



MONTHLY OVER-RIDING CONSTRAINTS HIGHLIGHTS

26 July to 25 August 2024

Document Information Classification: Public

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SUMMARY OF OBSERVATIONS

- A 3.15% net decrease in Over-riding Constraints during the billing period was observed due to:
 - Decrease in impositions for Luzon plants attributable to the conduct of commissioning tests, with the issuance of FCATC for five (5) plants (3 solar, 1 battery, and 1 hydro); and
 - Drop in the number of impositions related to ancillary service, performance, Net Contracted Capacity (NCC) tests, and Must-Run Units (MRU).
- Despite the net decrease, it was observed that the increase in over-riding constraints in the Visayas plants may be attributable to the surge in the conducted various tests (ancillary service, commissioning, emission, and performance tests).
- Similarly, the Mindanao plants had slight increase in over-riding constraints with plants being dispatched as MRU caused by system voltage requirement, and an increase with the imposed commissioning tests in the area.
- There were observed plant/s tagged with over-riding constraints:
 - Despite the effectivity of FCATC and was commercially operating
 - Due to additional capacity despite being issued with FCATC
 - Due to imposition of security limits related to problem encountered at IEMOP's system


AT A GLANCE


Total Over-riding
Constraints
Imposition


120,730

▼ **3.15%**
decrease from
previous billing
period

LUZON
90,550

 **Solar** plants had the highest no. of over-riding constraints

Coal plants, on average, had the largest capacities scheduled due to performance test 

 Most over-riding constraints were due to commissioning test of **solar** plants

VISAYAS
15,311


 **Geothermal** plants had the highest no. of over-riding constraints

Coal plants, on average, had the largest capacities scheduled due to ancillary service test 

 Most over-riding constraints were due to the conduct of commissioning test of geothermal plant

MINDANAO
14,869

 **Hydro** plants had the highest no. of over-riding constraints

Hydro and **Oil-based** plants, on average, had the largest capacities scheduled due to commissioning test and MRU 

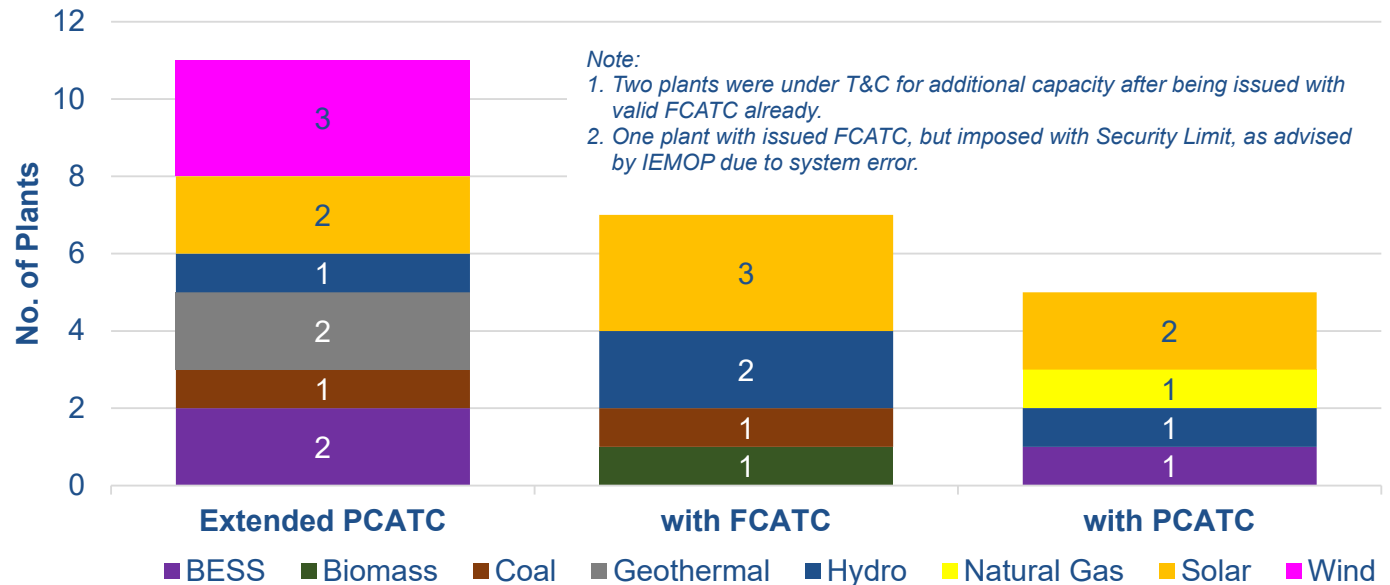
 Most over-riding constraints were due to the conduct of commissioning test of hydro plants

STATUS OF PLANTS UNDER COMMISSIONING TEST

No. of Plants Under Commissioning Test

23

Status of Plants under Commissioning Test



Ave. no. of days under commissioning test per plant type

Noted no. of extension of commissioning test period

BESS

136.7

3 - Gamu BESS
2 - Lumban BESS
6 - Limay BESS

Biomass

179

4 - Trust Biomass

Coal

58

Geo

78.5

2 - Tiwi Binary GPP
1 - Bago Binary GPP

Hydro

175.3

3 - Ibulao HEPP
11 - Matuno HEPP
1 - Siguil HEPP

Nat Gas

22

Solar

224.9

2 - Laoag SPP
8 - Pavi Green Orion SPP
4 - Subic PV SPP
2 - Calabanga SPP
1 - Pinugay SPP
6 - Cayanga-Bugallon SPP

Wind

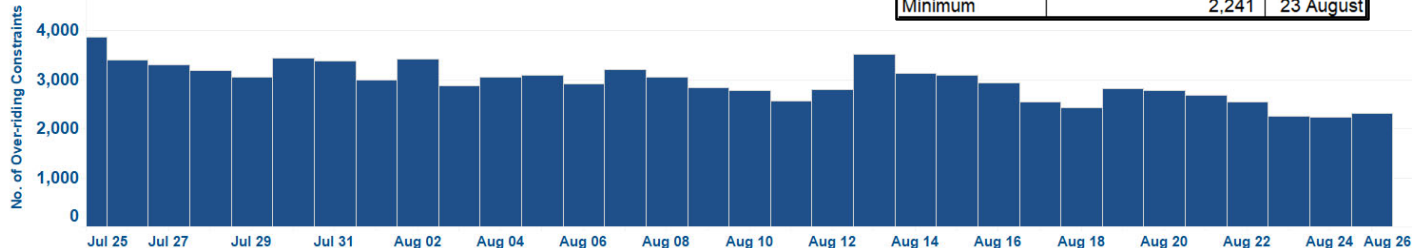
285

15 - Balaoi Caunayan Wind
4 - Caparispisan Wind
3 - Pwei Nabas Wind

OVER-RIDING CONSTRAINTS

LUZON

	No. of Over-riding Constraints	Date
Maximum	3,516	13 August
Average	2,921	
Minimum	2,241	23 August



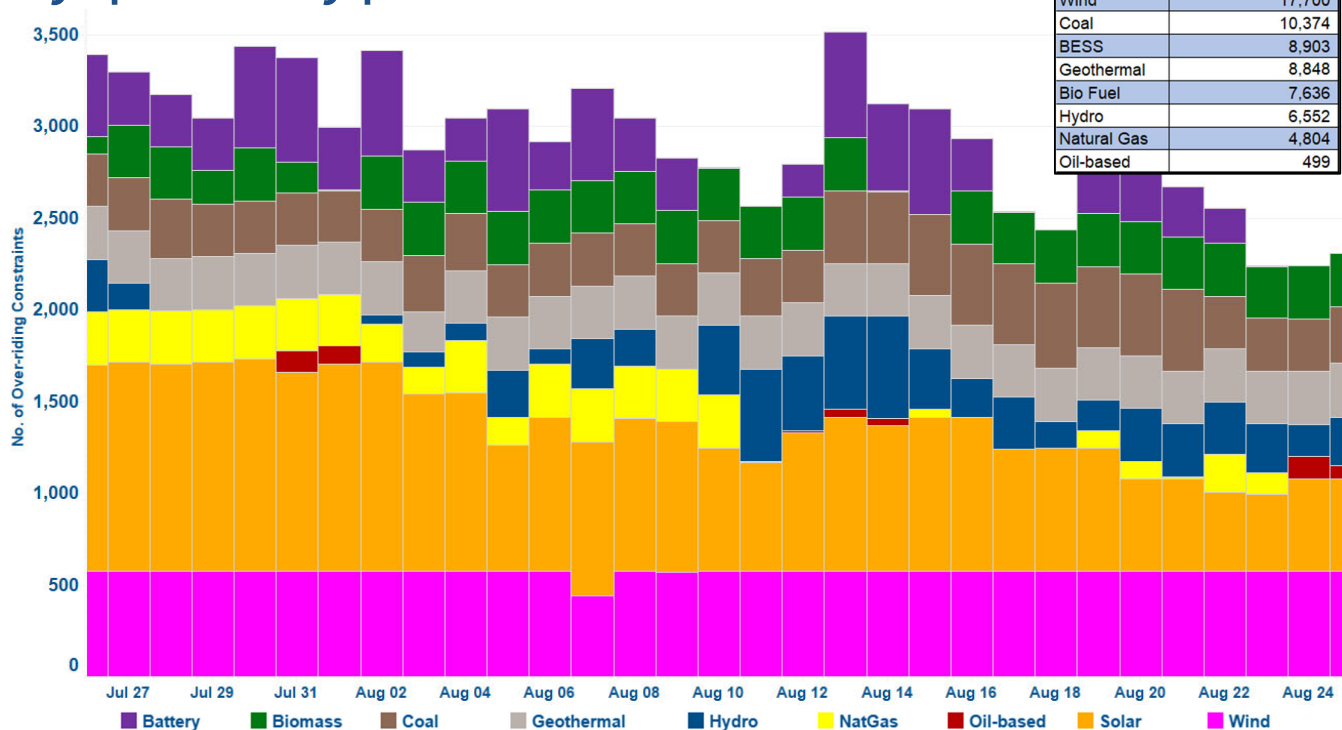
by incident

Incident	No. of Over-riding Constraints
Commissioning Test	87,041
Commercial and Regulatory Requirements	3,509



by plant type

Plant Type	No. of Over-riding Constraints
Solar	25,234
Wind	17,700
Coal	10,374
BESS	8,903
Geothermal	8,848
Bio Fuel	7,636
Hydro	6,552
Natural Gas	4,804
Oil-based	499



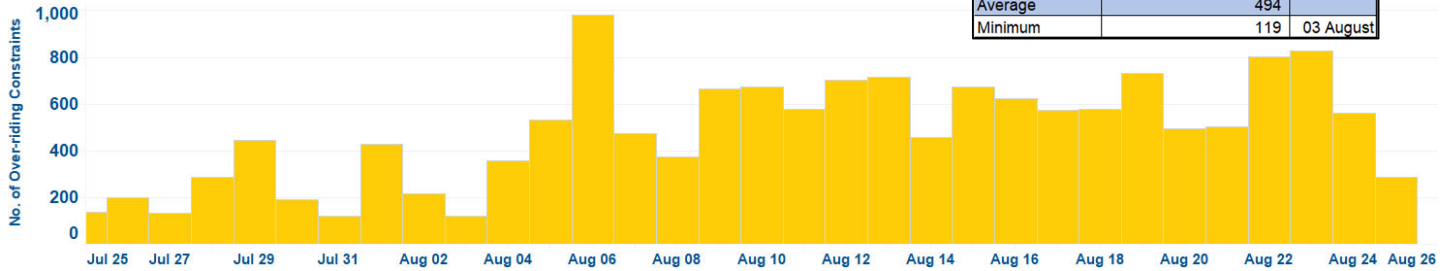
Most of the over-riding constraints in Luzon plants were due to the conduct of commissioning tests of solar, wind and coal plants during the billing period. A total of five (5) FCATCs, nine (9) extensions of PCATC, and two (2) new PCATC was issued to plants during the billing period. Meanwhile, it was observed that Concepcion and Pinugay Solar were issued with FCATCs but was noted conducting commissioning test due to additional capacity. Further, Cayanga-Bugallon Solar was noted to be imposed with Security Limit despite having an FCATC due to the encountered problem of the Cayanga Solar's MPI at IEMOP's system, and imposition was approved by NGCP.

OVER-RIDING CONSTRAINTS

VISAYAS

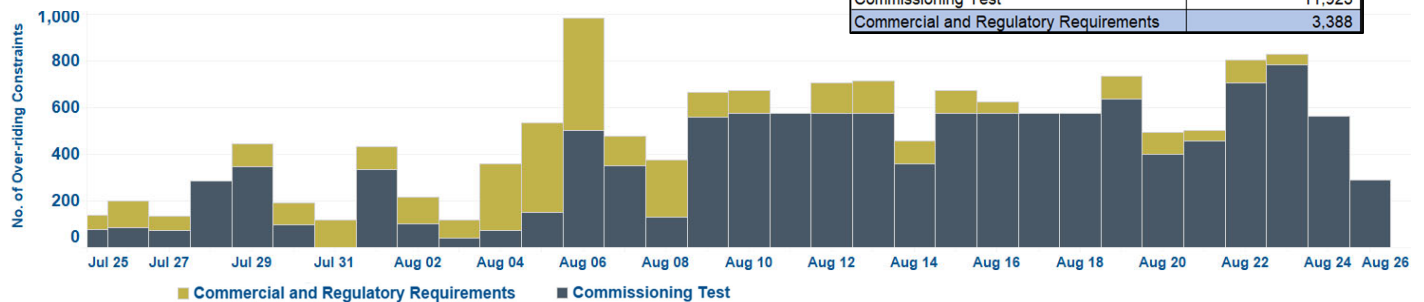
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	No. of Over-riding Constraints	Date
Maximum	982	06 August
Average	494	
Minimum	119	03 August



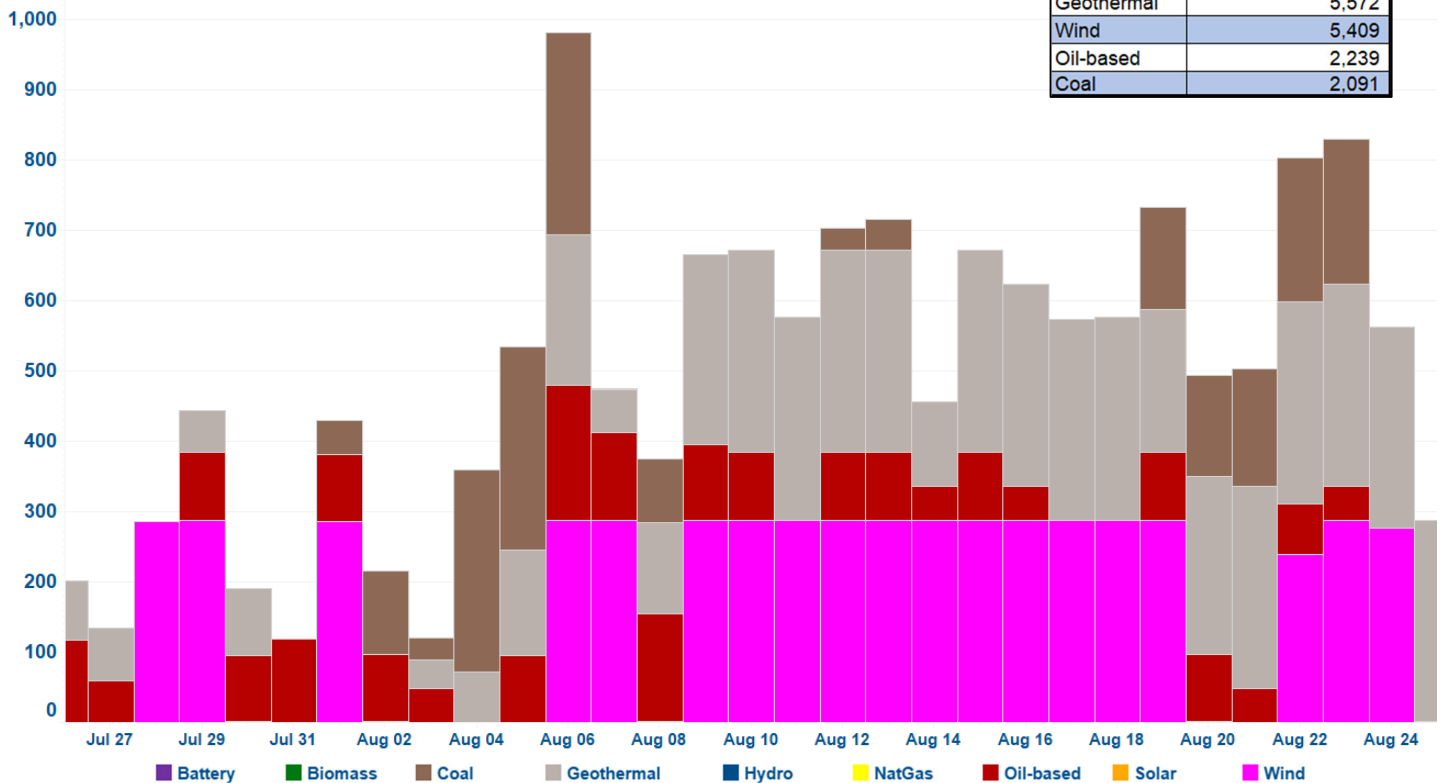
by incident

Incident	No. of Over-riding Constraints
Commissioning Test	11,923
Commercial and Regulatory Requirements	3,388



by plant type

Plant Type	No. of Over-riding Constraints
Geothermal	5,572
Wind	5,409
Oil-based	2,239
Coal	2,091

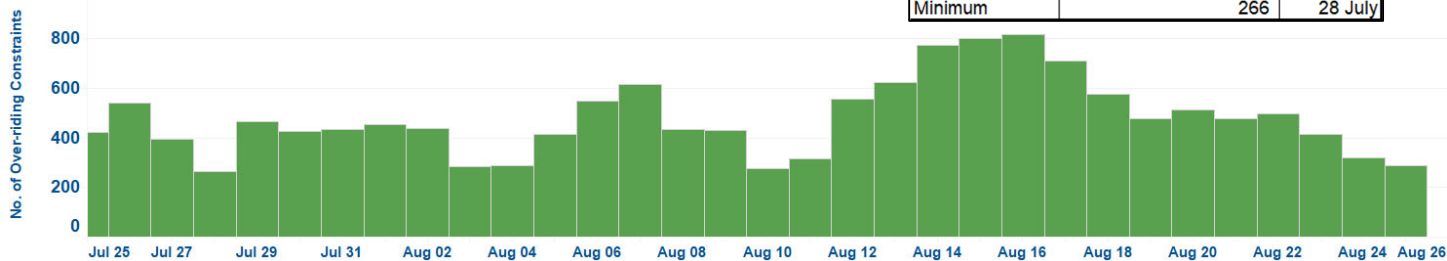


In Visayas, commissioning tests of geothermal and wind plants were the primary reason for most of the over-riding constraints in the region. Also, the conduct of commissioning test of wind plants was observed to be scheduled intermittently during the billing period.

The commissioning test of Bago Binary GPP and PWEI Nabas Wind contributed to the over-riding constraints due to their extension of PCATCs. Meanwhile, it was observed that PCPC CFTPP was conducting Commissioning and Performance Test but was recorded as commercially operating since 26 June 2021. However, with the confirmation provided by NGCP, the plant was placed under over over-riding constraints upon consideration of the undergone major rehabilitation.

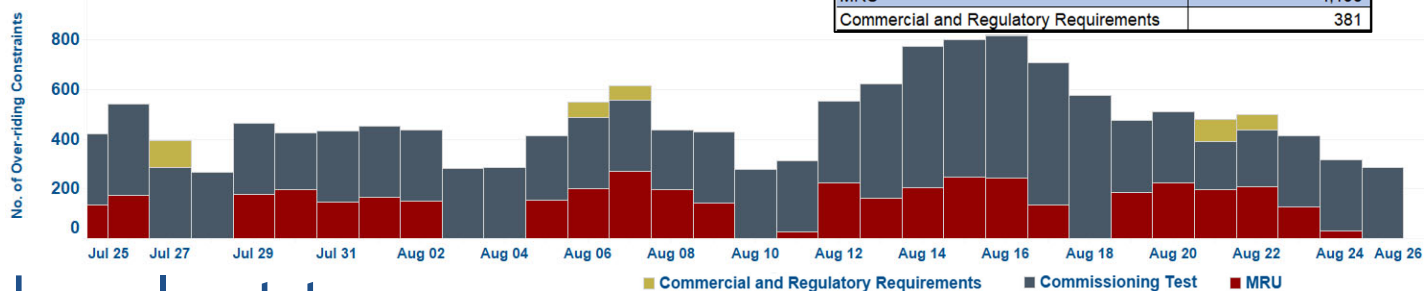
MINDANAO

	No. of Over-riding Constraints	Date
Maximum	819	16 August
Average	480	
Minimum	266	28 July

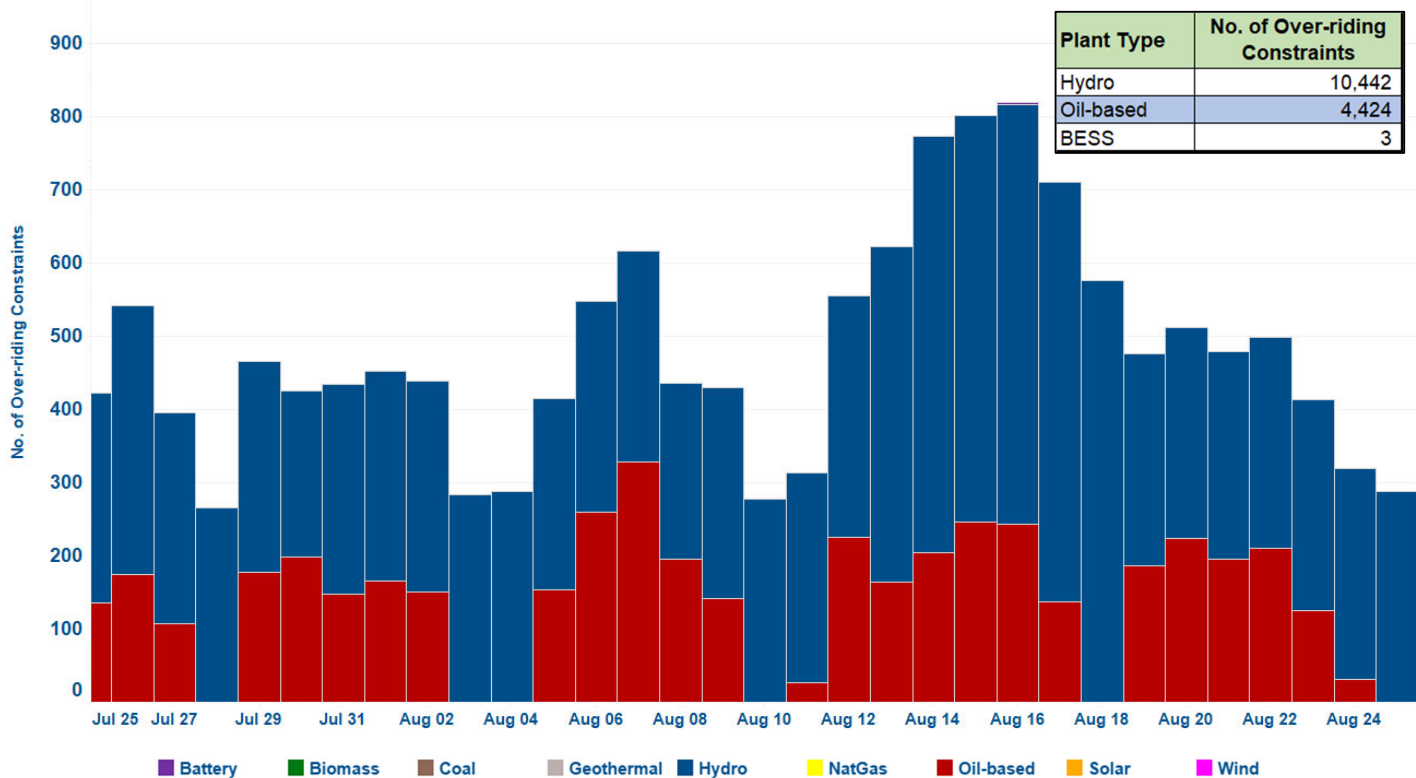


by incident

Incident	No. of Over-riding Constraints
Commissioning Test	10,292
MRU	4,196
Commercial and Regulatory Requirements	381



by plant type



Plant Type	No. of Over-riding Constraints
Hydro	10,442
Oil-based	4,424
BESS	3

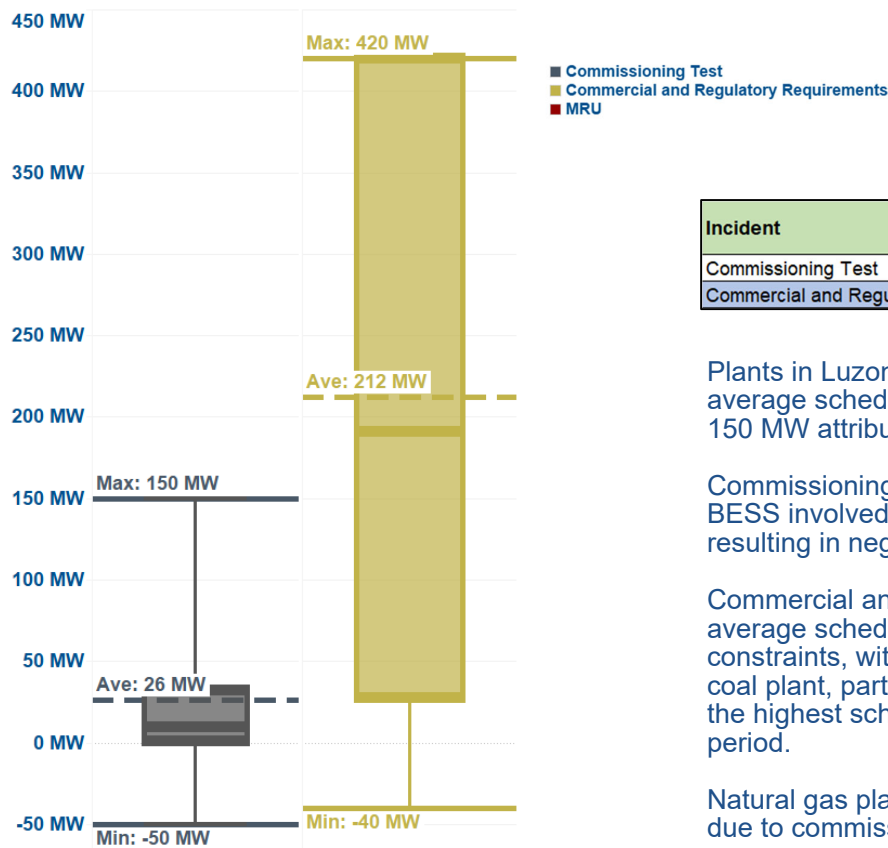
The hydro plants under commissioning tests were primarily responsible for majority of over-riding constraints in Mindanao during the billing period, followed by the previously dominant contributor which are oil-based plants dispatched as MRU to address the system voltage requirement.

Commissioning tests for Siguil Hydro Power Plant (HPP) contributed to the increase in over-riding constraints in the region. However, it was noted to have been issued with FCATC on 09 August 2024 and was noted to continuously conduct commissioning test until 18 August 2024. Meanwhile, Liangan Hydro Electric Power Plant (HEPP), which has a previous different name, started its commissioning test during this period.

SCHEDULED CAPACITIES

LUZON

by incident



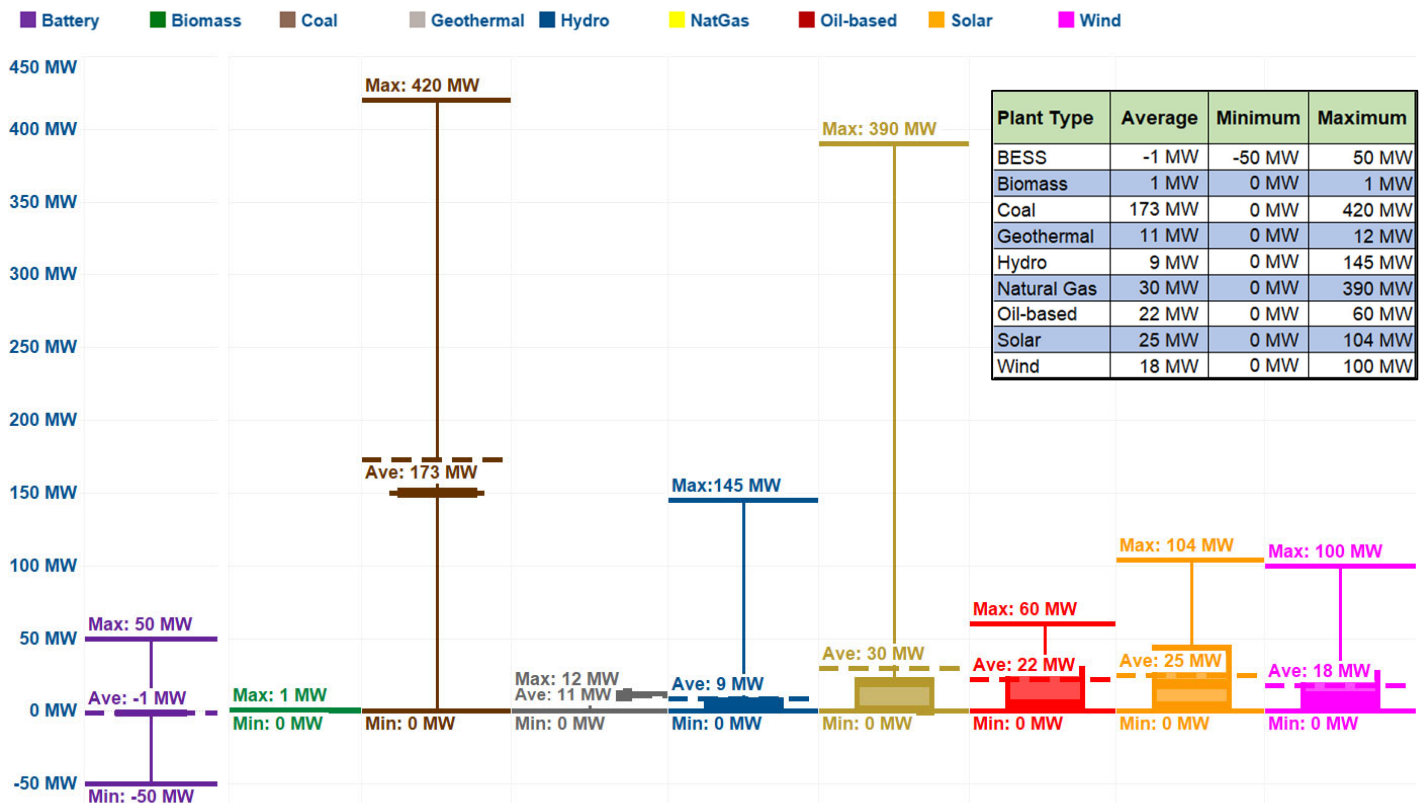
Plants in Luzon undergoing commissioning tests had an average scheduled capacity of 26 MW, with a peak of 150 MW attributable to a coal plant.

Commissioning and Ancillary Service tests for Lumban BESS involved testing their charging capabilities, resulting in negative scheduled capacity.

Commercial and regulatory requirements led to an average scheduled capacity of 212 MW for over-riding constraints, with performance and emission tests for a coal plant, particularly Pagbilao 3 CFTPP, accounting for the highest scheduled capacity during the covered period.

Natural gas plants had the largest capacity over-ridden due to commissioning test.

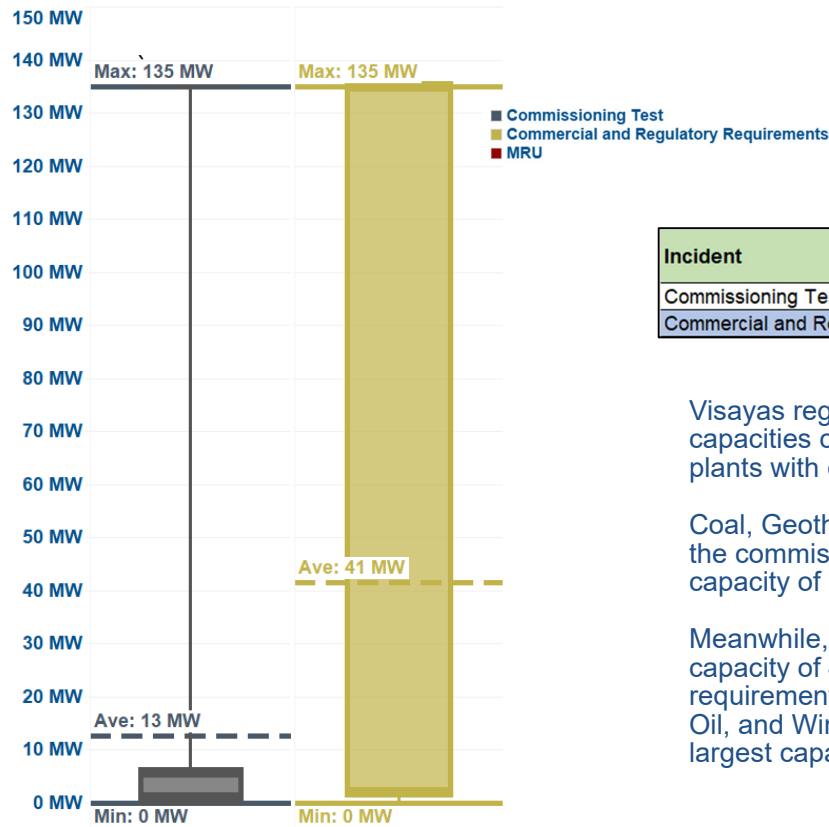
by plant type



SCHEDULED CAPACITIES

VISAYAS

by incident



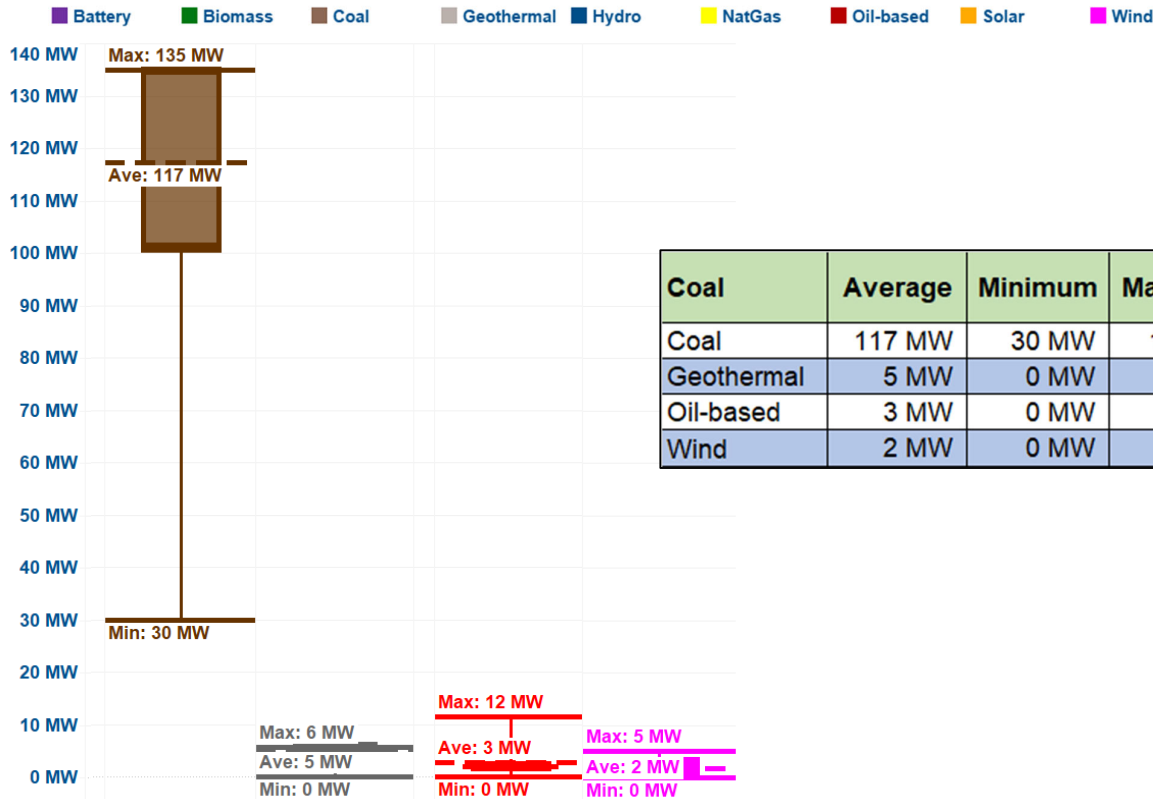
Incident	Average	Minimum	Maximum
Commissioning Test	13 MW	0 MW	135 MW
Commercial and Regulatory Requirements	41 MW	0 MW	135 MW

Visayas region plants had lower scheduled capacities compared to Luzon plants due to smaller plants with over-riding constraints.

Coal, Geothermal, and Wind plants contributed to the commissioning test with an average scheduled capacity of 13 MW.

Meanwhile, the recorded average scheduled capacity of 41 MW for commercial and regulatory requirements was due to the contribution of Coal, Oil, and Wind plants. Further, oil plants had the largest capacity over-riden due to emission tests.

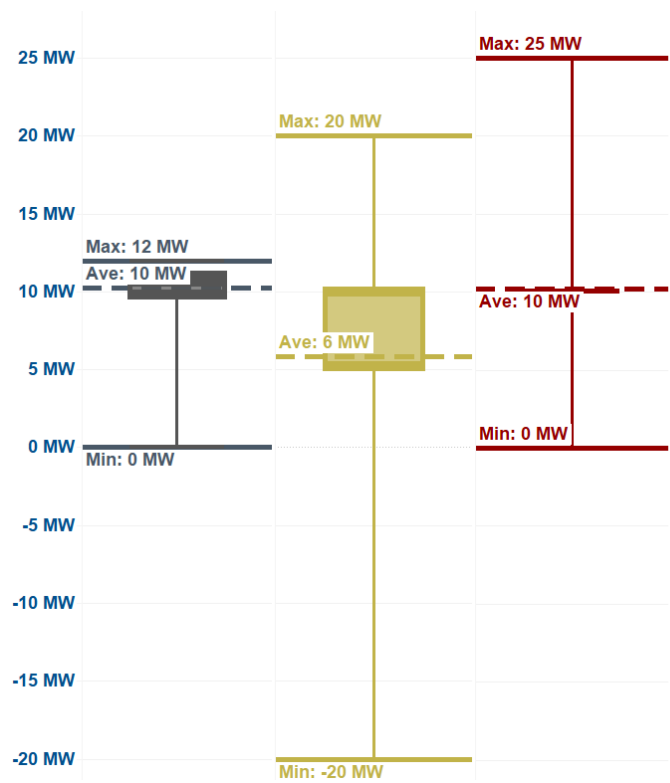
by plant type



Plant Type	Average	Minimum	Maximum
Coal	117 MW	30 MW	135 MW
Geothermal	5 MW	0 MW	6 MW
Oil-based	3 MW	0 MW	12 MW
Wind	2 MW	0 MW	5 MW

by incident

MINDANAO



■ Commissioning Test
■ Commercial and Regulatory Requirements
■ MRU

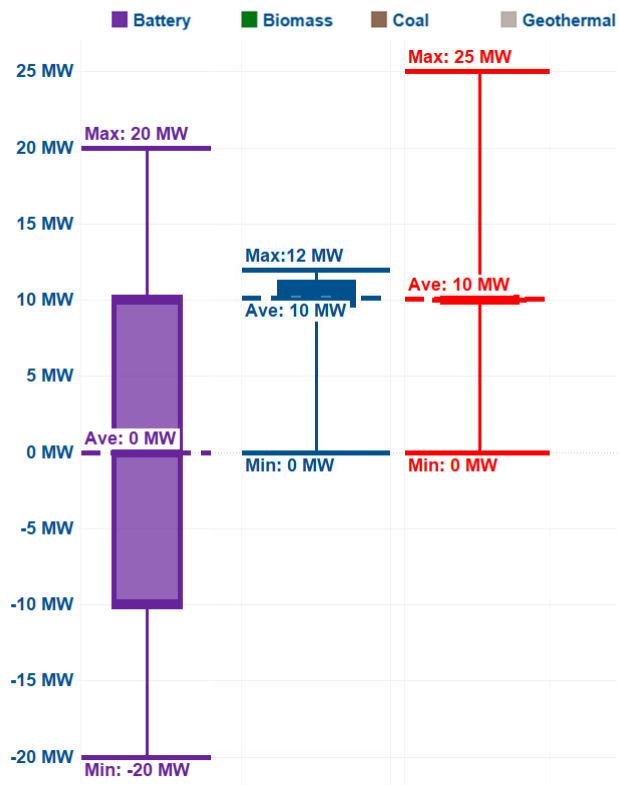
Incident	Average	Minimum	Maximum
Commissioning Test	10 MW	0 MW	12 MW
Commercial and Regulatory Requirements	6 MW	-20 MW	20 MW
MRU	10 MW	0 MW	25 MW

Siguil and Liangan HEPP conducted its commissioning test during the billing period and were scheduled between 0 to 12 MW, averaging at about 10 MW.

Emission test for oil-based plants were scheduled between 0 to 25 MW, while hydro plants due to performance test were between 0 to 12 MW.

Oil-based plants continued to be scheduled as MRU, from 0 to 25 MW, to address the system voltage requirement in Mindanao region.

by plant type

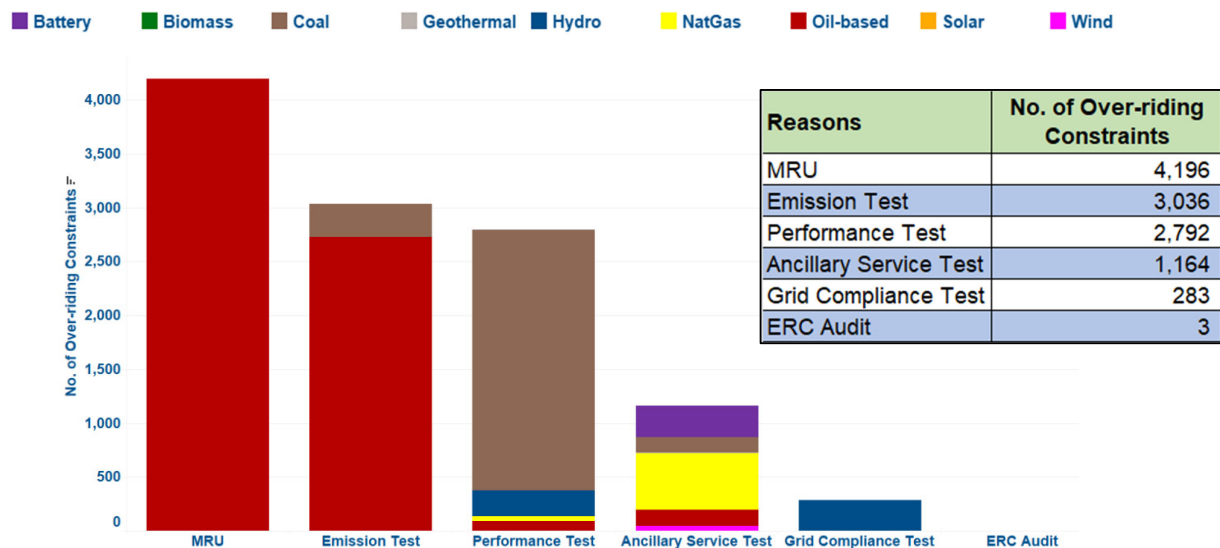


Plant Type	Average	Minimum	Maximum
BESS	0 MW	-20 MW	20 MW
Hydro	10 MW	0 MW	12 MW
Oil-based	10 MW	0 MW	25 MW

OVER-RIDING CONSTRAINTS

by incident

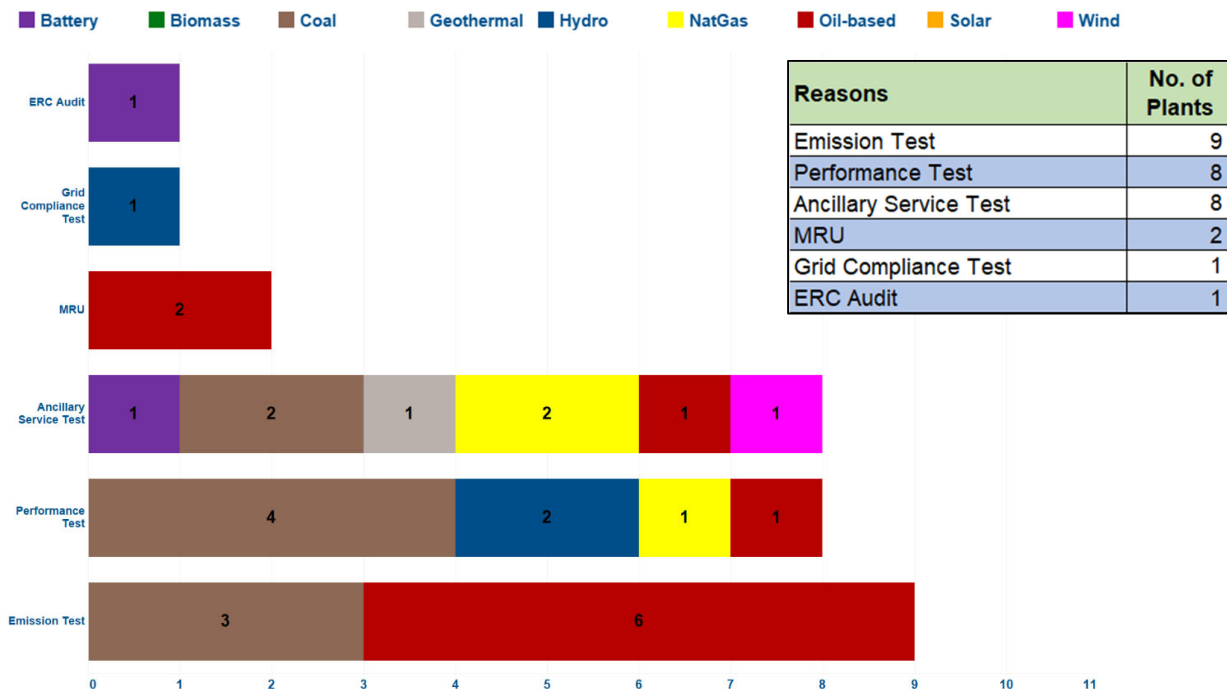
(excluding commissioning test)



The above chart reveals that MRUs (oil-based plants), emission tests (oil-based and coal plants), and performance tests (coal, hydro, natural gas, and oil-based plants) were the main reasons for the majority of over-riding constraints during the billing period.

NUMBER OF PLANTS

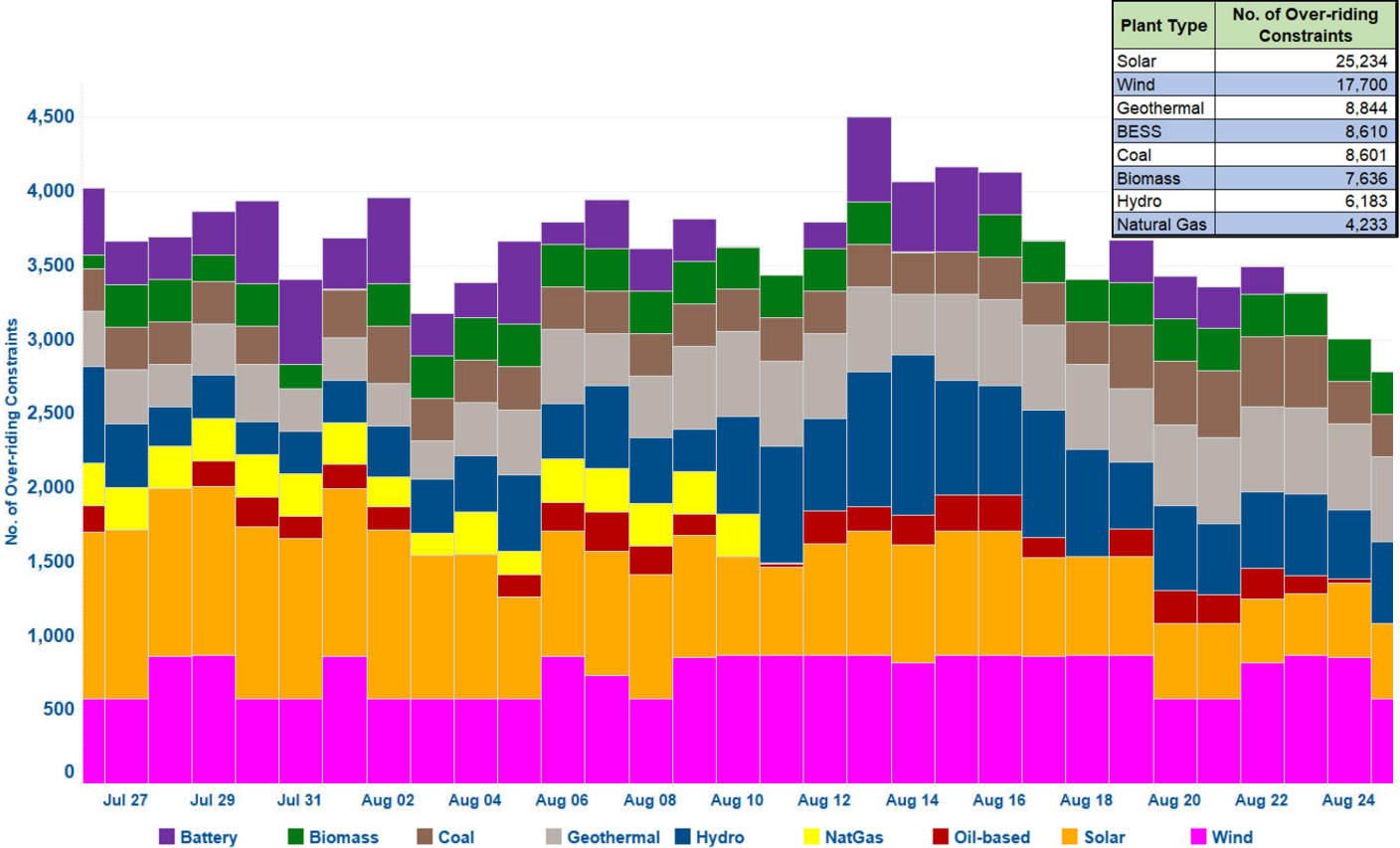
by incident



Emission test and some performance test, specifically heavy metal testing, were done during the billing period as part of the requirements of regulating agencies involving environmental and health standards. Ancillary service test was likewise conducted to determine the services a plant can commit in terms of adequacy, accuracy, timeliness, and other operational requirement. Meanwhile, MRUs are plants that are scheduled or dispatched to address threat to system security, and capacity tests (NDC and NCC) are to ensure the grid received reliable power.

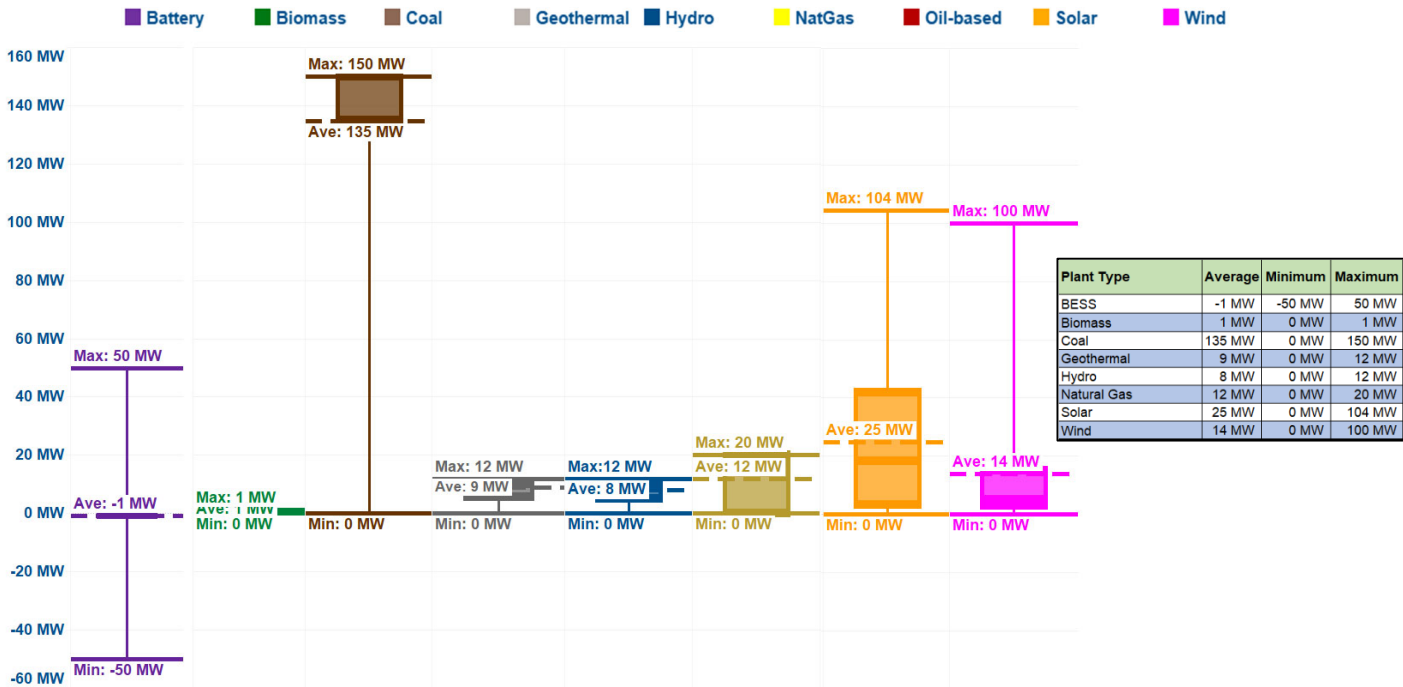
OVER-RIDING CONSTRAINTS

PLANTS UNDER COMMISSIONING TESTS



SCHEDULED CAPACITIES

PLANTS UNDER COMMISSIONING TESTS



Renewable plants such as solar and wind plants experienced large number of over-riding constraints imposition related to commissioning tests during the billing period, accounting for thirty-six percent (36%) of the total impositions, while other plants (geothermal, battery, coal, biomass, hydro, and natural gas) accounted for thirty-seven (37%).

ANNEX A

Plants with Over-riding Constraints

Plant/Unit Name	Plant Type	Registered Capacity ¹
LUZON		
80.000 MW Balaoi and Caunayan Wind Power Project Phase 1	Wind	80
Caparispisan II Wind Power Project	Wind	50
Concepcion 1 Solar Power Project	Solar	76
4.500 MW Ibulao Hydroelectric Power Project	Run-of River Hydro	6
72.020 MWp Laoag Solar Power Plant	Solar	58.6
Mariveles Coal Fired Thermal Power Plant Unit 1	Coal	316
Matuno River Hydroelectric Power Plant	Run-of River Hydro	8.7
20.397 MWp Orion Solar Power Plant	Solar	16.2
72.128 MWp Subic New PV Power Plant Project	Solar	62.7
95.827 MWp Pinugay Solar Power Plant	Solar	80.1
74.168 MWp Calabanga Solar Power Project	Solar	50
Pagbilao 3 Power Plant	Coal	420
17MW Tiwi Geothermal Binary Power Plant	Geothermal	16.7
Mariveles Coal-fired Thermal Power Plant Unit 4	Coal	150
Biogas Power Plant (Phase 1)	BIOMASS	1.7
Bacman Geothermal Power Plant Unit 1	Geothermal	60
Batangas Combined Cycle Power Plant Unit 2	Natural Gas	440
Pililla Diesel Power Plant Sector 1	Oil-Based	28
Pililla Diesel Power Plant Sector 2	Oil-Based	22
Pililla Diesel Power Plant Sector 3	Oil-Based	22
Pililla Diesel Power Plant Sector 4	Oil-Based	28
Pililla Diesel Power Plant Sector 5	Oil-Based	22
Pililla Diesel Power Plant Sector 6	Oil-Based	28
45.758 MWh Gamu Battery Energy Storage System (BESS)	Battery	40
50.519 MW Bataan Battery Energy Storage System	Battery	40
57.125 MWh Lumban Battery Energy Storage System (BESS)	Battery	50
94.717 MWp Cayanga-Bugallon Solar Power Plant	Solar	75.1
Bataan Combined Cycle Power Plant Unit 7	Oil-Based	60
Mariveles Coal Fired Thermal Power Plant Unit 2	Coal	316
120.000 MW Bunker-C Fired Thermal Power Plant (BCFDPP)	Oil-Based	110
San Roque Hydro Electric Power Plant Unit 3	Hydro	145
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
Pagbilao Coal-Fired Power Plant 2	Coal	382

¹ As of 25 August 2024

Plant/Unit Name	Plant Type	Registered Capacity ¹
442.850MW San Gabriel Combined-Cycle Power Plant (CCPP)	Natural Gas	417.4
VISAYAS		
13.200 Nabas Wind Power Plant Phase 2 (Nabas-2)	Wind	13.2
Isabel Modular Diesel Power Plant Sector 1	Oil-Based	10
251.1MW Circulating Fluidized Bed Coal-Fired Thermal Power Plant Unit 1	Coal	83.2
Bago Binary Geothermal Power Plant	Geothermal	4.7
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
Isabel Modular Diesel Power Plant Sector 6	Oil-Based	10.2
EAUC Bunker C-Fired Power Plant Unit 2	Oil-Based	11
EAUC Bunker C-Fired Power Plant Unit 3	Oil-Based	11.5
EAUC Bunker C-Fired Power Plant Unit 4	Oil-Based	11.5
Cebu Coal-Fired Thermal Power Plant (Cebu CFTPP) Unit 1	Coal	103
Cebu Coal-Fired Thermal Power Plant (Cebu CFTPP) Unit 2	Coal	103
Sangi Coal Fired Power Plant	Coal	83.6
135.000 MW Circulating Fluidized Bed (CFB) Coal-Fired Power Plant (CFPP)	Coal	135
MINDANAO		
112 MW Bunker-C Fired Diesel Power Plant Unit 1	Oil-Based	10.2
112 MW Bunker-C Fired Diesel Power Plant Unit 4	Oil-Based	10.2
112 MW Bunker-C Fired Diesel Power Plant Unit 8	Oil-Based	10.1
112 MW Bunker-C Fired Diesel Power Plant Unit 10	Oil-Based	10.2
112 MW Bunker-C Fired Diesel Power Plant Unit 7	Oil-Based	10
Liangan Hydroelectric Power Project	Run-of River Hydro	11.9
PSFI Bunker C-Fired Diesel Power Plant Unit 2	Oil-Based	5.2
14.500 MW Siguil Hydroelectric Power Project	Run-of River Hydro	15.3
±20 MW Villanueva Battery Energy Storage System	Battery	20
PSFI Bunker C-Fired Diesel Power Plant Unit 1	Oil-Based	5.2
100.327 MW Mobile 2 Bunker C-Fired Power Plant Unit 1	Oil-Based	50

ANNEX B

Plants Under Commissioning Tests

Plant/Unit Name	Plant Type	Registered Capacity (MW)	No. of PCATC Extensions ²	No. of Days under Commissioning Tests
Mariveles Coal-fired Thermal Power Plant Unit 4	Coal	150	3	134
135.000 MW Circulating Fluidized Bed (CFB) Coal-Fired Power Plant (CFPP)	Coal	135	2	90
80.000 MW Balaoi and Caunayan Wind Power Project Phase 1	Wind	80	23	1,102
Caparispisan II Wind Power Project	Wind	50	4	179
13.200 Nabas Wind Power Plant Phase 2 (Nabas-2)	Wind	13.2		58
Concepcion 1 Solar Power Project	Solar	76	1	84
72.020 MWp Laoag Solar Power Plant	Solar	58.6	2	95
20.397 MWp Orion Solar Power Plant	Solar	16.2	1	62
72.128 MWp Subic New PV Power Plant Project	Solar	62.7	3	150
74.168 MWp Calabanga Solar Power Project	Solar	50	11	403
95.827 MWp Pinugay Solar Power Plant	Solar	80.1	1	90
94.717 MWp Cayanga-Bugallon Solar Power Plant	Solar	75.1		58
45.758 MWh Gamu Battery Energy Storage System (BEES)	Battery	40		22
57.125 MWh Lumban Battery Energy Storage System (BEES)	Battery	50	2	90
50.519 MW Bataan Battery Energy Storage System	Battery	40	2	119
4.500 MW Ibulao Hydroelectric Power Project	Run-of River Hydro	6	8	275
Matuno River Hydroelectric Power Plant	Run-of River Hydro	8.7	4	179
14.500 MW Siguil Hydroelectric Power Project	Run-of River Hydro	15.3	2	111
Liangan Hydroelectric Power Project	Run-of River Hydro	11.9		58

² Based on IEMOP's status of plants under commissioning test as of 25 August 2024

Plant/Unit Name	Plant Type	Registered Capacity (MW)	No. of PCATC Extensions ²	No. of Days under Commissioning Tests
Biogas Power Plant (Phase 1)	Biomass	1.7	6	281
Batangas Combined Cycle Power Plant Unit 2	Natural Gas	440	15	540
17MW Tiwi Geothermal Binary Power Plant	Geothermal	16.7	4	173
Bago Binary Geothermal Power Plant	Geothermal	4.7	3	142

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✉ pemc_info@wesm.ph

☎ +63 2 8631 8734

📍 18F Robinson Equitable Tower,
ADB Avenue Ortigas Center,
Pasig City 1600, Philippines

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