



# MONTHLY OVER-RIDING CONSTRAINTS REPORT

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26 August to 25 September 2024

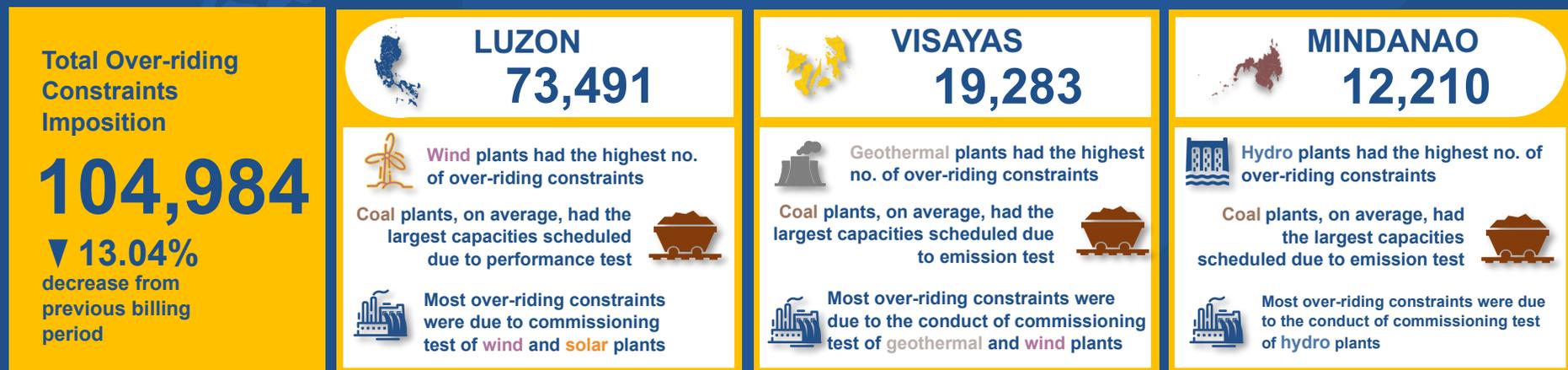
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# SUMMARY OF OBSERVATIONS

- A 13.04% net decrease in Over-riding Constraints (OC) during the billing period was observed due to:
  - Drop in the number impositions for Luzon and Mindanao plants attributable to the conduct of commissioning tests, and other tests under commercial and regulatory requirements, and slight decrease with Mindanao plants being dispatched as Must-Run Units (MRU) caused by system voltage requirements.
  - One (1) Hydro plant was issued with Final Certificate of Approval to Connect (FCATC) after noted 12 number of extended Provisional Certificate of Approval to Connect (PCATCs).
- Despite the increase in the number of plants tagged under commissioning, there was an observed decline in the number of impositions for several plants undergoing commissioning test as compared with the previous billing month.
- There was an observed surge in the impositions related to Visayas plants, mainly due to the conduct of commissioning test, despite the net decrease experienced during the covered period.

## AT A GLANCE

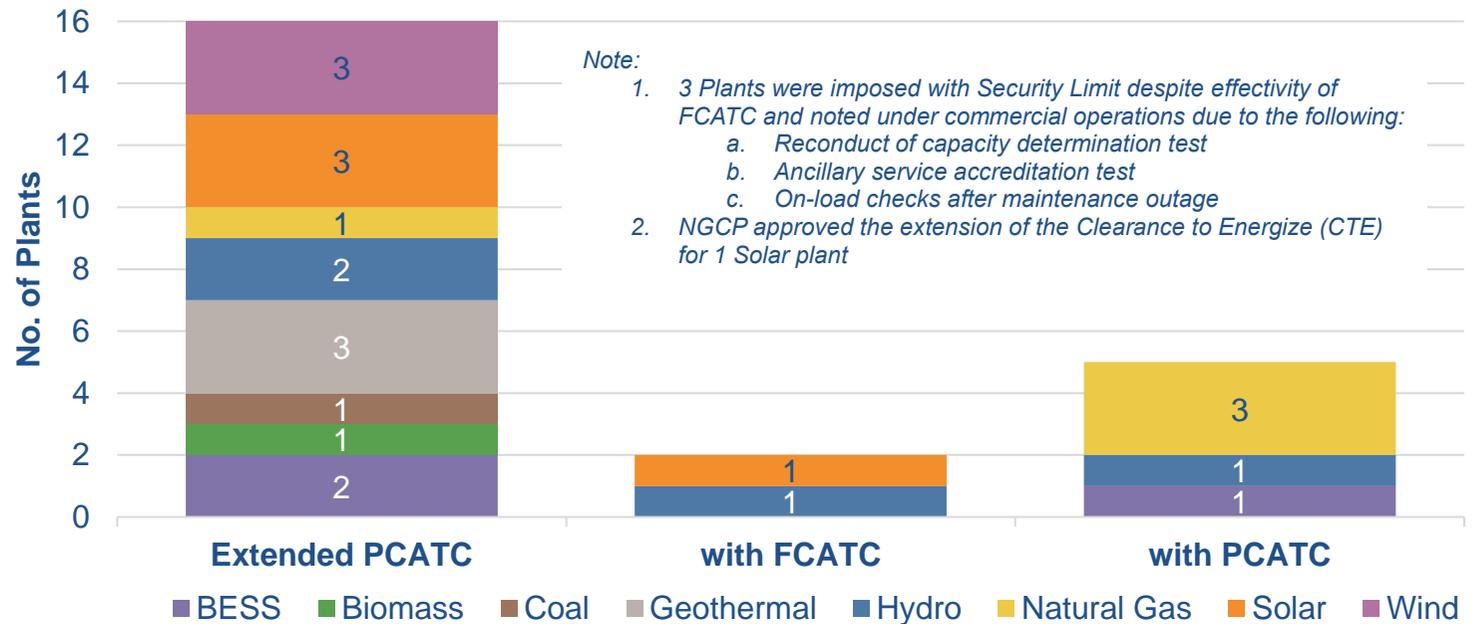


# STATUS OF PLANTS UNDER COMMISSIONING TEST

No. of Plants Under Commissioning Test

# 23

Status of Plants under Commissioning Test



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

Plant Type	Average Days	Plants
BESS	101.3	4 - Gamu BESS 3 - Lumban BESS
Biomass	210	5 - Trust Biomass
Coal	89	1 - MPGC CFTPP
Geo	166	3 - Tiwi Binary GPP 2 - Bago Binary GPP 8 - Palayan Binary PP
Hydro	131.8	12 - Matuno HEPP 1 - Liangan HEPP
Nat Gas	38.8	4 - Batangas CCPP G01
Solar	104	3 - Laoag SPP 5 - Subic PV SPP
Wind	316.3	16 - Balaoi Caunayan Wind 5 - Caparispisan Wind 4 - Pwei Nabas Wind

Noted no. of extension of commissioning test period

# OVER-RIDING CONSTRAINTS

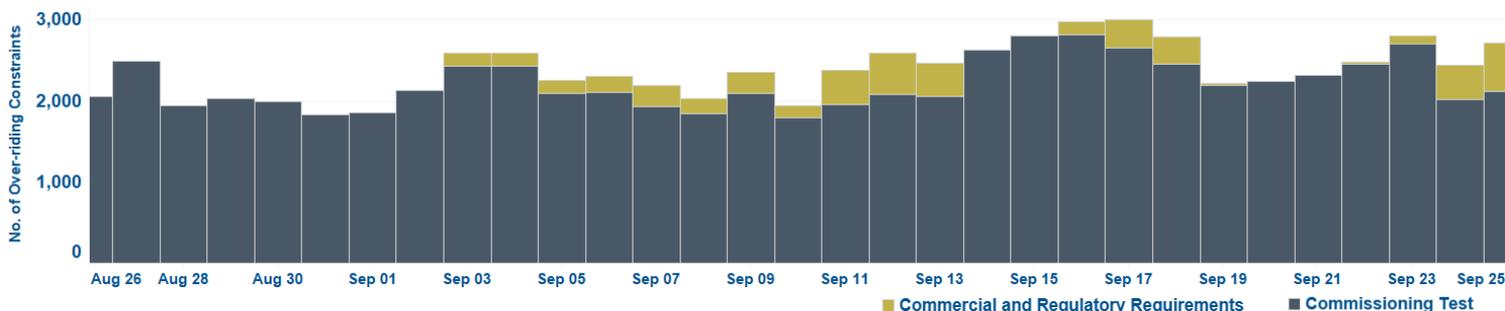
## LUZON

	No. of Over-riding Constraints	Date
Maximum	3,003	17 September
Average	2,371	
Minimum	1,828	31 August



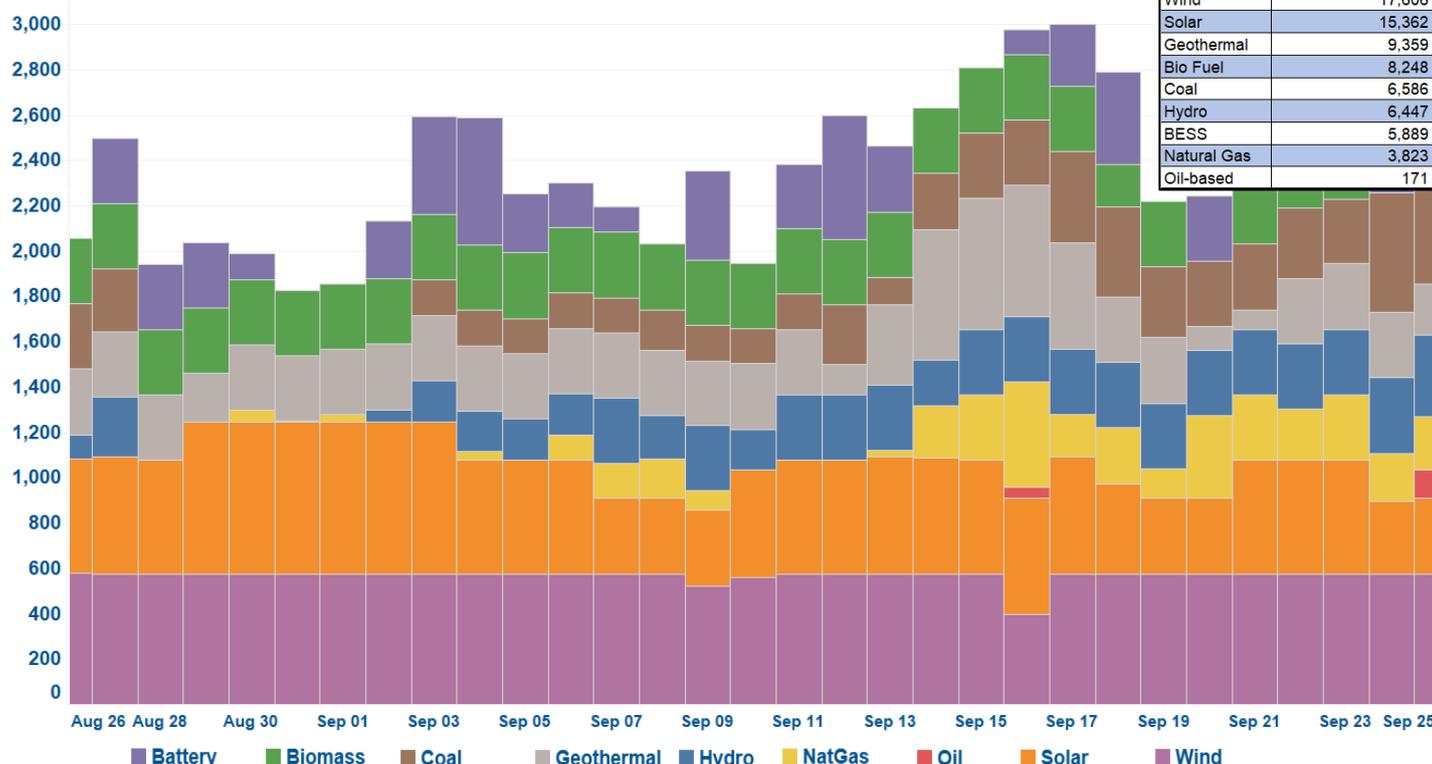
## by incident

Incident	No. of Over-riding Constraints
Commissioning Test	68,574
Commercial and Regulatory Requirements	4,917



## by plant type

Plant Type	No. of Over-riding Constraints
Wind	17,606
Solar	15,362
Geothermal	9,359
Bio Fuel	8,248
Coal	6,586
Hydro	6,447
BESS	5,889
Natural Gas	3,823
Oil-based	171



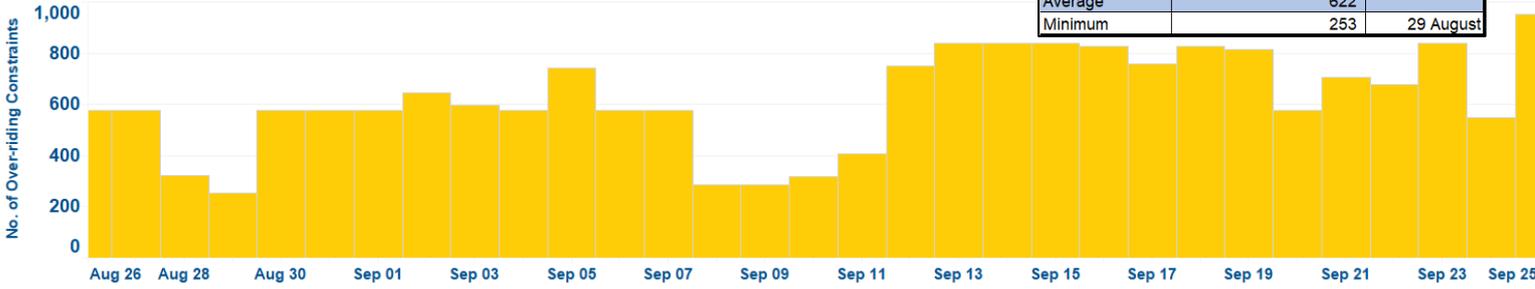
Most of the over-riding constraints in Luzon plants were due to the conduct of commissioning tests of wind and solar plants. Two (2) plants with issued FCATCs, thirteen (13) extensions of PCATC, and four (4) new PCATCs were issued with OC during the billing period.

Minimal impositions were observed for oil-based plants due to the conduct of emission tests for NAVOTAS DPP and performance tests of BAUANG DPP.

# OVER-RIDING CONSTRAINTS

## VISAYAS

	No. of Over-riding Constraints	Date
Maximum	954	25 September
Average	622	
Minimum	253	29 August



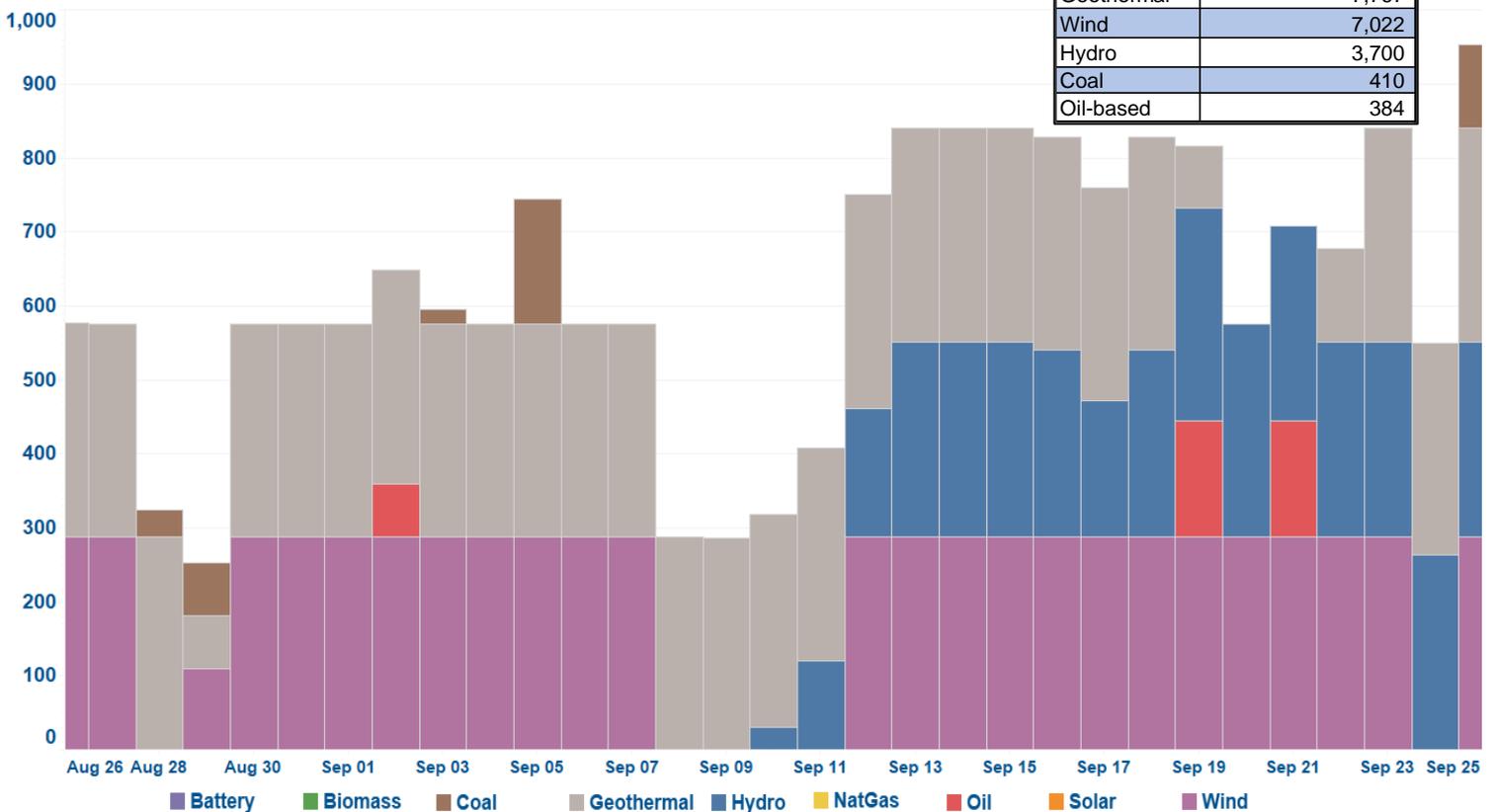
## by incident

Incident	No. of Over-riding Constraints
Commissioning Test	18,476
Commercial and Regulatory Requirements	807



## by plant type

Plant Type	No. of Over-riding Constraints
Geothermal	7,767
Wind	7,022
Hydro	3,700
Coal	410
Oil-based	384



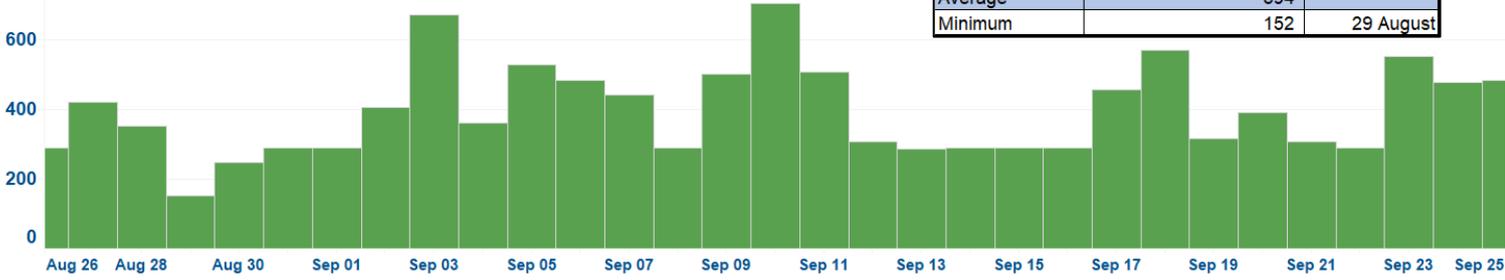
In Visayas, commissioning tests of geothermal, hydro, and wind plants were the primary reason for most of the over-riding constraints in the region.

Also, over-riding constraints on coal (TVI CFTPP, PCPC CFTPP, and PEDC CFTPP) and oil-based (ISABEL DPP and PB 101) plants were observed to be imposed intermittently during the billing period due to ancillary service test, emission test, and performance test.

The continuing commissioning test of Bago Binary GPP and PWEI Nabas Wind contributed to the over-riding constraints, which were noted to have extended PCATCs.

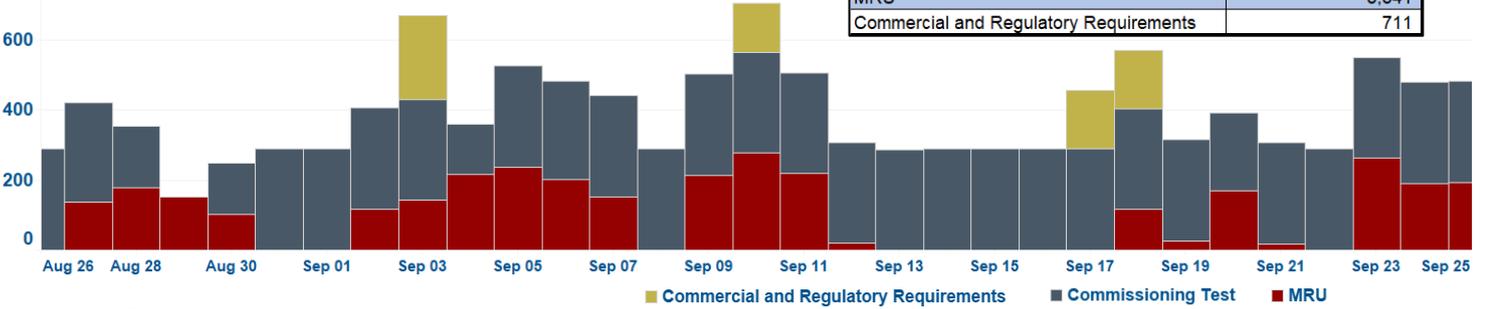
## MINDANAO

No. of Over-riding Constraints



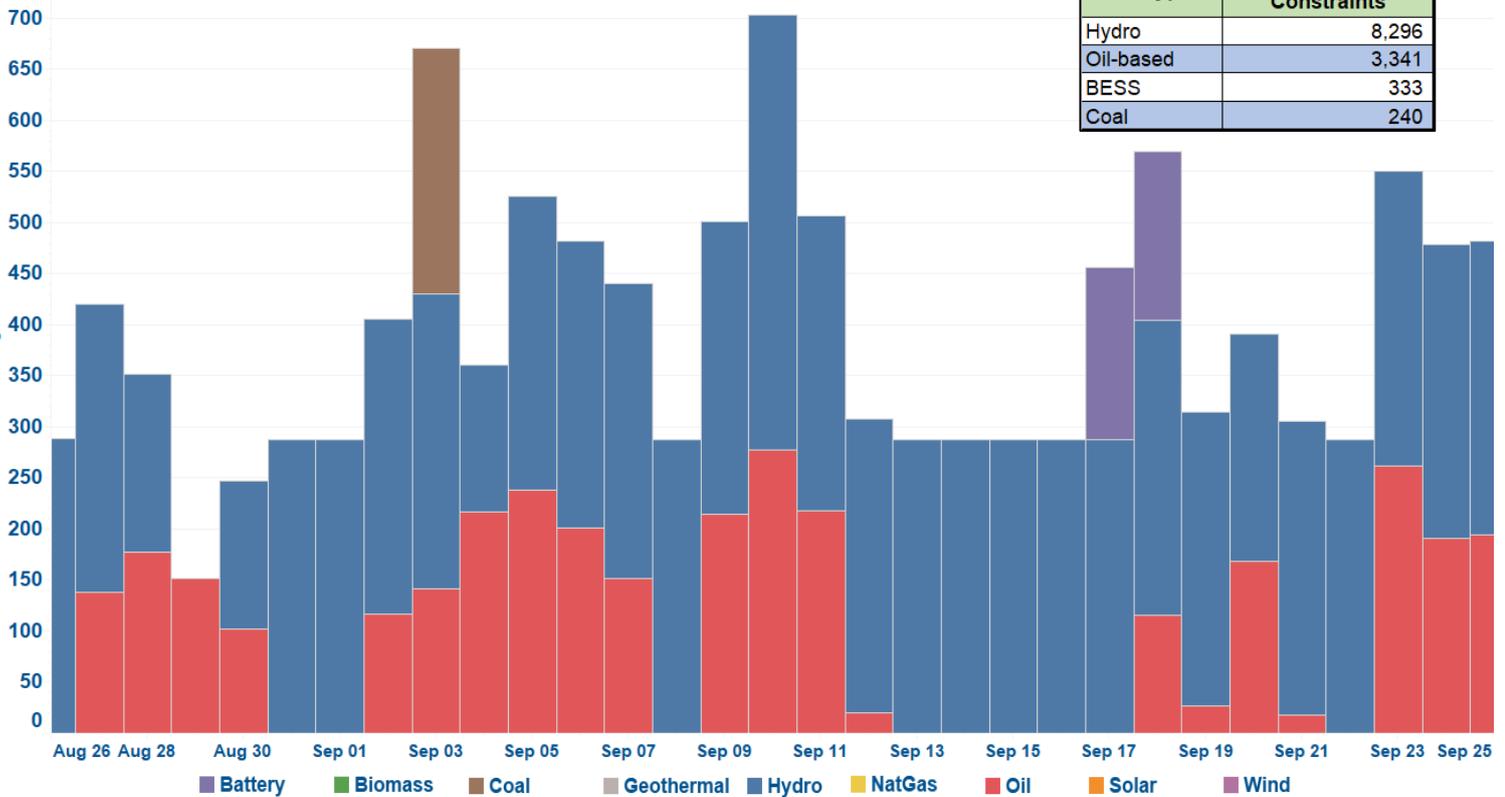
### by incident

No. of Over-riding Constraints



### by plant type

No. of Over-riding Constraints

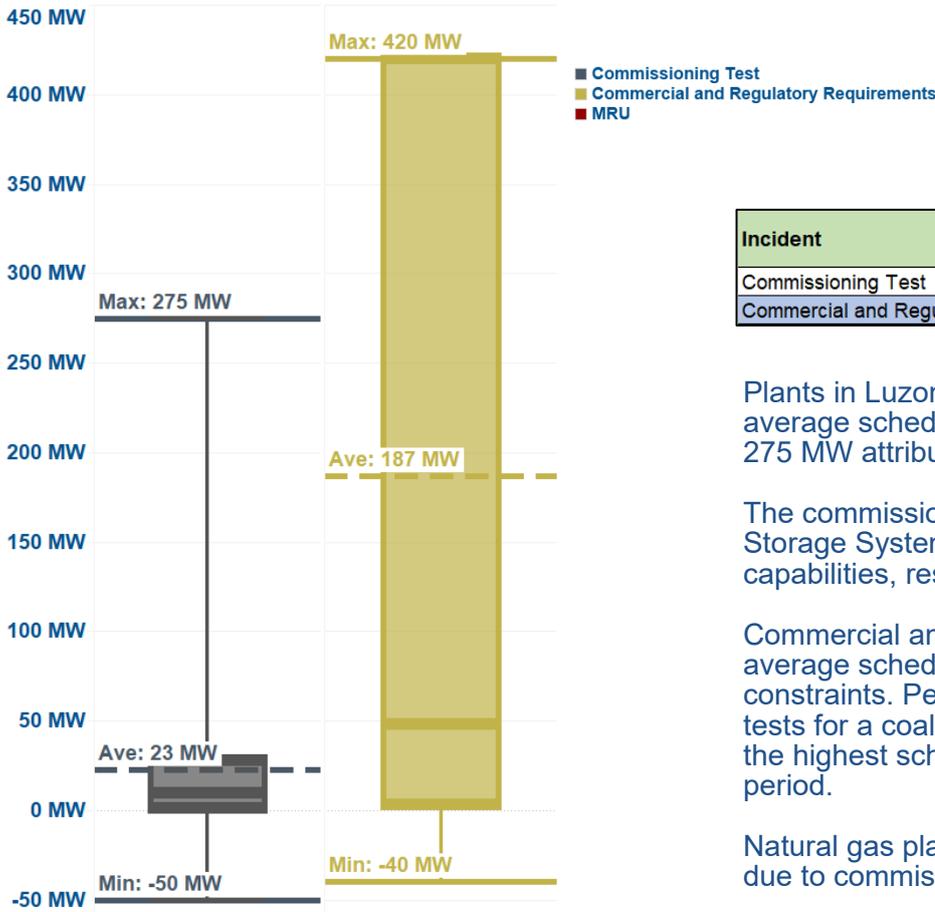


The commissioning tests for LIANGAN HEPP contributed for majority of over-riding constraints in Mindanao during the billing period, followed by the previously dominant contributor which are oil-based plants dispatched as MRU to address the system voltage requirement.

# SCHEDULED CAPACITIES

## LUZON

### by incident



Incident	Average	Minimum	Maximum
Commissioning Test	23 MW	-50 MW	275 MW
Commercial and Regulatory Requirements	187 MW	-40 MW	420 MW

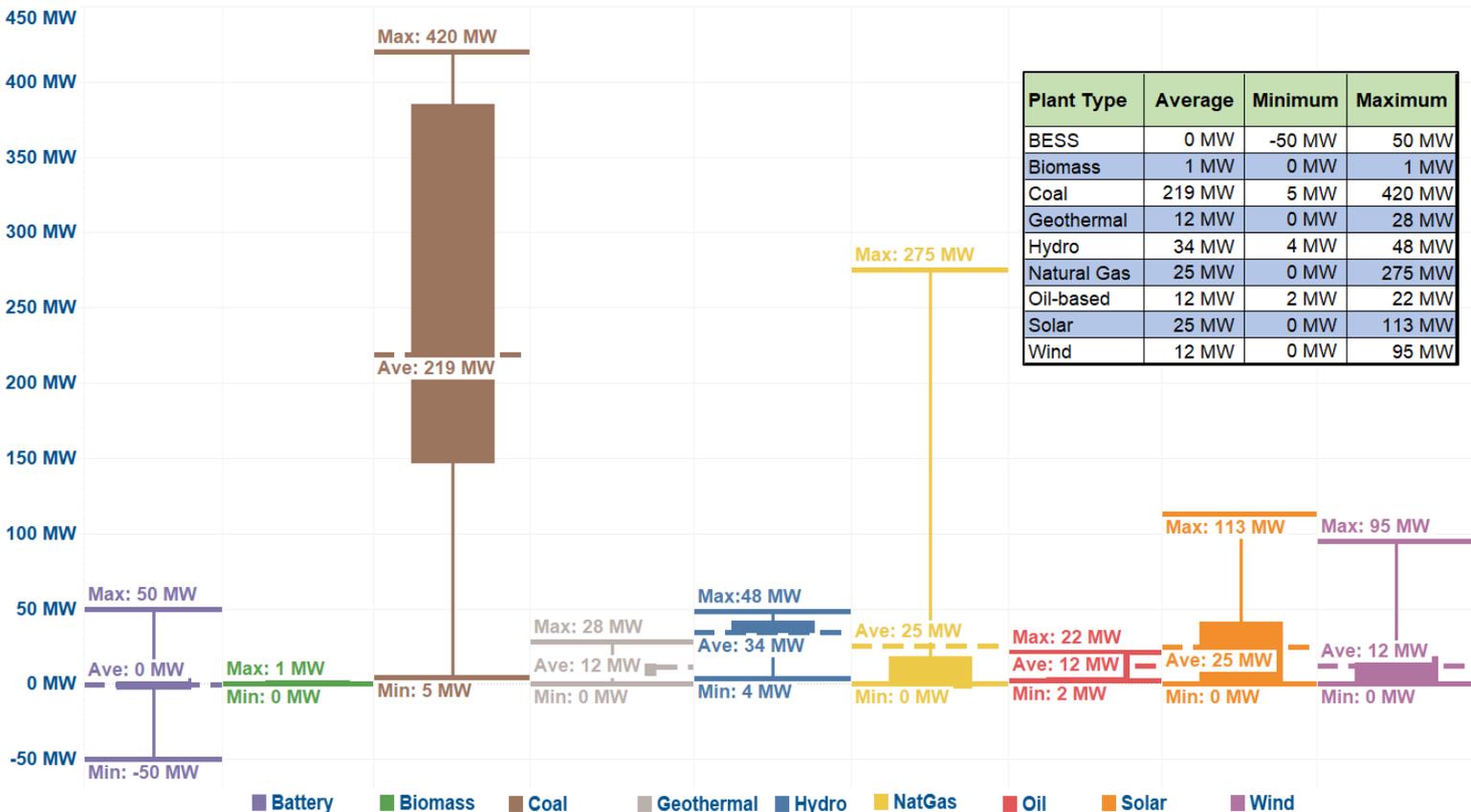
Plants in Luzon undergoing commissioning tests had an average scheduled capacity of 23 MW, with a peak of 275 MW attributable to a natural gas plant.

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 187 MW for over-riding constraints. Performance, emission, and grid compliance tests for a coal plant, Pagbilao 3 CFTPP, accounted for the highest scheduled capacity during the covered period.

Natural gas plants had the largest capacity overridden due to commissioning tests.

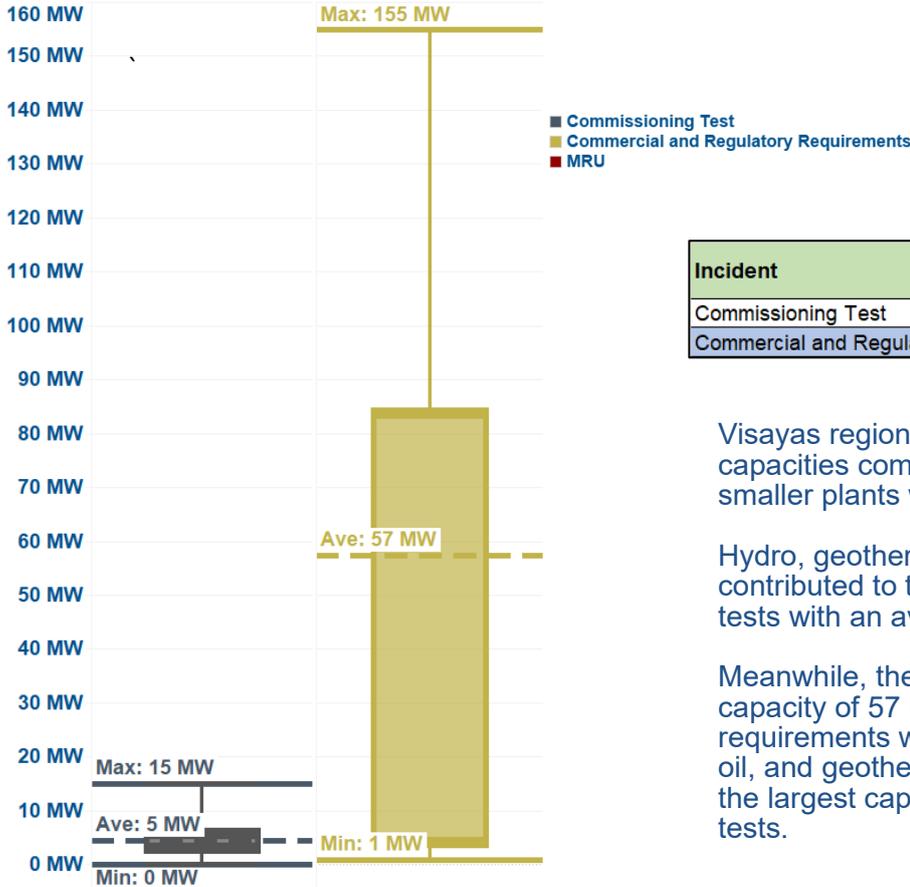
### by plant type



Plant Type	Average	Minimum	Maximum
BESS	0 MW	-50 MW	50 MW
Biomass	1 MW	0 MW	1 MW
Coal	219 MW	5 MW	420 MW
Geothermal	12 MW	0 MW	28 MW
Hydro	34 MW	4 MW	48 MW
Natural Gas	25 MW	0 MW	275 MW
Oil-based	12 MW	2 MW	22 MW
Solar	25 MW	0 MW	113 MW
Wind	12 MW	0 MW	95 MW

# SCHEDULED CAPACITIES VISAYAS

## by incident



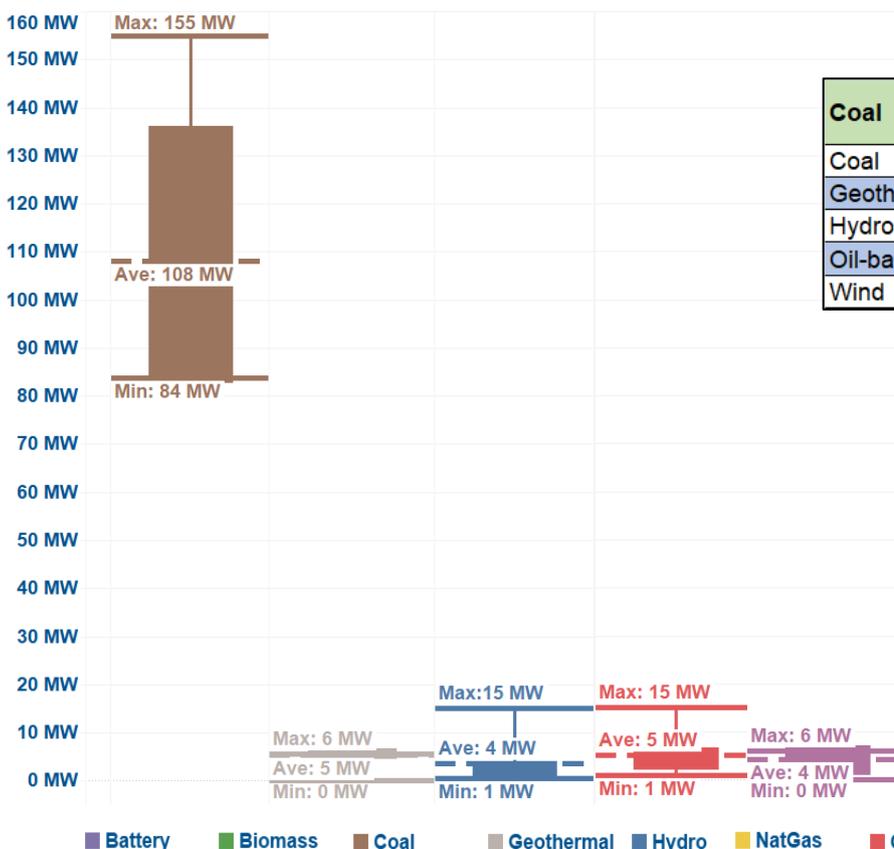
Incident	Average	Minimum	Maximum
Commissioning Test	5 MW	0 MW	15 MW
Commercial and Regulatory Requirements	57 MW	1 MW	155 MW

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

Hydro, geothermal, oil-based, and wind plants contributed to the capacities under commissioning tests with an average scheduled capacity of 5 MW.

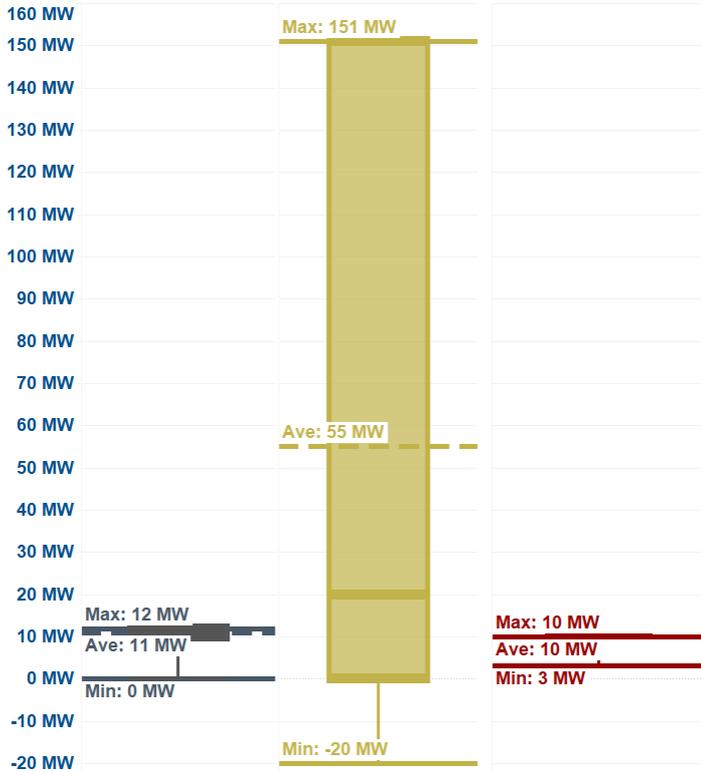
Meanwhile, the recorded average scheduled capacity of 57 MW for commercial and regulatory requirements was due to the contributions of coal, oil, and geothermal plants. Further, coal plants had the largest capacity overridden due to emission tests.

## by plant type



Coal	Average	Minimum	Maximum
Coal	108 MW	84 MW	155 MW
Geothermal	5 MW	0 MW	6 MW
Hydro	4 MW	1 MW	15 MW
Oil-based	5 MW	1 MW	15 MW
Wind	4 MW	0 MW	6 MW

## by incident



- Commissioning Test
- Commercial and Regulatory Requirements
- MRU

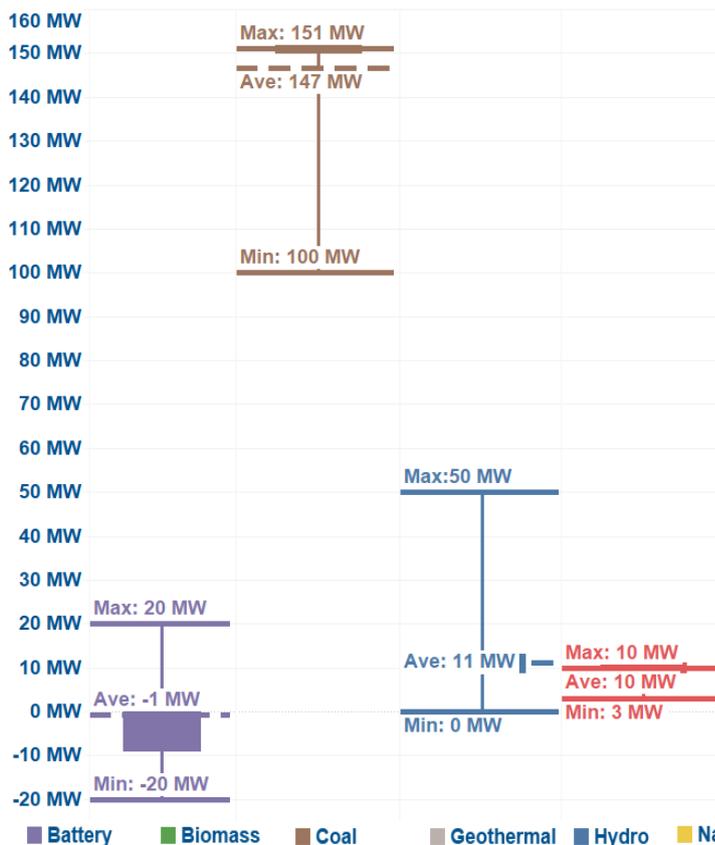
Incident	Average	Minimum	Maximum
Commissioning Test	11 MW	0 MW	12 MW
Commercial and Regulatory Requirements	17 MW	-20 MW	151 MW
MRU	10 MW	3 MW	10 MW

Liangan HEPP conducted its commissioning test during the billing period, and was scheduled between 0 to 12 MW, averaging at about 11 MW.

Ancillary service tests for BESS were scheduled between -20 to 20 MW. Emission tests peaked at 151 MW, attributable to a coal plant. Additionally, hydro plants were scheduled between 0 to 50 MW for capability tests.

Oil-based plants continued to be scheduled as MRU, from 3 to 10 MW, to address the system voltage requirement in the Mindanao region.

## by plant type

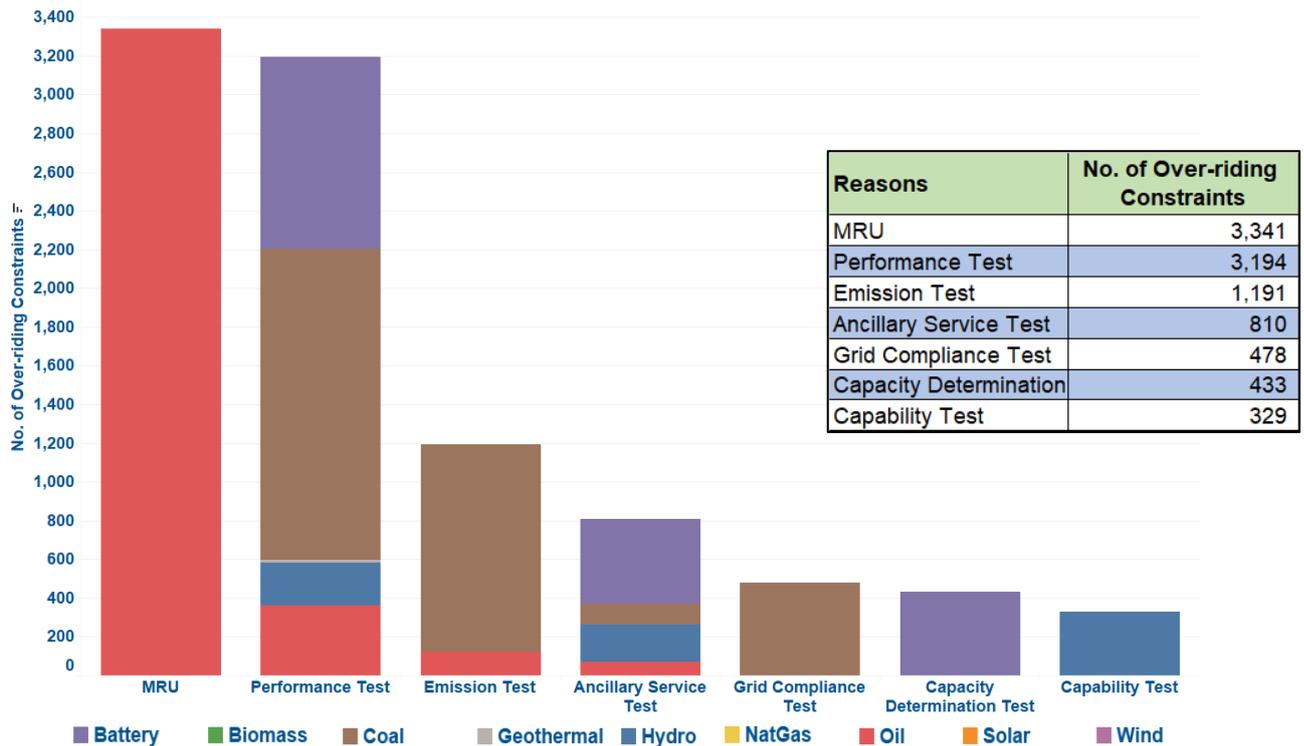


Plant Type	Average	Minimum	Maximum
BESS	-1 MW	-20 MW	20 MW
Coal	141 MW	100 MW	151 MW
Hydro	11 MW	0 MW	50 MW
Oil-based	10 MW	3 MW	10 MW

# OVER-RIDING CONSTRAINTS

## by incident

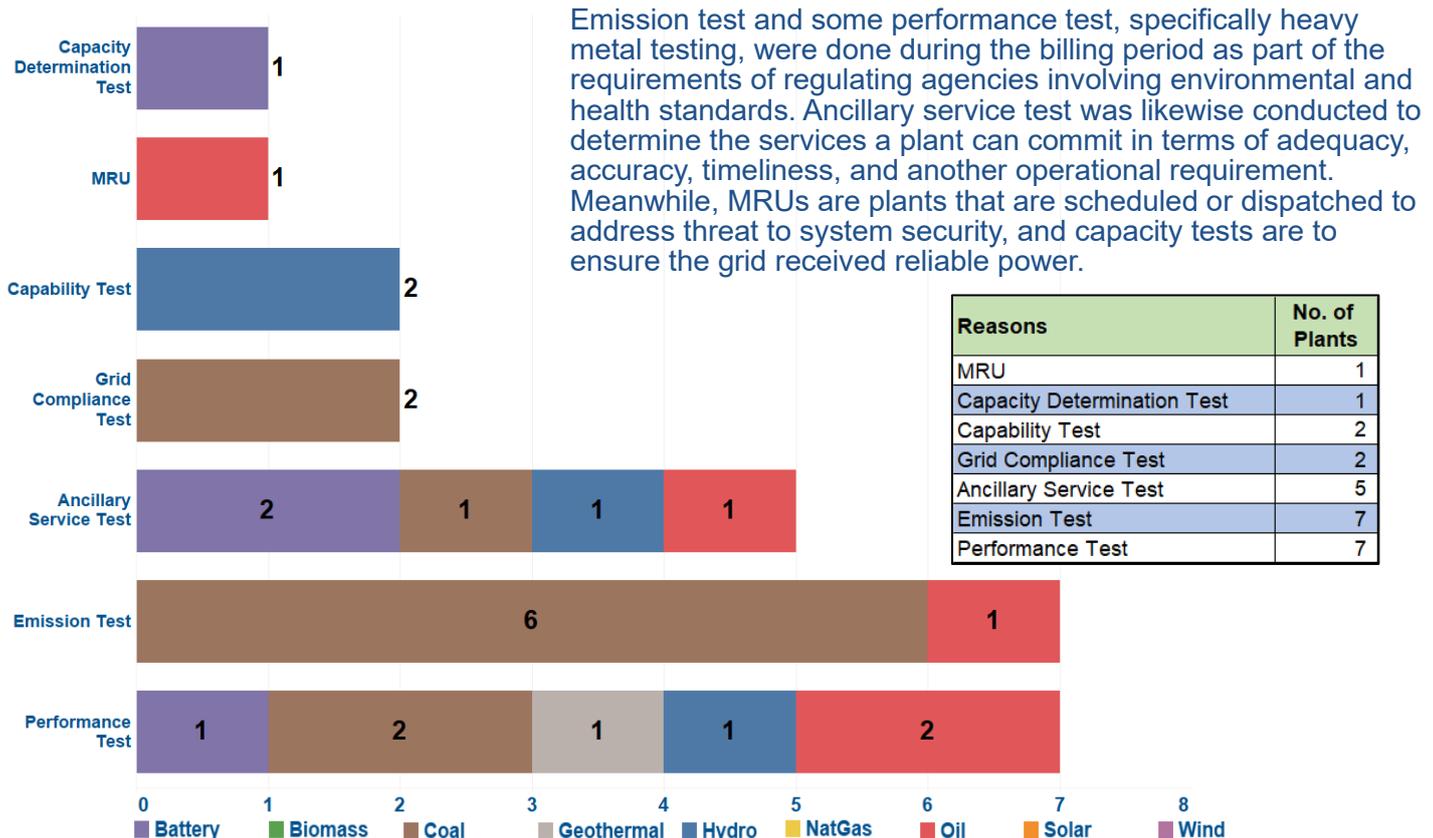
(excluding commissioning test)



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

# NUMBER OF PLANTS

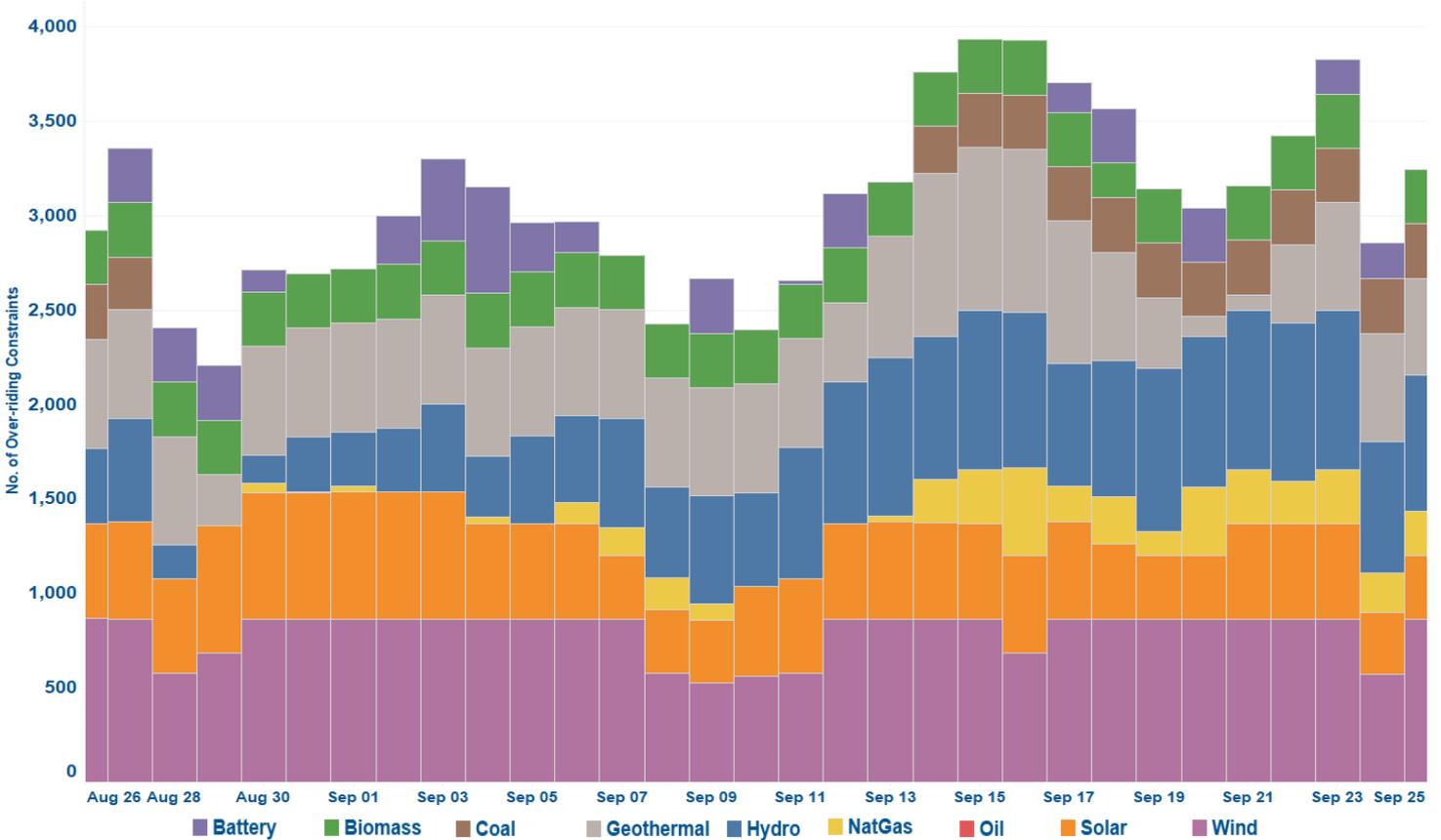
## by incident



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 another operational requirement. Meanwhile, MRUs are plants that are scheduled or dispatched to address threat to system security, and capacity tests are to ensure the grid received reliable power.

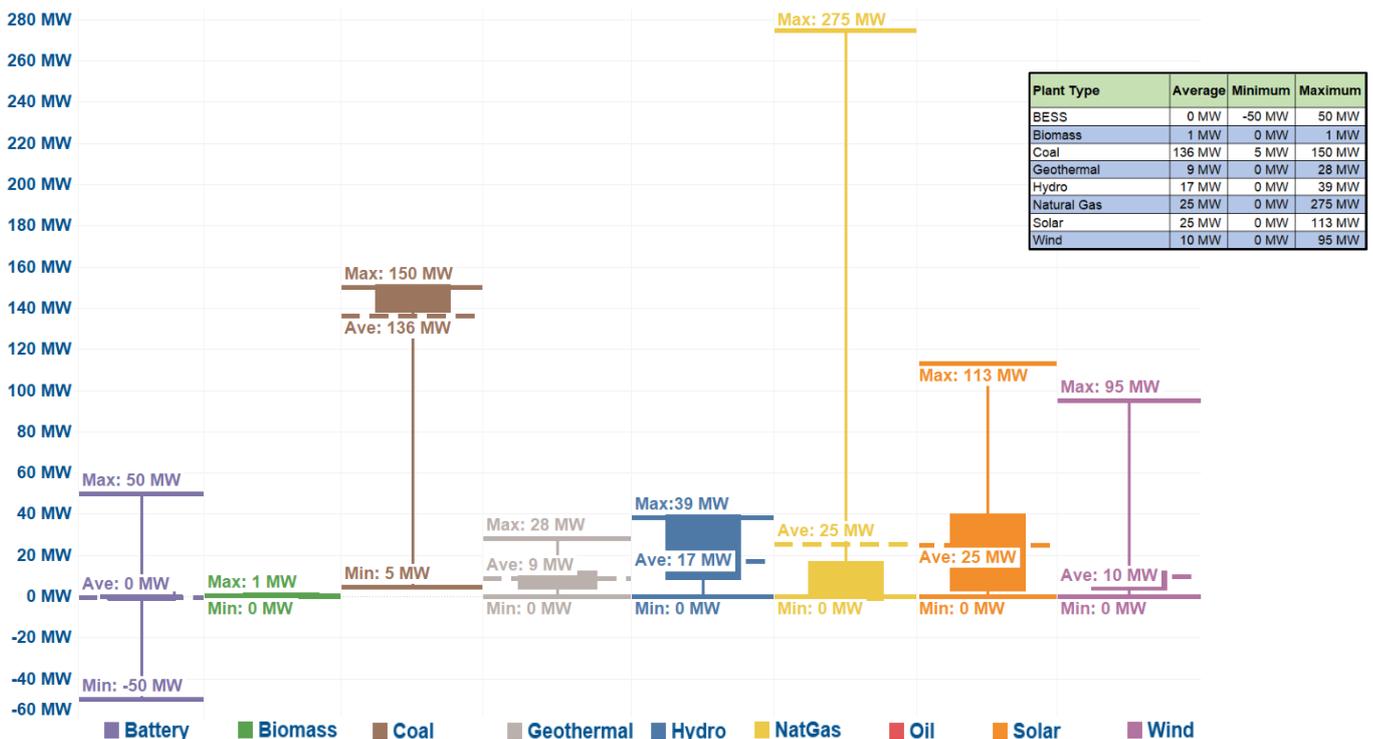
# OVER-RIDING CONSTRAINTS

## PLANTS UNDER COMMISSIONING TESTS



# SCHEDULED CAPACITIES

## PLANTS UNDER COMMISSIONING TESTS



Renewable plants such as wind, hydro, geothermal, and solar plants experienced large number of over-riding constraints imposition related to commissioning tests during the billing period, accounting for 71% of the total impositions, while other plants (Bio, battery, coal, and natural gas) accounted for 19%.

# ANNEX A

## Plants with Over-riding Constraints

Plant/Unit Name	Plant Type	Registered Capacity <sup>1</sup>
<b>LUZON</b>		
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	58.6
Matuno River Hydroelectric Power Plant	Hydro	8.7
72.128 MWp Subic New PV Power Plant Project	Solar	62.7
95.827 MWp Pinugay Solar Power Plant	Solar	80.1
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
45.758 MWh Gamu Battery Energy Storage System (BESS)	Battery	40
47.486 MW Bataan Battery Energy Storage System (BESS) Market	Battery	40
57.125 MWh Lumban Battery Energy Storage System (BESS)	Battery	50
Mariveles Coal Fired Thermal Power Plant Unit 2	Coal	316
San Gabriel Avion Natural Gas-Fired Power Plant Unit 1	Natural Gas	47.2
Angat Hydroelectric Power Plant Unit A	Hydro	38.7
Bauang Diesel Power Plant GS3	Oil-Based	70
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
Refinery Solid Fuel-Fired Boiler Power Plant	Coal	140
Navotas Bunker C-Fired Diesel Power Plant Power Barge 1 / Mobile 3	Oil-Based	63.8
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
<b>VISAYAS</b>		
13.200 Nabas Wind Power Plant Phase 2 (Nabas-2)	Wind	13.2
Isabel Modular Diesel Power Plant Sector 1	Oil-Based	10

<sup>1</sup> As of 25 August 2024

Plant/Unit Name	Plant Type	Registered Capacity <sup>1</sup>
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
135.000 MW Circulating Fluidized Bed (CFB) Coal-Fired Power Plant (CFPP)	Coal	135
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
Power Barge 101- Unit 3	Oil-Based	6
<b>MINDANAO</b>		
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
Liangon Hydroelectric Power Project	Hydro	11.9
112 MW Bunker-C Fired Diesel Power Plant Unit 6	Oil-Based	10.2
Agus VI Hydroelectric Power Plant Unit 5	Hydro	43.8
GNPK's Coal Fired Power Plant Unit 1	Coal	151.9
GNPK's Coal Fired Power Plant Unit 2	Coal	151
24.288 MW / 24.288 MWh Maco Battery Energy Storage System (BESS)	Battery	20

# ANNEX B

## Plants Under Commissioning Tests

Plant/Unit Name	Plant Type	Registered Capacity (MW)	No. of PCATC Extensions <sup>2</sup>	No. of Days under Commissioning Tests
Mariveles Coal-fired Thermal Power Plant Unit 4	Coal	150	1	89
80.000 MW Balaoi and Caunayan Wind Power Project Phase 1	Wind	80	16	571
Caparispisan II Wind Power Project	Wind	50	5	204
13.200 Nabas Wind Power Plant Phase 2 (Nabas-2)	Wind	13.2	4	174
Concepcion 1 Solar Power Project	Solar	76		25
72.020 MWp Laoag Solar Power Plant	SOLAR	58.6	3	150
72.128 MWp Subic New PV Power Plant Project	SOLAR	62.7	5	210
95.827 MWp Pinugay Solar Power Plant	Solar	80.1		31
45.758 MWh Gamu Battery Energy Storage System (BESS)	BATTERY	40	4	173
57.125 MWh Lumban Battery Energy Storage System (BESS)	BATTERY	50	3	123
47.486 MW Bataan Battery Energy Storage System (BESS) Market	Battery	40		8
Matuno River Hydroelectric Power Plant	Run-of River Hydro	8.7	12	405
Liangan Hydroelectric Power Project	Run-of River Hydro	11.9	1	83
Angat Hydroelectric Power Plant Unit A	Hydro	38.7		23
14.160MW Upper Taft Hydroelectric Power Plant	Run-of River Hydro	14.2		16
Biogas Power Plant (Phase 1)	BIOMASS	1.7	5	210
San Gabriel Avion Natural Gas-Fired Power Plant Unit 1	Natural Gas	47.2		0
Batangas Combined Cycle Power Plant Unit 1	NATURAL GAS	440	4	133
Batangas Combined Cycle Power Plant Unit 3	NATURAL GAS	440		16
Sta. Rita Natural Gas Power Plant 2	Natural Gas	263		6
17MW Tiwi Geothermal Binary Power Plant	GEO THERM AL	16.7	3	126
Bago Binary Geothermal Power Plant	Geothermal	4.7	2	93
35.700 MW Palayan Binary Power Plant	Geothermal	31	8	279

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

# Connect with **PEMC**

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