

Northpower & Cyclone Gabrielle

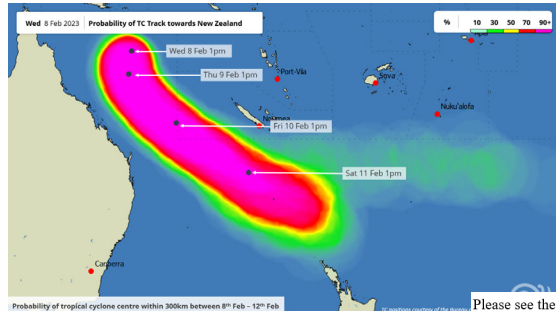
Response and Lessons Learnt

Raj Singh, GM Engineering & Operations
Northpower Ltd

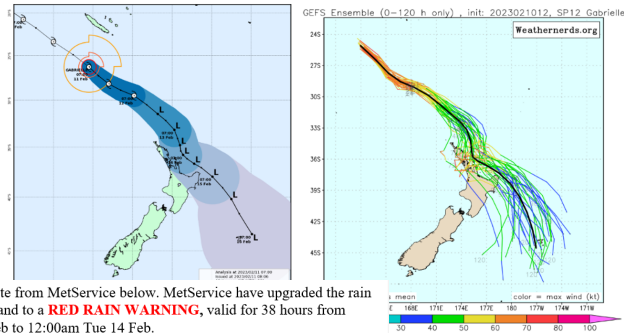
Overview

- Our experience and lessons learnt from Cyclone Gabrielle
 - Readiness
 - Coordinated Incident Management System
 - Network Impact
 - Customer Impact
 - Highlights – what went well
 - Learnings
 - High Potential Events (HPE)

Readiness



Track: maintaining consistency, although still some spread



Please see the update from MetService below. MetService have upgraded the rain warning for Northland to a **RED RAIN WARNING**, valid for 38 hours from 10:00am Sun 12 Feb to 12:00am Tue 14 Feb.

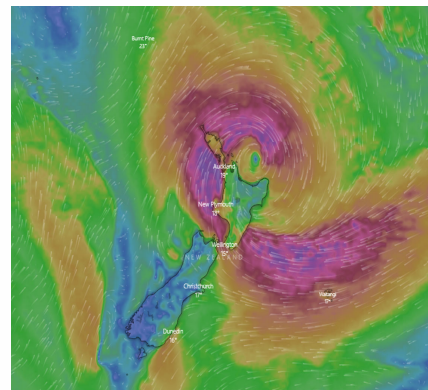
Cyclone Gabrielle is tracking closer to the coast, meaning **higher expected accumulations of rainfall south of Kaeo (200mm - 300mm)** for this time period. This also means that there will be significant rainfall on the west coast.

Accumulated rainfall north of Kaeo will be 100-180mm for this time period.

There is no change to the current **ORANGE WIND WARNING**.

Readiness

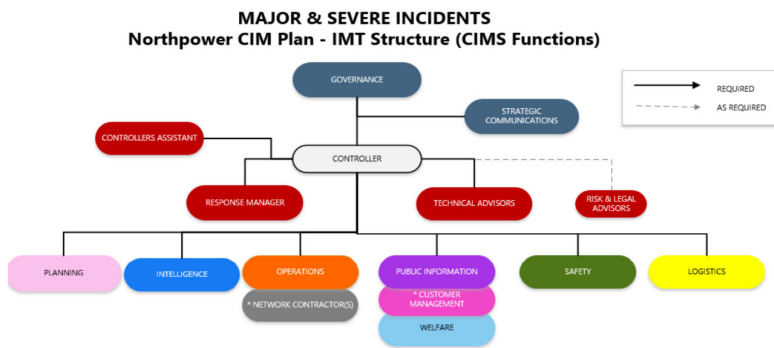
- CIMS structure in place prior to weekend.
- Additional resourcing identified and individuals allocated roles and responsibilities.
- Back-up systems tested (backup control room, generators, fuel supplies topped up).
- Planned outages from Sunday onwards put on hold.
- Pre-event planning meetings held internally and with local lifelines and civil defence.



Coordinated Incident Management System (CIMS)

12.2.3 Major and Severe Incidents

Northpower



Coordinated Incident Management Plan

NOP.C.16.01 | PROCEDURE

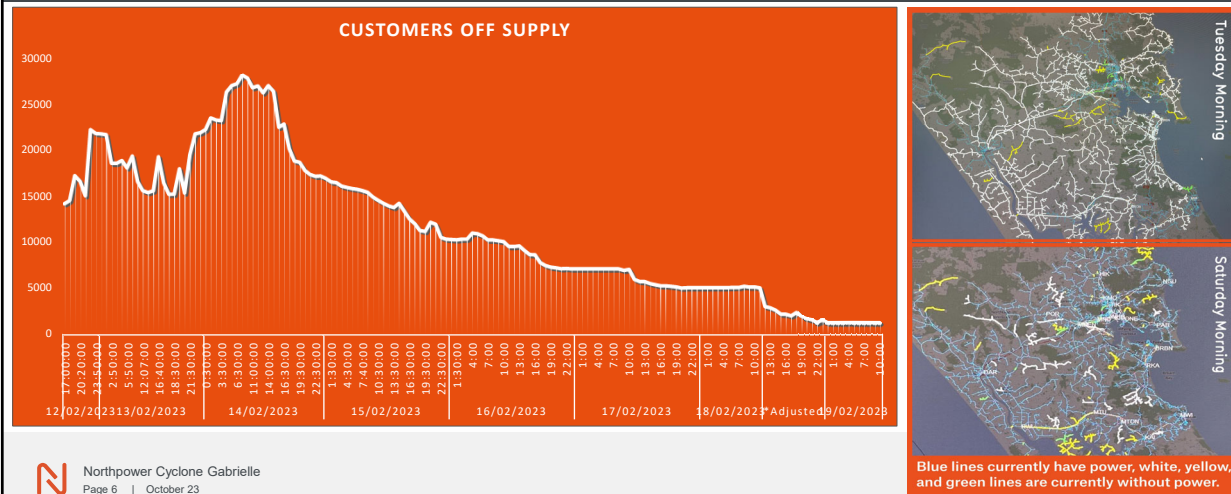
Purpose

This Coordinated Incident Management Plan sets out the arrangements for coordinated action by Northpower Network in response to a significant Network Incident occurring or being likely to occur. When activated, these major incidents and the response/recovery process will be managed by the Incident Management Team (IMT).

Network Impact - most destructive weather event



Customer Impact



Highlights – what went well

- **Early mobilisation** of Incident Management Team and engagement with internal and external stakeholders – placed us in a strong position to manage the impact of Gabrielle.
- **Proactive, transparent, and clear communication** ensured key stakeholders, customers, and communities were well informed about network damage and expected restoration times including our priorities.
- **Staff welfare support** put in place to cater for all staff working on restoration efforts including Welfare Centre established at work for staff wanting a shower, charging devices and warm food.
- **Teams from across the organisation collaborated** to aid in the recovery efforts, spanning welfare support, call centre operations, intelligence and information sharing, network outage monitoring, and engineers working in tandem with operators. Support from employees outside of region (e.g. outbound customer calling, additional field resource).

Highlights – what went well

- **Upscale of field resources** to support in recovery from Gabrielle damage
 - Northpower is fortunate to have contracting field resources across the North Island, which were called upon. This resource was made available once existing clients released them from prior commitments. Also support from other EDBs in providing resources.
 - Utilisation of approved network contractors was also beneficial and highlighted the benefits of prior work to develop an Approved Contractor Standard – supported with LV restoration, customer service line work.
- **Upscale the control room from two to four desks** with help from two operators from Orion. These operators received a half-day induction and ongoing support from Northpower engineers to fill local knowledge gap. Use of common systems enabled this.

Learnings

Improve our Readiness and Response

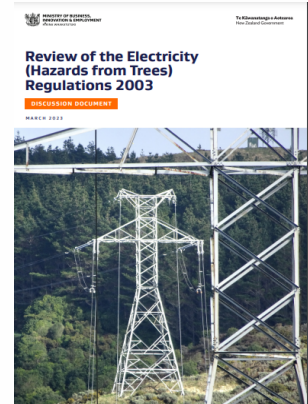
- **Continue to develop staff and practice CIMS structure** for future events - provide greater depth of resources in incident response (particularly for multi day events).
- **Continue with our planned investments in systems** outage management systems, faults ticketing system, GIS viewer software, will improve future response.
- **Customer resiliency planning** engage key stakeholders in undertaking their own resiliency planning. Plenty of warning, yet there were rest homes, dairy farms etc with no generators.
- **Critical spares and stock level review.**



Learnings

Infrastructure Resiliency – Reduction

- **Hardening of our operational communications sites** to withstand longer outages.
- **Vegetation Management** risk-based to prioritise the higher risk vegetation for removal. Tree Regulations reform essential to support better management of out of zone vegetation.
- **Land stability risks** emerging issue in the last few years impacting roading infrastructure, as well as our overhead assets. Assessments underway of high criticality sites.
- **Design Standards** review of network assets and infrastructure with legacy design standards to understand risk exposure.
- **Distribution Automation and Smarts**



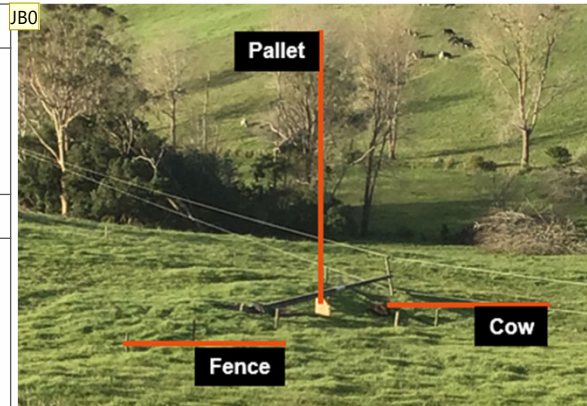
HPE - Quad Bike versus Low Lines

| | |
|--------------------------|--|
| Date & Time | 14 February 2023 ~ 07:21 hrs |
| Brief Description | Member of public on quad bike strikes conductors that had come down during Cyclone Gabrielle. |
| Impact | Serious injury |
| Primary Cause | Foundations impacted by high winds, waterlogged ground conditions and erosion from Cyclone, causing cascading pole failures (approx 38). |



HPE - Member of Public Props Up Pole

| | |
|--------------------------|---|
| Date & Time | 17 February 2023 |
| Brief Description | Member of the public propped up a fallen pole. Cow electrocuted after feeder relivened. |
| Impact | Near miss |
| Primary Cause | Foundation undermined by livestock interference. High winds and waterlogged ground conditions from caused pole failure. Circuit livened by operations during fault finding. |



HPE - HV Line Down - Re-livened

| | |
|--------------------------|--|
| Date & Time | 20 February 2023, 15:00 hrs |
| Brief Description | Member of public was as close as 2 metres to live lines downed by Cyclone Gabrielle. |
| Impact | Near miss |
| Primary Cause | Assessment and communication between Network Operations and the field personnel did not detect an existing fault on the line when re-livening. |



Slide 13

JBO Need primary cause? I had a go from memory. need the report?

Josie BOYD, 2023-10-02T04:09:05.008

Pātai?