

Resilience Guide WEBINAR | 2021

23RD FEBRUARY 2021
3.00pm to 4.30pm

Thank you to our
presenters and to you
our audience for your
attendance.
EEA value your support

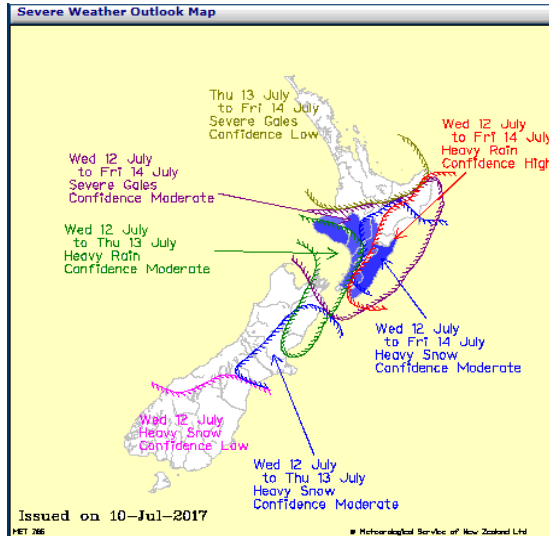


Taihape 2017, Gita 2018 – Powerco's CIMS Journey

Powerco's CIMS Journey Presentation main topics

- 1/ Characteristics of 2017 Taihape snow storm / Cyclone Gita & Lessons Learnt. (Slides 3-6)
- 2/ Development of CIMS Action Plan on a Page (Slide 7)
- 3/ Carry out CIMS Training Plan (Slide 8)
- 4/ Develop Phased Restoration Strategies (Slide 9)
- 5/ Develop & Distribute CIMS Emergency Response Resources (Slide 10 – 12)
- 6/ CIMS motto & Next Steps (Slide 13)

Characteristics of July 2017 storms



- Situation evolved over 3- day period – other events are sudden
 - Started with virtually no information about the nature of damage to the network
 - Event severity became clearer over 72 hours as information came in from field. At peak 14,500 consumers affected.
 - Predicting restoration times were delayed.
- This event was unusual in many ways.
 - Combination of snow, wind and rain.
 - 5 centers hit in 1 event.
 - Outage durations in worst-hit areas longer than usual (up to 3 weeks)
 - 84 field resources brought in for Taihape event restorations.
 - No civil defence emergency declared anywhere across the Powerco networks.
- Event severity was upgraded twice over first 24 hours (from 1 to 3) as information about the number of customers affected and the likely duration of their outages improved, some consumers off for 3 weeks.



Lessons Learnt - Design failures & Pole Graveyards



Analysis of Fault Data to focus on Hazards (Cyclone Gita)

- Cold calling customers after 3 Days reveals LV lines still live on the ground

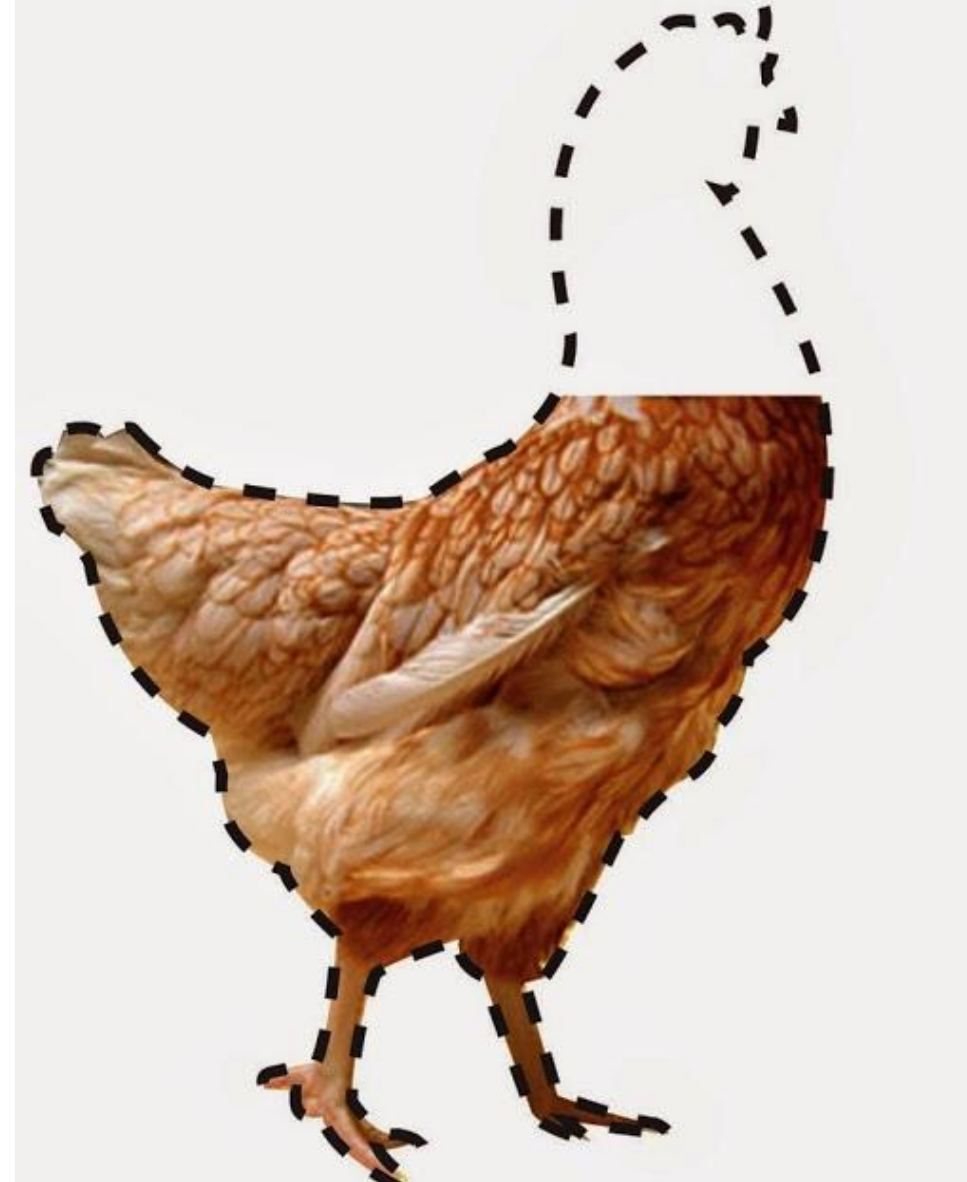


Outage (Network Hierarchy)

(as at 22 Feb 2018 20:02)

Job List by GXP							
GXP	Substation	Feeder	Job ID	Start Time	Job Highlights	Crew Assignments	Priority/Cause/Job Comments
TP_HAWERA	CAMBRIA SUB	GLOVER RD EAST	22162016	21 Feb 2018 15:30	Started: 21 Feb 2018 15:30 ETR: 21 Feb 2018 18:30 Type: LV Current State: LOCKED	Assignments: 1 Last Updated: 21 Feb 2018 15:54	Priority: 83 Hazard: (not recorded)
TP_HAWERA	CAMBRIA SUB	ARGYLE ST	22162212	21 Feb 2018 15:40	Started: 21 Feb 2018 15:40 ETR: 21 Feb 2018 18:40 Type: LV Current State: LOCKED	Assignments: 1 Last Updated: 22 Feb 2018 12:45	Priority: 999 Hazard: OTHER HAZARD - SEE COMMENTS
TP_HAWERA	CAMBRIA SUB	TAWHITI RD	22162249	21 Feb 2018 15:42	Started: 21 Feb 2018 15:42 ETR: 21 Feb 2018 21:42 Type: LV Current State: LOCKED	Assignments: 1 Last Updated: 21 Feb 2018 19:09	Priority: 999 Hazard: (not recorded)
TP_HAWERA	CAMBRIA SUB	GLOVER RD WEST	22170958	21 Feb 2018 21:12	Started: 21 Feb 2018 21:12 ETR: 22 Feb 2018 00:12 Type: LV Current State: LOCKED	Assignments: 1 Last Updated: 22 Feb 2018 12:58	Priority: 83 Hazard: (not recorded)
TP_HAWERA	CAMBRIA SUB	GLOVER RD EAST	22184531	22 Feb 2018 08:41	Started: 22 Feb 2018 08:41 ETR: 22 Feb 2018 11:41 Type: LV Current State: LOCKED	Assignments: 1 Last Updated: 22 Feb 2018 09:46	Priority: 999 Hazard: SPARKING LINES
TP_HAWERA	CAMBRIA SUB	GLOVER RD EAST	22188264	22 Feb 2018 08:54	Started: 22 Feb 2018 08:54 ETR: 22 Feb 2018 11:54 Type: LV Current State: LOCKED	Assignments: 1 Last Updated: 22 Feb 2018 09:20	Priority: 83 Hazard: (not recorded)
TP_HAWERA	CAMBRIA SUB	GLOVER RD EAST	22192018	22 Feb 2018 09:24	Started: 22 Feb 2018 09:24 ETR: 22 Feb 2018 12:24 Type: LV Current State: LOCKED	Assignments: 1 Last Updated: 22 Feb 2018 09:27	Priority: 83 Hazard: (not recorded)
TP_HAWERA	CAMBRIA SUB	ARGYLE ST	22196818	22 Feb 2018 13:36	Started: 22 Feb 2018 13:36 ETR: 22 Feb 2018 16:36 Type: LV Current State: LOCKED	Assignments: 1 Last Updated: 22 Feb 2018 13:50	Priority: 83 Hazard: (not recorded)
TP_HAWERA	CAMBRIA SUB	TAWHITI RD	22203920	22 Feb 2018 16:32	Started: 22 Feb 2018 16:32 ETR: 22 Feb 2018 17:32 Type: LV Current State: LOCKED	Assignments: - Last Updated:	Priority: 83 Hazard: (not recorded)
TP_HAWERA	CAMBRIA SUB	TAWHITI RD	22204142	22 Feb 2018 16:43	Started: 22 Feb 2018 16:43 ETR: 22 Feb 2018 22:43 Type: LV Current State: LOCKED	Assignments: - Last Updated:	Priority: 122 Hazard: (not recorded)

In summary – Hit the mark with many objectives but could have been better organized. Low level of CIMS engagement in the field



Create CIMS Based Action Plan

CIMS Storm Response Actions – Plan on a page

Our purpose

To efficiently and safely restore power following incidents and storms



STRATEGIES



THE NOW (Current State)

- Storms response follows a tested but can be inconsistent response plan
- Engagement across the company can vary
- Response structure relies heavily on individuals
- Contractor response varies across the network and contractor
- People want to help but roles are not clear
- Existing frame work requires a knowledge of the role
- Limited tools and technology available
- Field information inconstant and lacks framework
- Complex structure can develop often relying on key individuals
- Media messaging can be adhoc
- Highly reactive to social media

THE WHERE (Desired Future State)

- People are trained in a common response plan
- We update our storm response plans
- Roles are recognised and understood
- We have a good communications plan
- We align with other emergency service
- Our contractor and Powerco work closer to common purpose
- We structure our response

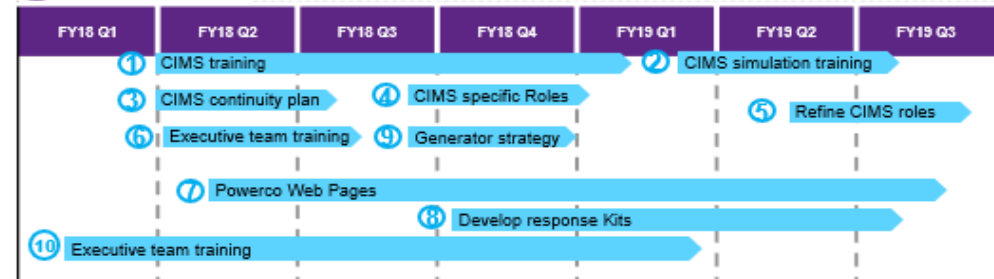
KPI's

- Simulation training 4 times per year
- R&D reviews contain CIMS reference
- Roles Documented in regions
- New starters undertake CIMS training

1. CIMS training	CIMS training is provided to contractor and Powerco staff
2. CIMS simulation Exercises	CIMS trained personnel participate in CIMS simulation exercises.
3. A new response plan is developed	Replace the old Electricity response plan with a fully CIMS aligned version
4. Develop CIMS specific roles	Develop CIMS roles Powerco orientated which can be assigned during a event
5. Refine roles	Following simulation exercises refine the roles
6. Executive team train CIMS	Train executive in CIMS – important for large events to understand the structure
7. Review Powerco Web pages	Review improved web page to enable CIMS information to be communicated, possibly embed the Powerco app inside the web pages
8. Develop response kits	Develop and implement response kits to assist with a CIMS event
9. Define a generator strategy	Document how we are to deploy generators during an event
10. Communication systems	Train on use of the new radio system



TIMELINE



CIMS L2 training between Powerco & Operational Field Teams

- CIMS L2 Training - Over the next 18 months / 2 years Powerco have been working on training strategy, engaging external training providers 'Devereaux- Blum', delivering 18 x CIMS level 2 training courses to frontline team leads & managerial staff (Including IS & Gas engineers).
- By mid-November 2019 & 18 x training sessions later we have trained 216 staff to Level 2 standard in both Electricity, IS & Gas businesses.



2018 Electricity CIMS Training program

Powerco AM, HSEQ,	
Circle team, NOC	61
Powerco IS	15
Downer	16
Total	92

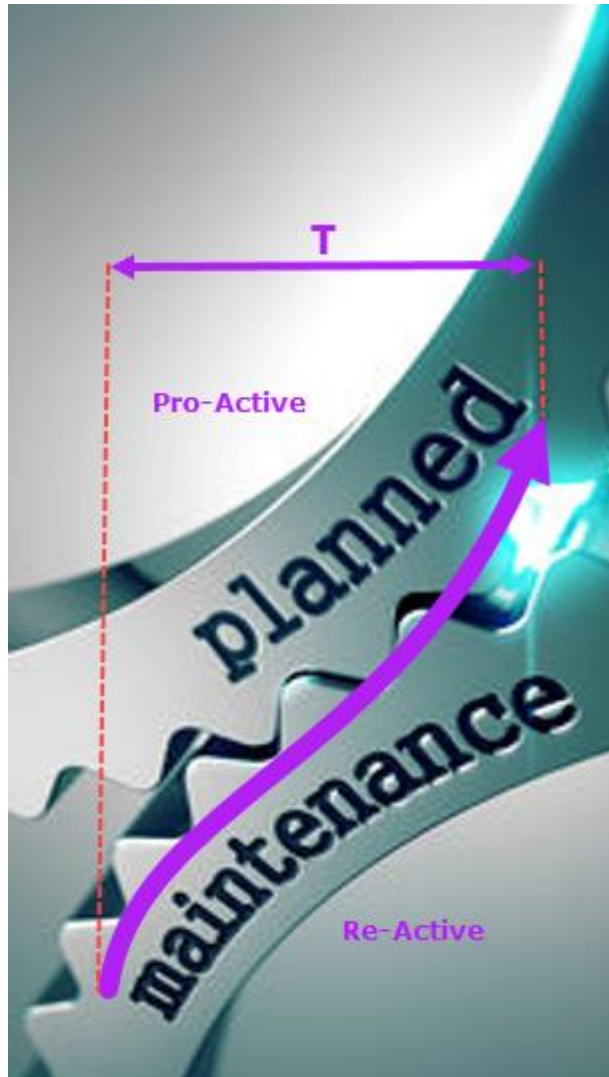
2019 Gas Team CIMS Training program

Powerco	12
Downer	5
Higgins	4
Te Aratika	3
Total	24

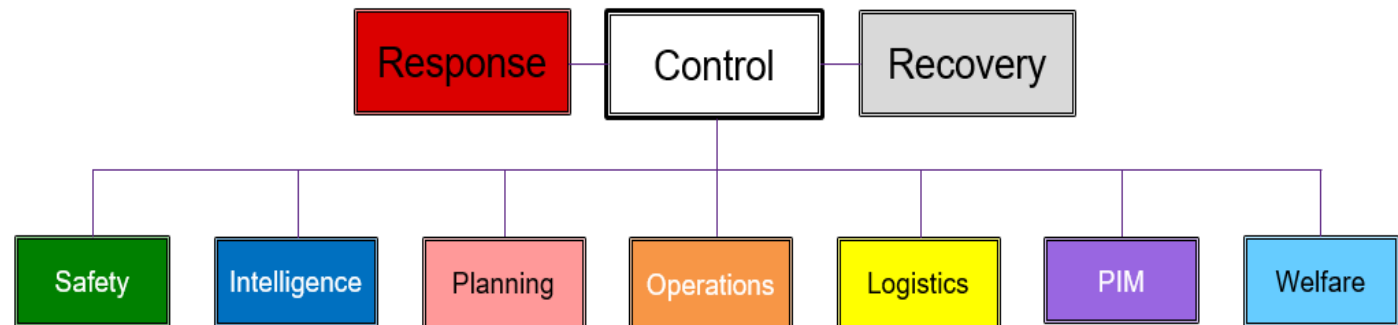
2019 CIMS Training program

Powerco AM	31
Powerco IS	18
Powerco Circle team	9
Downer	39
Vital	3
Total	100

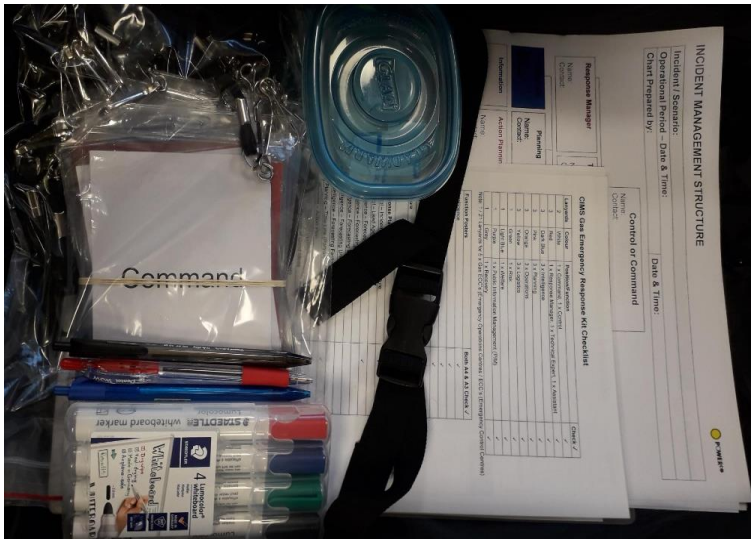
Transition from Re-Active mode to Pro-Active mode



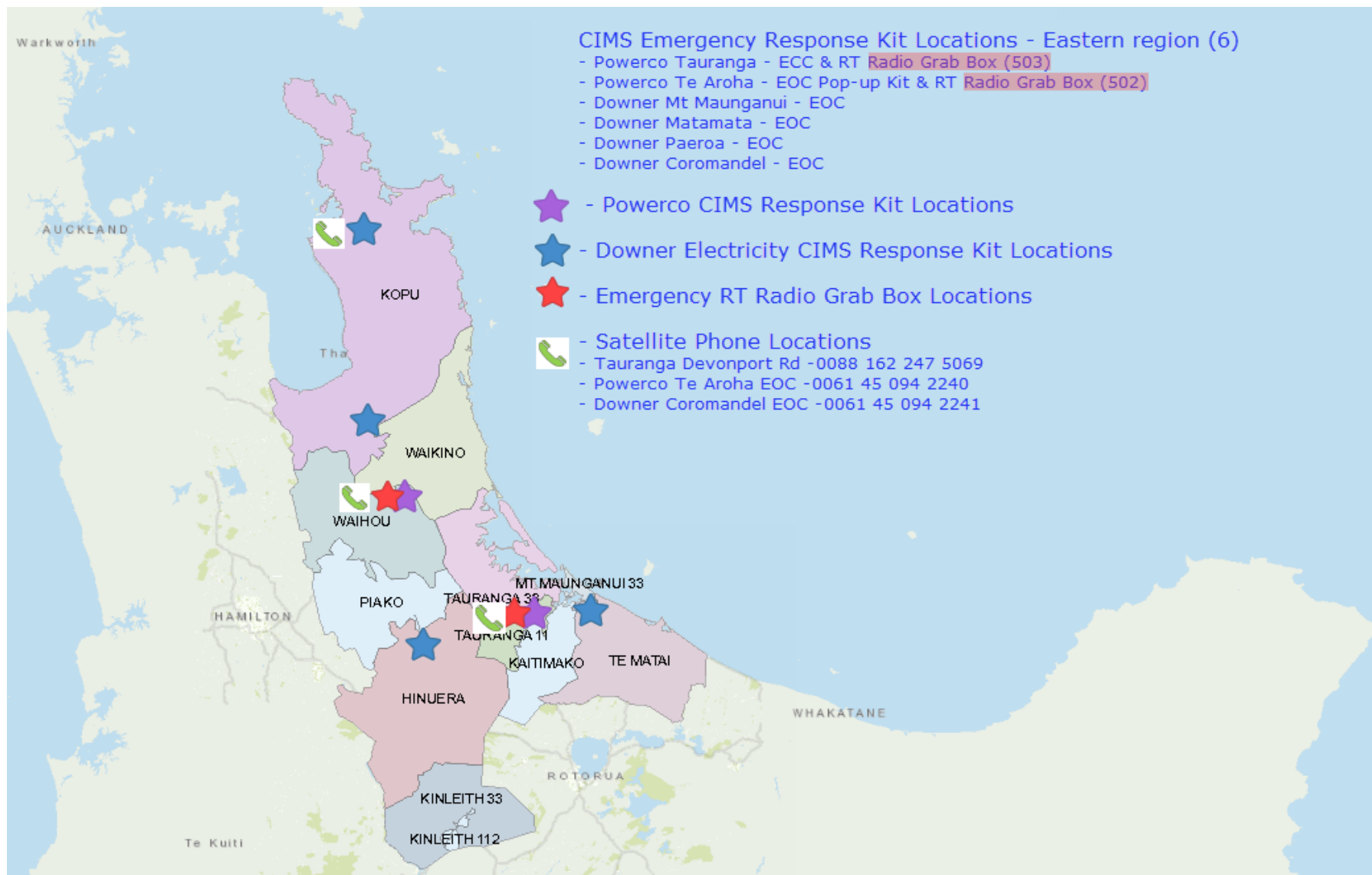
- Create Response Team - Imperative in major events is to restore supply in phases.
 - Make safe Phase 1 - Triage - (Isolate, make safe, minimise)
 - Assess Phase 2 - Discovery - (Gather Intel & Prioritise)
 - Plan Phase 3 - Planning - (Create work packs)
 - Restore Phase 4 & 5 - Restore (Prioritise HV / LV)
 - Recovery Phase 6 - Create Recovery Team.
- Transition from Re-Active mode to Pro-Active mode in shortest possible time frame” by following CIMS ‘Function’ life cycle and 6 Phase ‘Restoration Strategies’.



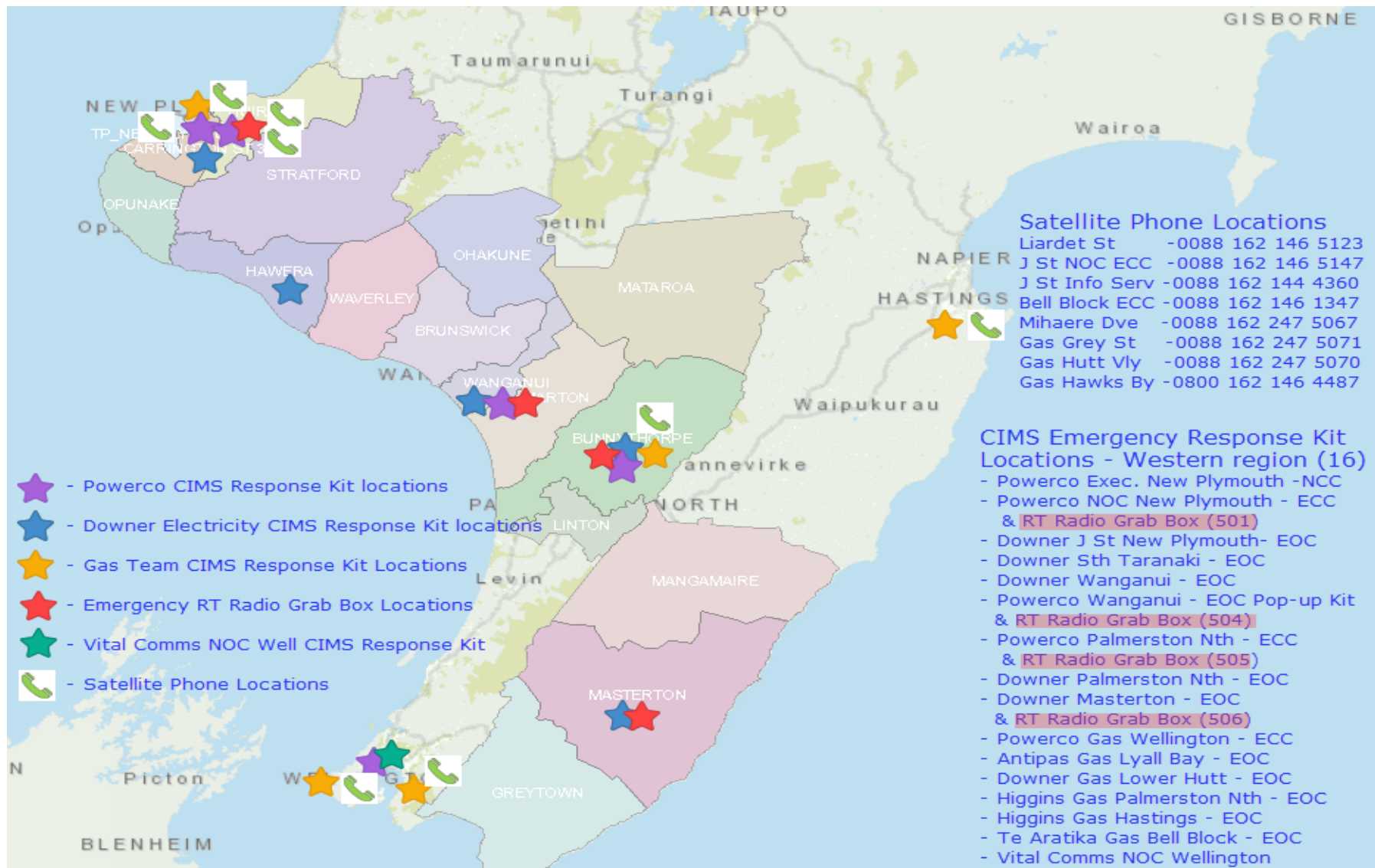
22 CIMS Emergency Response Kits & 6 Radio grab boxes distributed at Key Locations



CIMS Emergency Response Resources Eastern region



CIMS Emergency Response Resources Western region



Powerco's CIMS Motto – “Getting Better Together”

- Powerco CIMS Next Steps – Continue field-based scenario simulation training across the business (Electricity, Gas, IS & Executive teams) to improve 3 of the 4 Rs Re: Readiness, Response & Recovery.
- Powerco Self Assessment of 4 'Rs' using the RMMAT tool to identify & close gaps.

