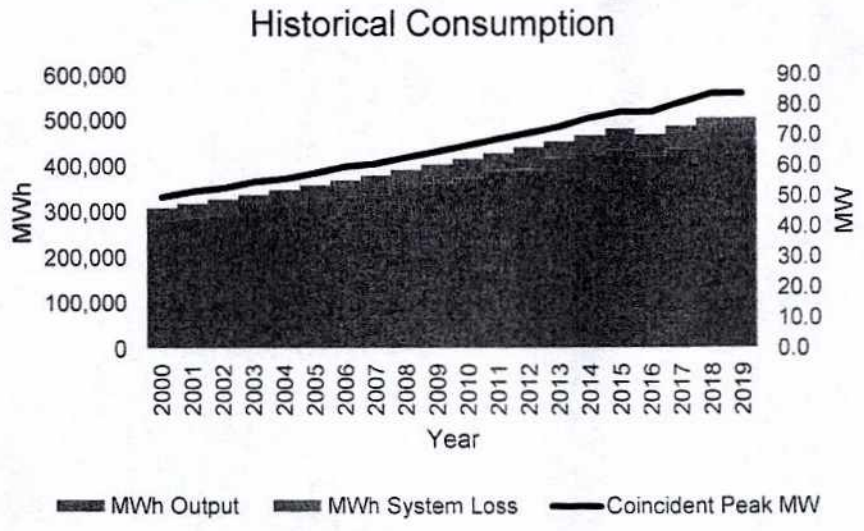
Power Supply Procurement Plan [First Forecast Year]

[Name of Sector]

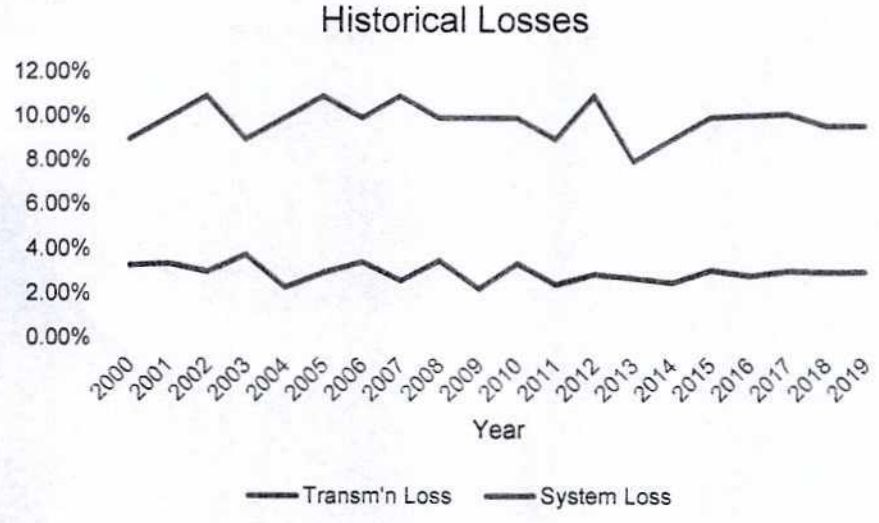
Historical Consumption Data

	Coincident Peak MW	MWh Offtake	WESM	MWh Input	MWh Output	MWh System Loss	Load Factor	Discrepancy	Transm'n Loss	System Loss
2000	50.00	319,468	22,995	309,053	281,459	27,594	71%	0.00%	3.26%	8.93%
2001	52.00	329,306	24,948	318,324	286,744	31,580	70%	0.00%	3.33%	9.92%
2002	53.00	337,906	24,721	327,874	292,093	35,781	71%	0.00%	2.97%	10.91%
2003	55.00	350,846	20,102	337,710	307,558	30,152	70%	0.00%	3.74%	8.93%
2004	56.00	355,981	23,466	347,842	313,335	34,507	71%	0.00%	2.29%	9.92%
2005	58.00	369,168	28,079	358,277	319,178	39,099	71%	0.00%	2.95%	10.91%
2006	60.00	382,125	24,528	369,025	332,416	36,609	70%	0.00%	3.43%	9.92%
2007	61.00	390,206	27,904	380,096	338,617	41,479	71%	0.00%	2.59%	10.91%
2008	63.00	405,632	28,353	391,499	352,659	38,840	71%	0.00%	3.48%	9.92%
2009	65.00	412,397	25,203	403,244	363,239	40,005	71%	0.00%	2.22%	9.92%
2010	67.00	429,794	22,662	415,341	374,137	41,204	71%	0.00%	3.36%	9.92%
2011	69.00	438,367	30,557	427,801	389,605	38,196	71%	0.00%	2.41%	8.93%
2012	71.00	453,633	33,223	440,635	392,551	48,084	71%	0.00%	2.87%	10.91%
2013	73.00	466,380	26,115	453,854	417,835	36,019	71%	0.00%	2.69%	7.94%
2014	76.00	479,343	23,188	467,470	425,732	41,738	70%	0.00%	2.48%	8.93%
2015	78.00	496,516	24,839	481,494	433,726	47,768	70%	0.00%	3.03%	9.92%
2016	78.00	482,210	29,627	468,734	421,834	46,900	69%	0.00%	2.79%	10.01%
2017	81.00	502,240	32,583	487,274	438,192	49,082	69%	0.00%	2.98%	10.07%
2018	84.00	521,126	32,791	505,814	457,694	48,120	69%	0.00%	2.94%	9.51%
2019	84.00	521,126	32,791	505,814	457,694	48,120	69%	0.00%	2.94%	9.51%

Peak Demand [increased/decreased] from ___ MW in ___ to ___ MW in ___ at a rate of ___% due to ___. MWh Offtake [increased/decreased] from ___ MWh in ___ to ___ MWh in ___ at a rate of ___% due to ___. Within the same period, Load Factor ranged from ___% to ___%. There was an abrupt change in consumption on ___ due to ___.

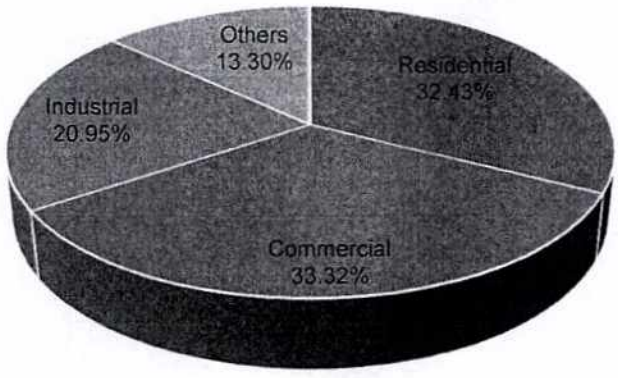


MWh Output [increased/decreased] from year ___ to year ___ at a rate of ___%, while MWh System Loss [increased/decreased] at a rate of ___% within the same period.



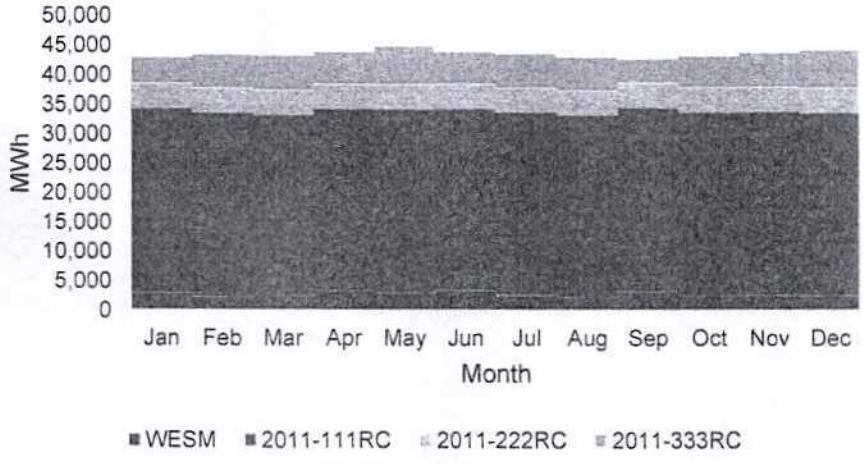
Historically, Transmission Loss ranged from ___% to ___% while System Loss ranged from ___% to ___%. Transmission Loss peaked at ___% on year ___ because of ___. System Loss peaked at ___% on year ___ because of ___.

Previous Year's Shares of Energy Sales

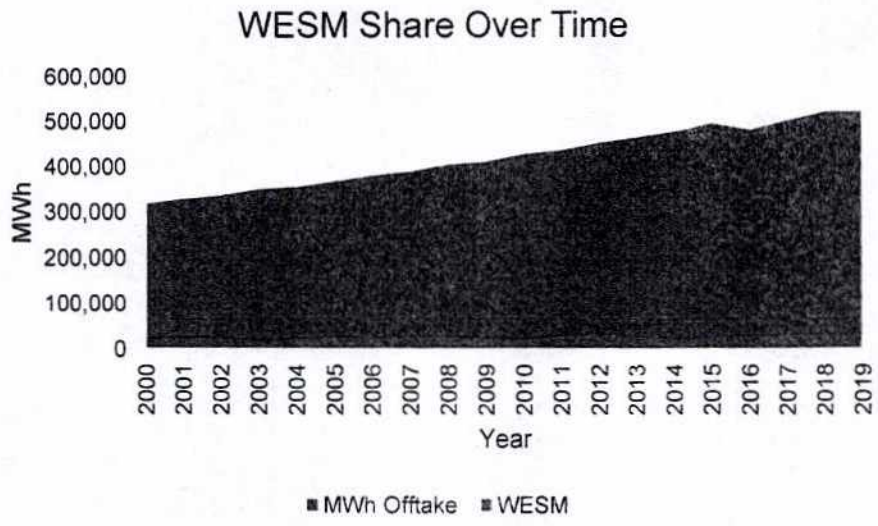


___ customers account for the bulk of energy sales at ___% [despite of the low / due to the high] number of connections. In contrast, ___ customers accounted for only ___% of energy sales [despite of the high / due to the low] number of connections.

MWh Offtake for Last Historical Year

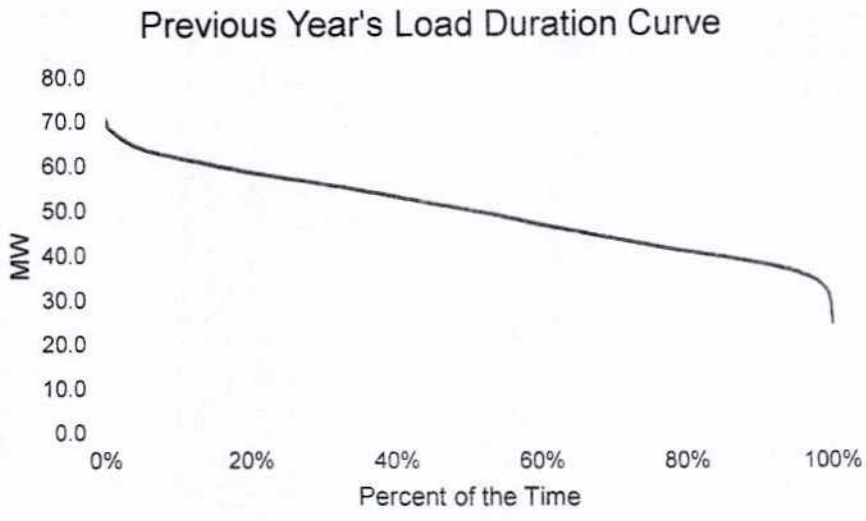


For ___, the total Offtake for the last historical year is [higher/lower] than the quantity stipulated in the PSA. The PSA with ___ accounts for the bulk of MWh Offtake.

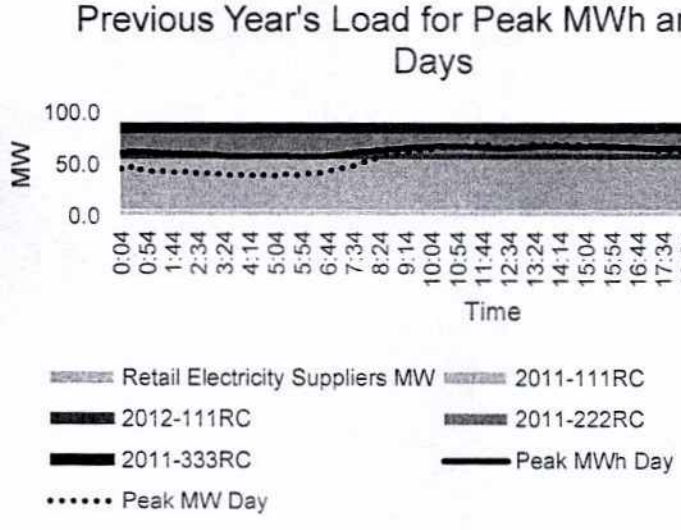


WESM Offtake [increased/decreased] from ___ MWh in ___ to ___ MWh in ___ at a rate of ___% due to ___. The share of WESM in the total Offtake ranged from ___% to ___%. The net WESM transaction is negative from ___ to ___ because ___.

Previous Year's Load Profile

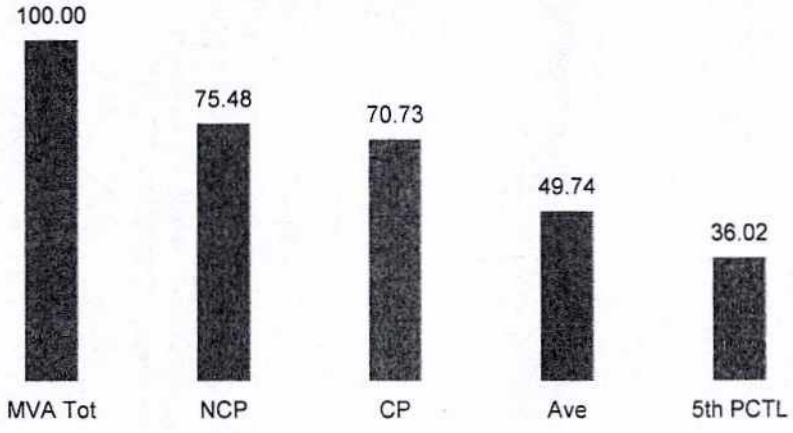


Based on the Load Duration Curve, the minimum load is ___ MW and the maximum load is ___ MW for the last historical year.



Peak MW occurred on ___ due to ___. Peak daily MWh occurred on ___ due to ___. As shown in the Load Curves, the available supply is [higher/lower] than the Peak Demand.

Previous Year's Loading Summary



The Non-coincident Peak Demand is ___ MW, which is around ___% of the total substation capacity of ___ MVA at a power factor of ___. The load factor or the ratio between the Average Load of ___ MW and the Non-coincident Peak Demand is ___% of. A safe estimate of the true minimum load is the fifth percentile load of ___ MW which is ___% of the Non-coincident Peak Demand.

Metering Point	Substation MVA	Substation Peak MW
Telma	50	35.961
Rodell	25	17.394
Dona	25	22.123

The substations loaded at above 70% are ___. This loading problem will be solved by ___.

Forecasted Consumption Data

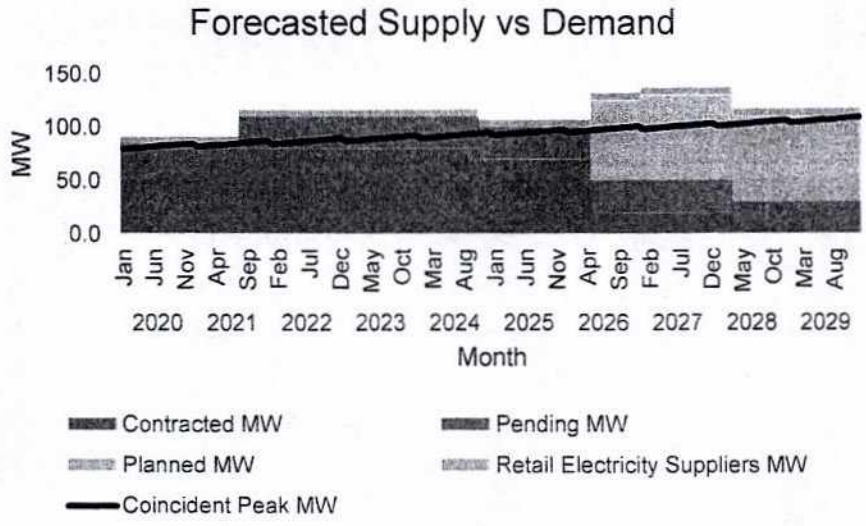
		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
2020	Jan	80.00	80.00	5.00	0.000	5.68	108%	114%	10.68
	Feb	80.50	80.00	5.00	0.000	5.71	107%	114%	10.21
	Mar	81.00	80.00	5.00	0.000	5.75	106%	113%	9.75
	Apr	81.50	80.00	5.00	0.000	5.78	106%	112%	9.28
	May	82.00	80.00	5.00	0.000	5.82	105%	112%	8.82
	Jun	82.50	80.00	5.00	0.000	5.85	104%	111%	8.35
	Jul	83.00	80.00	5.00	0.000	5.89	104%	110%	7.89
	Aug	83.50	80.00	5.00	0.000	5.93	103%	110%	7.43
	Sep	84.00	80.00	5.00	0.000	5.96	103%	109%	6.96
	Oct	84.50	80.00	5.00	0.000	6.00	102%	108%	6.50
	Nov	85.00	80.00	5.00	0.000	6.03	101%	108%	6.03
	Dec	85.50	80.00	5.00	0.000	6.07	101%	107%	5.57
2021	Jan	82.40	80.00	5.00	0.000	5.85	105%	111%	8.45
	Feb	82.90	80.00	5.00	0.000	5.88	104%	110%	7.98
	Mar	83.40	80.00	5.00	0.000	5.92	103%	110%	7.52
	Apr	83.90	80.00	5.00	0.000	5.95	103%	109%	7.05
	May	84.40	80.00	5.00	0.000	5.99	102%	108%	6.59
	Jun	84.90	80.00	5.00	0.000	6.02	101%	108%	6.12
	Jul	85.40	80.00	5.00	0.000	6.06	101%	107%	5.66
	Aug	85.90	80.00	30.00	0.000	6.09	100%	138%	30.19
	Sep	86.40	80.00	30.00	0.000	6.13	100%	137%	29.73
	Oct	86.90	80.00	30.00	0.000	6.17	99%	136%	29.27
	Nov	87.40	80.00	30.00	0.000	6.20	99%	135%	28.80
	Dec	87.90	80.00	30.00	0.000	6.24	98%	135%	28.34
2022	Jan	84.87	80.00	30.00	0.000	6.02	101%	140%	31.15
	Feb	85.37	80.00	30.00	0.000	6.06	101%	139%	30.69
	Mar	85.87	80.00	30.00	0.000	6.09	100%	138%	30.22
	Apr	86.37	80.00	30.00	0.000	6.13	100%	137%	29.76

	May	86.87	80.00	30.00	0.000	6.16	99%	136%	29.29
	Jun	87.37	80.00	30.00	0.000	6.20	99%	136%	28.83
	Jul	87.87	80.00	30.00	0.000	6.24	98%	135%	28.37
	Aug	88.37	80.00	30.00	0.000	6.27	97%	134%	27.90
	Sep	88.87	80.00	30.00	0.000	6.31	97%	133%	27.44
	Oct	89.37	80.00	30.00	0.000	6.34	96%	132%	26.97
	Nov	89.87	80.00	30.00	0.000	6.38	96%	132%	26.51
	Dec	90.37	80.00	30.00	0.000	6.41	95%	131%	26.04
2023	Jan	87.42	80.00	30.00	0.000	6.20	98%	135%	28.78
	Feb	87.92	80.00	30.00	0.000	6.24	98%	135%	28.32
	Mar	88.42	80.00	30.00	0.000	6.27	97%	134%	27.85
	Apr	88.92	80.00	30.00	0.000	6.31	97%	133%	27.39
	May	89.42	80.00	30.00	0.000	6.34	96%	132%	26.92
	Jun	89.92	80.00	30.00	0.000	6.38	96%	132%	26.46
	Jul	90.42	80.00	30.00	0.000	6.42	95%	131%	26.00
	Aug	90.92	80.00	30.00	0.000	6.45	95%	130%	25.53
	Sep	91.42	80.00	30.00	0.000	6.49	94%	130%	25.07
	Oct	91.92	80.00	30.00	0.000	6.52	94%	129%	24.60
	Nov	92.42	80.00	30.00	0.000	6.56	93%	128%	24.14
	Dec	92.92	80.00	30.00	0.000	6.59	93%	127%	23.67
2024	Jan	90.04	80.00	30.00	0.000	6.39	96%	132%	26.35
	Feb	90.54	80.00	30.00	0.000	6.43	95%	131%	25.89
	Mar	91.04	80.00	30.00	0.000	6.46	95%	130%	25.42
	Apr	91.54	80.00	30.00	0.000	6.50	94%	129%	24.96
	May	92.04	80.00	30.00	0.000	6.53	94%	129%	24.49
	Jun	92.54	80.00	30.00	0.000	6.57	93%	128%	24.03
	Jul	93.04	80.00	30.00	0.000	6.60	93%	127%	23.56
	Aug	93.54	80.00	30.00	0.000	6.64	92%	127%	23.10
	Sep	94.04	80.00	30.00	0.000	6.67	92%	126%	22.63
	Oct	94.54	80.00	30.00	0.000	6.71	91%	125%	22.17
	Nov	95.04	70.00	30.00	0.000	6.75	79%	113%	11.71
	Dec	95.54	70.00	30.00	0.000	6.78	79%	113%	11.24
2025	Jan	92.74	70.00	30.00	0.000	6.58	81%	116%	13.84

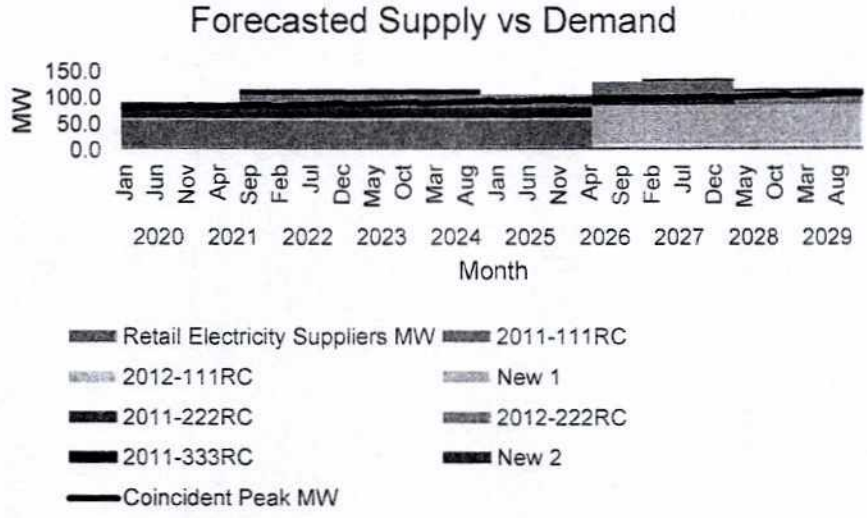
	Feb	93.24	70.00	30.00	0.000	6.62	81%	115%	13.38
	Mar	93.74	70.00	30.00	0.000	6.65	80%	115%	12.91
	Apr	94.24	70.00	30.00	0.000	6.69	80%	114%	12.45
	May	94.74	70.00	30.00	0.000	6.72	80%	114%	11.98
	Jun	95.24	70.00	30.00	0.000	6.76	79%	113%	11.52
	Jul	95.74	70.00	30.00	0.000	6.79	79%	112%	11.05
	Aug	96.24	70.00	30.00	0.000	6.83	78%	112%	10.59
	Sep	96.74	70.00	30.00	0.000	6.87	78%	111%	10.13
	Oct	97.24	70.00	30.00	0.000	6.90	77%	111%	9.66
	Nov	97.74	70.00	30.00	0.000	6.94	77%	110%	9.20
	Dec	98.24	70.00	30.00	0.000	6.97	77%	110%	8.73
2026	Jan	95.52	70.00	30.00	0.000	6.78	79%	113%	11.26
	Feb	96.02	70.00	30.00	0.000	6.81	78%	112%	10.79
	Mar	96.52	70.00	30.00	0.000	6.85	78%	112%	10.33
	Apr	97.02	70.00	30.00	0.000	6.88	78%	111%	9.86
	May	97.52	20.00	30.00	75.000	6.92	22%	138%	34.40
	Jun	98.02	20.00	30.00	75.000	6.96	22%	137%	33.94
	Jul	98.52	20.00	30.00	75.000	6.99	22%	137%	33.47
	Aug	99.02	20.00	30.00	75.000	7.03	22%	136%	33.01
	Sep	99.52	20.00	30.00	75.000	7.06	22%	135%	32.54
	Oct	100.02	20.00	30.00	75.000	7.10	22%	135%	32.08
	Nov	100.52	20.00	30.00	75.000	7.13	21%	134%	31.61
	Dec	101.02	20.00	30.00	75.000	7.17	21%	133%	31.15
2027	Jan	98.39	20.00	30.00	80.000	6.98	22%	142%	38.59
	Feb	98.89	20.00	30.00	80.000	7.02	22%	142%	38.13
	Mar	99.39	20.00	30.00	80.000	7.05	22%	141%	37.66
	Apr	99.89	20.00	30.00	80.000	7.09	22%	140%	37.20
	May	100.39	20.00	30.00	80.000	7.13	21%	139%	36.74
	Jun	100.89	20.00	30.00	80.000	7.16	21%	139%	36.27
	Jul	101.39	20.00	30.00	80.000	7.19	21%	138%	35.80
	Aug	101.89	20.00	30.00	80.000	7.23	21%	137%	35.34
	Sep	102.39	20.00	30.00	80.000	7.27	21%	137%	34.88
	Oct	102.89	20.00	30.00	80.000	7.30	21%	136%	34.41

	Nov	103.39	20.00	30.00	80.000	7.34	21%	135%	33.95
	Dec	103.89	20.00	30.00	80.000	7.37	21%	135%	33.48
2028	Jan	101.34	20.00	30.00	80.000	7.19	21%	138%	35.85
	Feb	101.84	20.00	30.00	80.000	7.23	21%	137%	35.39
	Mar	102.34	20.00	30.00	80.000	7.26	21%	137%	34.92
	Apr	102.84	0.00	30.00	80.000	7.30	0%	115%	14.46
	May	103.34	0.00	30.00	80.000	7.33	0%	115%	13.99
	Jun	103.84	0.00	30.00	80.000	7.37	0%	114%	13.53
	Jul	104.34	0.00	30.00	80.000	7.41	0%	113%	13.07
	Aug	104.84	0.00	30.00	80.000	7.44	0%	113%	12.60
	Sep	105.34	0.00	30.00	80.000	7.47	0%	112%	12.13
	Oct	105.84	0.00	30.00	80.000	7.51	0%	112%	11.67
	Nov	106.34	0.00	30.00	80.000	7.55	0%	111%	11.21
	Dec	106.84	0.00	30.00	80.000	7.58	0%	111%	10.74
2029	Jan	104.38	0.00	30.00	80.000	7.41	0%	113%	13.03
	Feb	104.88	0.00	30.00	80.000	7.44	0%	113%	12.56
	Mar	105.38	0.00	30.00	80.000	7.48	0%	112%	12.10
	Apr	105.88	0.00	30.00	80.000	7.51	0%	112%	11.63
	May	106.38	0.00	30.00	80.000	7.55	0%	111%	11.17
	Jun	106.88	0.00	30.00	80.000	7.59	0%	111%	10.71
	Jul	107.38	0.00	30.00	80.000	7.62	0%	110%	10.24
	Aug	107.88	0.00	30.00	80.000	7.66	0%	110%	9.78
	Sep	108.38	0.00	30.00	80.000	7.69	0%	109%	9.31
	Oct	108.88	0.00	30.00	80.000	7.73	0%	109%	8.85
	Nov	109.38	0.00	30.00	80.000	7.76	0%	108%	8.38
	Dec	109.88	0.00	30.00	80.000	7.80	0%	108%	7.92

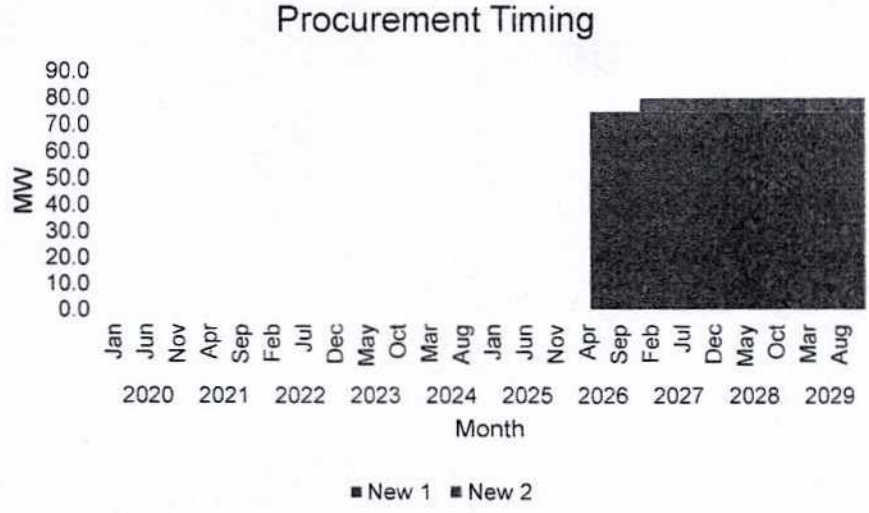
The Peak Demand was forecasted using ___ and was assumed to occur on the month of ___ due to ___. Monthly Peak Demand is at its lowest on the month of ___ due to ___. In general, Peak Demand is expected to grow at a rate of ___% annually.



The available supply is generally [above/below] the Peak Demand. This is because ___.



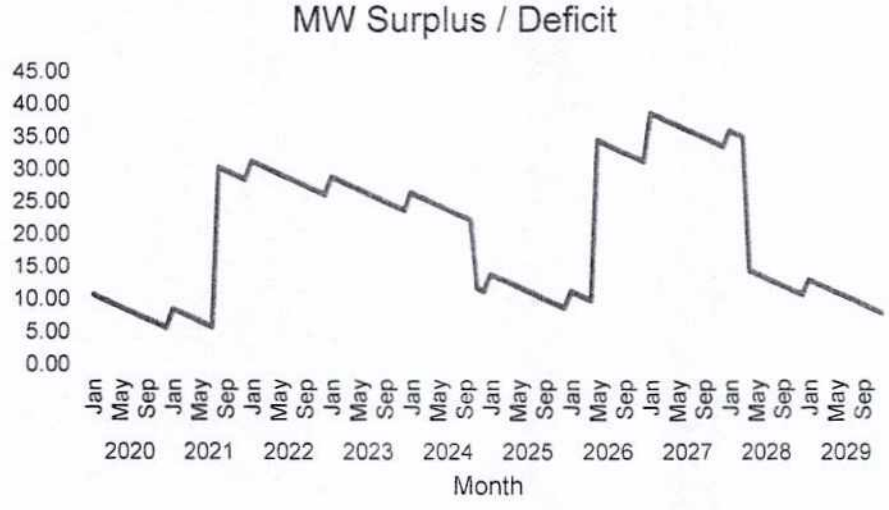
Of the available supply, the largest is ___ MW from ___. This is followed by ___ MW from ___.



The first wave of supply procurement will be for ___ MW planned to be available by the month of ___. This will be followed by ___.



Currently, there is [under-contacting/over-contracting] by ___%. The highest target contracting level is ___% which is expected to occur on ___. The lowest target contracting level is ___% which is expected to occur on ___.



Currently, there is [under-contacting/over-contracting] by ___ MW. The highest [surplus/deficit] is ___ MW which is expected to occur on the month of ___. The lowest [surplus/deficit] is ___ MW which is expected to occur on the month of ___.

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2020	Jan	42,910	36,400	4,471	4.75%	10.94%
	Feb	43,191	36,628	4,499	4.78%	10.94%
	Mar	43,475	36,856	4,526	4.81%	10.94%
	Apr	43,754	37,084	4,554	4.84%	10.94%
	May	44,038	37,312	4,582	4.87%	10.94%
	Jun	44,317	37,542	4,607	4.89%	10.93%
	Jul	44,601	37,770	4,634	4.93%	10.93%

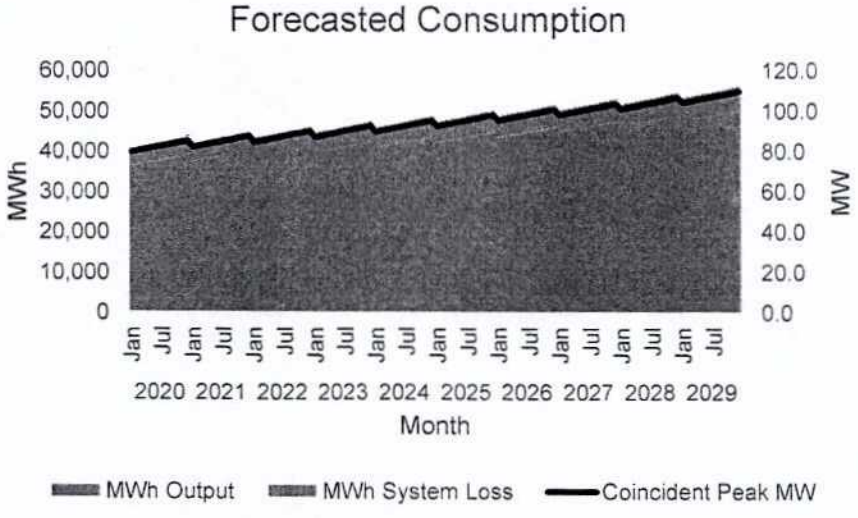
	Aug	44,880	37,998	4,662	4.95%	10.93%
	Sep	45,165	38,225	4,690	4.98%	10.93%
	Oct	45,443	38,455	4,716	5.00%	10.92%
	Nov	45,729	38,684	4,743	5.03%	10.92%
	Dec	46,413	39,291	4,769	5.07%	10.82%
2021	Jan	44,264	37,502	4,596	4.89%	10.92%
	Feb	44,546	37,730	4,624	4.92%	10.92%
	Mar	44,823	37,959	4,649	4.94%	10.91%
	Apr	45,107	38,188	4,676	4.97%	10.91%
	May	45,387	38,417	4,703	4.99%	10.91%
	Jun	45,671	38,645	4,730	5.03%	10.90%
	Jul	45,851	38,873	4,758	4.84%	10.91%
	Aug	46,234	39,101	4,785	5.08%	10.90%
	Sep	46,514	39,330	4,812	5.10%	10.90%
	Oct	46,796	39,558	4,839	5.13%	10.90%
	Nov	47,079	39,786	4,868	5.15%	10.90%
	Dec	47,361	40,015	4,893	5.18%	10.90%
2022	Jan	45,656	38,638	4,723	5.03%	10.89%
	Feb	45,933	38,868	4,748	5.04%	10.89%
	Mar	46,218	39,096	4,776	5.08%	10.89%
	Apr	46,498	39,325	4,802	5.10%	10.88%
	May	46,782	39,553	4,831	5.13%	10.88%
	Jun	47,062	39,780	4,858	5.15%	10.88%
	Jul	47,344	40,009	4,884	5.18%	10.88%
	Aug	47,625	40,238	4,912	5.20%	10.88%
	Sep	47,908	40,466	4,938	5.23%	10.88%
	Oct	48,189	40,694	4,967	5.25%	10.88%
	Nov	48,471	40,922	4,994	5.27%	10.88%
	Dec	48,752	41,152	5,020	5.29%	10.87%
2023	Jan	47,089	39,809	4,854	5.15%	10.87%
	Feb	47,371	40,038	4,880	5.18%	10.86%
	Mar	47,648	40,265	4,907	5.20%	10.86%
	Apr	47,936	40,494	4,935	5.23%	10.86%
	May	48,214	40,723	4,961	5.25%	10.86%
	Jun	48,498	40,951	4,989	5.27%	10.86%
	Jul	48,778	41,179	5,016	5.30%	10.86%
	Aug	49,061	41,408	5,042	5.32%	10.85%
	Sep	49,340	41,636	5,070	5.34%	10.86%
	Oct	49,625	41,864	5,097	5.37%	10.85%
	Nov	49,904	42,093	5,125	5.38%	10.85%
	Dec	50,186	42,321	5,151	5.41%	10.85%
2024	Jan	48,569	41,014	4,989	5.28%	10.84%
	Feb	48,848	41,241	5,017	5.30%	10.85%
	Mar	49,129	41,469	5,043	5.33%	10.84%
	Apr	49,411	41,699	5,070	5.35%	10.84%
	May	49,693	41,928	5,096	5.37%	10.84%
	Jun	49,974	42,156	5,124	5.39%	10.84%
	Jul	50,258	42,384	5,151	5.42%	10.84%
	Aug	50,537	42,613	5,177	5.44%	10.83%

	Sep	50,820	42,840	5,206	5.46%	10.84%
	Oct	51,100	43,069	5,232	5.48%	10.83%
	Nov	51,380	43,297	5,260	5.49%	10.83%
	Dec	51,660	43,525	5,287	5.51%	10.83%
2025	Jan	50,086	42,254	5,129	5.40%	10.82%
	Feb	50,368	42,482	5,157	5.42%	10.83%
	Mar	50,650	42,710	5,184	5.44%	10.82%
	Apr	50,931	42,940	5,210	5.46%	10.82%
	May	51,212	43,168	5,237	5.48%	10.82%
	Jun	51,494	43,396	5,264	5.50%	10.82%
	Jul	51,776	43,624	5,292	5.52%	10.82%
	Aug	52,057	43,853	5,319	5.54%	10.82%
	Sep	52,338	44,082	5,344	5.56%	10.81%
	Oct	52,620	44,310	5,372	5.58%	10.81%
	Nov	52,902	44,538	5,400	5.60%	10.81%
	Dec	53,184	44,766	5,427	5.62%	10.81%
2026	Jan	51,652	43,532	5,273	5.51%	10.80%
	Feb	51,936	43,760	5,301	5.54%	10.80%
	Mar	52,216	43,987	5,329	5.55%	10.81%
	Apr	52,497	44,217	5,354	5.57%	10.80%
	May	52,258	44,445	5,381	4.65%	10.80%
	Jun	52,540	44,674	5,407	4.68%	10.80%
	Jul	52,822	44,902	5,435	4.70%	10.80%
	Aug	53,105	45,130	5,463	4.73%	10.80%
	Sep	53,395	45,359	5,489	4.77%	10.79%
	Oct	53,675	45,586	5,517	4.79%	10.80%
	Nov	53,959	45,815	5,544	4.82%	10.79%
	Dec	54,249	46,043	5,571	4.86%	10.79%
2027	Jan	52,741	44,847	5,421	4.69%	10.78%
	Feb	53,014	45,076	5,448	4.70%	10.78%
	Mar	53,305	45,304	5,475	4.74%	10.78%
	Apr	53,577	45,532	5,502	4.75%	10.78%
	May	53,867	45,761	5,529	4.78%	10.78%
	Jun	54,146	45,988	5,557	4.80%	10.78%
	Jul	54,440	46,217	5,584	4.85%	10.78%
	Aug	54,704	46,445	5,612	4.84%	10.78%
	Sep	54,999	46,673	5,639	4.89%	10.78%
	Oct	55,271	46,903	5,664	4.89%	10.77%
	Nov	55,565	47,131	5,692	4.93%	10.78%
	Dec	55,840	47,360	5,718	4.95%	10.77%
2028	Jan	54,414	46,201	5,575	4.85%	10.77%
	Feb	54,687	46,429	5,603	4.85%	10.77%
	Mar	54,976	46,658	5,629	4.89%	10.77%
	Apr	55,261	46,886	5,657	4.92%	10.77%
	May	55,550	47,115	5,684	4.95%	10.77%
	Jun	55,822	47,343	5,711	4.96%	10.76%
	Jul	56,113	47,572	5,738	5.00%	10.76%
	Aug	56,386	47,800	5,765	5.00%	10.76%
	Sep	56,673	48,028	5,792	5.03%	10.76%

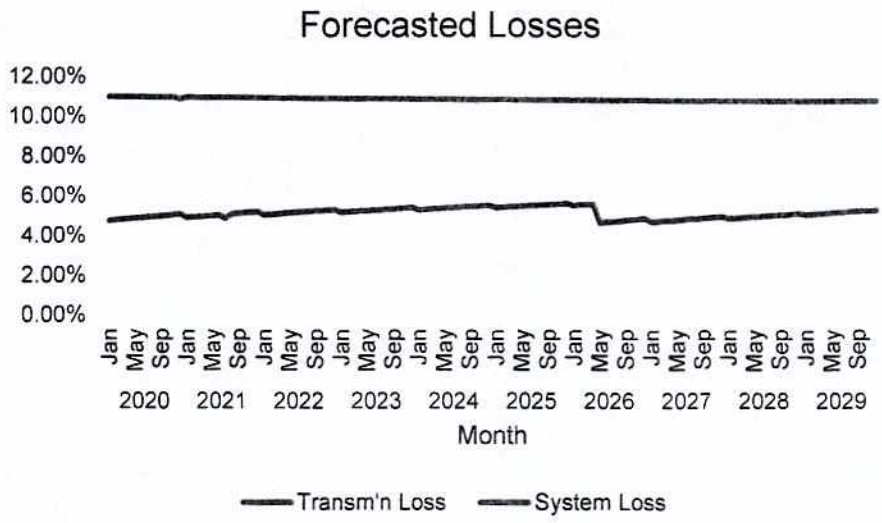
	Oct	56,950	48,257	5,819	5.05%	10.76%
	Nov	57,238	48,485	5,847	5.08%	10.76%
	Dec	57,512	48,714	5,873	5.09%	10.76%
2029	Jan	56,165	47,596	5,734	5.05%	10.75%
	Feb	56,438	47,824	5,762	5.05%	10.75%
	Mar	56,728	48,053	5,788	5.09%	10.75%
	Apr	57,002	48,281	5,816	5.10%	10.75%
	May	57,289	48,509	5,843	5.13%	10.75%
	Jun	57,580	48,738	5,869	5.16%	10.75%
	Jul	57,853	48,966	5,897	5.17%	10.75%
	Aug	58,142	49,195	5,924	5.20%	10.75%
	Sep	58,414	49,423	5,951	5.20%	10.75%
	Oct	58,706	49,652	5,978	5.24%	10.75%
	Nov	58,978	49,880	6,005	5.24%	10.75%
	Dec	59,267	50,108	6,032	5.28%	10.74%

MWh Offtake was forecasted using ___. The assumed load factor is ___%.

System Loss was calculated through a Load Flow Study conducted on ___ by ___ using ___ software. Based on the same study, the Distribution System [can/cannot] adequately convey electricity to customers.



MWh Output was expected to grow at a rate of ___ annually.



Transmission Loss is expected to range from ___% to ___% while System Loss is expected to range from ___% to ___%.

Power Supply

Case No.	Type	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
2011-111RC	Base	Angat Hydropower Corporation	50.00	400,000	4/30/2005	4/30/2025
2011-222RC	Intermediate	KEPCO Ilijan Corporation	20.00	175,000	3/31/2007	3/31/2027
2011-333RC	Peaking	Next Generation Power Technology Corporation	10.00	40,000	10/1/2003	10/1/2023

The PSA with ___ filed with ERC under Case No. ___ was procured through ___. It was selected to provide for [base/intermediate/peaking] requirements due to ___. Historically, the utilization of the PSA is ___%. Outages of the plant led to unserved energy of around ___ MWh in the past year. The actual billed overall monthly charge under the PSA ranged from ___ P/kWh to ___ P/KWh in the same period.

[Repeat as needed]

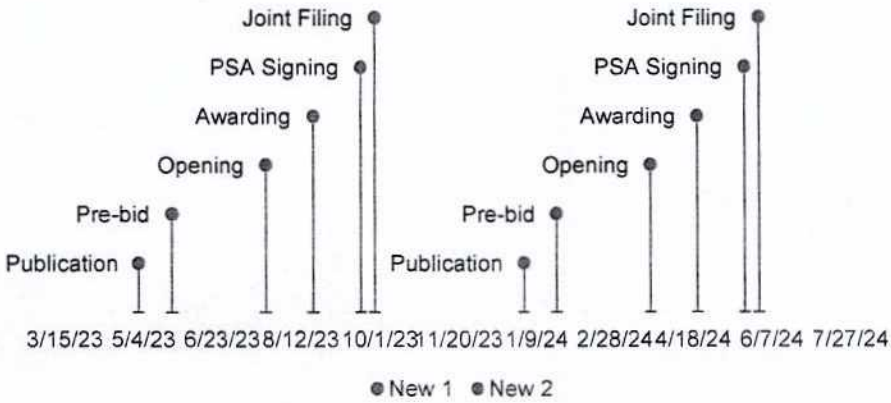
Case No.	Type	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
2012-111RC	Base	KEPCO Ilijan Corporation	5.00	14,573	12/1/2010	12/1/2030
2012-222RC	Intermediate	Power Sector Assets and Liabilities Management Corporation	25.00	7,661	8/1/2020	8/1/2040

The PSA with ___ filed with ERC under Case No. ___ was procured through ___. It was selected to provide for [base/intermediate/peaking] requirements due to ___. Historically, the utilization of the PSA is ___%. Outages of the plant led to unserved energy of around ___ MWh in the past year. The actual billed overall monthly charge under the PSA ranged from ___ P/kWh to ___ P/KWh in the same period.

[Repeat as needed]

	New 1	New 2
Type	Base	Peaking
Minimum MW	75.00	5.00
Minimum MWh/yr	104,633	40,000
PSA Start	5/1/2025	1/1/2026
PSA End	5/1/2045	1/1/2046
Publication	5/1/2023	1/1/2024
Pre-bid	5/22/2023	1/22/2024
Opening	7/21/2023	3/22/2024
Awarding	8/20/2023	4/21/2024
PSA Signing	9/19/2023	5/21/2024
Joint Filing	9/28/2023	5/30/2024

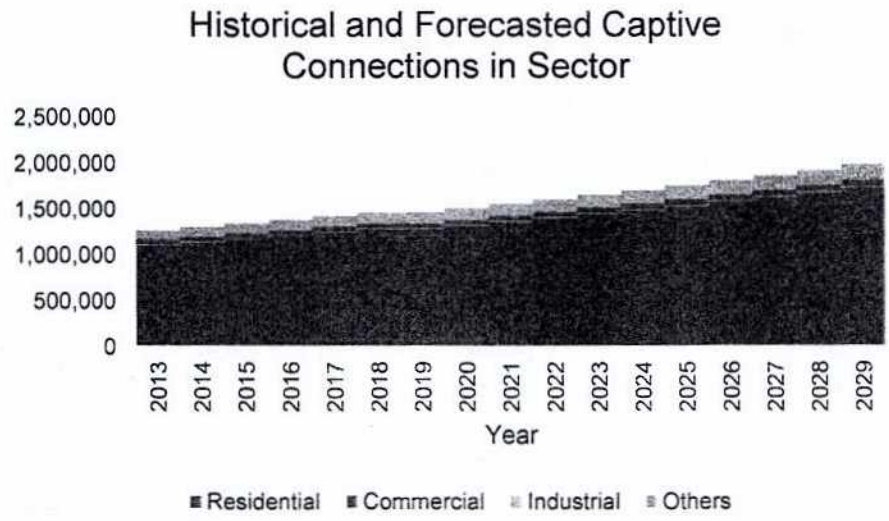
Procurement Schedule



For the procurement of ___ MW of supply which is planned to be available on ___, the first publication or launch of CSP will be on ___. Joint filing is planned on ___, or 150 days later, in accordance with DOE's 2018 CSP Policy.

[Repeat as needed]

Captive Customer Connections



The number of ___ connections is expected to grow at a rate of ___% annually. Said customer class is expected to account for ___% of the total consumption.

ANNEX B.2

Distribution Development Plan [First Forecast Year]

[Name of DU]

General Information

The DU's franchise was granted on ___ by virtue of ___ and is set to expire on ___.

[Show franchise map]

The DU's franchise area consists of ___ barangays in the [City/Cities] of ___ and the [Municipality/Municipalities] of ___ in the [Province/Provinces] of ___. The franchise area is ___ square kilometers in size with a population of ___ based on ___.

The DU serves ___ [Sector/Sectors]...

Historical and Forecasted Consumption Data

	Non-coincident Peak MW	MWh Offtake	MWh Transm'n Loss	MWh Residential	MWh Commercial	MWh Industrial	MWh Others	MWh S4R as Seller	MWh Own Use	MWh Switched Contestable Customers	MWh System Loss
2000	50.50	322,228	10,415	94,740	88,914	49,056	45,990	3,066	2,453	0	27,594
2001	52.52	332,117	10,982	94,392	91,581	47,370	50,528	3,158	2,526	0	31,580
2002	53.53	340,769	10,032	106,950	87,823	65,054	29,274	3,253	2,602	0	35,781
2003	55.55	353,862	13,136	90,124	97,159	83,758	33,503	3,350	2,680	0	30,152
2004	56.56	359,053	8,139	92,793	113,877	58,664	44,861	3,451	2,761	0	34,507
2005	58.58	372,296	10,891	91,986	99,521	53,315	71,087	3,554	2,843	0	39,099
2006	60.60	385,383	13,100	105,765	124,473	54,914	43,932	3,661	2,929	0	36,609
2007	61.62	393,525	10,110	97,589	120,665	86,728	30,166	3,771	3,017	0	41,479
2008	63.63	409,089	14,133	123,858	100,982	73,794	50,491	3,884	3,107	0	38,840
2009	65.65	415,957	9,153	131,574	112,012	100,011	16,002	4,000	3,200	0	40,005
2010	67.67	433,461	14,453	147,883	127,734	78,289	16,482	4,120	3,296	0	41,204
2011	69.69	442,187	10,566	122,654	106,102	93,369	63,661	4,244	3,395	0	38,196
2012	71.71	457,480	12,998	139,360	109,285	87,428	52,457	4,371	3,497	0	48,084
2013	73.73	470,478	12,526	121,164	157,588	85,548	49,528	4,503	3,602	0	36,019
2014	76.76	483,518	11,873	147,941	157,678	97,390	18,550	4,638	3,710	0	41,738
2015	78.78	500,767	15,022	161,883	138,525	100,311	28,660	4,777	3,821	0	47,768
2016	86.58	533,223	13,476	159,250	151,420	98,505	49,772	4,647	4,559	0	51,594
2017	89.91	555,269	14,966	167,822	163,037	104,946	40,935	4,836	4,736	0	53,991
2018	93.24	576,196	15,312	164,519	164,468	103,390	65,641	5,018	4,915	0	52,933
2019	93.24	576,196	15,312	164,519	164,468	103,390	65,641	5,018	4,915	0	52,933
2020	94.91	589,075	26,218	294,661	111,634	25,376	27,909	10,149	1,308	30,820	61,000
2021	97.57	606,450	27,596	303,207	114,869	26,113	28,718	10,442	1,497	31,323	62,685
2022	100.31	624,989	29,244	312,012	118,206	26,870	29,551	10,746	1,685	32,233	64,442
2023	103.14	643,898	30,842	321,077	121,641	27,651	30,410	11,059	1,872	33,169	66,177
2024	106.05	663,376	32,492	330,417	125,177	28,454	31,295	11,379	2,066	34,135	67,961
2025	109.04	683,411	34,160	340,030	128,822	29,281	32,206	11,711	2,254	35,130	69,817
2026	112.13	699,955	31,790	349,943	132,575	30,135	33,144	12,051	2,451	36,152	71,714
2027	115.32	719,029	31,391	360,146	136,443	31,015	34,110	12,405	2,645	37,206	73,668

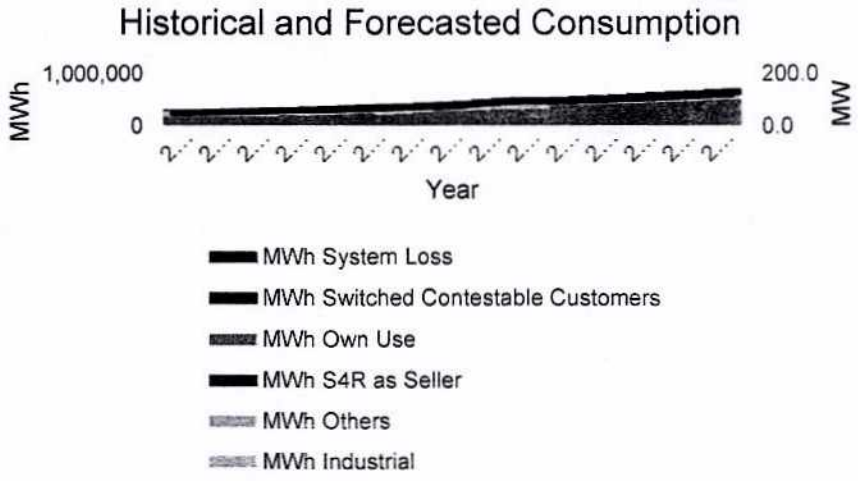
2028	118.59	741,112	33,401	370,657	140,424	31,919	35,105	12,766	2,839	38,294	75,707
2029	121.97	764,115	35,738	381,481	144,526	32,851	36,132	13,139	3,033	39,411	77,804

The above table is a consolidation of consumption data for all Sectors, namely ___. The largest Sector is ___ which accounts for around ___% of the MWh Offtake.

Around ___% of the MWh Offtake is expected to be delivered under Sale for Resale Agreements to Buying DUs, namely ___.

	Transm'n Loss	System Loss	Load Factor	Switched Contestable Customers
2000	3.23%	8.85%	70%	0.00%
2001	3.31%	9.83%	70%	0.00%
2002	2.94%	10.82%	71%	0.00%
2003	3.71%	8.85%	70%	0.00%
2004	2.27%	9.83%	71%	0.00%
2005	2.93%	10.82%	70%	0.00%
2006	3.40%	9.83%	70%	0.00%
2007	2.57%	10.82%	71%	0.00%
2008	3.45%	9.83%	71%	0.00%
2009	2.20%	9.83%	71%	0.00%
2010	3.33%	9.83%	71%	0.00%
2011	2.39%	8.85%	71%	0.00%
2012	2.84%	10.82%	71%	0.00%
2013	2.66%	7.87%	71%	0.00%
2014	2.46%	8.85%	70%	0.00%
2015	3.00%	9.83%	70%	0.00%
2016	2.53%	9.93%	69%	0.00%
2017	2.70%	9.99%	69%	0.00%
2018	2.66%	9.44%	69%	0.00%
2019	2.66%	9.44%	69%	0.00%
2020	4.45%	10.84%	68%	5.48%
2021	4.55%	10.83%	68%	5.41%
2022	4.68%	10.82%	68%	5.41%
2023	4.79%	10.79%	68%	5.41%
2024	4.90%	10.77%	68%	5.41%
2025	5.00%	10.75%	68%	5.41%
2026	4.54%	10.73%	68%	5.41%
2027	4.37%	10.71%	68%	5.41%
2028	4.51%	10.70%	68%	5.41%
2029	4.68%	10.68%	68%	5.41%

Historically, the overall Transmission Loss ranged from ___% to ___% while the overall System Loss ranged from ___% to ___%. Overall Transmission Loss peaked at ___% on year ___ because of ___. Overall System Loss peaked at ___% on year ___ because of ___.



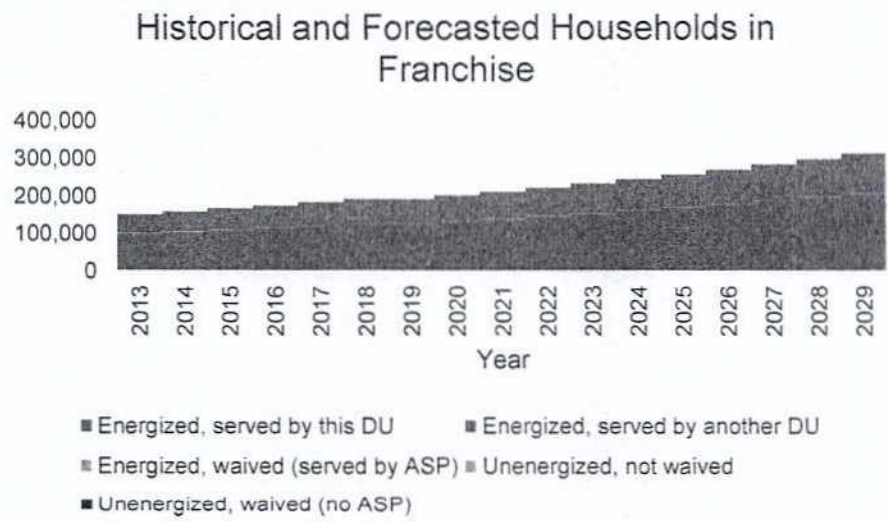
___ customers account for the bulk of energy sales at ___% [despite of the low / due to the high] number of connections. In contrast, ___ customers accounted for only ___% of energy sales [despite of the high / due to the low] number of connections. These figures are expected to [drastically change / essentially remain the same] in the following years due to ___.

Historical and Forecasted Customer Data

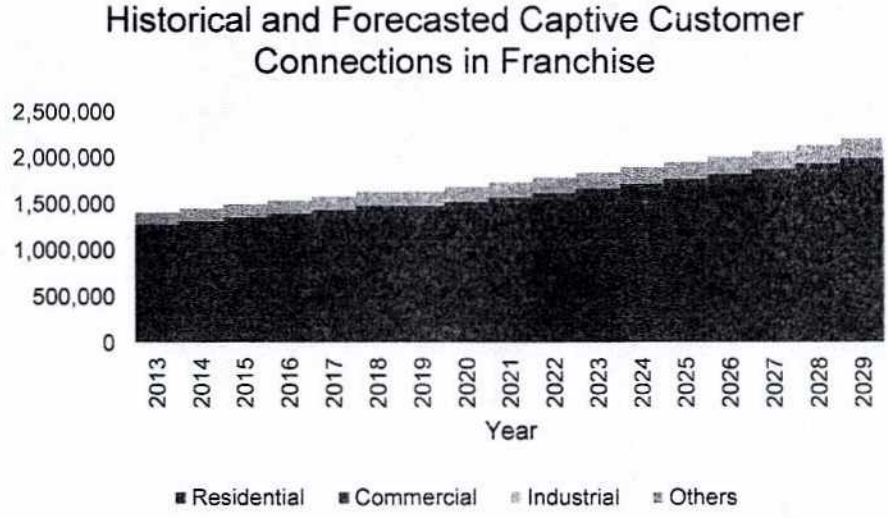
	Number of barangays in franchise	Number of households in franchise	Number of barangays outside franchise being served	Number of customer connections outside franchise	Number of captive customer connections	Number of contestable customers	NCP MW of switched contestable customers	Total MWh of switched contestable customers
2013	56	150,800	2	5,279	1,413,948	0		
2014	56	158,325	2	5,437	1,456,368	0		
2015	56	166,226	2	5,600	1,500,059	0		
2016	56	174,523	2	5,768	1,545,062	0		
2017	56	183,234	2	5,941	1,591,411	13	6.40	65,700
2018	56	192,380	2	6,119	1,639,152	13	6.40	65,700
2019	56	192,380	2	6,119	1,639,152	13	6.40	65,700
2020	56	201,985	2	6,302	1,688,327	13	6.40	65,700
2021	56	212,069	2	6,490	1,738,977	13	6.40	65,700
2022	56	222,658	2	6,684	1,791,146	13	6.40	65,700
2023	56	233,775	2	6,884	1,844,881	13	6.40	65,700
2024	56	245,448	2	7,090	1,900,226	13	6.40	65,700
2025	56	257,706	2	7,302	1,957,235	13	6.40	65,700
2026	56	270,577	2	7,520	2,015,951	13	6.40	65,700
2027	56	284,090	2	7,745	2,076,428	13	6.40	65,700
2028	56	298,280	2	7,977	2,138,721	13	6.40	65,700
2029	56	313,178	2	8,215	2,202,882	13	6.40	65,700

The number of barangays in the franchise is expected to [remain the same / increase / decrease] due to ___. The number of barangays outside the franchise area but are being served is expected to [remain the same / increase / decrease] due to ___.

The number of Contestable Customers is expected to reach ___ in 10 years. Within the same timeframe, the total MW accounted for switched Contestable Customers is expected to reach ___ MW with a corresponding offtake of ___ MWh.

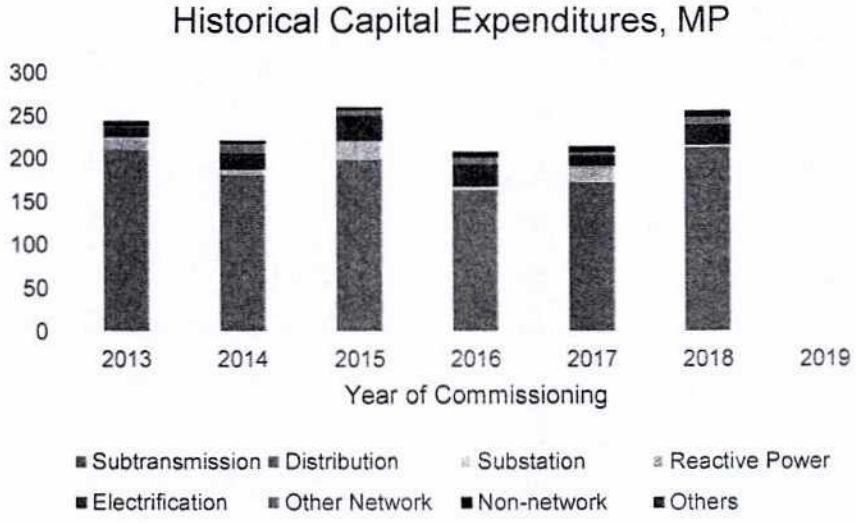


The number of households is expected to [increase/decrease] by ___% annually.

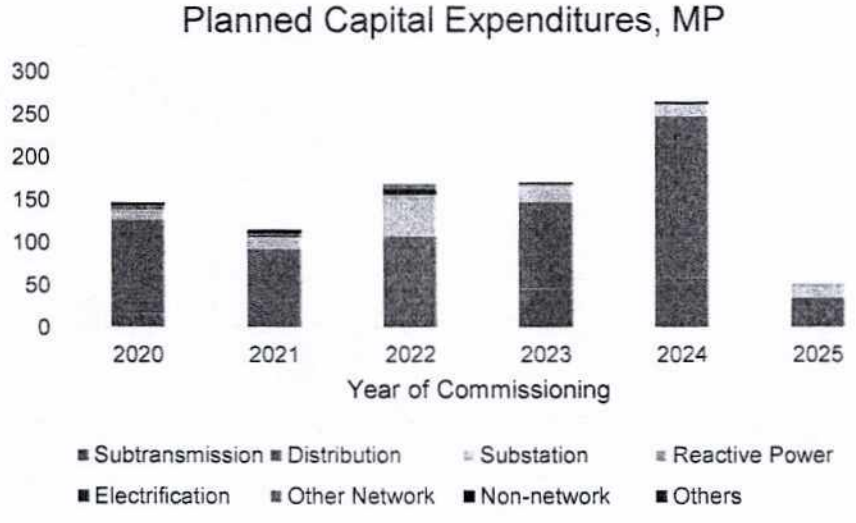


The number of captive customers is expected to [increase/decrease] by ___% annually.

Capital Projects



The past CAPEX projects resulted in a rate increase of around ___ P/kWh since ___. The total amount is expected to be recovered from the customers by the year ___. The majority of the projects is financed through ___, with ___ projects accounting for the bulk.



The planned CAPEX projects are expected to result in a rate increase of around ___ P/kWh from ___ to ___. The total amount is expected to be recovered from the customers by the year ___. The majority of the projects will be financed through ___, with ___ projects accounting for the bulk.

Distribution System Assets

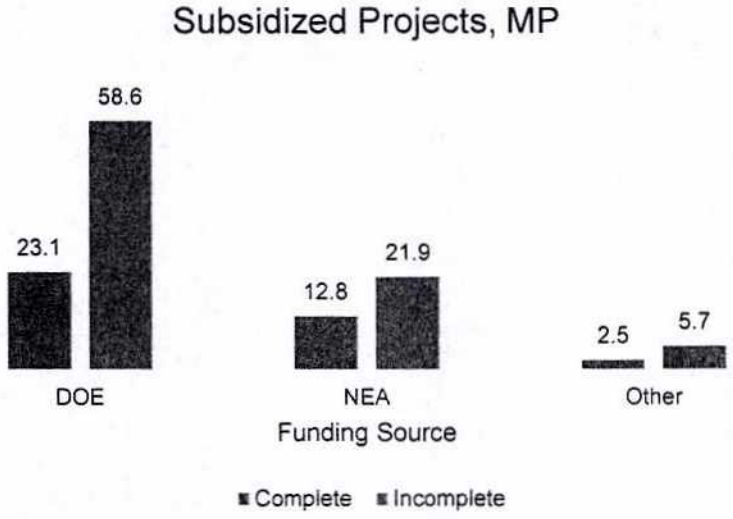
Subtransmission Line ckm	30
Distribution Line ckm	1,240
Pole Count	13,300
Substation Transformer MVA	21.50
Distribution Transformer MVA	21.50
Capacitor MVAr	6.00

The quantities of distribution system assets are [adequate/inadequate].

Transformer	Max MVA	Months to Reach 70%
Daet SS Xfmr 1	5.00	32
Daet SS Xfmr 2	5.00	61
Daet SS Xfmr 3	5.00	56
Basud SS	2.50	16
Mercedes SS	1.00	31
Panganiban SS Xfmr 1	1.00	41
Panganiban SS Xfmr 2	1.00	81
Paracale SS	1.00	N/A

Substation transformer ___ is expected to be loaded at 70% in ___ months. This will be addressed by ___. [Repeat as needed]

Subsidized Projects



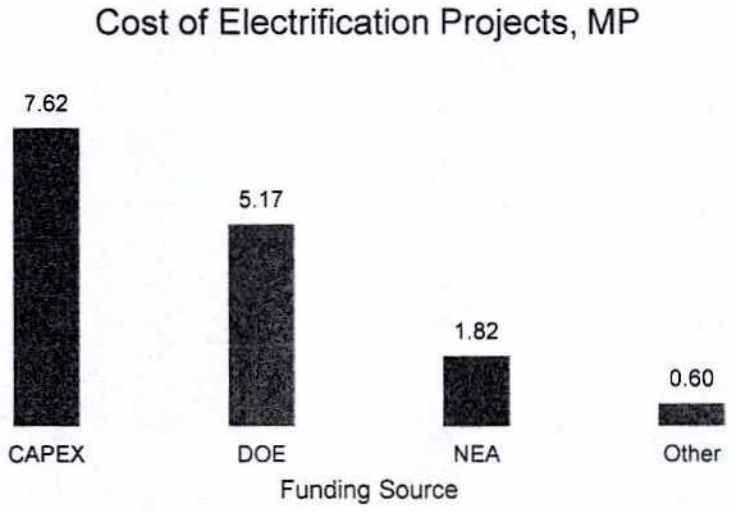
The leading source of subsidy is ___ which accounts for P___ Million disbursed since ___.
Ongoing projects amount to P___ Million and will be completed by ___.

Household Electrification

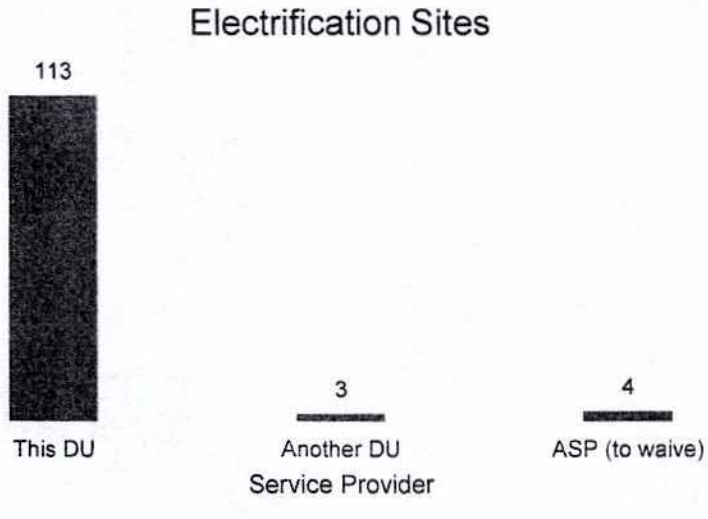
Province	Municipality / City	Energized, Grid-connected	Energized, Not Grid-connected	Total Energized
Camarines Norte	Basud	8,300	322	8,622
Camarines Norte	Capalonga	6,381	211	6,592
Camarines Norte	Daet (Capital)	20,745	299	21,044
Camarines Norte	Jose Panganiban	10,994	288	11,282
Camarines Norte	Labo	20,219	561	20,780
Camarines Norte	Mercedes	8,727	272	8,999
Camarines Norte	Paracale	11,623	285	11,908
Camarines Norte	San Lorenzo Ruiz (Imelda)	5,602	146	5,748
Camarines Norte	San Vicente	3,031	105	3,136
Camarines Norte	Santa Elena	5,572	66	5,638
Camarines Norte	Talisay	5,315	145	5,460
Camarines Norte	Vinzons	8,453	211	8,664
Total		114,962	2,911	117,873

The total number of energized households is ___. The bulk of these are in the [Municipality/City] of ___.

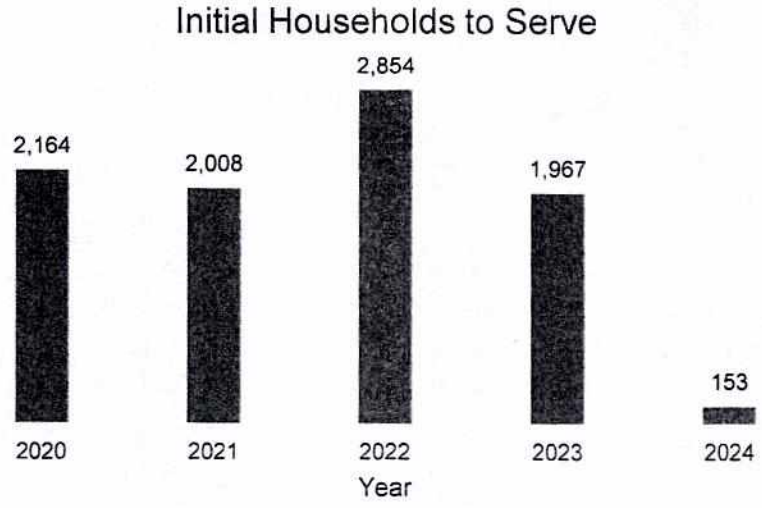
General Electrification



Planned electrification projects amounting to P___ Million will be funded mostly from ___ which accounts for ___% of the total.

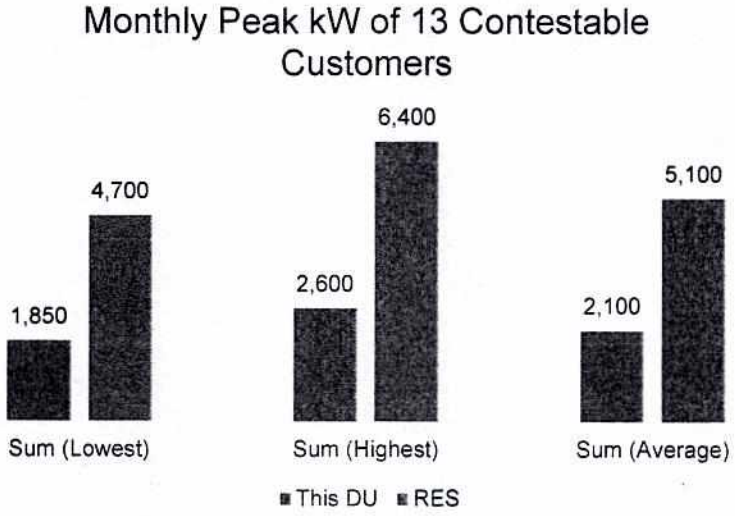


The areas of ___ which are within the franchise area are served by ___. ___ areas in ___ will be waived because ___.



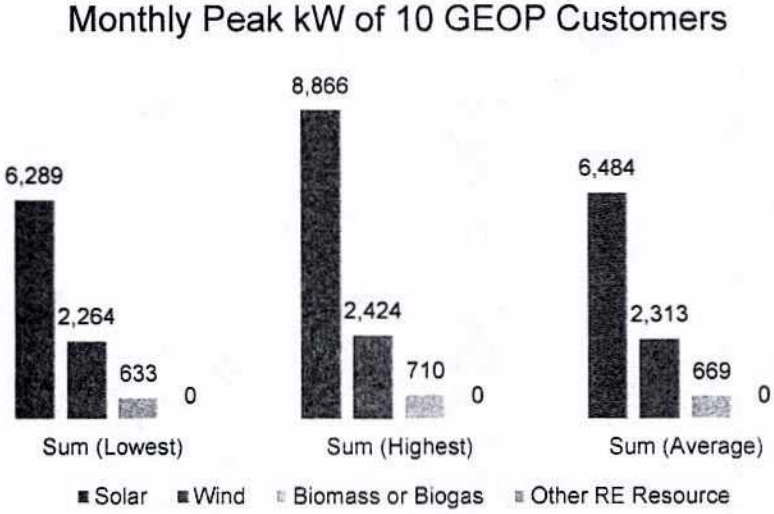
The majority of households to be served by electrification projects will be catered to on the year ___.

Contestable Customers



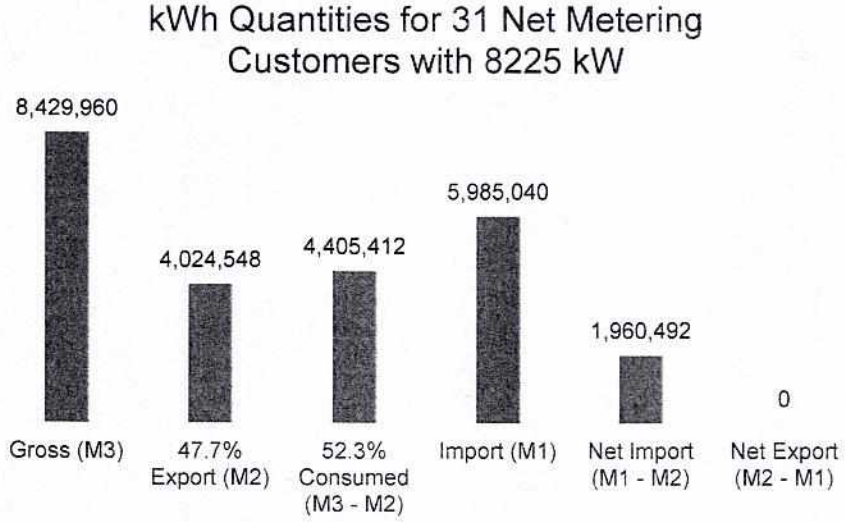
The highest non-coincident demand is ___ kW for switched Contestable Customers and ___ kW for Contestable Customers that did not opt to be served by RES. The combined demand is around ___% of the previous year's system peak.

GEOP Customers



The highest non-coincident demand is ___ kW, which is around ___% of the previous year's system peak.

Net Metering Customers



The variability of the output of net metering customers [adversely affected / did not adversely affect] the stability and reliability of the Distribution System.

The total gross generation measured from REC meters is ___ kWh. Of this, ___ kWh or ___% is exported. The total consumption as measured from import meters is ___ kWh. As the total import is [larger/smaller] than the total export, the net metering customers are net a [importer/exporter] as a whole.

Historical Reliability Indices

Year	SAIFI	MAIFI	SAIDI (h)	CAIDI (h)
2013	0.12	0.00	0.11	0.95
2014	0.08	0.00	0.05	0.68
2015	0.19	0.00	0.03	0.17
2016	0.00	0.00	0.00	0.00
2017	0.18	0.00	0.13	0.75
2018	0.00	0.07	0.00	0.03
2019	0.00	0.17	0.01	0.03

For "Power Supplier" outages, ___.

Year	SAIFI	MAIFI	SAIDI (h)	CAIDI (h)
2013	0.20	0.00	0.14	0.72
2014	0.00	0.00	0.00	0.00
2015	0.19	0.00	0.15	0.78

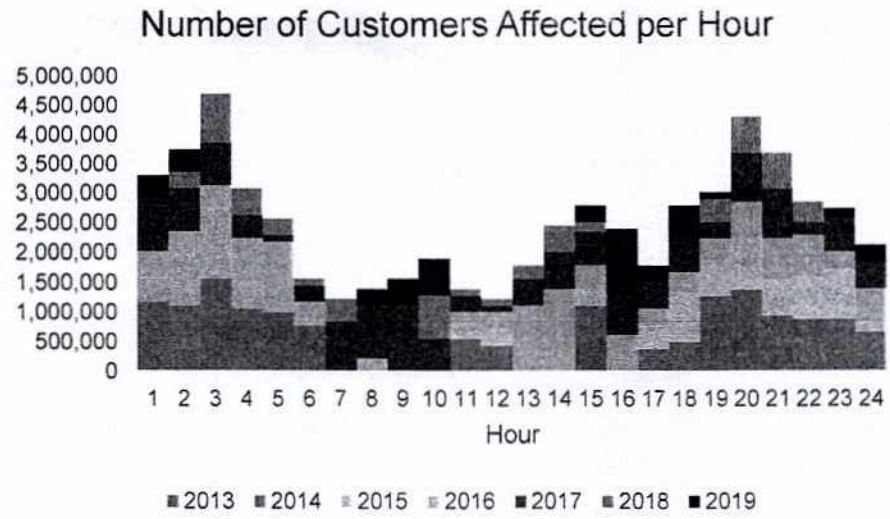
For "Major Storm Disaster" outages, ___.

Year	SAIFI	MAIFI	SAIDI (h)	CAIDI (h)
2013	2.89	0.08	10.75	3.62
2014	1.77	0.46	0.84	0.38
2015	1.98	0.90	0.84	0.29
2016	3.26	0.51	1.92	0.51
2017	2.78	1.41	1.78	0.43
2018	1.50	0.24	1.08	0.62
2019	1.37	0.17	0.68	0.44

For "Scheduled" outages, ___.

Year	SAIFI	MAIFI	SAIDI (h)	CAIDI (h)
2013	2.34	0.51	4.33	1.52
2014	2.00	0.62	1.03	0.39
2015	2.61	0.26	1.68	0.59
2016	2.46	0.91	1.70	0.51
2017	2.64	1.44	2.00	0.49
2018	1.67	0.24	0.91	0.48
2019	0.92	0.38	0.67	0.51

For all other outages, the indices are [within / not within] ERC's benchmarks.



The largest number of customer interruptions occurred on hour ___ which [coincides / does not coincide] with the peak period. The second largest number of customer interruptions occurred on hour ___ which [coincides / does not coincide] with the peak period.