

MONTHLY OVER-RIDING CONSTRAINTS REPORT

26 September to 25 October 2024

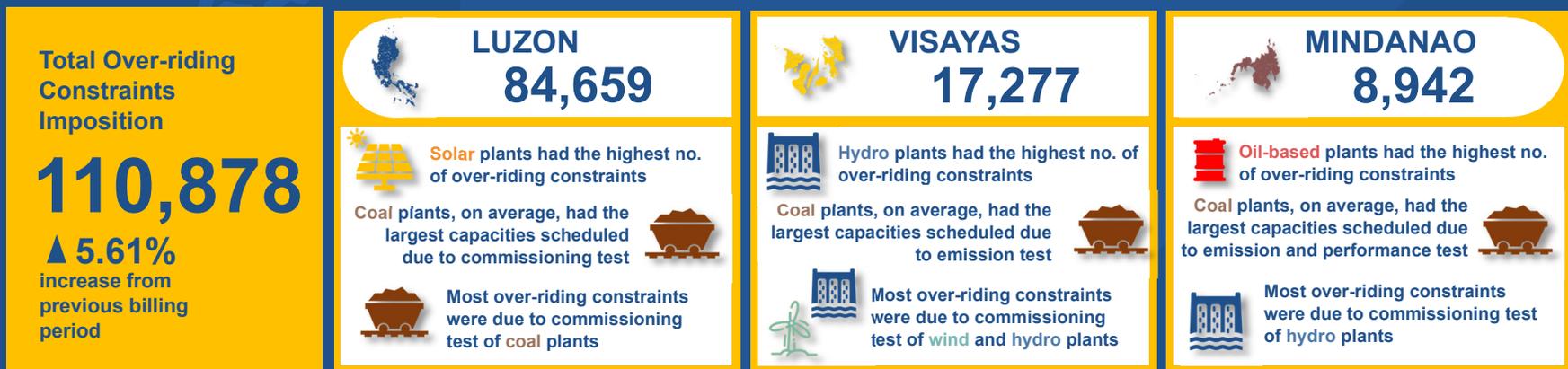
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SUMMARY OF OBSERVATIONS

- A 5.61% net increase in Over-riding Constraints (OC) during the billing period was observed due to:
 - Rise in the number of impositions for Luzon plants attributable mostly to the conduct of commissioning tests and ancillary service tests under commercial and regulatory requirements.
 - Surge in the number of impositions related to Must Run Units (MRUs) in Mindanao region to address the system voltage requirement in the area.
 - Ten (10) new Provisional Certificates of Approval to Connect (PCATCs) issued mostly to Luzon plants while thirteen (13) extended their respective PCATCs.
- There was an observed decrease in the impositions related to Visayas plants, mainly due to the decrease in the conduct of commissioning test but had increase in the impositions related to commercial and regulatory requirements.
- Due to the observed increase in OC for the dispatched MRUs in Mindanao, the MSC recommends the establishment of accountability for the management and dispatch of MRUs to ensure a more efficient response to the system voltage requirements, stability, and grid reliability.

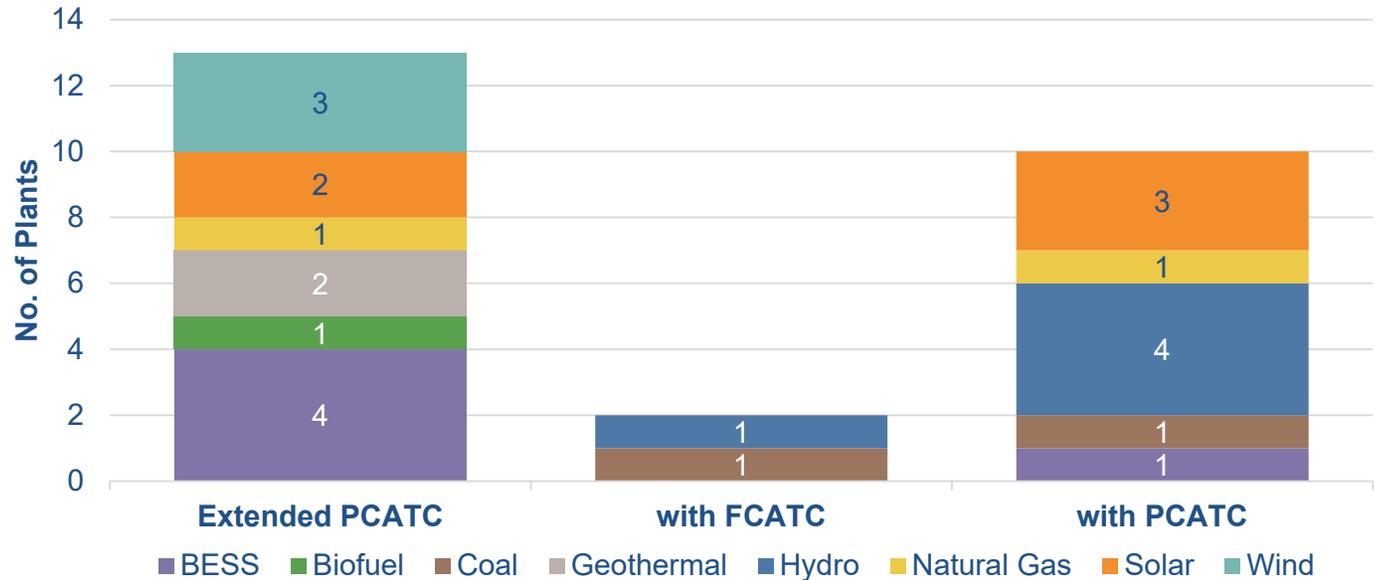
AT A GLANCE



STATUS OF PLANTS UNDER COMMISSIONING TEST

No. of Plants Under Commissioning Test

25

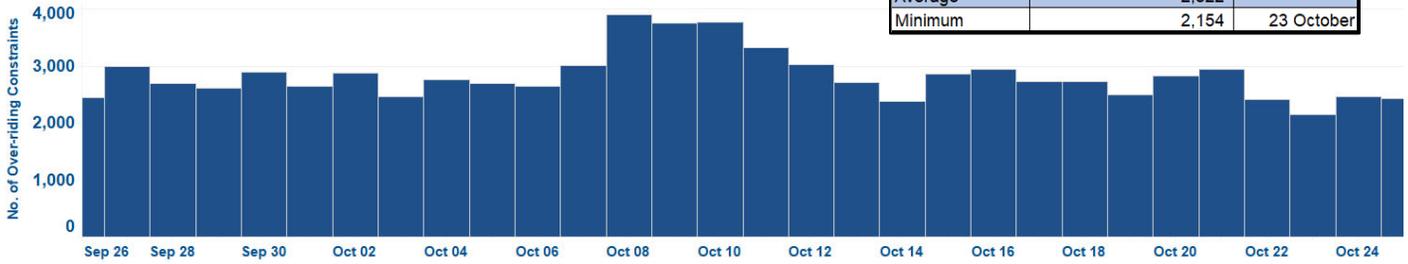


Ave. no. of days under commissioning test per plant type

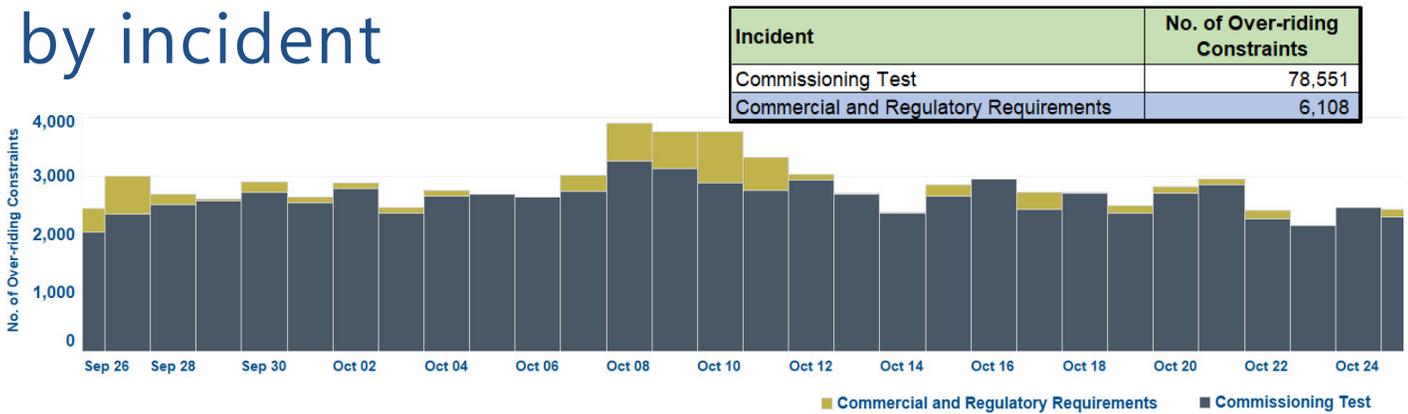
Plant Type	Average Days	Plant List
BESS	295.8	5 - Gamu BESS 4 - Lumban BESS 7 - Bataan BESS 7 - Magapit BESS
Biofuel	240	6 - Biogas Power Plant (Phase 1)
Coal	64	2 - Mariveles CTPP Unit 4
Geo	231.5	4 - Tiwi Geothermal BPP 9 - Palayan BPP
Hydro	48	2 - Liangan HEPP
Nat Gas	100	5 - Batangas CCPP (G01)
Solar	95.8	4 - Laoag SPP 6 - Subic New SPP
Wind	346.3	17 - Balaoi Caunayan Wind 6 - Caparispisan Wind 5 - PWEI Nabas Wind

Noted no. of extension of commissioning test period

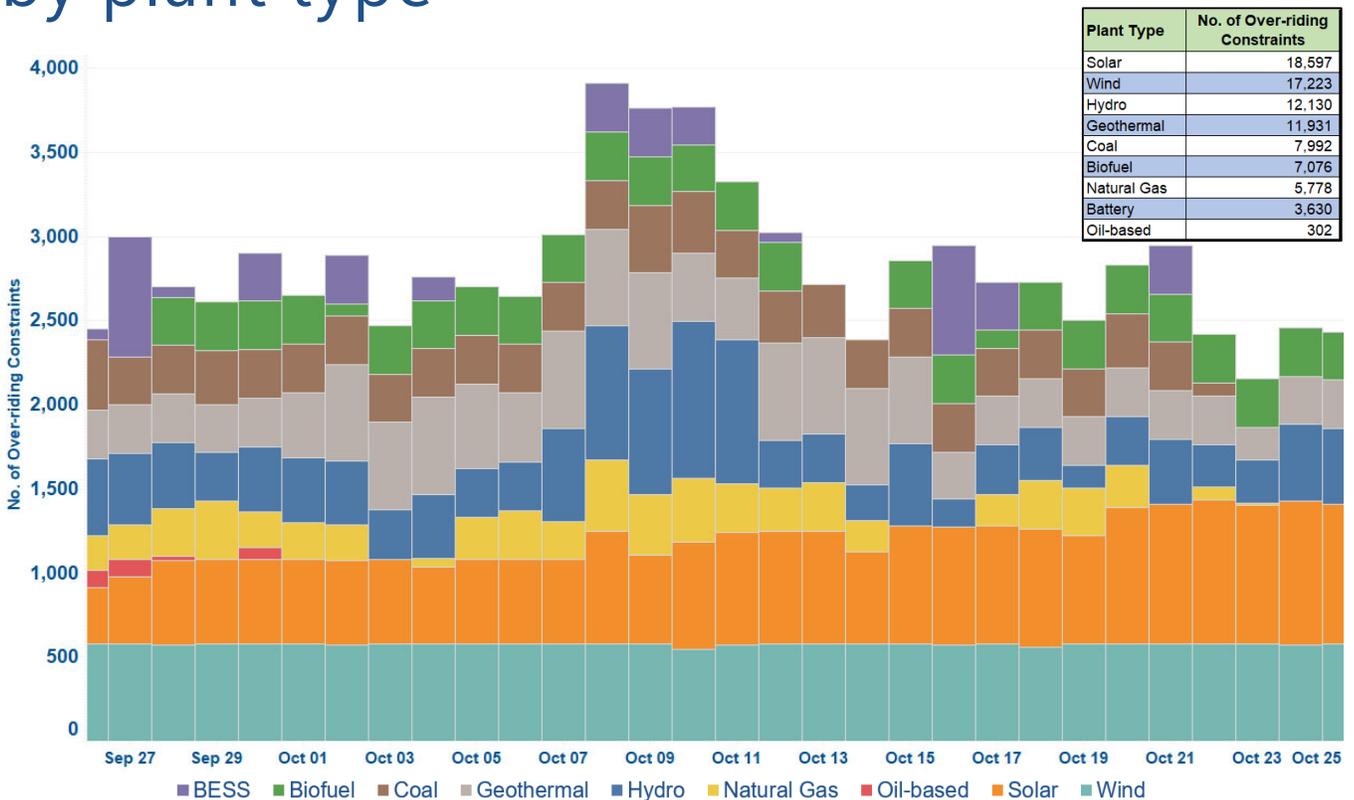
LUZON



by incident



by plant type



Most of the over-riding constraints in Luzon plants were due to the conduct of commissioning tests of renewable energy plants such as wind and solar. During the covered period, three (3) plants with issued FCATCs, twelve (12) extensions of PCATCs, and seven (7) additional PCATCs were issued to conduct commissioning test.

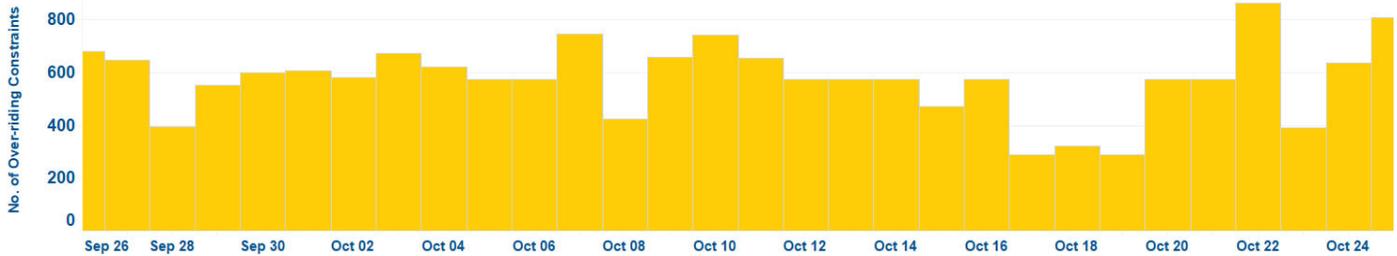
Minimal impositions were observed for oil-based plants at the beginning of the covered period due to the conduct of emission tests for NAVOTAS DPP.

OVER-RIDING CONSTRAINTS

Public

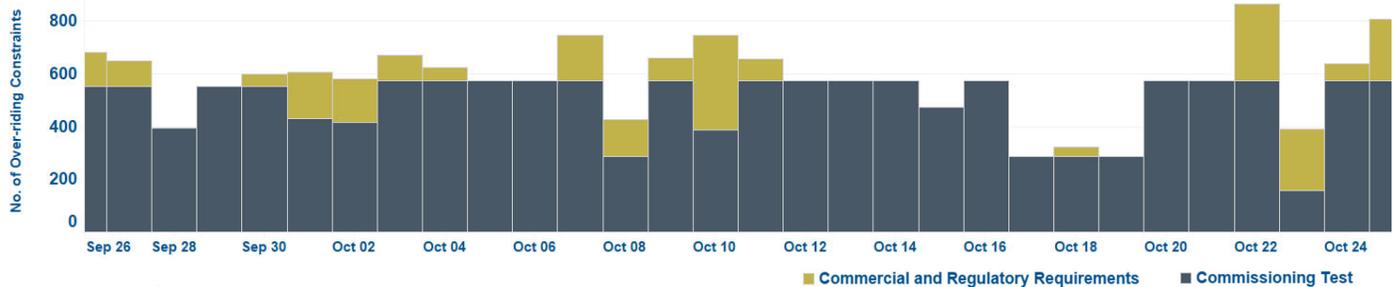
VISAYAS

	No. of Over-riding Constraints	Date
Maximum	864	22 October
Average	576	
Minimum	288	19 October



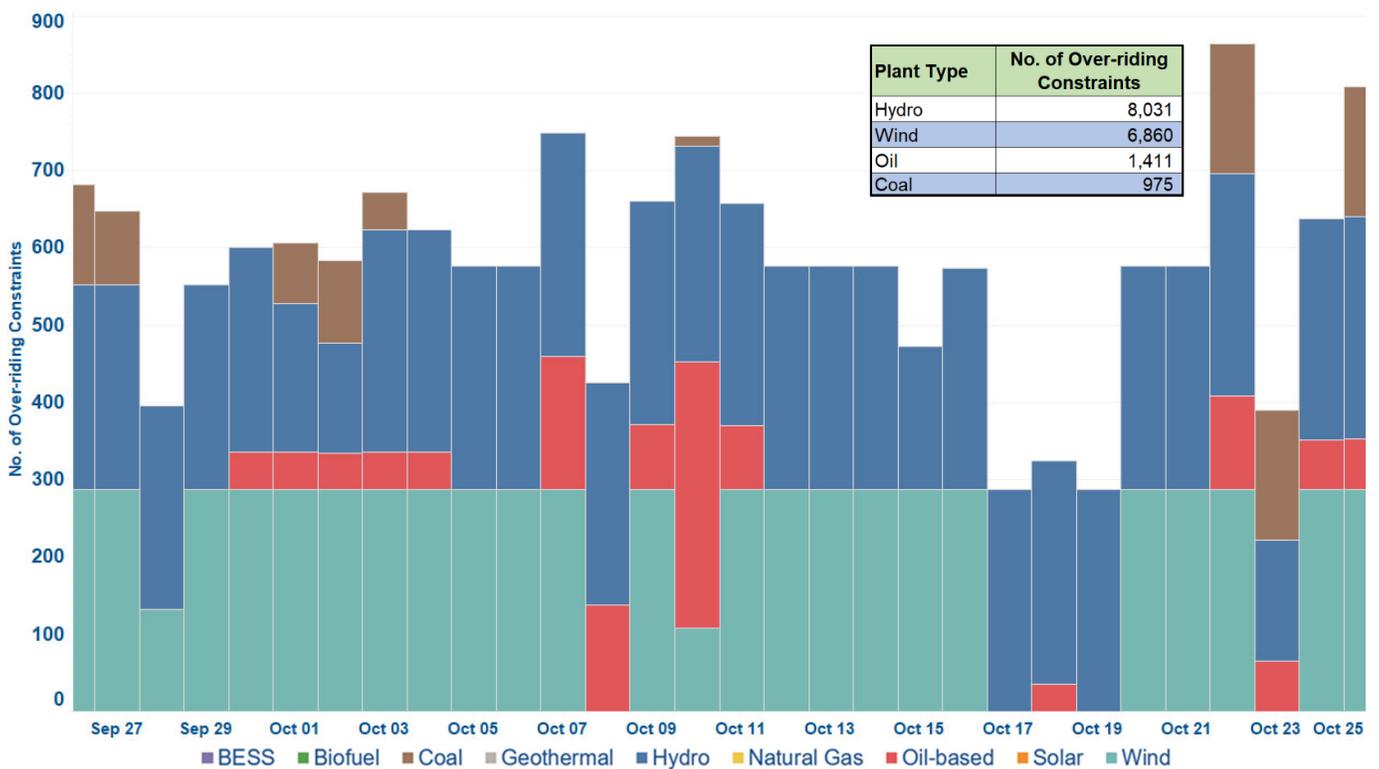
by incident

Incident	No. of Over-riding Constraints
Commissioning Test	14,831
Commercial and Regulatory Requirements	2,446



by plant type

Plant Type	No. of Over-riding Constraints
Hydro	8,031
Wind	6,860
Oil	1,411
Coal	975

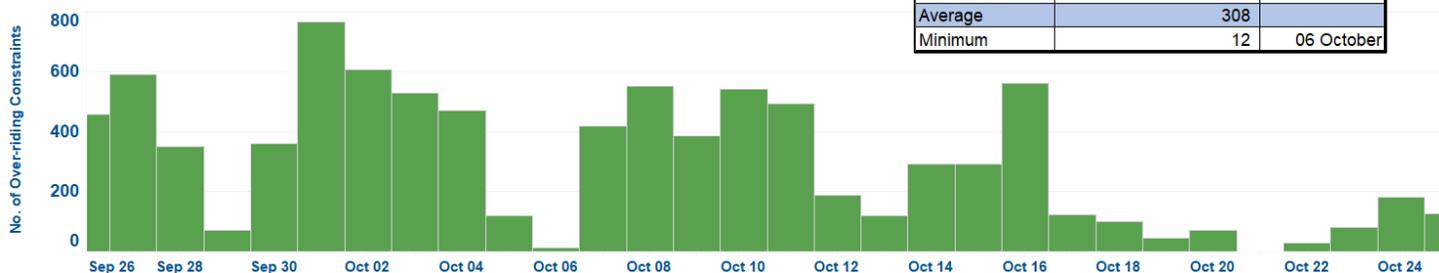


In Visayas, commissioning tests of Upper Taft HEPP and PWEI NABAS were the primary reason for most of the over-riding constraints in the region. The continuing commissioning test of PWEI Nabas Wind was noted to have had multiple extensions of PCATCs.

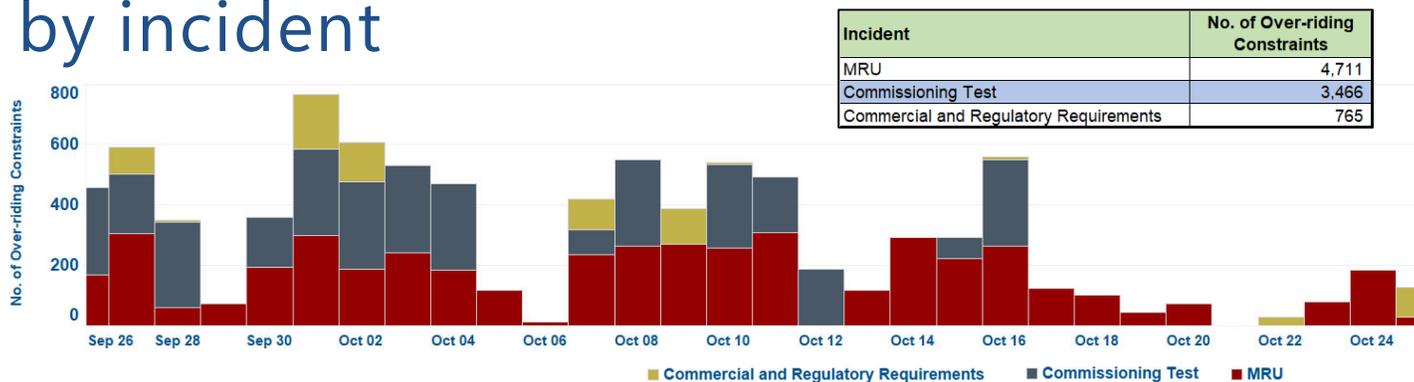
Also, over-riding constraints on coal and oil-based plants were observed to be imposed intermittently during the billing period due to conduct of various test such as ancillary service, capability, and emission tests.

OVER-RIDING CONSTRAINTS

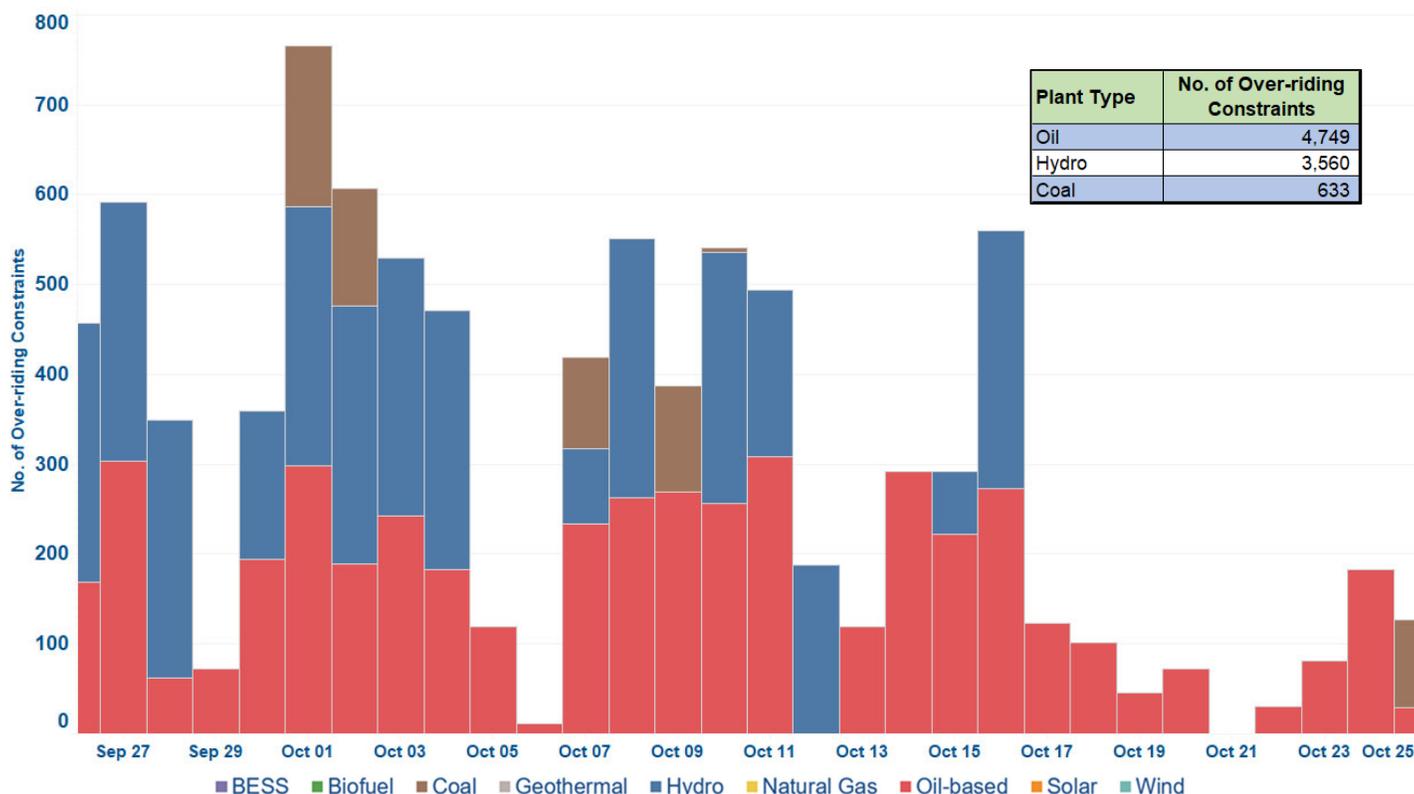
MINDANAO



by incident



by plant type

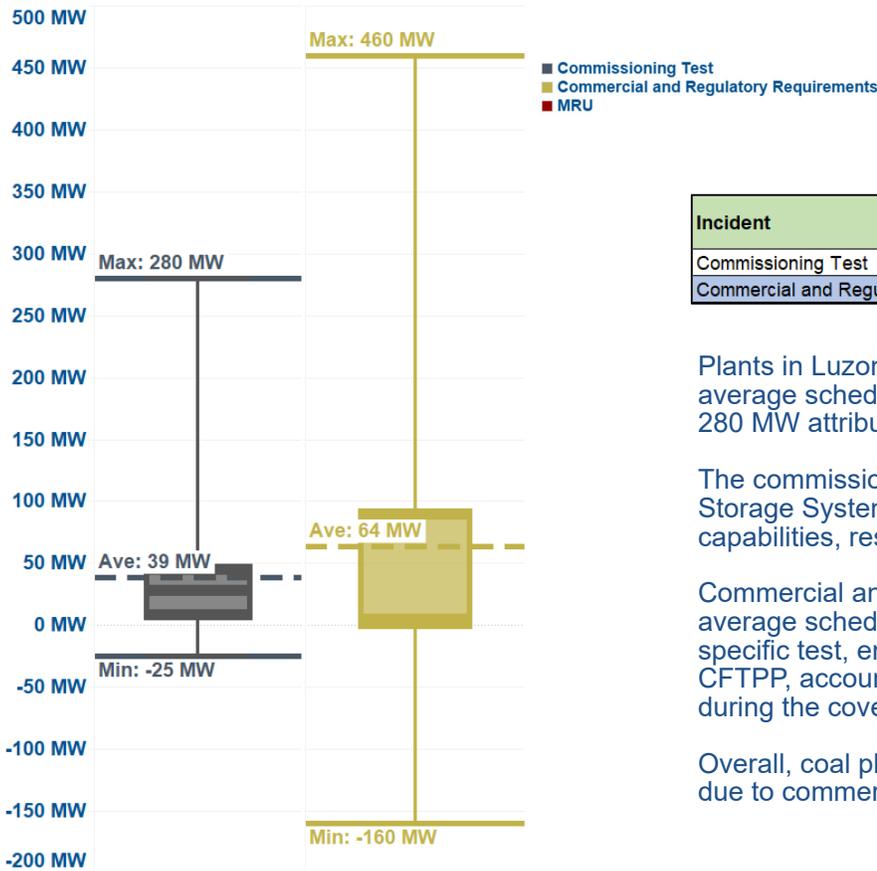


WMPC DPP, dispatched as MRU, contributed to the majority of over-riding constraints in Mindanao to address the system voltage requirement, followed by the previously dominant contributor which is LIANGAN HEPP conducting its commissioning test during the billing period.

SCHEDULED CAPACITIES

LUZON

by incident



Incident	Average	Minimum	Maximum
Commissioning Test	39 MW	-25 MW	280 MW
Commercial and Regulatory Requirements	64 MW	-160 MW	460 MW

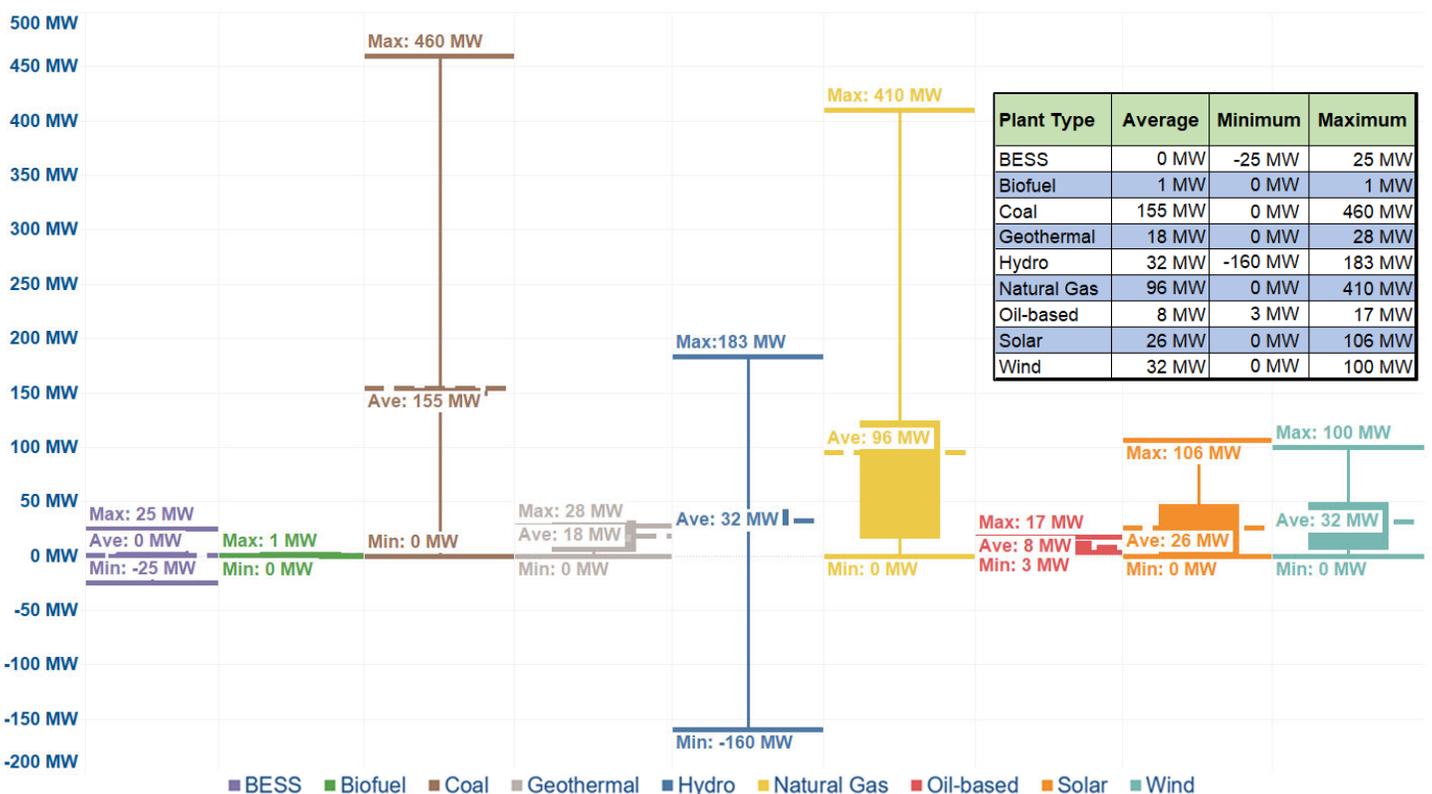
Plants in Luzon undergoing commissioning tests had an average scheduled capacity of 39 MW, with a peak of 280 MW attributable to a solar plant.

The commissioning test for Lumban Battery Energy Storage System (BESS) involved testing its charging capabilities, resulting in negative scheduled capacity.

Commercial and regulatory requirements led to an average scheduled capacity of 64 MW. Looking at the specific test, emission tests for a coal plant, QPPL CFTPP, accounted for the highest scheduled capacity during the covered period.

Overall, coal plants had the largest capacity overridden due to commercial and regulatory requirements tests.

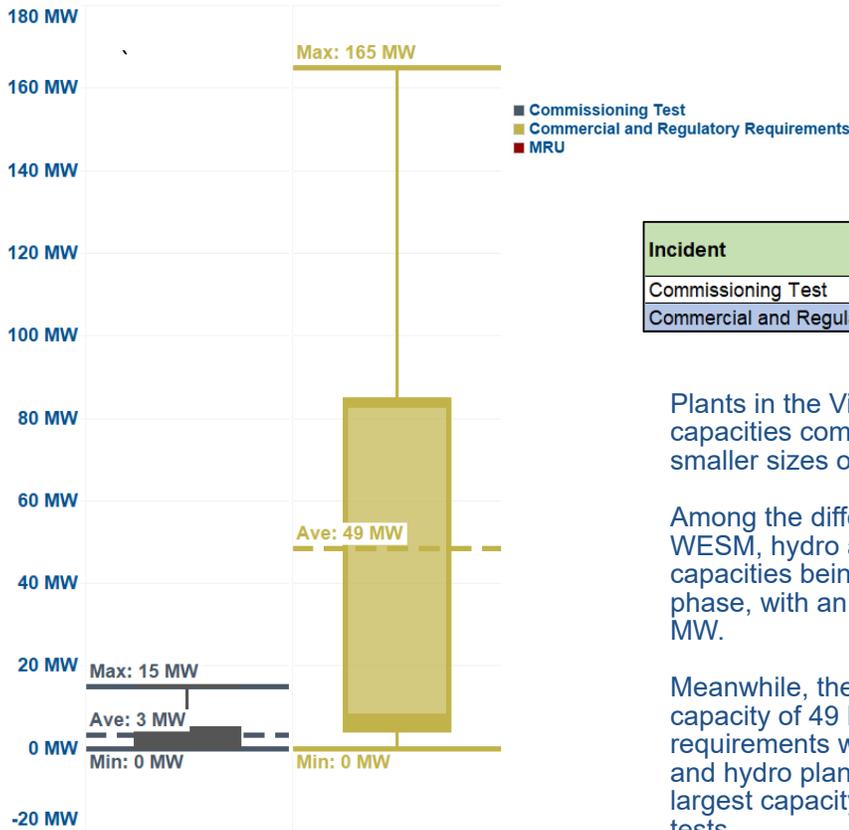
by plant type



SCHEDULED CAPACITIES

VISAYAS

by incident



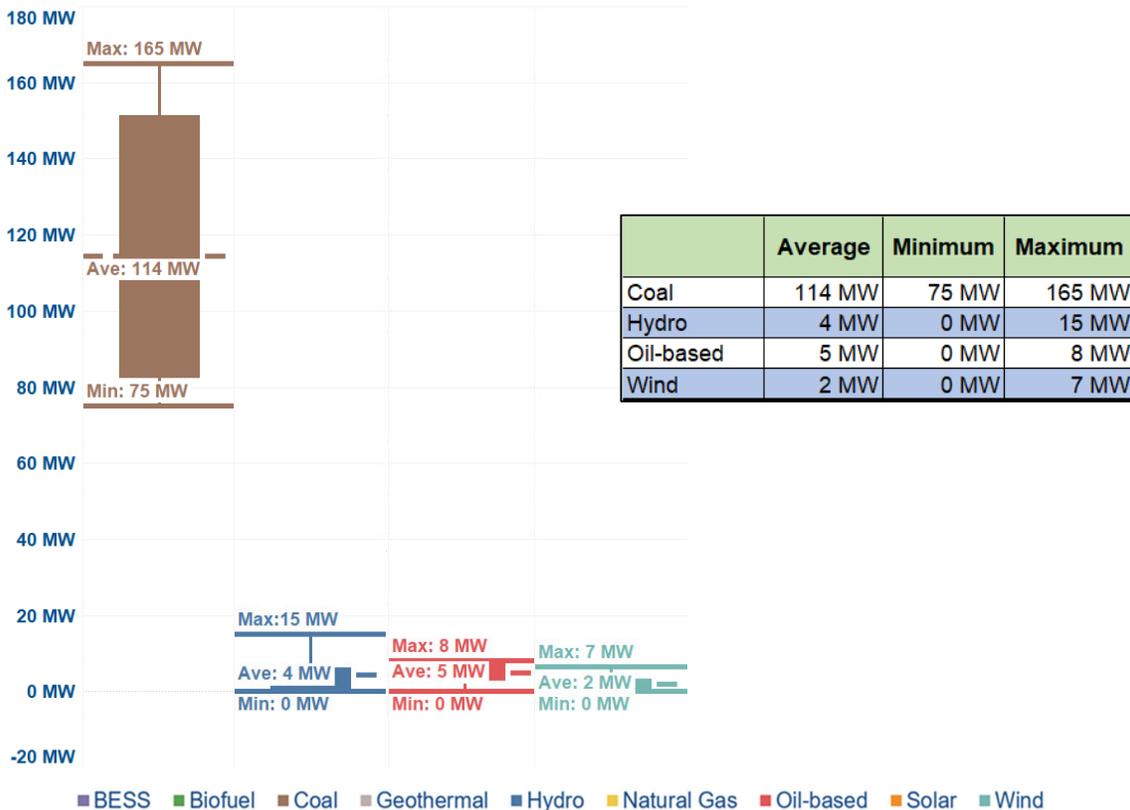
Incident	Average	Minimum	Maximum
Commissioning Test	3 MW	0 MW	15 MW
Commercial and Regulatory Requirements	49 MW	0 MW	165 MW

Plants in the Visayas region had lower scheduled capacities compared to those in Luzon due to smaller sizes of plants with over-riding constraints.

Among the different types of resources in the WESM, hydro and wind plants contributed to the capacities being tested under the commissioning phase, with an average scheduled capacity of 3 MW.

Meanwhile, the recorded average scheduled capacity of 49 MW for commercial and regulatory requirements was due to contributions from coal, oil, and hydro plants. Additionally, coal plants had the largest capacity overridden due to ancillary service tests.

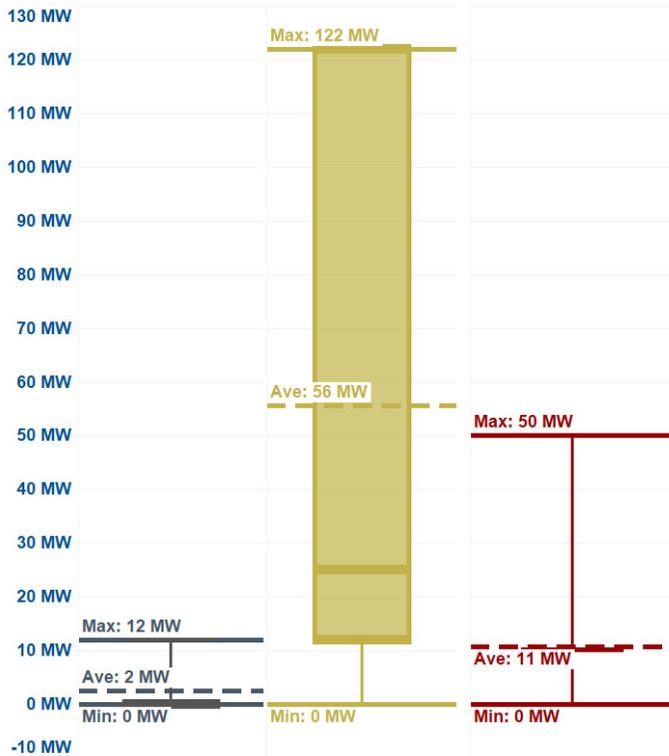
by plant type



	Average	Minimum	Maximum
Coal	114 MW	75 MW	165 MW
Hydro	4 MW	0 MW	15 MW
Oil-based	5 MW	0 MW	8 MW
Wind	2 MW	0 MW	7 MW

SCHEDULED CAPACITIES MINDANAO

by incident



- Commissioning Test
- Commercial and Regulatory Requirements
- MRU

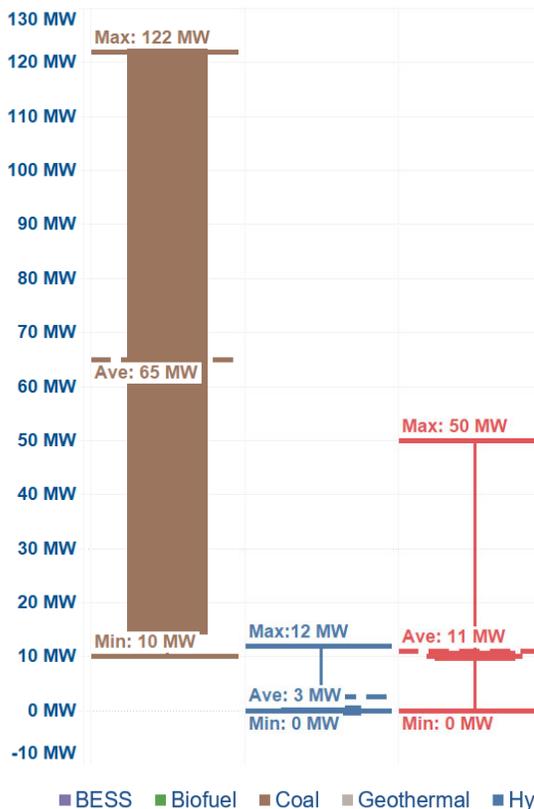
Incident	Average	Minimum	Maximum
Commissioning Test	2 MW	0 MW	12 MW
Commercial and Regulatory Requirements	56 MW	0 MW	122 MW
MRU	11 MW	0 MW	50 MW

The scheduled capacity of hydro, recorded between 0 to 12 MW and averaging about 2 MW, was all attributed to Liangan HEPP due to the conduct of its commissioning test.

Under commercial and regulatory requirements, ancillary service tests were scheduled at an average of 56 MW, while the emission test and ancillary service test that peaked at 122 MW is attributable to a coal plant. Additionally, hydro plants were scheduled between 3 to 10 MW for the conduct of its respective performance and ancillary service tests.

Oil-based plants continued to be scheduled as MRU, highest at 50 MW, to address the system voltage requirement in the Mindanao region.

by plant type

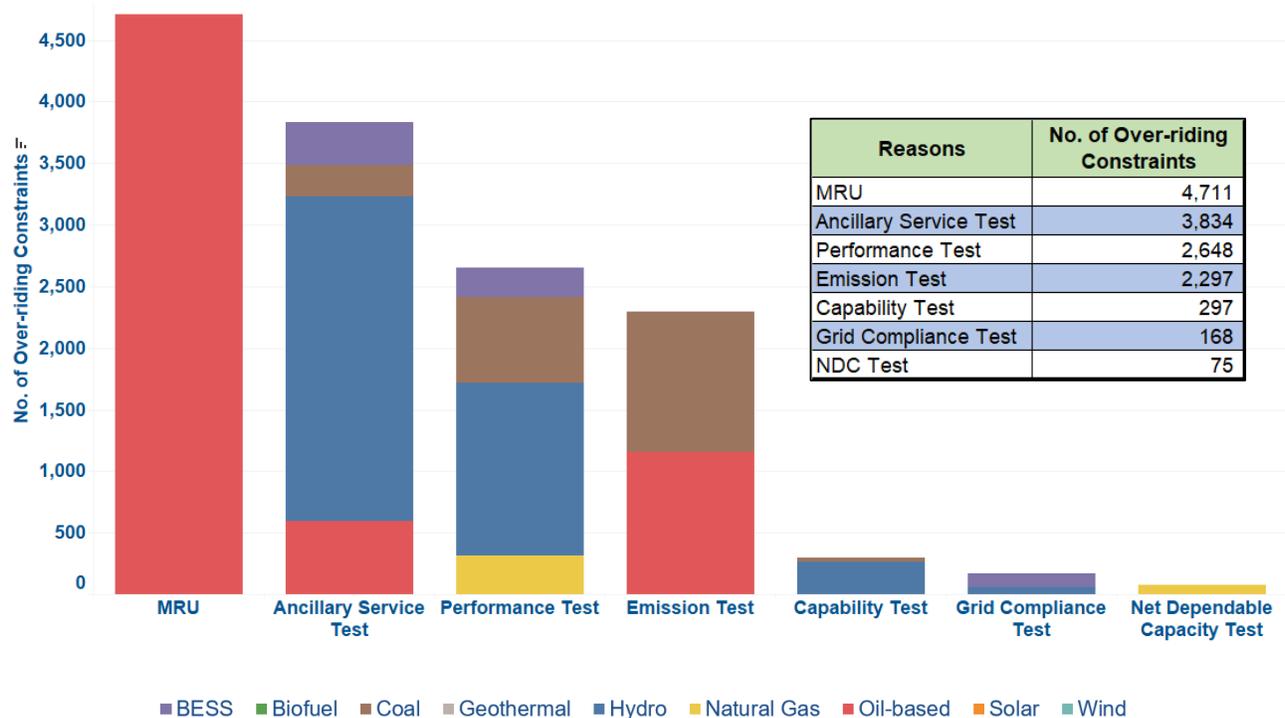


Plant Type	Average	Minimum	Maximum
Coal	65 MW	10 MW	122 MW
Hydro	3 MW	0 MW	12 MW
Oil-based	11 MW	0 MW	50 MW

- BESS
- Biofuel
- Coal
- Geothermal
- Hydro
- Natural Gas
- Oil-based
- Solar
- Wind

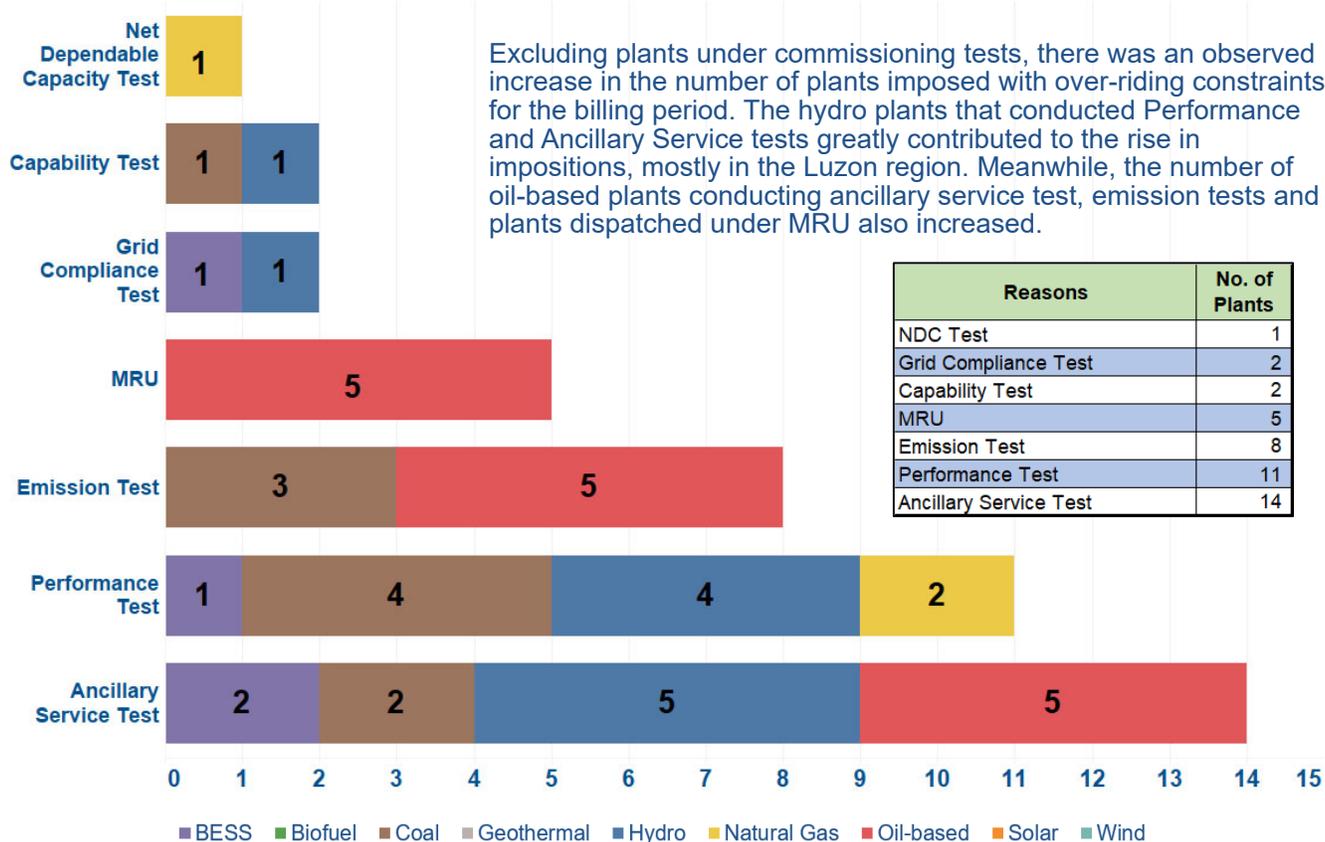
OVER-RIDING CONSTRAINTS by incident

(excluding commissioning test)



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

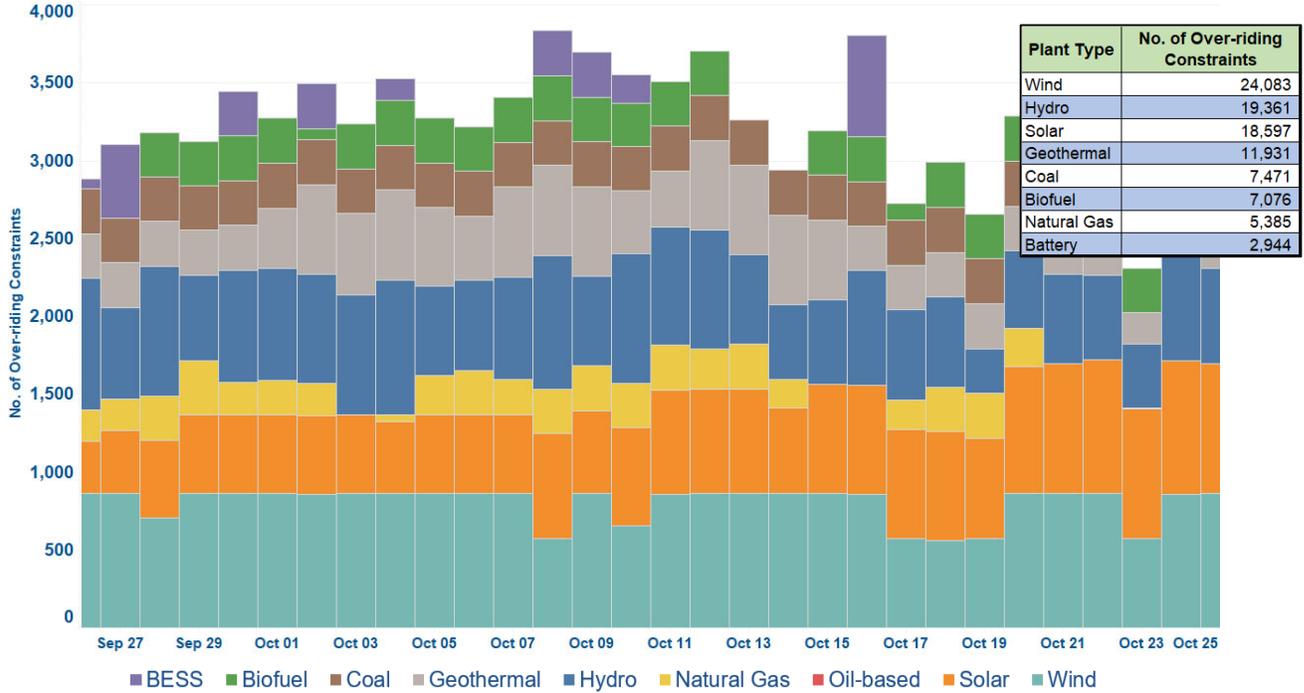
NUMBER OF PLANTS by incident



Excluding plants under commissioning tests, there was an observed increase in the number of plants imposed with over-riding constraints for the billing period. The hydro plants that conducted Performance and Ancillary Service tests greatly contributed to the rise in impositions, mostly in the Luzon region. Meanwhile, the number of oil-based plants conducting ancillary service test, emission tests and plants dispatched under MRU also increased.

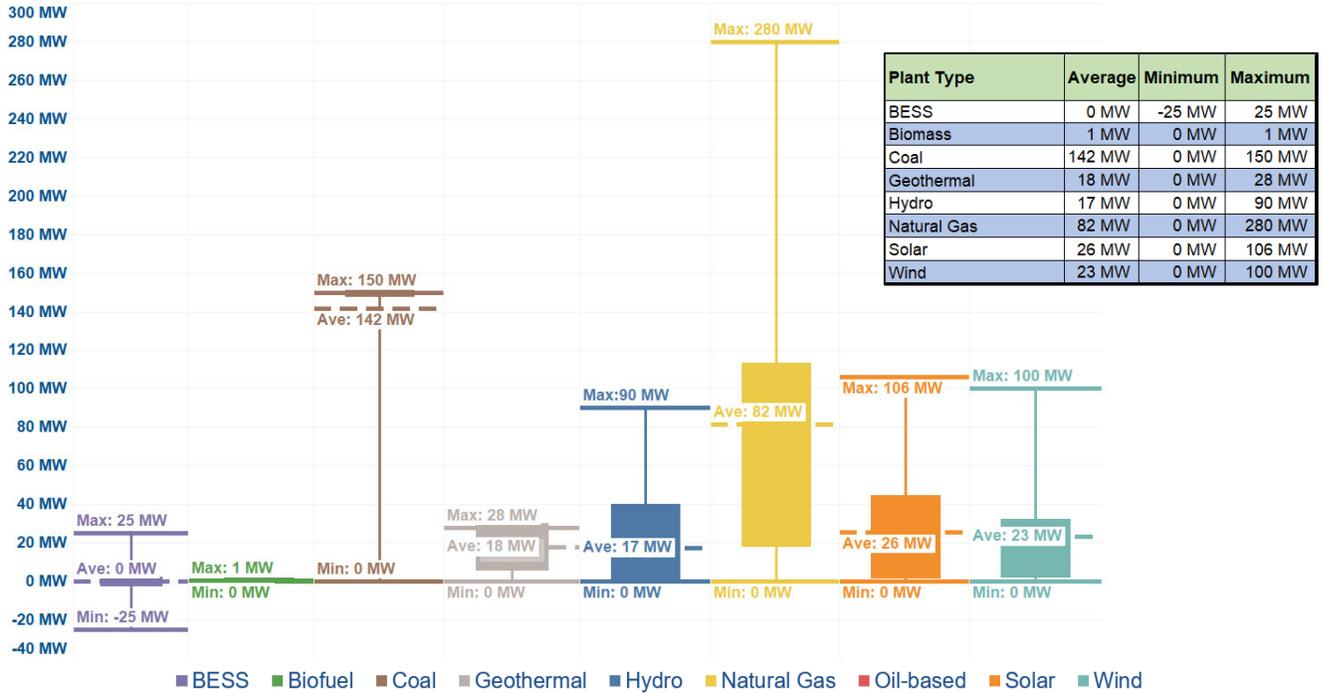
OVER-RIDING CONSTRAINTS

PLANTS UNDER COMMISSIONING TESTS



SCHEDULED CAPACITIES

PLANTS UNDER COMMISSIONING TESTS



Renewable plants such as wind, hydro, geothermal, and solar experienced a large number of over-riding constraints related to commissioning tests during the billing period, accounting for 76% of the total impositions. In contrast, other plants (biofuel, battery, coal, and natural gas) accounted for 24%. The continuous extension of PCATC for wind plants contributed significantly to the high imposition of over-riding constraints for the billing period. Additionally, there were two solar plants noted with four (4) and six (6) PCATC extensions, and one (1) hydro plant that completed its commissioning test after two (2) extensions of PCATCs.

Compared to the previous month, there was a decline in over-riding constraints for renewable plants under commissioning tests, while there was a surge for other plants. It was also noted that the maximum scheduled capacities for coal and hydro plants increased during the billing period.

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
72.020 MWp Laoag Solar Power Plant	Solar	130.2
72.128 MWp Subic New PV Power Plant Project	Solar	62.7
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)	Biofuel	1.7
45.758 MWh Gamu Battery Energy Storage System (BESS)	Battery	40
57.125 MWh Lumban Battery Energy Storage System (BESS)	Battery	50
Mariveles Coal Fired Thermal Power Plant Unit 2	Coal	316
Angat Hydroelectric Power Plant Unit A	Hydro	38.7
32.423 MW Magat Battery Energy Storage System	Battery	24
Magat Hydroelectric Power Plant Unit 1	Hydro	97
Magat Hydroelectric Power Plant Unit 2	Hydro	97
Magat Hydroelectric Power Plant Unit 3	Hydro	97
Magat Hydroelectric Power Plant Unit 4	Hydro	97
Botocan Hydro Electric Power Plant	Hydro	20.8
Batangas Combined Cycle Power Plant Unit 1	Natural Gas	440
Batangas Combined Cycle Power Plant Unit 3	Natural Gas	440
Pagbilao Coal-Fired Power Plant 1	Coal	382
35.700 MW Palayan Binary Power Plant	Geothermal	31
QPPL Coal-Fired Power Plant	Coal	460
Sta. Rita Natural Gas Power Plant 2	Natural Gas	263
Ambuklao Hydroelectric Power Plant Unit 1	Hydro	37.5
Ambuklao Hydroelectric Power Plant Unit 2	Hydro	37.5
Ambuklao Hydroelectric Power Plant Unit 3	Hydro	37.5
Angat Hydroelectric Power Plant Unit M	Hydro	200
Binga Hydroelectric Power Plant - Unit 1	Hydro	35
Binga Hydroelectric Power Plant - Unit 2	Hydro	35
Binga Hydroelectric Power Plant - Unit 3	Hydro	35
Binga Hydroelectric Power Plant - Unit 4	Hydro	35
0.531 MW/1.400 MWh Energy Storage System (ESS)	Battery	0.5
(+/-) 40 MW Magapit Battery Energy Storage System	Battery	40
Maris Canal HEPP Unit 1	Hydro	4.25
Maris Canal HEPP Unit 2	Hydro	4.25
Mariveles Coal Fired Thermal Power Plant Unit 1	Coal	316

¹ As of 25 August 2024

Plant/Unit Name	Plant Type	Registered Capacity ¹
36.646 MWp RASLAG IV Solar Power Project	Solar	26.4
75.214 MWP Palauig Solar Power Project	Solar	49.5
Navotas Bunker C-Fired Diesel Power Plant Power Barge 2 / Mobile 4	Oil-Based	41.2
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	44
Kalayaan Hydro Electric Power Plant 1	Hydro	181.1
442.850MW San Gabriel Combined-Cycle Power Plant (CCPP)	Natural Gas	417.4
Sta. Rita Natural Gas Power Plant 1	Natural Gas	263
Sta. Rita Natural Gas Power Plant 4	Natural Gas	263
San Lorenzo Combined-Cycle Gas Turbine Power Plant Unit 50	Natural Gas	265
San Lorenzo Combined-Cycle Gas Turbine Power Plant Unit 60 (San Lorenzo CCGTPP)	Natural Gas	265
VISAYAS		
13.200 Nabas Wind Power Plant Phase 2 (Nabas-2)	Wind	13.2
Isabel Modular Diesel Power Plant Sector 1	Oil-Based	10
Isabel Modular Diesel Power Plant Sector 2	Oil-Based	10.1
14.160MW Upper Taft Hydroelectric Power Plant	Hydro	14.2
Circulating Fluidized Bed Coal-Fired Power Plant Unit 1	Coal	169
PEDC Coal-Fired Thermal Power Plant Unit 1	Coal	83.7
PEDC Coal-Fired Thermal Power Plant Unit 2	Coal	83.7
251.1MW Circulating Fluidized Bed Coal-Fired Thermal Power Plant Unit 1	Coal	83.2
251.1MW Circulating Fluidized Bed Coal-Fired Thermal Power Plant Unit 2	Coal	83.4
Circulating Fluidized Bed Coal-Fired Power Plant Unit 2	Coal	169
Naga Oil-Fired Power Plant Unit 1	Oil-Based	5.5
Naga Oil-Fired Power Plant Unit 2	Oil-Based	5.5
Naga Oil-Fired Power Plant Unit 3	Oil-Based	5.5
Naga Oil-Fired Power Plant Unit 4	Oil-Based	5.5
Naga Oil-Fired Power Plant Unit 5	Oil-Based	5.5
Naga Oil-Fired Power Plant Unit 6	Oil-Based	5.5
Unit 1 Calumangan Bunker C-Fired Diesel Power Plant	Oil-Based	4.5
Unit 2 Calumangan Bunker C-Fired Diesel Power Plant	Oil-Based	4.5
Unit 3 Calumangan Bunker C-Fired Diesel Power Plant	Oil-Based	4.5
Unit 4 Calumangan Bunker C-Fired Diesel Power Plant	Oil-Based	6.7
Unit 5 Calumangan Diesel Power Plant	Oil-Based	6.7
Bohol Diesel Power Plant Unit 1	Oil-Based	4
Bohol Diesel Power Plant Unit 2	Oil-Based	4
Bohol Diesel Power Plant Unit 3	Oil-Based	4.2
Bohol Diesel Power Plant Unit 4	Oil-Based	4
Power Barge 104 Unit 1	Oil-Based	7
Power Barge 104 Unit 2	Oil-Based	7
Power Barge 104 Unit 3	Oil-Based	7
Power Barge 104 Unit 4	Oil-Based	8

Plant/Unit Name	Plant Type	Registered Capacity ¹
PPC3 Nabas Bunker C-Fired Diesel Power Plant Unit 1	Oil-Based	3
PPC3 Nabas Bunker C-Fired Diesel Power Plant Unit 2	Oil-Based	3.4
150.025 MW Unit 3 Circulating Fluidized Bed (CFB) Coal Fired Thermal Power Plant	Coal	150
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 10	Oil-Based	10.2
112 MW Bunker-C Fired Diesel Power Plant Unit 7	Oil-Based	10
Liangan Hydroelectric Power Project	Hydro	11.9
112 MW Bunker-C Fired Diesel Power Plant Unit 6	Oil-Based	10.2
114.40 MW Iligan Diesel Power Plant (Units 1-19)	Oil-Based	102
25 MW CFB Coal-Fired Thermal Power Plant	Coal	20
7.841 MW Surigao Del Sur Power Plant	Oil-Based	7.8
10.944 MW Diesel Power Plant	Oil-Based	10.7
PSFI Bunker C-Fired Diesel Power Plant Unit 1	Oil-Based	5.2
PSFI Bunker C-Fired Diesel Power Plant Unit 2	Oil-Based	5.2
100.327 MW Mobile 2 Bunker C-Fired Power Plant Unit 1	Oil-Based	50
100.327 MW Mobile 2 Bunker C-Fired Power Plant Unit 2	Oil-Based	50
100.337 MW Mobile 1 Bunker C-Fired Power Plant Unit 1	Oil-Based	49
118.501 MW Phase 1 Coal-Fired Thermal Power Plant	Coal	122
118.50 MW Phase 2 Coal-Fired Power Plant	Coal	122

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	2	115
Pagbilao Coal-Fired Power Plant 1	Coal	375.7		13
80.000 MW Balaoi and Caunayan Wind Power Project Phase 1	Wind	80	17	601
Caparispisan II Wind Power Project	Wind	50	6	234
13.200 Nabas Wind Power Plant Phase 2 (Nabas-2)	Wind	13.2	5	204
Concepcion 1 Solar Power Project	Solar	20.7		28
72.020 MWp Laoag Solar Power Plant	Solar	159	4	180
72.128 MWp Subic New PV Power Plant Project	Solar	72.1	6	240
36.646 MWp RASLAG IV Solar Power Project	Solar	36.6		7
75.214 MWP Palauig Solar Power Project	Solar	75.2		18
45.758 MWh Gamu Battery Energy Storage System (BESS)	Battery	40	5	201
57.125 MWh Lumban Battery Energy Storage System (BESS)	Battery	57.1	4	145
32.423 MW Magat Battery Energy Storage System	Battery	32.4		15
0.531 MW/1.400 MWh Energy Storage System (ESS)	Battery	0.5	9	479
(+/-) 40 MW Magapit Battery Energy Storage System	Battery	40	7	639
Liangan Hydroelectric Power Project	Hydro	0	2	110
Angat Hydroelectric Power Plant Unit A	Hydro	18		29
14.160MW Upper Taft Hydroelectric Power Plant	Hydro	14.2		46
Angat Hydroelectric Power Plant Unit M	Hydro	200		1
Kalayaan Hydro Electric Power Plant 1	Hydro	155.6		23
Batangas Combined Cycle Power Plant Unit 1	Natural Gas	440	5	177
Batangas Combined Cycle Power Plant Unit 3	Natural Gas	440		23
17MW Tiwi Geothermal Binary Power Plant	Geothermal	17	4	146
35.700 MW Palayan Binary Power Plant	Geothermal	35.7	9	317
Biogas Power Plant (Phase 1)	Biofuel	1.7	6	240

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

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