

## ANNEX 2. SIGNIFICANT INCIDENTS

Date	Nature of Incident	Probable Cause	Action/s Taken
9 January 2022	Pagbilao Unit 2 (372 MW) tripped which resulted in the activation of Luzon Grid Automatic Load Dropping	Auxiliary PLC trouble.	Restored ALD.
16 January 2022	Multiple Tripping: Dasmariñas-Ilijan 500kV Line, Tayabas-Dasmariñas 500kV Line, San Jose-Tayabas 500kV Line 2, 4x600MVA Dasmariñas Transformers	Line fault due to Taal Volcano eruption	Switching and restoration of lines.
06 February 2022	GN Power Kauswagan Unit No.1 tripped with a gross generation of 110 MW. The outage resulted in the activation of Mindanao Grid Automatic Load Dropping (ALD) 69kV feeders.	GN Power Kauswagan Unit No.1 tripped due to a problem in its generator turbine. This resulted to the drop in system frequency to 59.015Hz and activated the ALD.	Standard operating procedures were implemented in restoring the affected feeder lines. The system frequency recovered back to 59.771Hz after 30.0 seconds.
02 March 2022	A line to ground fault occurred along the Agus 5 – Aurora 138 kV Line and tripped its controlling breakers, causing an undervoltage event along the Mindanao District 1 grid.	The outage was due to an internally cut bamboo tree from outside the Power Line Corridor (PLC) that accidentally hit the line	After the incident, NGCP immediately conducted line patrol and standard operating procedures were implemented.
08 March 2022	GN Power Kauswagan Unit No.2 tripped with a gross generation of 117 MW. The outage resulted in the activation of Mindanao Grid Automatic Load Dropping (ALD) 69kV feeders.	GN Power Kauswagan Unit No.2 tripped due to its turbine overspeed.	Standard operating procedures were implemented in restoring the affected feeder lines. GN Power Kauswagan Unit 2 was online last March 8, 2022 at 1704H.

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16 March 2022	GNPD Unit 1 at 668 MW tripped which resulted in the activation of Luzon Grid Automatic Load Dropping (ALD) of feeders affecting groups 1 and 2.	Prior to the disturbance, the frequency was 60.049Hz and the loss of 668 MW caused the Luzon system frequency to decline to 58.855Hz in eight (8) seconds	System operator raised load of Ambuklao Unit 2 & 3, Limay Unit 3,5,6&7, Sual Unit 2 and Ingrid Unit 1,2,3,4,5 & 6 and dispatched TMO Unit 1, Bauang Unit 1,2 and 3 to stabilize the system frequency
31 March 2022	System Integrity Protection Scheme (SIPS) for 138 kV Submarine Cable along Cebu-Negros activated and resulted to tripping of feeder	Generation output of some PV power plants in Negros suddenly reduced of about 53.5 MW	Re-energized 69 kV Bacolod-Silay line after PV Power Plants generation restored to its normal loading.
30 April 2022	First level Automatic Load Dropping (ALD) in Visayas Grid activated due to tripping of Malitbog Geothermal Plant Unit 1	Due to tripping of its auxiliary equipment affected by faulted plant's 5kV system.	De-blocking mode of HVDC
10 May 2022	Magdugo-Colon 138kV Line instantaneously tripped resulting in the automatic transfer of 196 MW load to Magdugo – Daanlungsod 138kV Line. At the same time Toledo 37.5 MW transformer tripped.	Caused by a Phase C to ground fault located 5.7km away from Magdugo Substation.	Relay functional testing and relay simulation testing were both conducted on the transformer protection involved. Defective transformer protection was immediately replaced
15 May 2022	SMC Power Corp Unit 1 tripped that resulted to Mindanao Grid ALD	The plant tripped with indications of Steam Drum Level Low.	Standard operating procedures were implemented

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14 July 2022	Cebu – Colon 138 kV Line 1 and Quiot – Colon 138 kV Line simultaneously tripped with no interrupted load.	Was caused by line-to-ground faults due to the effect of lightning strikes at Str. Nos. 06 and 32. The occurrence of lightning strikes could be verified through the visible flashover marks on the Phase A and Phase B line insulators of each line	Tower-to-tower inspection was conducted along Cebu – Colon 138 kV Line 1 and Quiot – Colon 138 kV Line
25 July 2022	GNPD Unit 2 at 474 MW tripped which resulted in the activation of Luzon Grid Automatic Load Dropping (ALD)	The loss of 474 MW caused the Luzon system frequency to decline to 58.986Hz in seven (7) seconds causing the ALD to be activated	System operator raised load of TMO 1,2,3 and 4, Bauang 1,2 and 3, Binga 3, Kalayaan 3 and 4.
13 August 2022	Leyte - Luzon 350 kV HVDC Interconnection was automatically blocked on August 13, 2022, at around 1156H resulting in the isolation of Visayas Grid from Luzon Grid	Was brought on by a line-to-ground fault and distance fault that were both situated six (6) kilometers from Naga Converter Station. Due to the intense rain at the time of the occurrence, it was determined that the fault was triggered by a lightning flashover in one of the transmission towers	Following the event, NGCP carried out a line patrol examination right away to ascertain what caused the incident.
01 October 2022	First and second level ALD in Negros and Panay activated	Due to generation reduction of SACASUN and	Standard operating procedures were implemented

Date	Nature of Incident	Probable Cause	Action/s Taken
		tripping of VMCI's 40 MW Biomass plants	
16 October 2022	Bacolod – Barotac Viejo 138 kV Submarine Cable (Negros – Panay Interconnection) auto-tripped resulting in the islanding operation of Panay Sub-Grid.	caused by a Phase CA to Ground fault due to the effects of lightning strike. The occurrence of lightning strike could be verified through the flashover marks evident on the Phase A and Phase C insulators	Tower-to-tower inspection was conducted near the fault location indicated by the line protections
30 October 2022	Binga-Nagsaag 230kV Line 1 and Binga 230kV Bus A sequentially tripped during the passage of Typhoon "Paeng."	Weather condition during the incident on October 30, 2022, was stormy due to the passage of Typhoon "Paeng".	Conducted patrol inspection activities and repair.
09 December 2022	Sequential tripping of Binga 230kV Bus 1 followed by Binga-Nagsaag 230kV Line 1 resulted in unlooping of Binga-La Trinidad 230kV Line 2 at Binga side	A single-line-to-ground (Ph C-N) fault occurred at Binga 230kV Bus 1 at 1153H due to internal fault at PCB 8-03CB04BIZ	Conducted patrol inspection activities and repair.
9 January 2022	Pagbilao Unit 2 at 372 MW tripped which resulted in the activation of Luzon Grid Automatic Load Dropping	Reported cause of tripping was due to auxiliary PLC trouble.	Restored ALD.
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