



MONTHLY OVER-RIDING CONSTRAINTS HIGHLIGHTS

26 October to 25 November 2023

The information contained in this document is based on data that are subject to continuous verification by the Philippine Electricity Market Corporation (PEMC). The same information is subject to change as updated figures come in.

SUMMARY OF OBSERVATIONS

- Increase in over-riding constraint (OC) impositions related to commissioning tests was noted following the start of commissioning test period of three (3) solar plants and extension of Provisional Certificate of Approval to Connect (PCATC) of four (4) plants.
- Natural gas plants in Luzon shifting to liquefied natural gas (LNG) as fuel conducted performance test during the reviewed period resulting in an increase in OC impositions.
- OC impositions in Mindanao were mostly attributable to the designation of Oil-based plants as Must-Run Units (MRUs) to address system voltage requirement of the region.

AT A GLANCE

Total Over-riding
Constraints
Imposition

51,119

▲ **21.8%**
increase from
previous billing
period



LUZON
44,519



NATURAL GAS plants have the
HIGHEST # of OC impositions

NATURAL GAS plants, on average,
had the **LARGEST MW** scheduled
due to **PERFORMANCE TEST**



MOST impositions were due to
PERFORMANCE TEST of natural
gas plants



VISAYAS
1,816



COAL plants have the
HIGHEST # of OC impositions

COAL plants, on average, had the
LARGEST MW scheduled due to
EMISSION TEST



MOST impositions were due to conduct
of **EMISSION TEST** of coal plants



MINDANAO
4,784



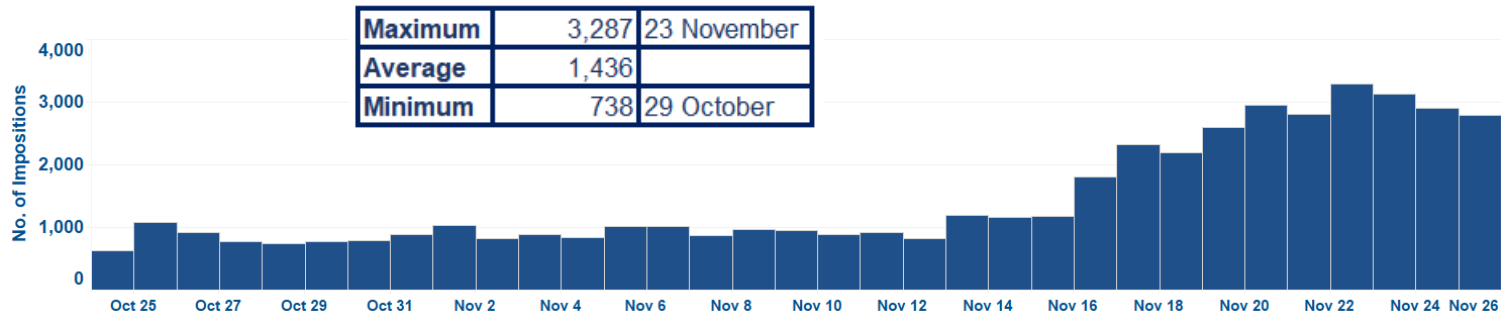
OIL-BASED plants have the
HIGHEST # of OC impositions



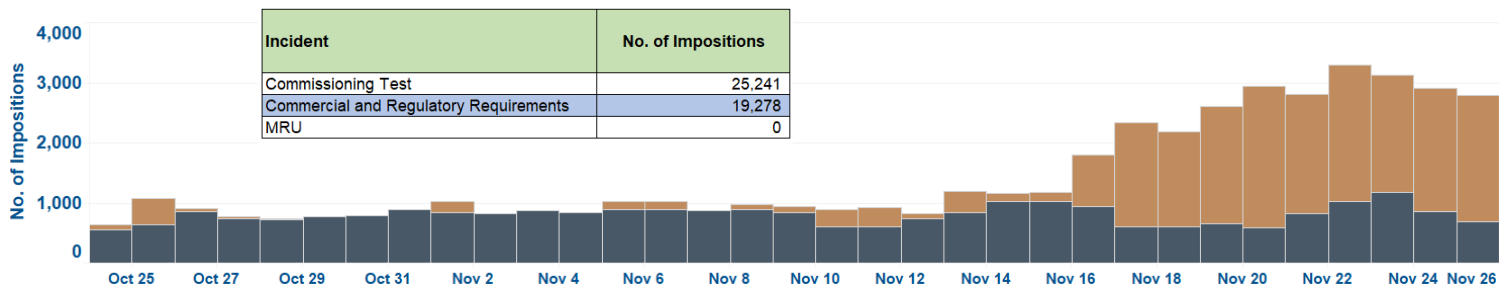
MOST impositions are due to **MUST-RUN UNIT**

OC IMPOSITIONS

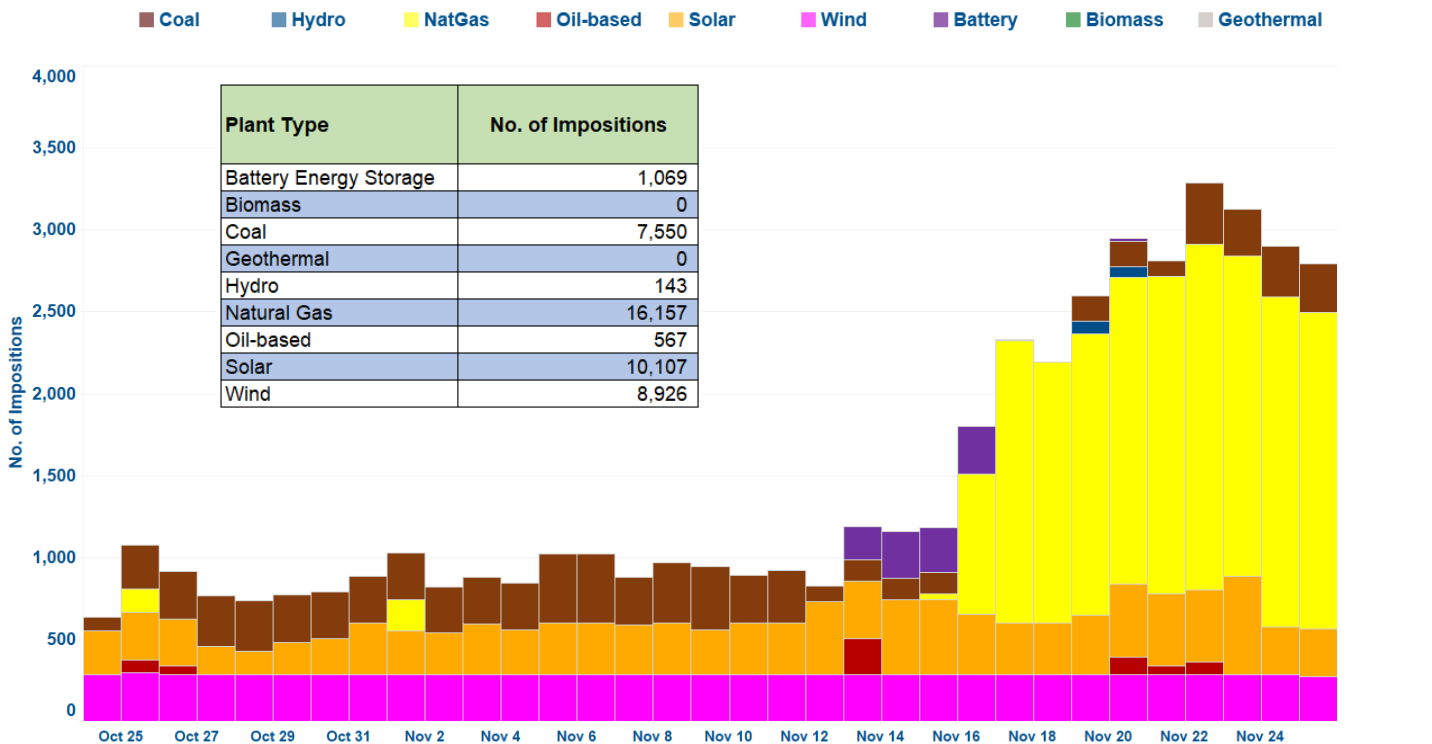
LUZON



by incident

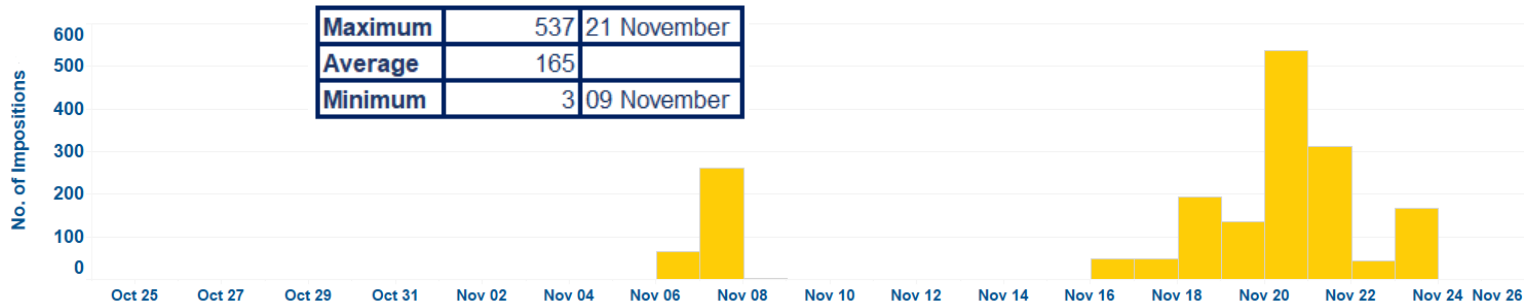


by plant type

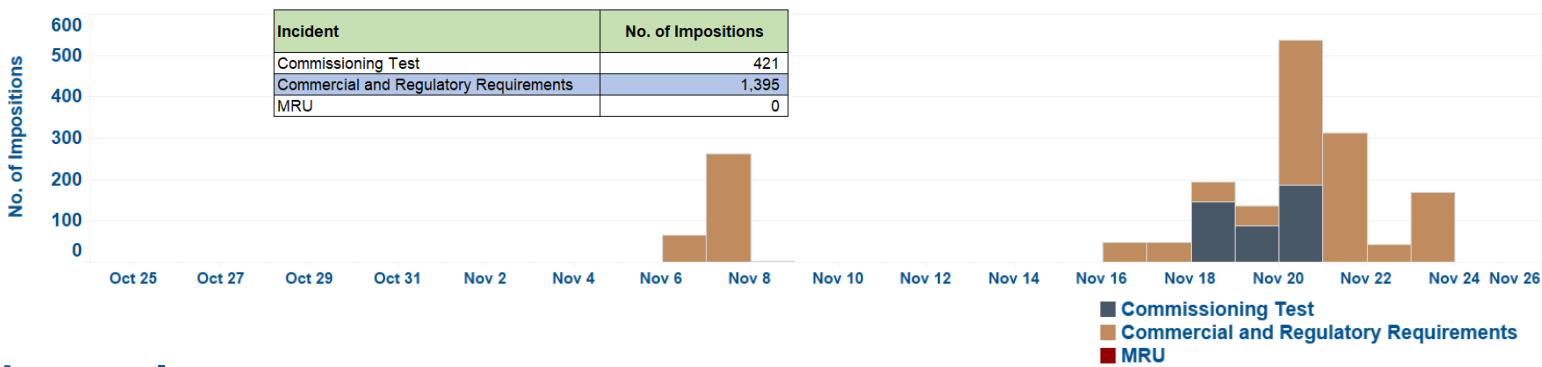


Majority of the OC impositions accounted to Luzon grid plants were attributable to the conduct of performance tests of natural gas plants which increased by the last week of the covered billing period.

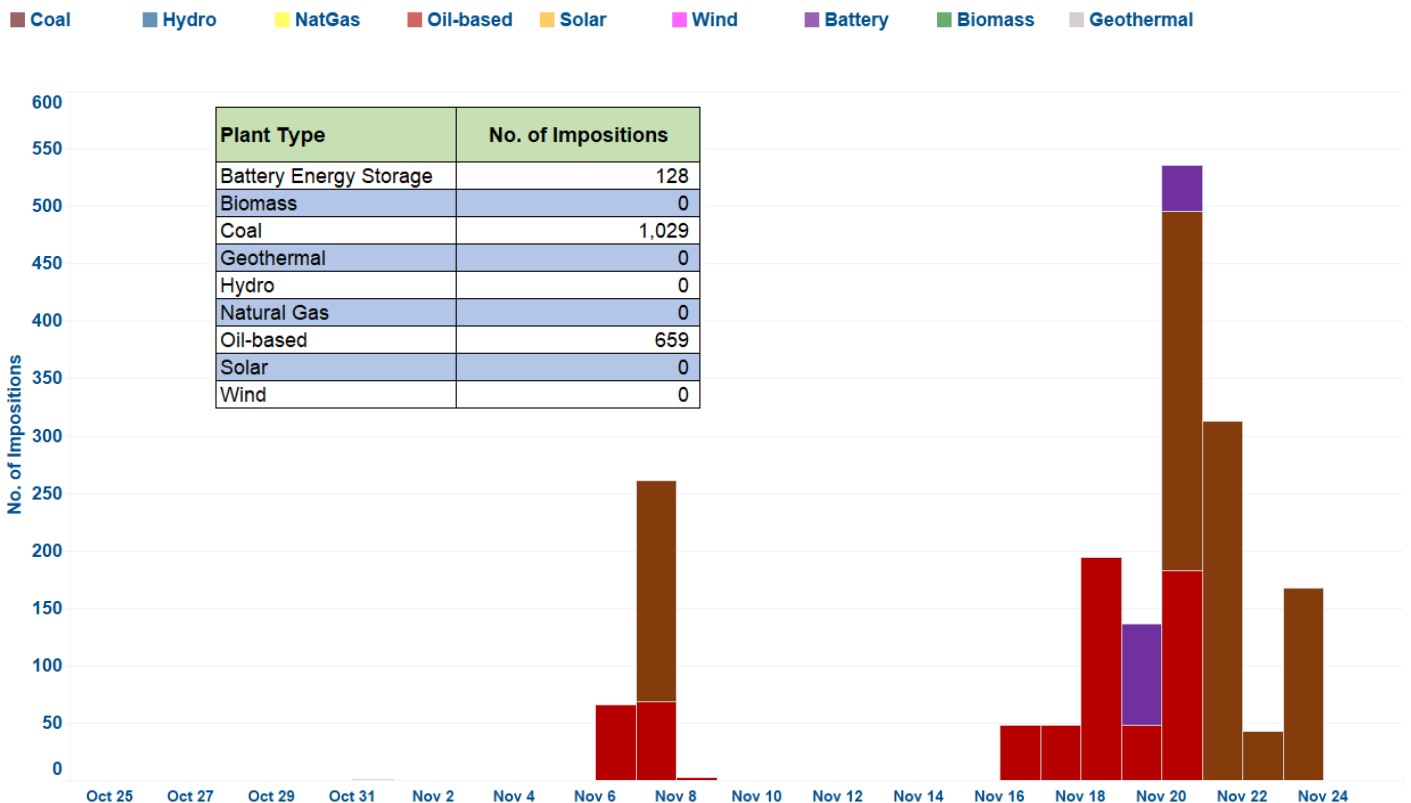
OC IMPOSITIONS VISAYAS



by incident



by plant type

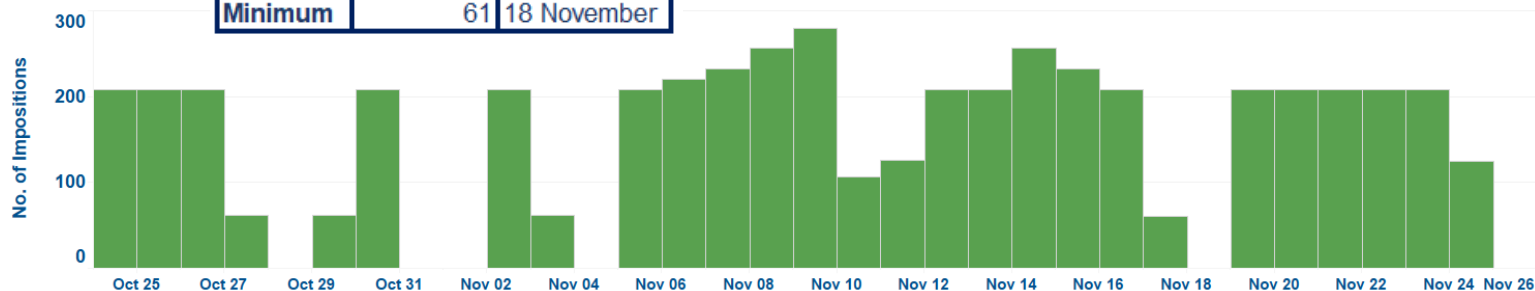


Small shares of OC impositions were observed to be imposed in the **Visayas region**. Most of which were related to **coal plants** due to the conduct of **emission tests**. Most of the impositions were imposed during the last week of the billing period.

OC IMPOSITIONS

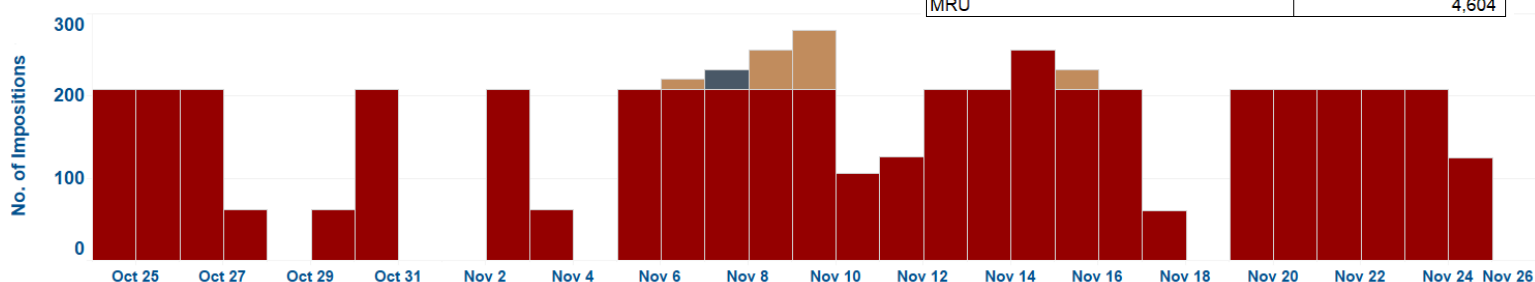
MINDANAO

Maximum	280	10 November
Average	184	
Minimum	61	18 November



by incident

Incident	No. of Impositions
Commissioning Test	24
Commercial and Regulatory Requirements	156
MRU	4,604

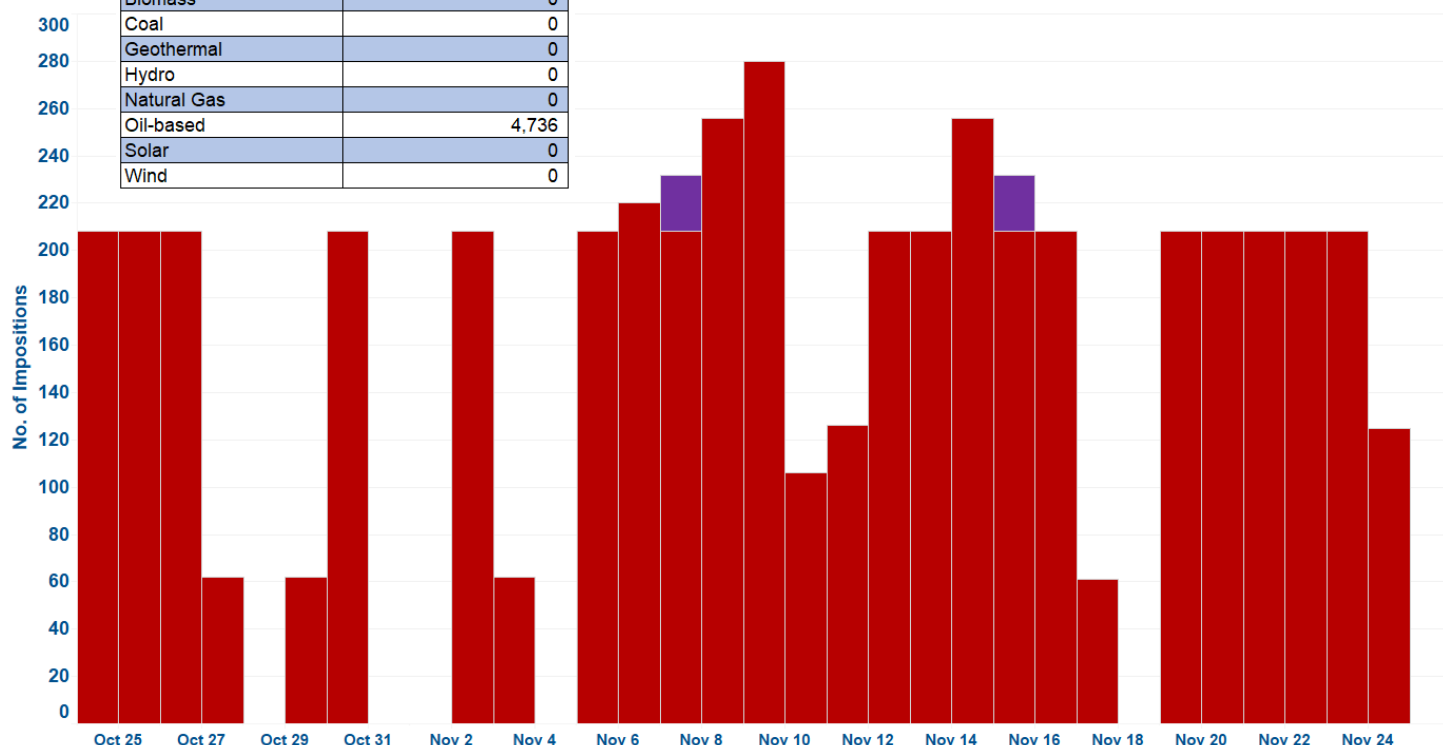


by plant type

■ Commissioning Test
■ Commercial and Regulatory Requirements
■ MRU

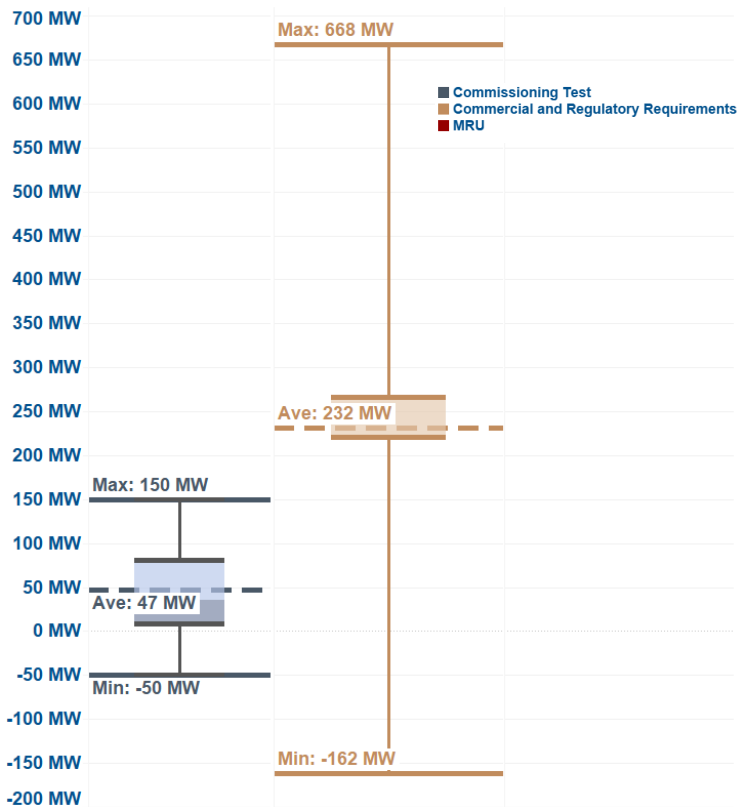
■ Coal ■ Hydro ■ NatGas ■ Oil-based ■ Solar ■ Wind ■ Battery ■ Biomass ■ Geothermal

Plant Type	No. of Impositions
Battery Energy Storage	48
Biomass	0
Coal	0
Geothermal	0
Hydro	0
Natural Gas	0
Oil-based	4,736
Solar	0
Wind	0



In Mindanao, **oil-based** plant was dispatched **most of the time as MRU** during the November 2023 billing period to address system voltage requirement of the region. It was likewise observed that OC impositions decreased during the holidays in the second week of the covered period.

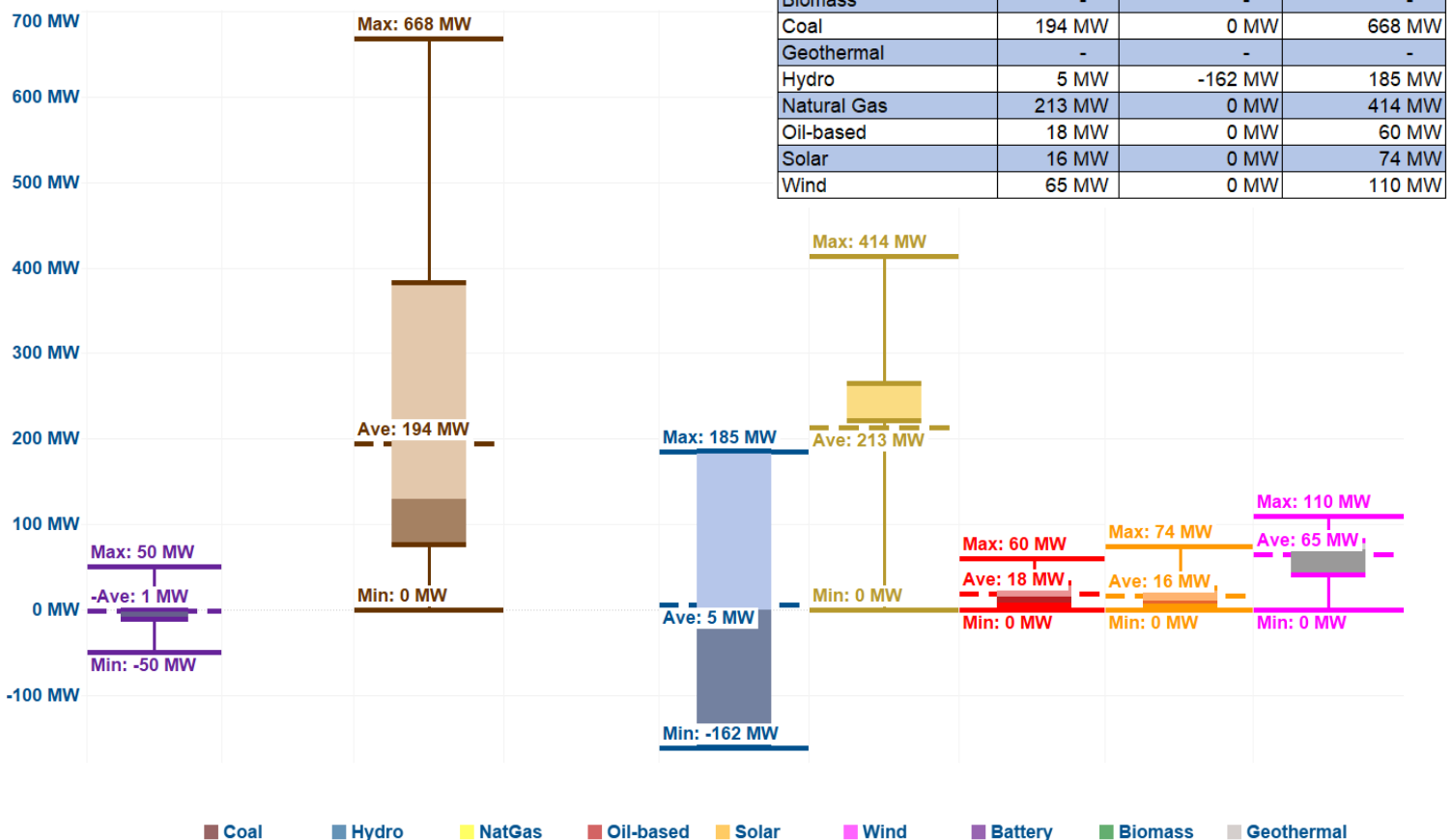
by incident



Incident	Average	Minimum	Maximum
Commissioning Test	46 MW	-50 MW	150 MW
Commercial and Regulatory Requirements	232 MW	-162 MW	668 MW
MRU	-	-	-

The highest average MW scheduled in Luzon reached 232 MW, attributed to the conduct of commercial and regulatory requirements of natural gas plants. Additionally, a hydro plant was noted to have conducted commercial and regulatory requirements, leading to a minimum schedule of -162 MW.

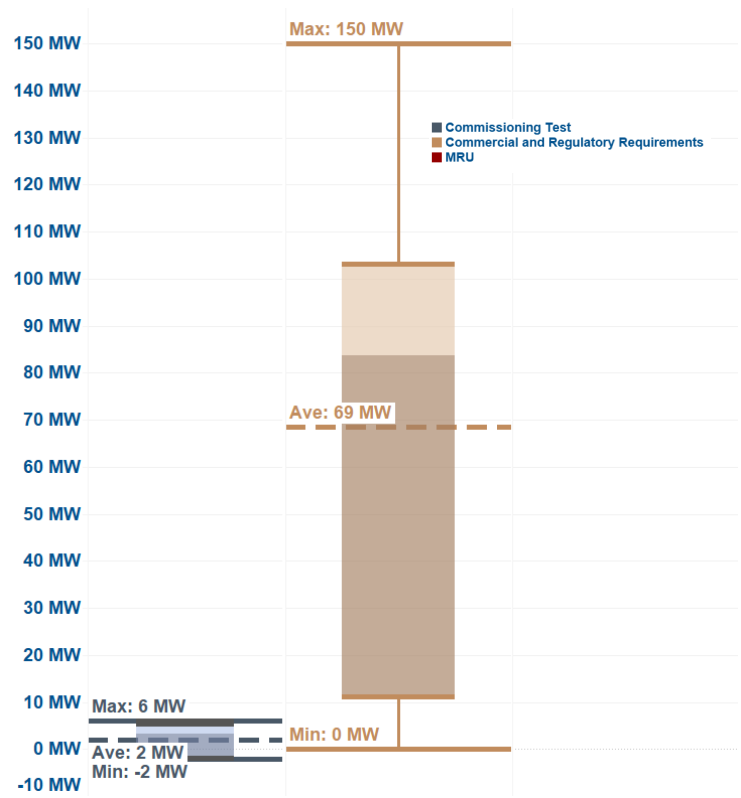
by plant type



Plant Type	Average	Minimum	Maximum
Battery Energy Storage	-1 MW	-50 MW	50 MW
Biomass	-	-	-
Coal	194 MW	0 MW	668 MW
Geothermal	-	-	-
Hydro	5 MW	-162 MW	185 MW
Natural Gas	213 MW	0 MW	414 MW
Oil-based	18 MW	0 MW	60 MW
Solar	16 MW	0 MW	74 MW
Wind	65 MW	0 MW	110 MW

by incident

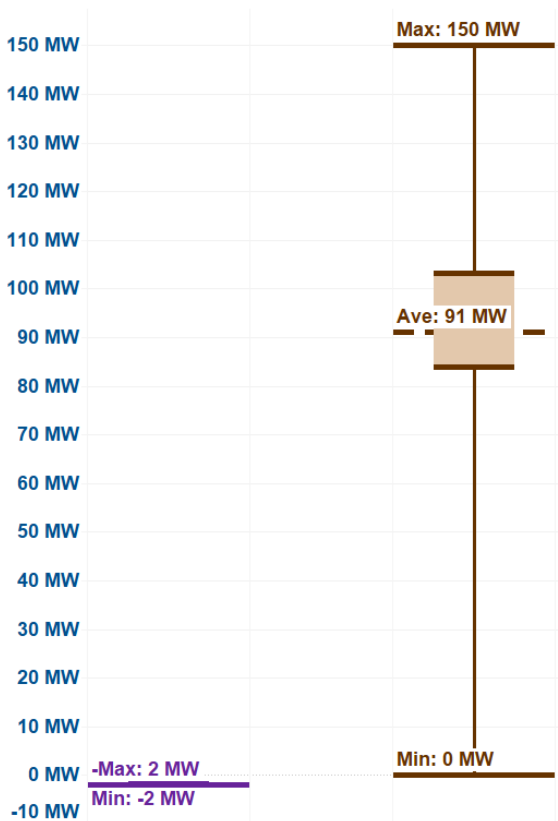
VISAYAS



Incident	Average	Minimum	Maximum
Commissioning Test	2 MW	-2 MW	6 MW
Commercial and Regulatory Requirements	69 MW	0 MW	150 MW
MRU	-	-	-

Majority of the MW scheduled in Visayas was attributable to the conduct of emission test by coal plants.

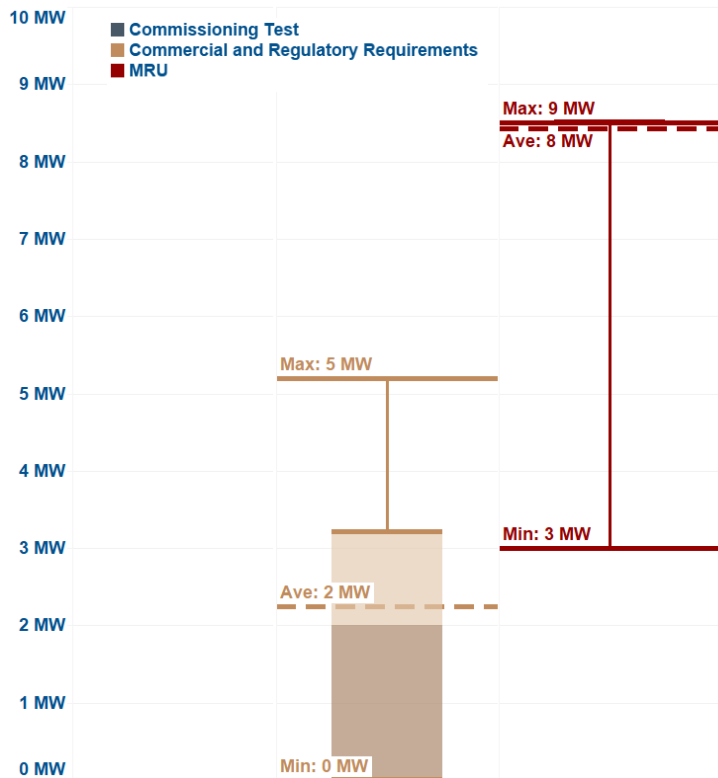
by plant type



Plant Type	Average	Minimum	Maximum
Battery Energy Storage	-2 MW	-2 MW	-2 MW
Biomass	-	-	-
Coal	91 MW	0 MW	150 MW
Geothermal	-	-	-
Hydro	-	-	-
Natural Gas	-	-	-
Oil-based	5 MW	1 MW	15 MW
Solar	-	-	-
Wind	-	-	-

MW SCHEDULES MINDANAO

by incident



Incident	Average	Minimum	Maximum
Commissioning Test	-	-	-
Commercial and Regulatory Requirements	2 MW	0 MW	5 MW
MRU	8 MW	3 MW	9 MW

While majority of the imposition in Mindanao was due to oil-based plants dispatched as MRU to address the system voltage requirement in the grid, emission test and ancillary service test was likewise observed to be conducted by oil-based plants in the region.

by plant type

Plant Type	Average	Minimum	Maximum
Battery Energy Storage	-	-	-
Biomass	-	-	-
Coal	-	-	-
Geothermal	-	-	-
Hydro	-	-	-
Natural Gas	-	-	-
Oil-based	8 MW	-	9 MW
Solar	-	-	-
Wind	-	-	-

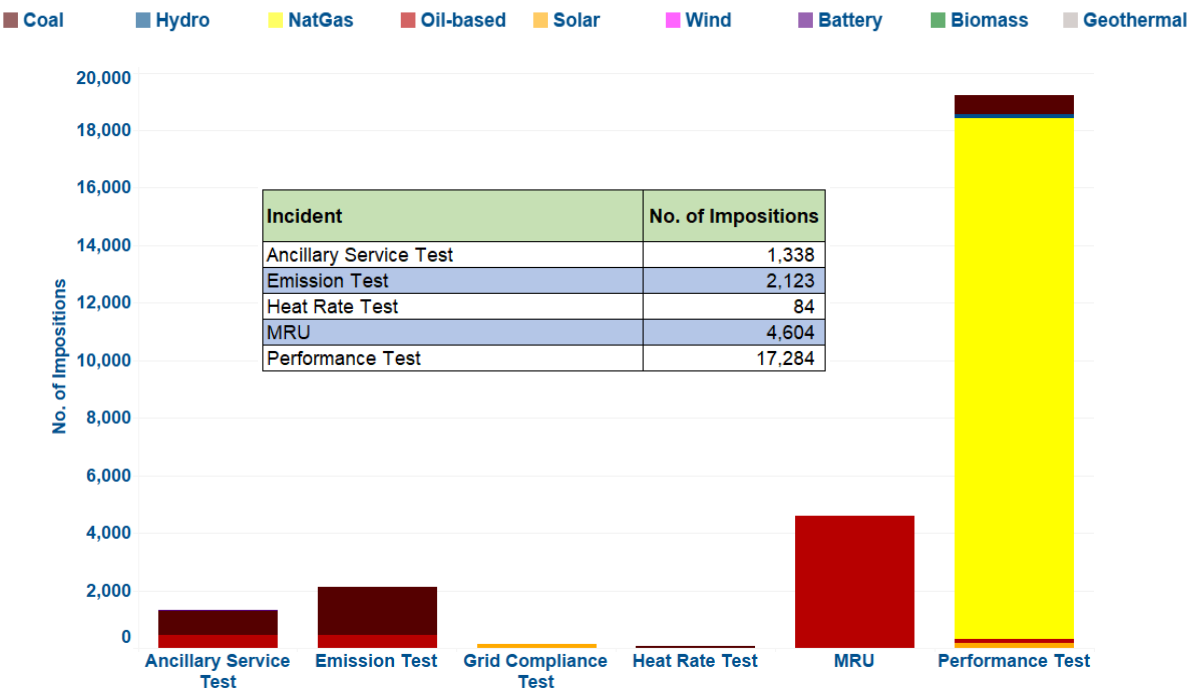
Max: 9 MW
Ave: 8 MW

Coal Hydro NatGas Oil-based Solar Wind Battery Biomass Geothermal

OC IMPOSITIONS

by incident

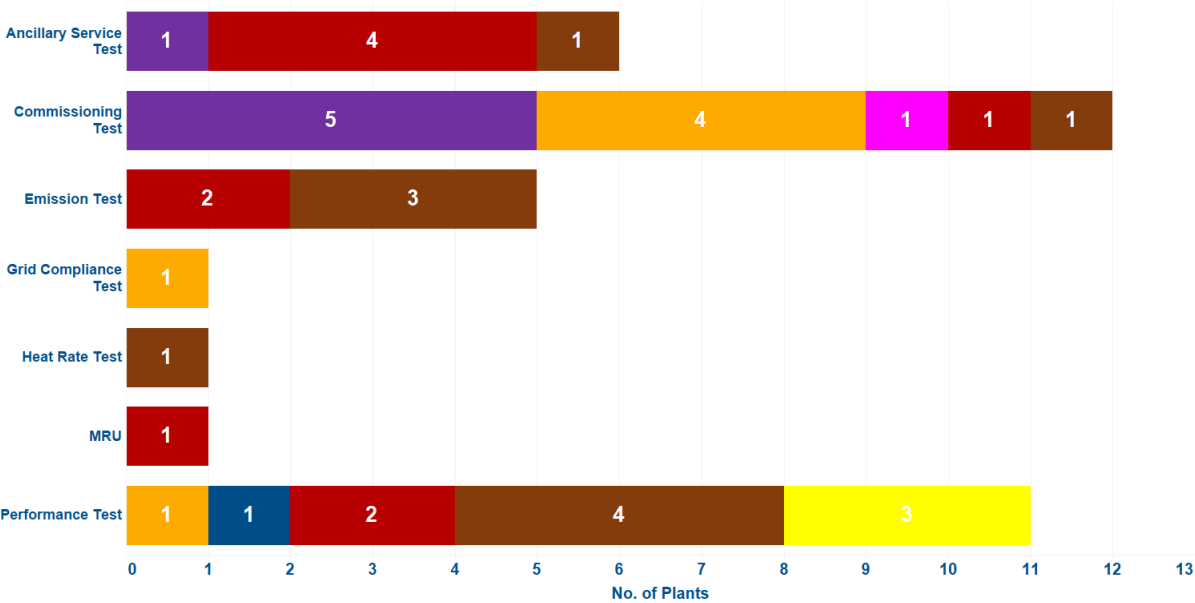
(excluding commissioning test)



Looking further on the specific tests conducted by plants, excluding commissioning tests, majority of impositions were imposed to natural gas plants to conduct performance test of their new LNG fuel. This was followed by oil-based plants dispatched as MRU.

NUMBER OF PLANTS

by incident

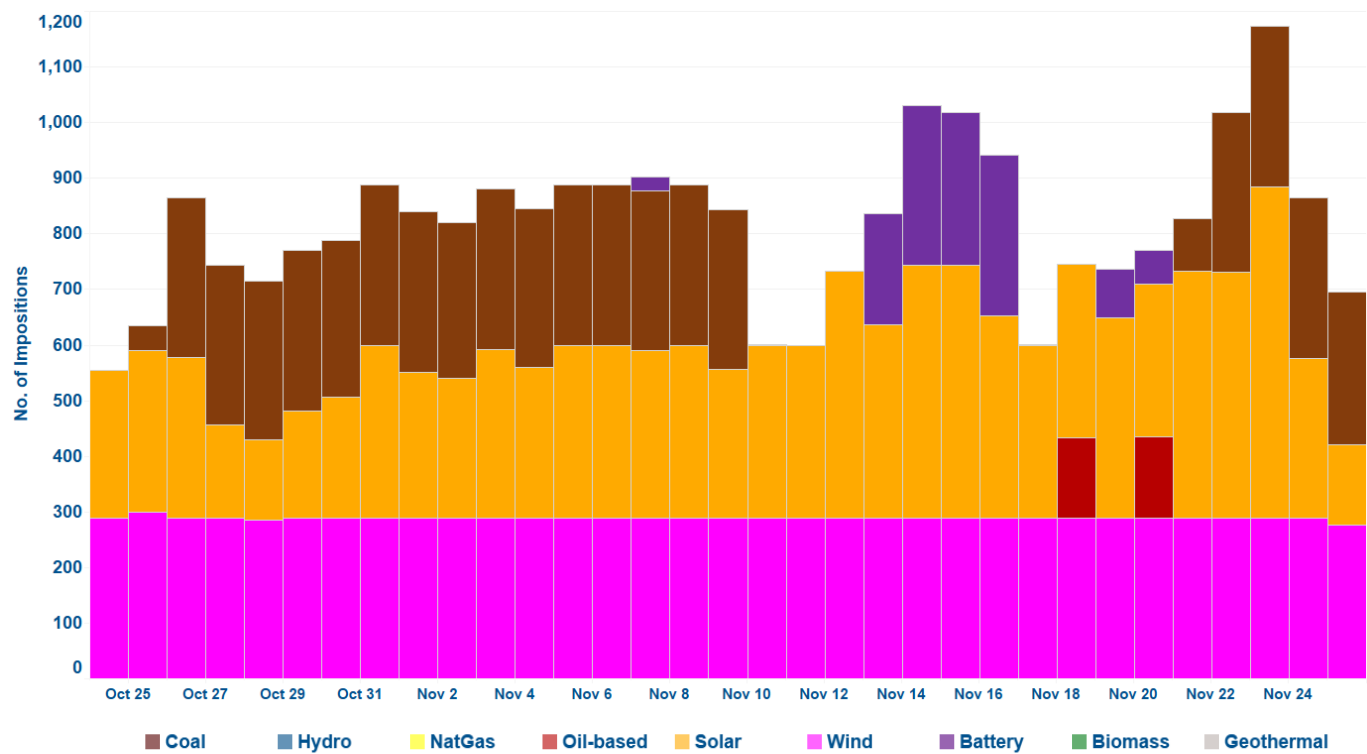


During the billing month, a total of thirty-six (36) plants are imposed with OC, out of which twelve (12) were linked to commissioning tests. Increase in plants conducting performance tests were observed.

Examining the plants individually, it is noteworthy that the majority of those affected by OC were oil-based and coal plants.

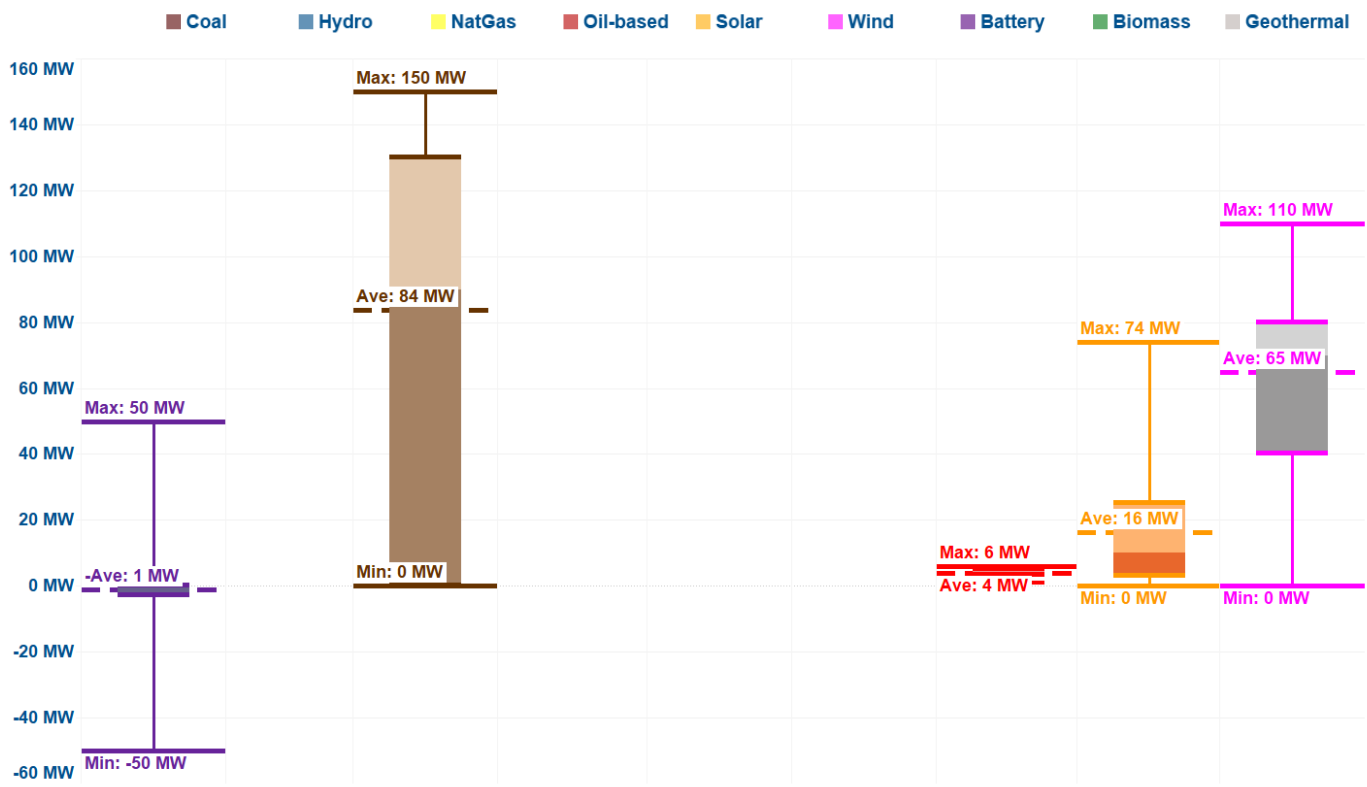
OC IMPOSITIONS

PLANTS UNDER COMMISSIONING TESTS



MW SCHEDULE

PLANTS UNDER COMMISSIONING TESTS



In terms of the number of impositions, solar and wind plants had the highest number of OC related to commissioning tests during the billing period, accounting to thirty-seven percent of the total impositions.

The coal plant, having a substantial capacity, had the highest scheduled MW. In contrast, renewable energy such as wind and solar plants exhibited varying MW schedules throughout the billing period. The testing of charging and discharging for battery plants explain the negative MW scheduled for those plants.

ANNEX

Plants with Over-riding Constraints

Plant/Unit Name	Plant Type	Registered Capacity (MW) ¹
LUZON		
Balaoi and Caunayan Wind Power Project Phase 1	Wind	80
Cagayan North Solar Power Plant	Solar	115
Cayanga-Bugallon Solar Power Plant	Solar	75.1
Concepcion Battery Energy Storage System	Battery	60
GNPower Dinginin Coal Plant - Unit 1	Coal	668
GNPower Dinginin Coal Plant - Unit 2	Coal	668
Bataan Combined Cycle Power Plant Unit 3	Oil-Based	60
Bataan Combined Cycle Power Plant Unit 5	Oil-Based	60
Bataan Combined Cycle Power Plant Unit 6	Oil-Based	60
Bataan Combined Cycle Power Plant Unit 8	Oil-Based	90
Magat Battery Energy Storage System	Battery	24
Mariveles Coal Fired Thermal Power Plant Unit 1	Coal	316
Mariveles Coal Fired Thermal Power Plant Unit 2	Coal	316
Mariveles Coal-fired Thermal Power Plant Unit 2	Coal	150
Orion Solar Power Plant	Solar	16.2
Trust Solar Power Plant	Solar	15.4
Navotas Bunker C-Fired Diesel Power Plant Power Barge 1 / Mobile 3	Oil-Based	63.8
Navotas Bunker C-Fired Diesel Power Plant Power Barge 2 / Mobile 4	Oil-Based	51.5
Navotas Bunker C-Fired Diesel Power Plant Power Barge 3 / Mobile 5	Oil-Based	55.2
Navotas Bunker C-Fired Diesel Power Plant Power Barge 4 / Mobile 6	Oil-Based	52
Subplant 2 Alaminos Battery Energy Storage System	Battery	20
San Gabriel Avion Natural Gas-Fired Power Plant Unit 1	Natural Gas	47.2
San Gabriel Avion Natural Gas-Fired Power Plant Unit 2	Natural Gas	45.8
Kalayaan Hydro Electric Power Plant 4	Hydro	180
Pagbilao Coal-Fired Power Plant 1	Coal	382
Pagbilao Coal-Fired Power Plant 2	Coal	382
Pagbilao 3 Power Plant	Coal	420
San Gabriel Power Plant	Natural Gas	420
Sta. Rita Natural Gas Power Plant 1	Natural Gas	257.3
Sta. Rita Natural Gas Power Plant 2	Natural Gas	255.7
Sta. Rita Natural Gas Power Plant 3	Natural Gas	265.5

¹ As of 29 December 2023

Plant/Unit Name	Plant Type	Registered Capacity (MW) ¹
Sta. Rita Natural Gas Power Plant 4	Natural Gas	264
San Lorenzo Combined-Cycle Gas Turbine Power Plant Unit 50	Natural Gas	265
VISAYAS		
Calbayog Bunker C-Fired Diesel Power Plant	Oil-Based	11.2
Isabel Modular Diesel Power Plant Sector 1	Oil-Based	10
Isabel Modular Diesel Power Plant Sector 2	Oil-Based	10.1
Isabel Modular Diesel Power Plant Sector 3	Oil-Based	15.1
Isabel Modular Diesel Power Plant Sector 4	Oil-Based	10.2
Isabel Modular Diesel Power Plant Sector 5	Oil-Based	15.1
CEDC Coal-Fired Thermal Power Plant Unit 1	Coal	82
CEDC Coal-Fired Thermal Power Plant Unit 2	Coal	82
CEDC Coal-Fired Thermal Power Plant Unit 3	Coal	82
Cebu Coal-Fired Thermal Power Plant (Cebu CFTPP) Unit 1	Coal	103
Cebu Coal-Fired Thermal Power Plant (Cebu CFTPP) Unit 2	Coal	103
Ubay Battery Energy Storage System (BESS)	Battery	20
PEDC Coal-Fired Thermal Power Plant Unit 1	Coal	83.7
PEDC Coal-Fired Thermal Power Plant Unit 2	Coal	83.7
PEDC Unit 3 Circulating Fluidized Bed Power Plant	Coal	150
Power Barge 101- Unit 3	Oil-Based	6
MINDANAO		
Bunker-C Fired Diesel Power Plant Unit 1	Oil-Based	10.2
Bunker-C Fired Diesel Power Plant Unit 4	Oil-Based	10.2
Bunker-C Fired Diesel Power Plant Unit 5	Oil-Based	10.2
Bunker-C Fired Diesel Power Plant Unit 6	Oil-Based	10.2
Bunker-C Fired Diesel Power Plant Unit 7	Oil-Based	10
Bunker C-Fired Diesel Power Plant	Oil-Based	10.4
Villanueva Battery Energy Storage System	Battery	20
Bunker C-Fired Diesel Power Plant	Oil-Based	13

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