

DISTRIBUTORS' EMERGENCY PREPAREDNESS AND MANAGEMENT

SECURITY AND RELIABILITY COUNCIL

Emergency preparedness within electricity distributors is driven by two key pieces of regulation: the price quality regulation of the Commerce Act 1986 and the Civil Defence and Emergency Management Act 2002. Both require distributors to have resilience and emergency planning as part of their business. This paper provides an opportunity for the SRC to hear observations from the relevant agencies: the Commerce Commission and the Ministry of Civil Defence and Emergency Management.

Note: This paper has been prepared for the purpose of the Security and Reliability Council. Content should not be interpreted as representing the views or policy of the Electricity Authority.

Distributors' Emergency Preparedness and Management

Background

Over the past year the SRC has been considering the topic of emergency management by distributors.

The SRC has previously had presentations from:

- the Commerce Commission on their focus on improved asset management practices across distributors – which includes investing in appropriate levels of resilience¹
- Wellington Electricity on their application of asset management practices for resilience investment for improved emergency preparedness²
- its secretariat about emergency management of a few distributors and the key legislative requirements for distributors.³

Emergency preparedness within distributors is driven by two key pieces of regulation: the price quality regulation of the Commerce Commission and the Civil Defence and Emergency Management Act 2002. Both require distributors to have resilience and emergency planning as part of their business

Electricity distribution businesses are natural monopolies that are regulated by the Commerce Commission. Electricity distribution businesses are subject to information disclosure rules where they have to demonstrate prudent investment to manage the existing and potential risk to their network.

The resulting plan of work from the cost/risk trade-off is articulated in each distributor's Asset Management Plan. Emergency preparedness, particularly with respect to resilience, results in some of the planned expenditure in the Asset Management Plan being for that purpose. Seismic strengthening of substation buildings is an example of such expenditure.

Minor events happen on networks regularly and a business-as-usual response is a common occurrence. When larger incidents or emergencies occur, distributors appear to have plans in place to manage these incidents and emergencies. They include communication plans and protocols, strategically located network spares, contracted emergency support and some may even have incident-specific response plans.

When these incidents or emergencies reach a certain threshold, a civil emergency is declared by the Ministry of Civil Defence & Emergency Management.

Under the Civil Defence and Emergency Management Act 2002, electricity distributors are defined as lifeline utilities. Crucially, this requires each distributor to "...ensure that it is able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency."

¹ Available from <https://www.ea.govt.nz/dmsdocument/23703-commerce-commission-focus-on-asset-management>

² Available from <https://www.ea.govt.nz/dmsdocument/23696-wellington-electricity-resilience-investment>

³ Available from <https://www.ea.govt.nz/dmsdocument/25235-emergency-management-preparedness-of-distributors>

At the 28 March 2019 SRC meeting, members concluded:

“how the regulatory regimes of the Ministry of Civil Defence and Emergency Management and the Commerce Commission interact should be examined”

“the lowest hanging fruit is likely to be obtained by encouraging under-performing distributors to learn from peers exhibiting best practice. The Electricity Networks Association (ENA) may play a role in doing so, such as coordinating a generic guideline as a minimum performance standard for all distributors. Members agreed a request from the Authority to the ENA may be appropriate but a decision on advice would be made following the session with the Commerce Commission at the June SRC meeting.”⁴

To facilitate consideration of the above conclusions, the secretariat invited the Commerce Commission and the Ministry of Civil Defence and Emergency Management to present at the 20 June 2019 SRC meeting. Slides for both presentations are attached.

Representatives of both organisations will be available to answer questions from the SRC.

The Commerce Commission has provided the attached presentation which contains information on an upcoming report “AMP report of EDB Risk Preparedness” to the SRC *in confidence*. The information in that presentation is confidential (with a right of action for breach of confidence in respect of any unauthorised disclosure) and embargoed until such time the Commerce Commission publishes the source material. SRC members also have individual duties to not disclose the information under [s57 of the Crown Entities Act 2004](#). The secretariat will advise members when the Commerce Commission's embargo is lifted and the information ceases to be confidential.

Questions for the SRC to consider

The SRC may wish to consider the following questions.

- Q1. Does the SRC have an adequate understanding of the relevant regulatory regimes that govern distributors' emergency preparedness?**
- Q2. Has the SRC received information sufficient for it to reach any preliminary conclusions about the adequacy of emergency preparedness and management provided by distributors?**
- Q3. What further information, if any, does the SRC wish to have provided to it by the secretariat?**
- Q4. Is the SRC now prepared to recommend that the Electricity Networks Association should coordinate preparation of a guideline to set emergency management performance standards for distributors?**
- Q5. What other advice, if any, does the SRC wish to provide to the Authority?**

Attachments

The following items are included as attachments to this paper:

- Presentation by Ministry of Civil Defence and Emergency Management (Appendix A)

⁴ From paragraph 7.2 of the draft minutes of 28 March 2019, included as agenda item #7 in this 20 June 2019 meeting.

- *Electricity Distributors - Emergency Preparedness* by the Commerce Commission (Appendix B)

Appendix A: Presentation by Ministry of Civil Defence and Emergency Management

MCDDEM

SRC Wellington

20 June 2019



Ministry of Civil Defence
& Emergency Management
Te Rākau Whakamarumaru

Ajay Makhija
Senior Emergency Management Advisor – National Planning

Today

- Lifeline Utilities and the CDEM Act
- CDEM Sector/Groups
- Readiness and Response Structures
- EDB expectations

CDEM Context

Civil Defence Emergency Management Act 2002

1 Title
2 Commencement
3 Purpose
4 Interpretation
4A Transitional, savings,
5 Act to bind the Crown
6 Act not to affect function
7 general law
8 Precautionary approach

Appointment, functions and powers of the Director of Civil Defence Emergency Management

1 Appointment and functions of the Director
2 Emergency Management

Note

Changes authorised by subpart 2 of Part 4 at the end of this reprint provide that this Act is administered by the Minister of Civil Defence.

National Civil Defence Emergency Management Plan

The Guide to the National Civil Defence Emergency Management Plan

Part 1 Purpose and Scope

Pursuant to sections 200 and 201 of the Act, His Excellency the Governor-General, on the advice of the Prime Minister, has appointed the Director of Civil Defence Emergency Management to prepare and issue this Plan.

1 Title
2 Commencement
3 National civil defence emergency management plan
4 Publication
5 Revocation

Note

Changes authorised by subpart 2 of Part 4 at the end of this reprint provide that this order is administered by the Minister of Civil Defence.

Lifeline Utilities and CDEM

Director's Guideline for Lifeline Utilities and Civil Defence Emergency Management Groups [DGL 16/14]



Resilient New Zealand
Aotearoa Manahau

New Zealand Government

CDEM Context

Schedule 1

Civil Defence Emergency Management Act 2002

Reprinted as at
1 June 2018

Schedule 1 Lifeline utilities

14

Part A Specific entities

- 1 Radio New Zealand Limited and Television New Zealand Limited.
- 2 The company (as defined in section 2 of the Auckland Airport Act 1987) that operates Auckland international airport.
- 3 The company (as defined in section 2 of the Wellington Airport Act 1990) that operates Wellington international airport.
- 4 The airport company (as defined in section 2 of the Airport Authorities Act 1966) that operates Christchurch international airport.
- 5 The entity (being an airport authority as defined in section 2 of the Airport Authorities Act 1966, whether or not it is also an airport company as defined in that section) that operates the primary airport at Bay of Islands, Blenheim, Dunedin, Gisborne, Hamilton, Hokitika, Invercargill, Napier, Nelson, New Plymouth, Palmerston North, Queenstown, Rotorua, Tauranga, Wanganui, Westport, Whakatane, or Whangarei.
- 6 The port company (as defined in section 2(1) of the Port Companies Act 1988) that carries out port-related commercial activities at Auckland, Bluff, Port Chalmers, Gisborne, Lyttelton, Napier, Nelson, Picton, Port Taranaki, Tauranga, Timaru, Wellington, Westport, or Whangarei.
Schedule 1 Part A clause 6: amended, on 25 March 2012, by section 10 of the Civil Defence Emergency Management Amendment Act 2012 (2012 No 6).
- 7 The Grey District Council, acting as the Greymouth harbour authority and owner and operator of the Port of Greymouth under Parts 4 and 6 of the Local Government (West Coast Region) Reorganisation Order 1989, Part 39A of the Local Government Act 1974, and section 16 of the Local Government Amendment Act (No 2) 1999.

Part B Entities carrying on certain businesses

- 1 An entity that produces, supplies, or distributes manufactured gas or natural gas (whether it is supplied or distributed through a network or in bottles of more than 20 kg of gas).

84

Reprinted as at
1 June 2018

Civil Defence Emergency Management Act 2002

Schedule 1

- 2 An entity that generates electricity for distribution through a network or distributes electricity through a network.
- 3 An entity that supplies or distributes water to the inhabitants of a city, district, or other place.
- 4 An entity that provides a waste water or sewerage network or that disposes of sewage or storm water.
- 5 An entity that provides a telecommunications network (within the meaning of the Telecommunications Act 1987).
- 6 An entity that provides a road network (including State highways).
- 7 An entity that produces, processes, or distributes to retail outlets and bulk customers any petroleum products used as an energy source or an essential lubricant or additive for motors for machinery.
- 8 An entity that provides a rail network or service.

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- 8 An entity that provides a rail network or service.

Lifeline Utilities Obligations

Part 3 s 59

Civil Defence Emergency Management Act 2002

Reprinted as at
1 June 2018

- (a) ensure that it is able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency;
- (b) make available to the Director in writing, on request, its plan for functioning during and after an emergency.

Compare: 1983 No 46 s 43

59 Departments and others to undertake civil defence emergency management functions and responsibilities

Every department, Civil Defence Emergency Management Group, local authority, emergency service, and lifeline utility, and any other person required by this Act or any regulations made under this Act, or any civil defence emergency management plan, to undertake civil defence emergency management or to perform any functions or duties, must take all necessary steps to undertake civil defence emergency management or to perform those functions and duties.

Compare: 1983 No 46 s 44

Duties of lifeline utilities

60 Duties of lifeline utilities

Every lifeline utility must—

- (a) ensure that it is able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency;
- (b) make available to the Director in writing, on request, its plan for functioning during and after an emergency;
- (c) participate in the development of the national civil defence emergency management strategy and civil defence emergency management plans;
- (d) provide, free of charge, any technical advice to any Civil Defence Emergency Management Group or the Director that may be reasonably required by that Group or the Director;
- (e) ensure that any information that is disclosed to the lifeline utility is used by the lifeline utility, or disclosed to another person, only for the purposes of this Act.

61 Schedule 1 may be amended by Order in Council

- (1) The Governor-General may, by Order in Council made on the recommendation of the Minister,—
 - (a) add the name of an entity or description of an entity to Part A of Schedule 1; or
 - (b) omit the name of an entity or description of an entity from Part A of Schedule 1; or
 - (c) amend the name of an entity or the description of an entity in Part A of Schedule 1; or

Reprinted as at
14 July 2017

National Civil Defence Emergency Management Plan
Order 2015

Schedule

- ations by the New Zealand Defence Force and provide updates on the progress of any tasks that the New Zealand Defence Force is conducting in the respective areas or levels; however, the liaison officers are not authorised to accept tasks); and
 - (b) can utilise certain forces assigned at short notice to support emergencies (forces are held ready for response at the regional and national levels and include land, air, and sea assets as necessary); and
 - (c) will co-ordinate New Zealand Defence Force assets at either the local level (ECC) or national level (the NCMC), depending on the type and scale of the emergency and the mode of operation of the NCMC.
- (2) Requests for the support of the New Zealand Defence Force beyond local levels of commitment must be made by the CDEM Groups through the National Controller.

Lifeline utilities

57 Introduction

- (1) Lifeline utilities, as described in the Act, provide essential and enabling infrastructure and services that support commercial and domestic activity.
- (2) Lifeline utilities deliver services (for example, water supply, wastewater and stormwater collection, electricity, gas, and petroleum distribution, telecommunications, broadcasting, and transportation networks, including roads, railways, airports, and ports).
- (3) Lifeline utilities have duties under section 60 of the Act.

58 Objective

The main duty of lifeline utilities during and after an emergency is to be able to deliver the services they normally provide to the fullest possible extent (even though this may be at a reduced level).

59 Principles

The principles underlying the role of lifeline utilities are to—

- (a) identify and understand the full range of hazards and risks and implement reduction strategies; and
- (b) prioritise the continuity of operations and supply of services in accordance with response priorities set by the Local Controller, Group Controller, or National Controller (even though this may be at a reduced level); and
- (c) plan co-operatively with local authorities, CDEM Groups, emergency services, and other lifeline utilities; and

Lifeline Utilities Obligations

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Declaration: State of Emergency

Reprinted as at
1 June 2018

Civil Defence Emergency Management Act 2002

Part 1 s 4

Civil Defence Emergency Management Co-ordinating Executive Group or Executive Group means a Group established under section 20

Civil Defence Emergency Management Group or Group means a Group established under section 12 or established or re-established under section 22

civil defence emergency management group plan means a plan prepared and approved under section 48

civil defence emergency management plan means a national civil defence emergency management plan or a civil defence emergency management group plan

constable—

- (a) has the same meaning as in section 4 of the Policing Act 2008; and
- (b) in Part 5B, includes any person acting under the authority of a constable

Controller means the person who is the National Controller in accordance with section 10, or a Group Controller appointed under section 26

department means a department of the public service listed in Schedule 1 of the State Sector Act 1988

Director means the Director of Civil Defence Emergency Management appointed under section 8

district means the district of a local authority; and includes a region

emergency means a situation that—

- (a) is the result of any happening, whether natural or otherwise, including, without limitation, any explosion, earthquake, eruption, tsunami, land movement, flood, storm, tornado, cyclone, serious fire, leakage or spillage of any dangerous gas or substance, technological failure, infestation, plague, epidemic, failure of or disruption to an emergency service or a lifeline utility, or actual or imminent attack or warlike act; and
- (b) causes or may cause loss of life or injury or illness or distress or in any way endangers the safety of the public or property in New Zealand or any part of New Zealand; and
- (c) cannot be dealt with by emergency services, or otherwise requires a significant and co-ordinated response under this Act

emergency services means the New Zealand Police, Fire and Emergency New Zealand, and providers of health and disability services

Group Controller means a person appointed as a Group Controller under section 26

Group Recovery Manager means a person appointed as a Group Recovery Manager under section 29

hazard means something that may cause, or contribute substantially to the cause of, an emergency

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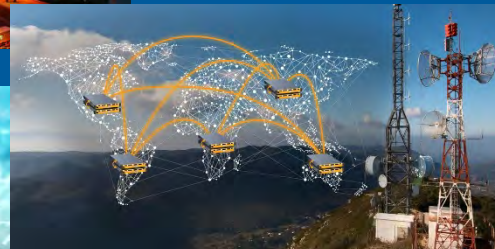
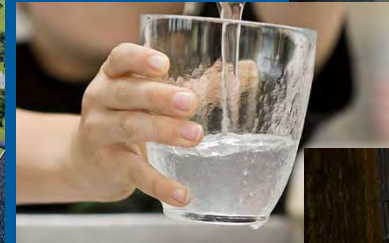
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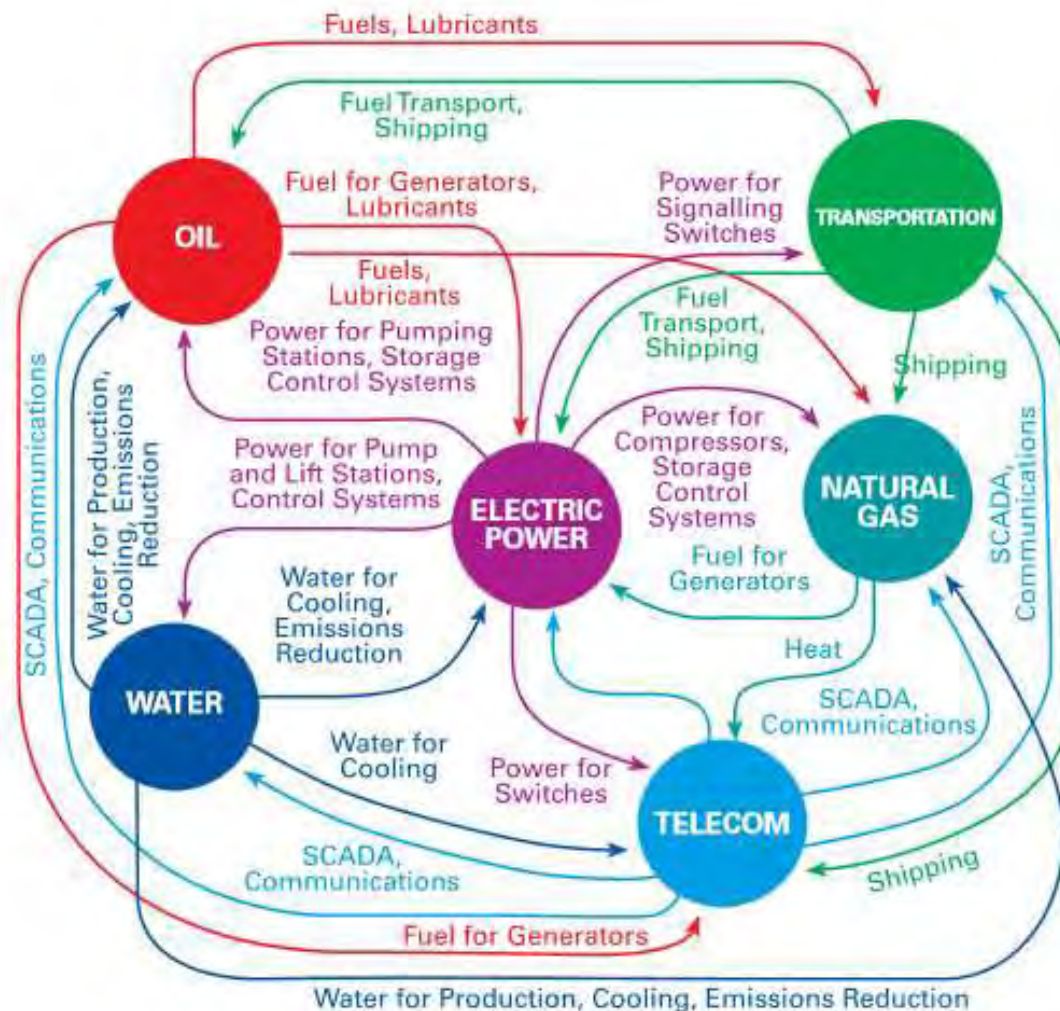
hazard means something that may cause, or contribute substantially to the cause of, an emergency

Lifeline utilities sectors

- Energy
- Transport
- Water
- Telecommunications
- Broadcasting



Interdependencies – NVA Stg 1



Interdependencies

The degree to which the utilities listed to the right are dependent on the utilities listed below	Roads	Rail	Sea Transport	Air Transport	Water Supply	Wastewater	Stormwater	Electricity	Gas	Fuel Supply	Broadcasting	VHF Radio	Telecomms	Total Dependency
Electricity	1	2	3	3	3	3	2		2	2	3	3	3	30
Roads		3	3	3	2	2	2	2	2	3	2	2	2	28
Fuel	2	3	3	3	2	2	2	2	2		2	2	2	27
Tele-comms	2	2	2	2	2	2	2	2	2	2	2	3		25
Water Supply	1	1	1	2		3	1	1	1	1	1	1	2	16
VHF Radio	2	2	2	2	1	1	1	1	1	1	1		1	16
Stormwater	2	1	1	2	1	1		1	1	1	1	1	1	14
Wastewater	1	1	1	2	1		1	1	1	1	1	1	1	13
Rail	1		1	1	1	1	1	1	1	1	1	1	1	12
Sea Transport	1	1		1	1	1	1	1	1	1	1	1	1	12
Air Transport	1	1	1		1	1	1	1	1	1	1	1	1	12
Gas	1	1	1	1	1	1	1	1		1	1	1	1	12
Broadcasting	1	1	1	1	1	1	1	1	1	1		1	1	12

Figure 4-1: Interdependency Matrix – Business As Usual

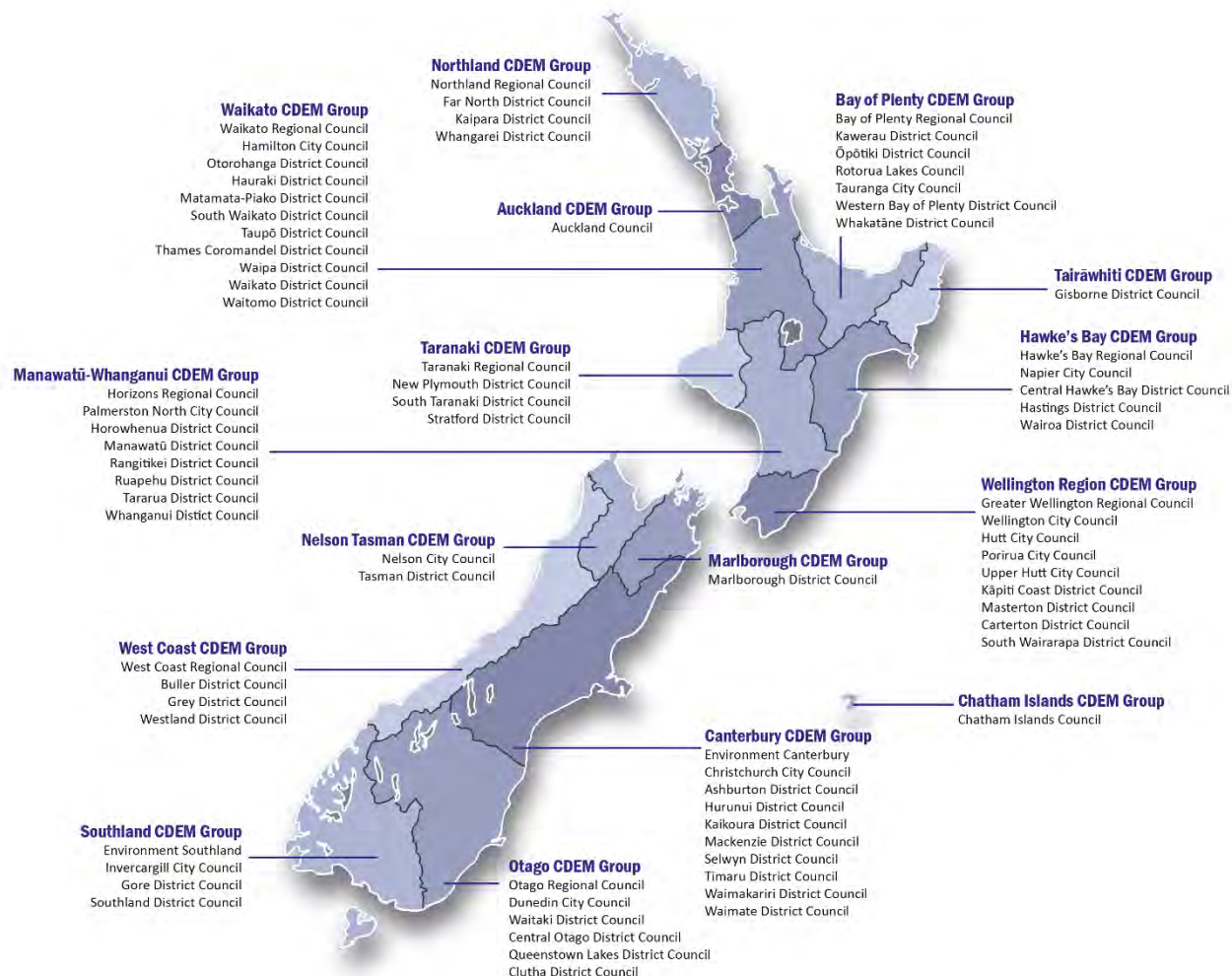
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Fuel	3	3	3	3	3	3	3	3	3		3	3	3	36
Roads		3	3	3	3	3	3	3	3	3	2	2	3	34
Tele-comms	3	2	2	2	3	3	3	3	3	2	2	3		31
Electricity	1	2	3	3	3	3	2		2	2	3	3	3	30
VHF Radio	2	2	3	3	2	2	2	2	2	2	2		2	26
Broadcasting	2	2	2	2	2	2	2	2	2	2		2	2	24
Air Transport	2	1	1		2	2	2	2	2	2	2	2	2	22
Water Supply	1	1	1	2		3	1	1	1	1	1	1	2	16
Stormwater	2	1	1	2	1	1		1	1	1	1	1	1	14
Wastewater	1	1	1	2	1		1	1	1	1	1	1	1	13
Rail	1		1	1	1	1	1	1	1	1	1	1	1	12
Sea Transport	1	1		1	1	1	1	1	1	1	1	1	1	12
Gas	1	1	1	1	1	1	1	1		1	1	1	1	12

Figure 4-2: Interdependency Matrix – During / Post Disaster Event

Source - National Vulnerability Assessment Stage 1, NZLC

CDEM Groups



Lifeline Groups - Readiness

- Lifeline Groups – regional:
 - Include lifeline utilities, scientists, regional CDEM group staff.
 - Focus to reduce the risk of damage from hazards; and
 - Readiness for response and recovery.
 - Emphasis on individual lifeline utility performance and collaboration.
- New Zealand Lifelines Council (NZLC) – national:
 - Advise Lifeline Groups on best practice and encourage projects;
 - Provide a link between Lifeline Groups and government;
 - Promote research on infrastructure resilience; and
 - Organise the annual National Lifelines Forum.

Sector Coordinating Entities (SCEs) - Response

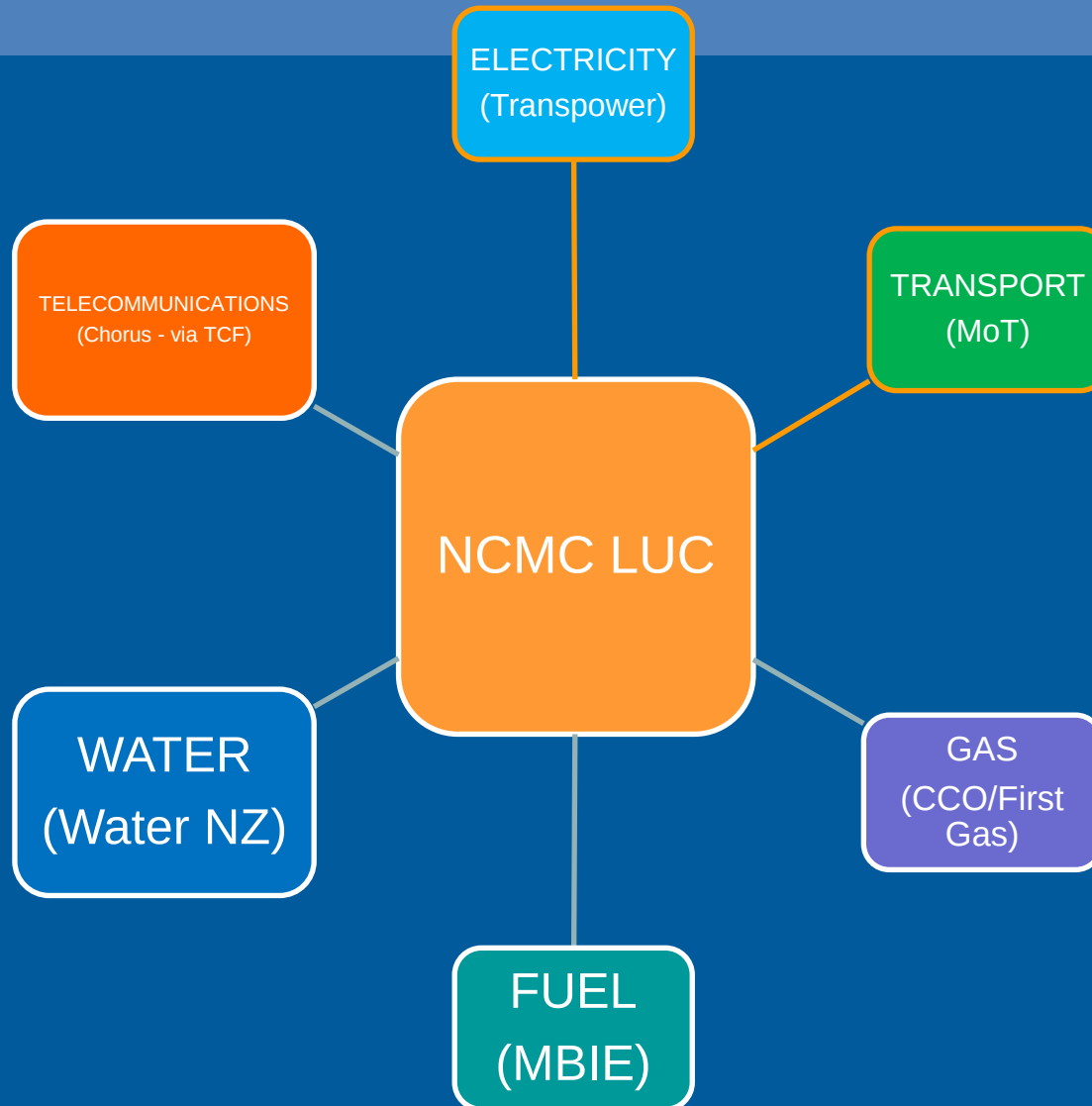
A sector co-ordinating entity that is:

- an organisation,
- a group of sector representatives, or
- an individual

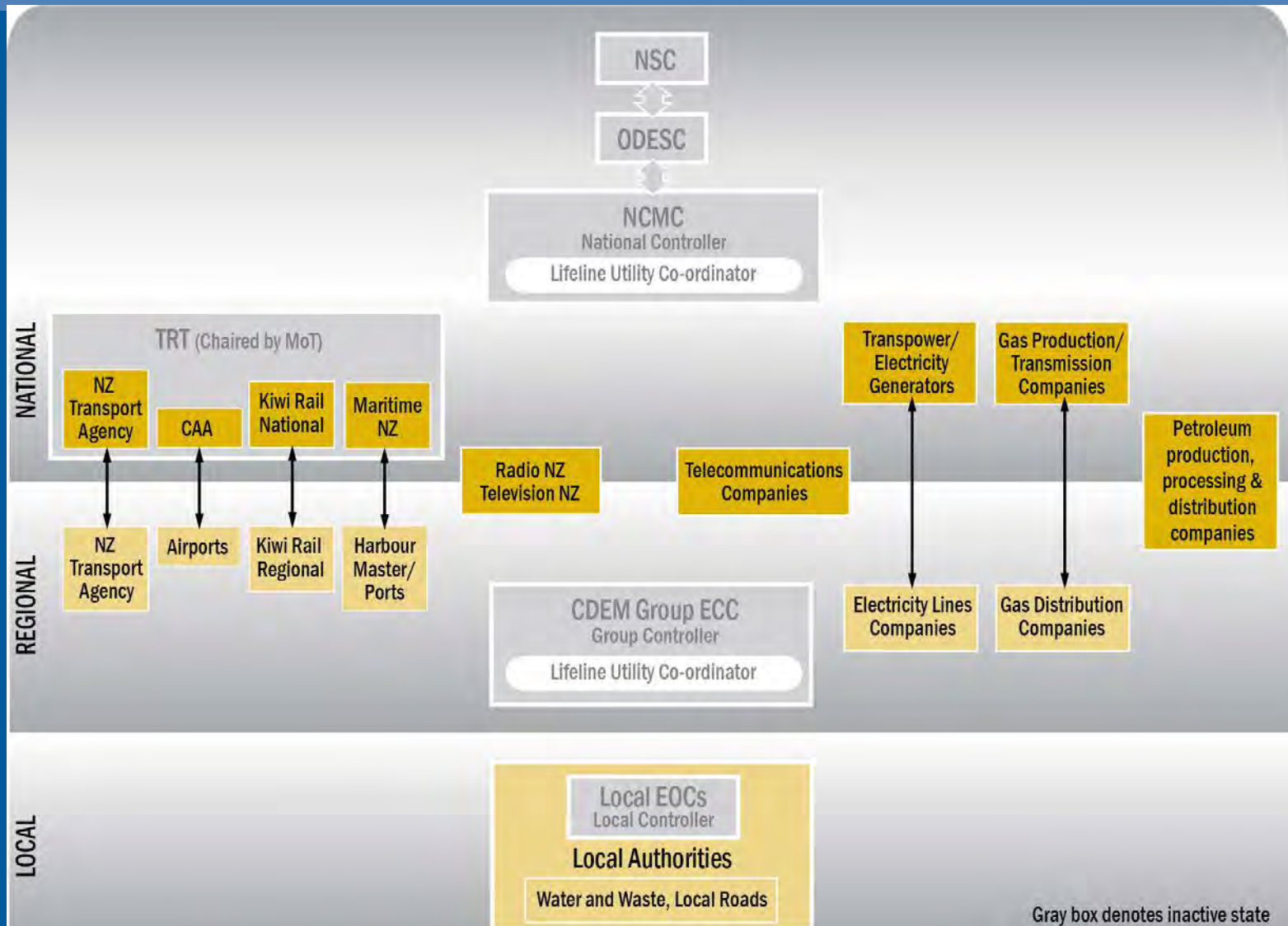
agreed by a utility sector to provide a single point of contact to the NCMC.

(Clause 2(1) of the National Civil Defence Emergency Plan 2015)

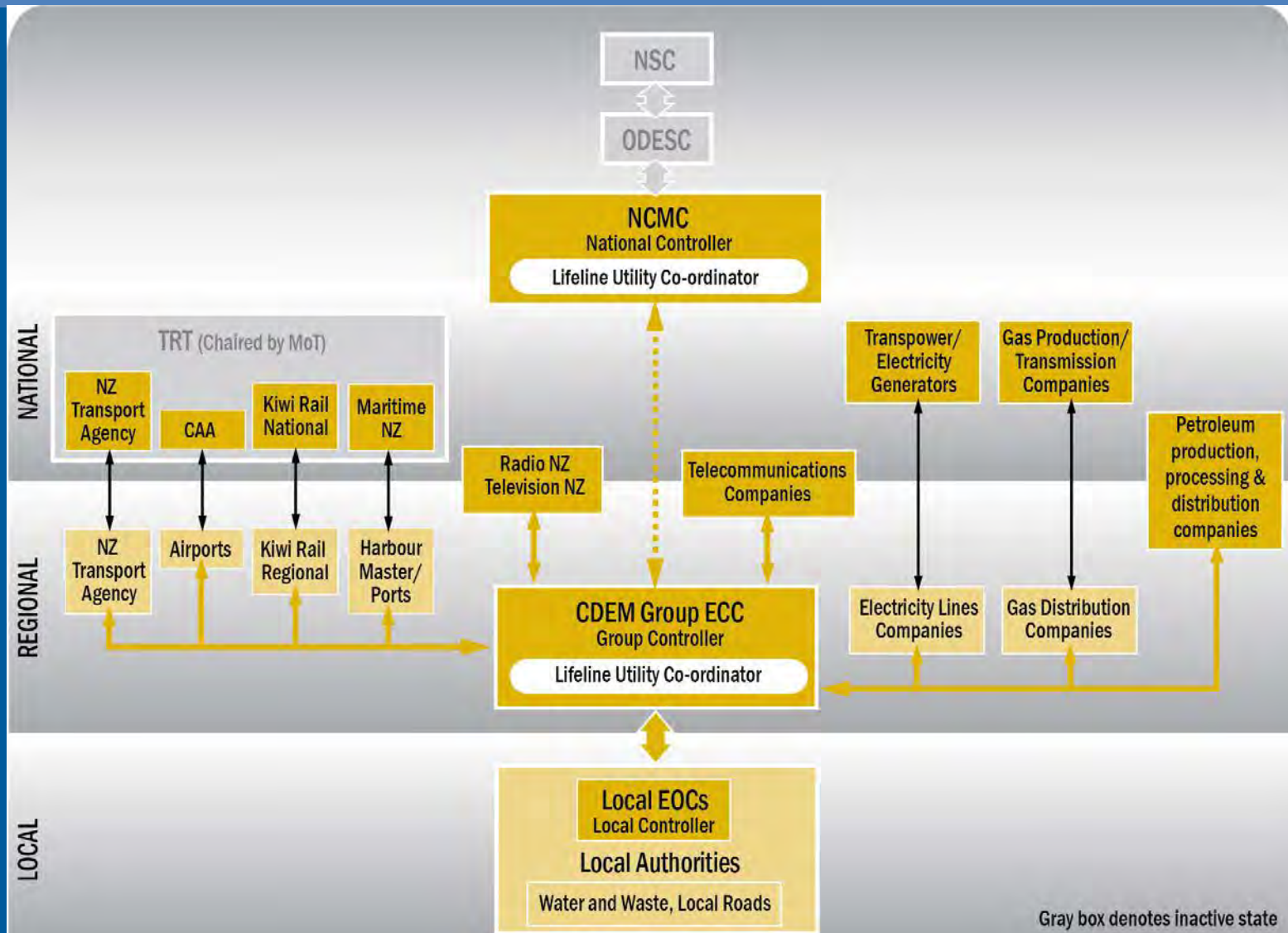
NCMC SCE overview



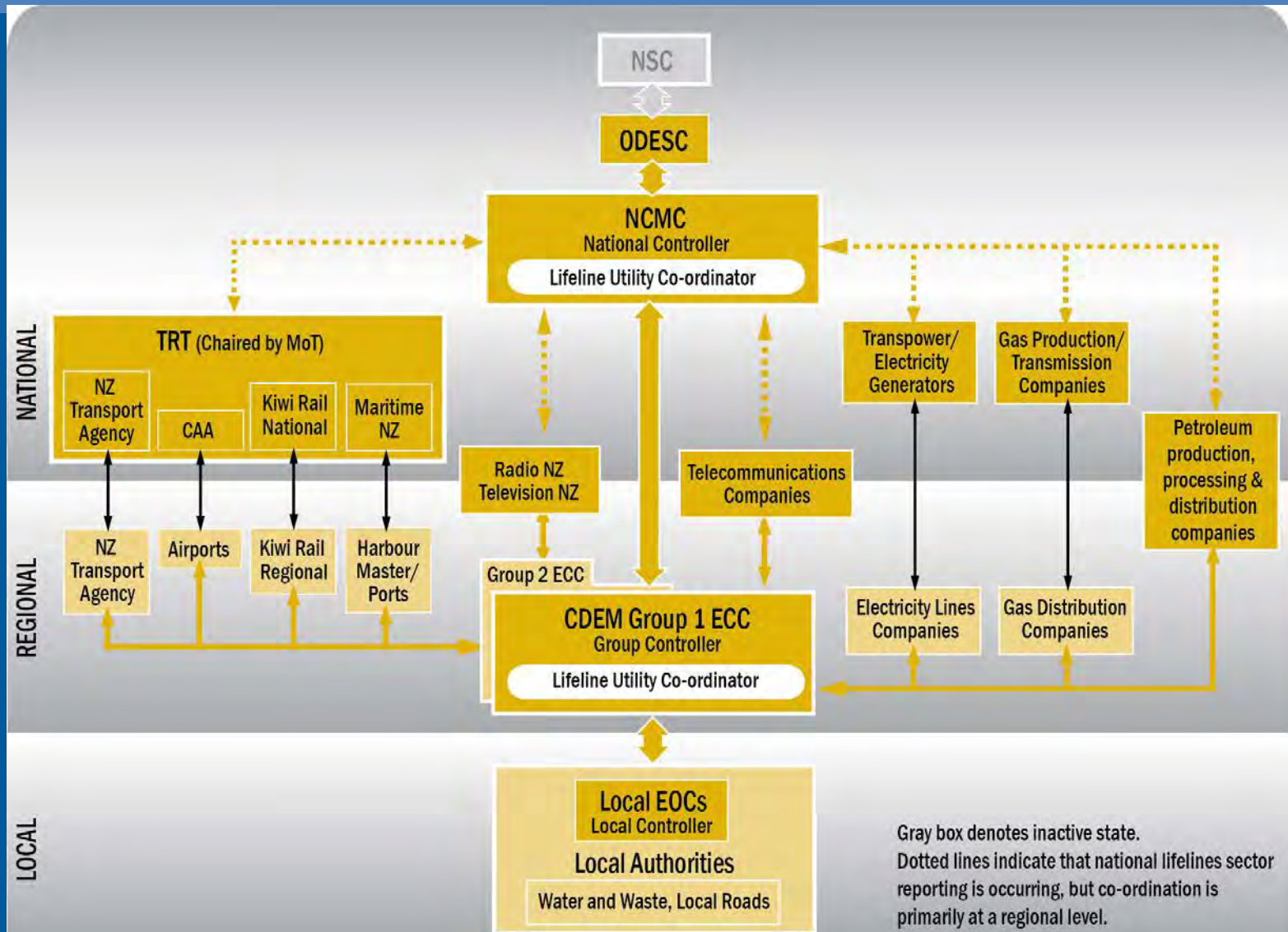
Business-as-Usual



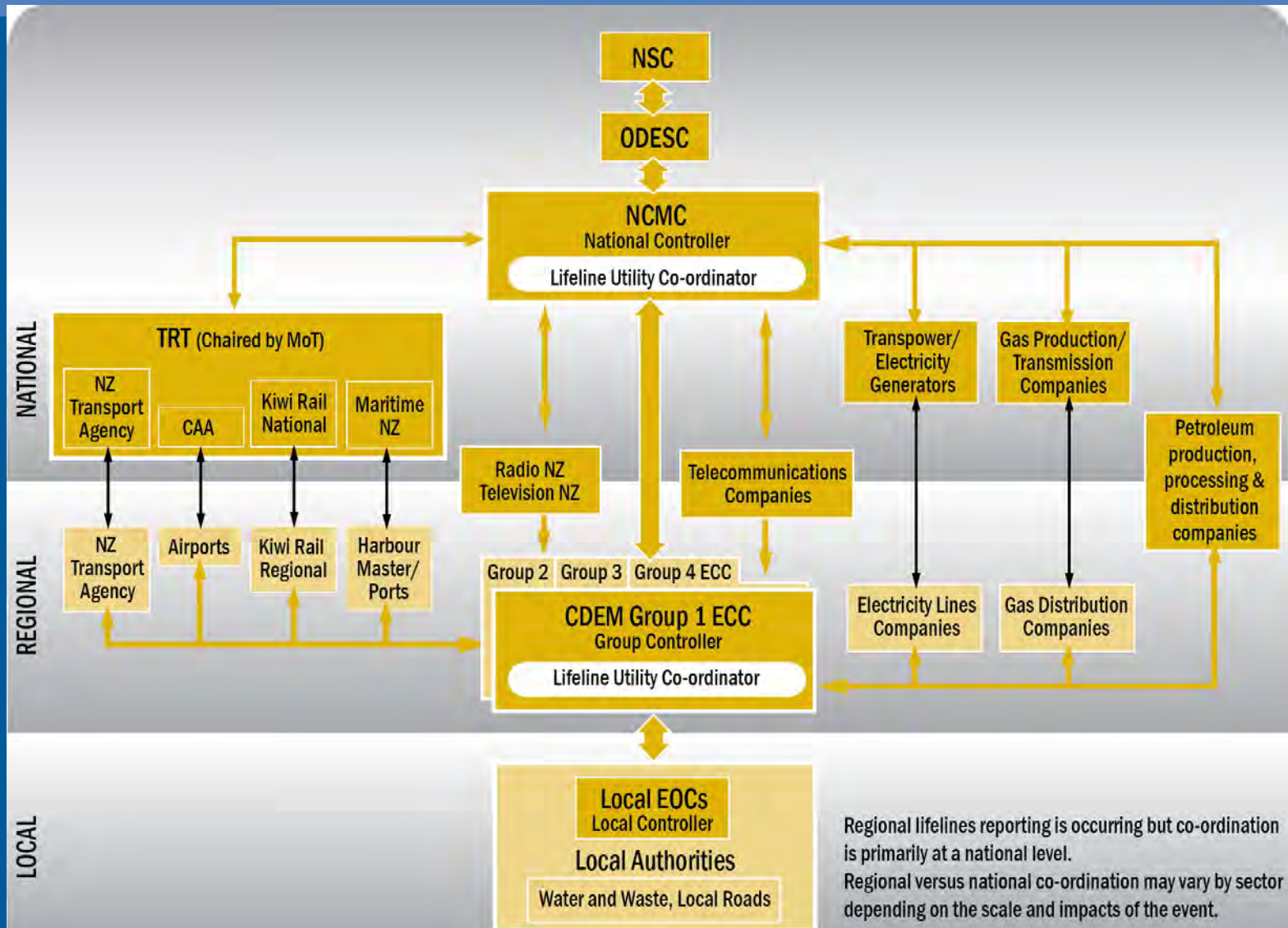
Single CDEM Group



Multiple CDEM Groups



Event of National Significance



EDB Expectations

- Understand obligations under the CDEM Act 2002
- Understand hazards and risks
- Invest in infrastructure resilience
- Business continuity and response plans
- Share outage information – situational awareness
- Participate in Regional and National Planning
- Understand interdependencies

Questions



Appendix B: Electricity Distributors - Emergency Preparedness

Electricity Distributors - Emergency Preparedness

Security and Reliability Council meeting

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Responding to emergencies - Context

- We agree with commentary from the International Energy Agency and the Office of the Auditor General that key issues for the sector include distributors' ability to manage their assets effectively, to maintain resilient networks, and to do both of these in a changing environment.
- In our open letter to electricity distribution stakeholders (Nov 2017) we reflected an expectation that distributors would be increasingly focusing on appropriate levels of network resilience. In particular the ability to maintain and restore electricity supply to consumers following high-impact, low probability (HILP) events, such as earthquakes.
- The Commission has given consideration and completed some work to try and understand how companies are addressing this important function. However it is not exhaustive of work which could be performed in this important area.

Recent work on emergency preparedness

- Considered and approved Wellington Electricity's customised price-quality path to undertake specific resilience expenditure.
- Engagement with Vector and Counties Power following significant storm event in April 2018 to understand network performance during the event and issues which arose.
- Investigations into price-quality path quality standard non-compliance has helped improve our understanding of certain businesses asset management practices, condition of network and responsiveness to events.
- State of the Network review for Aurora has proven to be successful in creating a starting reference point for areas of focus for renewals including resilience improvements.
- To date we've had relatively limited specific focus on emergency preparedness. We are undertaking work focusing on broader levels of renewal investment and vegetation expenditure which are often key drivers of performance.
- Have engaged AECOM to undertake a risk management review for all regulated gas pipeline businesses and a Geotechnical risk management review of First Gas transmission network. Will include sections on Vector and Powerco.
- Have engaged Partna Consulting Group Limited (Partna) to review risk sections of Electricity Distribution Businesses (EDBs) Asset Management plans (AMPs).

Partna report – EDB Risk preparedness

Background and approach

- We asked Partna to review EDBs risk preparedness, as disclosed within their 2018 and 2019 AMPs.
- Three focus areas:
 - risk management practices
 - contingency and high-impact low-probability (HILP) event planning
 - investment associated with resilience
- The intent of the review and the recommendations, was to provide feedback on where, in Partna's view, the AMPs might be developed to be more informative from an "interested person" or independent stakeholder's perspective.
- The scope of the review was limited to a desk top review of relevant sections of AMPs. No further follow up questions were asked of the EDBs.
- We expect to publish the report during the week beginning the 17th of June, if not before.

Partna report – EDB risk preparedness

Key findings

- Partna found that a majority of EDBs appear to have implemented a form of risk management policy and framework and have an emergency response or contingency plan in place
- The level of detail disclosed in the AMPs vary significantly between EDBs. The report identifies those with better disclosure practices for EDBs to consider.
- Whilst there were some good examples identified, the report recommends that EDBs review their disclosure of risk management policies, frameworks, and processes to ensure they provide evidence of the systematic application of risk management across the EDB.
- The report recommends that more disclosure regarding contingency and HILP event planning would assist stakeholders in understanding their expectations of the network following significant events. Where contingency plans are yet to be established, the report highly recommends that these are completed and tested as soon as possible.
- Further detail on the approach and findings from the Partna report is contained within Attachment 1 to this slide deck.

Evidence that a number of distributors are taking action

- Whilst we have not undertaken a detailed review of distributors emergency preparedness we are seeing evidence of investment by a number of companies:
 - As part of the need to renew substations we have identified EDBs who have studied and procured sites away from fault lines.
 - Strengthening of substation buildings.
 - Renewed poles to ensure they have adequate strength for supporting loads such as distribution transformers.
 - Evaluated flood risk and relocated plant away from risk areas.
 - Updated switch gear, battery banks and protection systems to be more resilient.
 - Increasing focus on vegetation spending.

On-going work on emergency preparedness

- We are reviewing the asset management practices of all distributors, targeting areas which have either led to historic instances of quality standard non-compliance or required significant levels of required catch-up expenditure.
 - We intend to request additional information from distributors on their proposed actions where the asset management plan doesn't adequately address our concerns.
- The State of the Network review undertaken by Aurora added significant value. We intend to continue to engage with distributors and trust owners about undertaking in-depth independent state of the network reviews.
- We have ongoing interaction with distributors as part of our general work programme which includes discussion on how they are delivering sustainable networks that meet customers resilience expectations.
- Other work reflecting our wider work on asset management practices for both distributors and Transpower is contained within the other slide deck.

Key messages

- As distributors asset management practices continue to mature we expect them to be increasingly focused on appropriate levels of network resilience.
- We have and continue to undertake work which is related to emergency preparedness, but there is still a significant amount of work / reviews which could be further undertaken.
 - We are seeing some resilience related investment;
 - We will look to encourage more distributors to have external state of the network reviews undertaken
- Will shortly issue an external report (Partna) which reviewed asset management plan disclosures
 - Report recommends that more disclosure regarding contingency and HILP event planning would assist stakeholders in understanding their expectations of the network following significant events. Where contingency plans are yet to be established, the report highly recommends that these are completed and tested as soon as possible.

Attachment 1: Partna report – AMP review of EDB Risk Preparedness

Summary



Scope and approach

- The purpose of the study was to review how EDBs are accounting for network risks, including resilience preparedness
- The review was limited to a desk top review of EDBs 2018 and 2019 AMPs and AMP updates. It focused on the risk management sections, excluding the treatment of risk within asset class investment or network development.
- Intent to provide feedback on where AMP disclosures may be developed to be more informative from an “interested person” or independent stakeholder perspective
- Review findings don’t mean the EDB is not undertaking the function, it may just not be disclosed.

Resilience – a whole of business function

- Resilience is, by definition, a whole of business function

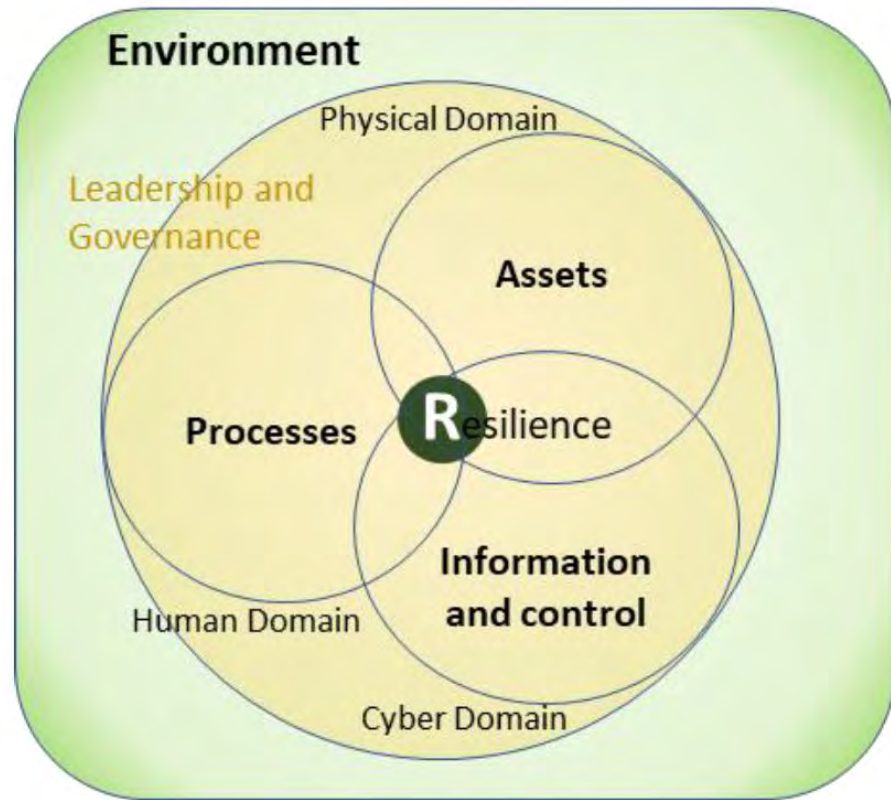


Figure 1: Elements within the resilience domain

- Resilience results from a combination of physical assets, organisational process, information and control, underpinned with organisational leadership and governance.
- Together these all sit within the context of the wider environment (physical, legal, economic, social etc.) within which the EDB exists.

Review context and methodology

- ID Determination is designed to produce AMPs that:
 - are based on, but are not limited to, the core elements of asset management;
 - contain sufficient information to allow interested persons to make an informed judgement about the extent to which the EDB's asset management processes meet best practice criteria and that outcomes are consistent with outcomes produced in competitive markets;
 - emphasise knowledge of the performance and risks of assets and identify opportunities to improve performance and provide a sound basis for ongoing risk assessment; and
 - promote continual improvements to asset management practices.
- Accordingly, an EDB's AMP is to provide a window into its asset management processes and practices.

Review context and methodology

- Partna notes the limitations of a limited desk top study, as it gives limited insight into:
 - the effectiveness or completeness of the emergency response and contingency plans
 - how current the plan(s) are
 - the level of understanding of the plan(s) within an EDB.
- It states:

“Therefore, in our view from an interested persons perspective, while it is important to describe the process, it is equally important that evidence of active testing and refinement of the processes are disclosed.”

Network risk management layers

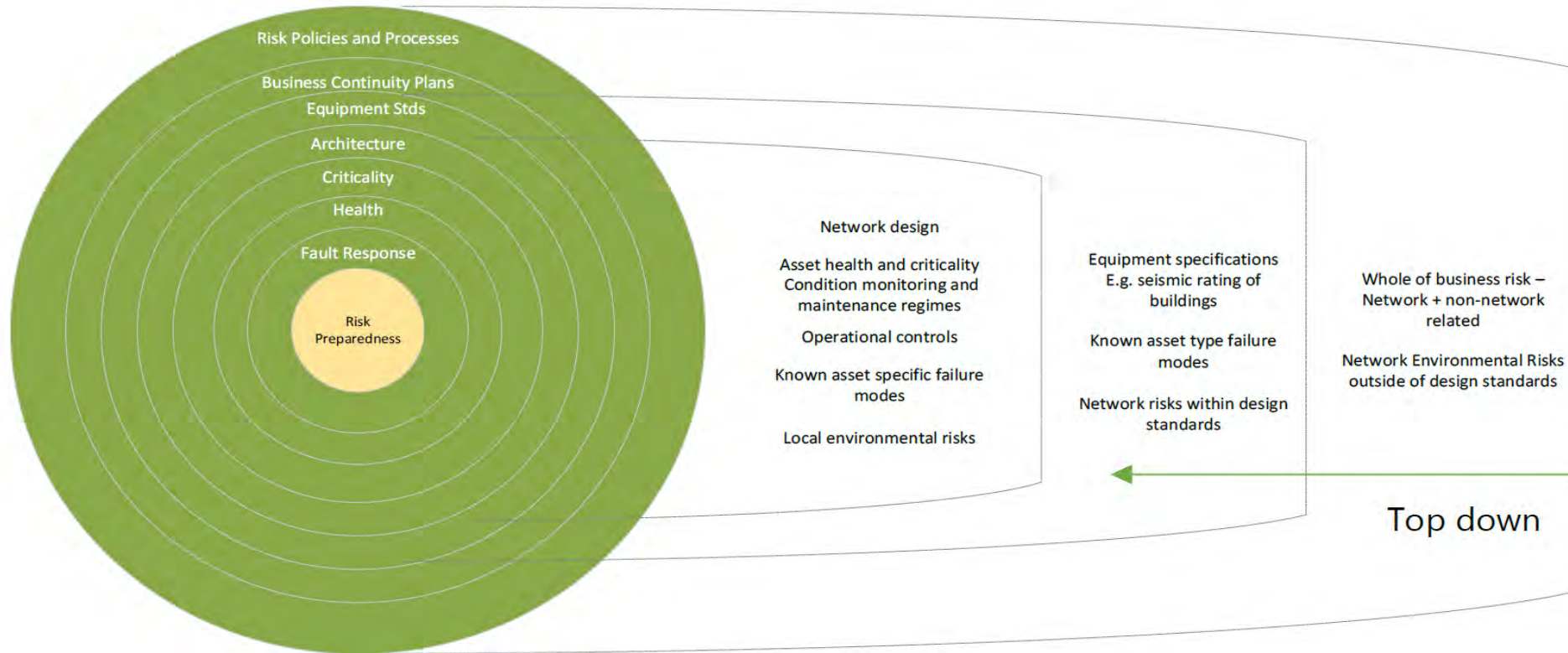


Figure 2: Simplified representation of network risk management layers and our review approach

- *Simplified representation of the layers of network risk management to illustrate the approach, transiting from a holistic organisation wide view, down towards asset investment and then short-term operational processes.*

Assessment questions split into components for clarity

1. Risk policies exist and are fit for purpose?
2. Risk assessments exist and are fit for purpose?
3. Specific risk mitigations exist and are fit for purpose?
4. The methods of the risk analysis are provided and demonstrate reasonable consideration of risks?
5. The conclusions of the risk analysis are provided and demonstrate reasonable consideration of risks?
6. Are there strategies and processes in place to identify specific network areas, or key individual assets, that are vulnerable to HILP events?
7. Are the specific network areas, or key individual assets, vulnerable to HILP events, explicitly identified?
8. Are the steps to improve the network or asset resilience, described?
9. Are there details of emergency response plans and contingency plans and a major event spares strategy if a HILP event did occur?
10. Does the asset spares strategy take into account HILP event exposures and in order that spares may be used to minimise HILP event return to service durations?

Initial traffic light assessment

- Evidence explicitly presented
- Some evidence presented or can be directly implied from the evidence presented
- No evidence presented
- No evidence presented but may exist given the evidence presented

Partna's evidence review driven from ISO standards (using the PDCA construct)

1. Has the Standard utilised been disclosed?
2. Has the policy been established within the organisation?
 - a) Have the overall risk accountabilities disclosed?
 - b) Has the risk process been described in either text or a diagram form?
3. Is there evidence of the systematic application of the policy within the business?
 - a) Has the risk matrix or risk dimensions used been disclosed in some form?
4. Has evidence been presented that the policy has been applied within the business?
 - a) Have examples of risk assessments (either network or business related) and mitigations been disclosed?

1. Are there business continuity / contingency / emergency response plans established?
 - a) Have the objectives been disclosed?
 - b) Are the accountabilities / roles disclosed?
 - c) Are communications methods / processes discussed?
2. Is there evidence that the plans have been implemented?
 - a) Are there resources in place e.g. spares?
3. Are the plans regularly monitored and tested?
4. Is there any evidence of continuous improvement where required?

1. Has the investment approach or investment categories or types of investments been described?
2. Are there examples of specific resilience investments described?
3. Have the specific investments been reflected through to the investment plans

1

Risk Policies and processes

2

Contingency plans / emergency response

3

Resilience Investments

Review observations – risk policies and frameworks

- All appear to have a form of risk management policy framework in place
- The extent of the detail disclosed varies between EDBs
- The quality of the description also varies
- Risk categories are similar across companies, but the priority (importance) of the risks vary
- Good examples of disclosure (appear more complete) include:
 - Alpine; Northpower; Orion; WEL Networks; Wellington Electricity
- **Recommendation:** EDBs review disclosures to ensure they provide evidence of systematic application of risk management across the EDB

Key for Partna report tables

Traffic light key:

- disclosed and evidence presented. Please note that a ● should not be read as meaning there is no scope for improvement in the disclosure. Within the body of this report we have highlighted instances where we consider there are good examples of disclosures that are worth referencing when an EDB develops their next AMP, so they can be more informative from an “interested person” perspective.
- disclosed without evidence or implied by evidence presented
- not disclosed
- disclosed non completion

Risk policies and frameworks

Subject Area	Risk management policy and processes					AMP content												
	Risk policies exist and are fit for purpose?	Risk assessments exist and are fit for purpose?	Specific risk mitigations exist and are fit for purpose?	The methods of the risk analysis are provided and demonstrate reasonable consideration of risks	The conclusions of the risk analysis are provided and demonstrate reasonable consideration of risks	Disclosed Std applied				Accountabilities and process described?		Application				Evidence of results		
Question						ISO 31000	AS/NZ 4630:1999	COSO Enterprise Risk Management (ERM) – Integrated Framework – Risk management – Principles and	3LoD	Risk roles and responsibilities disclosed	Process or framework describe or mapped in a diagram	Risk Matrix disclosed	Risk types / categories disclosed	Consequence scale disclosed	Likelihood matrix disclosed	Example corporate level risks disclosed	Example network / asset risks disclosed	Examples of specific mitigations disclosed
Alpine Energy	●	●	●	●	●	✓				✓	✓	✓	✓	✓		✓	✓	
Aurora Energy	●	●	●	●	●	✓				✓	✓		✓			✓		
Buller Electricity	●	●	●	●	●	Not Disclosed					✓				✓	✓		
Centralines	●	●	●	●	●	✓				✓	✓					✓	✓	
Counties Power	●	●	●	●	●	✓				✓	✓		✓					
Eastland Network	●	●	●	●	●		✓				✓				✓	✓	✓	
Electra	●	●	●	●	●	✓				✓	✓		✓			✓	✓	
EA Networks	●	●	●	●	●		✓				✓		✓			✓	✓	
Electricity Invercargill	●	●	●	●	●	✓				✓	✓	✓	✓	✓	✓	✓	✓	
Horizon Networks	●	●	●	●	●	✓				✓	✓	✓	✓	✓		✓	✓	
Mainpower	●	●	●	●	●	✓				✓	✓	✓	✓			✓	✓	
Marlborough Lines	●	●	●	●	●	✓				✓	✓	✓	✓	✓	✓	✓	✓	
Nelson Electricity	●	●	●	●	●	✓					✓		✓			✓		
Network Waitaki	●	●	●	●	●	✓					✓		✓		✓			
Northpower	●	●	●	●	●	✓				✓	✓		✓		✓	✓	✓	
Network Tasman	●	●	●	●	●	✓					✓					✓		
OJV	●	●	●	●	●	✓					✓	✓	✓	✓	✓	✓	✓	
Orion	●	●	●	●	●	✓				✓	✓	✓				✓	✓	
Powerco	●	●	●	●	●				✓	✓	✓					✓	✓	
Scanpower	●	●	●	●	●	✓					✓		✓			✓	✓	
The Lines Company	●	●	●	●	●	✓				✓			✓					
The Power Company	●	●	●	●	●	✓					✓	✓	✓	✓	✓	✓	✓	
Top Energy Ltd	●	●	●	●	●	✓				✓	✓	✓	✓	✓	✓	✓	✓	
Unison	●	●	●	●	●	✓				✓	✓	✓	✓	✓		✓		
Vector Electricity	●	●	●	●	●	✓					✓					✓	✓	
Waipa Networks	●	●	●	●	●	Not Disclosed										✓	✓	
WEL Networks	●	●	●	●	●	✓				✓	✓	✓	✓	✓	✓		✓	
Wellington Electricity	●	●	●	●	●			✓		✓	✓	✓	✓		✓			
Westpower	●	●	●	●	●	✓					✓		✓					

Figure 3: Application of risk policies and frameworks

Review observations – Contingency and HILP planning

- A majority appear to have a form of an emergency response / contingency plan in place
 - Electricity Ashburton an exception - still under development
- A majority of AMPs have a general description of the plans –typically more than one plan applies
- All are members of CDEM lifelines groups
- **Recommendations:**
 - contingency plans completed and tested a.s.a.p where they don't exist
 - more systemic analysis and identification of HILPs being managed
 - better disclosure of some of the core elements of the planning (e.g. including specific response/recovery objectives, roles and responsibilities, strategies for managing spares)

Contingency and HILP planning

- Electricity Ashburton does not have an emergency response plan
- They state they are still in the process of developing their plan:
“The recent addition of more internal engineering resources will hopefully allow progress in this area.”

Subject Area	Contingency and HILP Planning				Plans Established				Impleme nted	Testing and Improvements	
	Are there strategies and processes in place to identify specific network areas, or key individual assets, that are vulnerable to HILP events?	Are the specific network areas, or key individual assets, vulnerable to HILP events, explicitly identified?	Are there details of emergency response plans and contingency plans and a major event spares strategy if a HILP event did occur?	Does the asset spares strategy take into account HILP event exposures and in order that spares may be used to minimise HILP event return to service durations?	Contingency / Major event / Response plan established	Plan objectives been disclosed	General description of roles and responsibilities disclosed	Communications methods / processes discussed?	Spares or required resources in place for emergency response	Plans are monitored and regularly tested	Evidence of Continuous Improvements
Question											
Alpine Energy	✓	✓	✓	✓	✓		✓	✓	✓		✓
Aurora Energy	✓	✓	✓	✓	✓		✓		✓		✓
Buller Electricity	✓	✓	✓	✓	✓						
Centralines	✓	✓	✓	✓	✓		✓				
Counties Power	✓	✓	✓	✓	✓		✓		✓		✓
Eastland Network	✓	✓	✓	✓	✓		✓	✓	✓	✓	
Electra	✓	✓	✓	✓	✓	✓	✓	✓	✓		
EA Networks	✓	✓	✓	✓	✓				✓		✓
Electricity Invercargill	✓	✓	✓	✓	✓				✓		✓
Horizon Networks	✓	✓	✓	✓	✓			✓	✓	✓	✓
Mainpower	✓	✓	✓	✓	✓		✓	✓	✓		
Marlborough Lines	✓	✓	✓	✓	✓			✓	✓		✓
Nelson Electricity	✓	✓	✓	✓	✓	✓		✓	✓		
Network Waitaki	✓	✓	✓	✓	✓						
Northpower	✓	✓	✓	✓	✓		✓	✓	✓		
Network Tasman	✓	✓	✓	✓	✓		✓	✓	✓		
OJV	✓	✓	✓	✓	✓				✓		✓
Orion	✓	✓	✓	✓	✓	✓		✓	✓		✓
Powerco	✓	✓	✓	✓	✓	✓	✓		✓	✓	
Scanpower	✓	✓	✓	✓	✓	✓					
The Lines Company	✓	✓	✓	✓	✓				✓		
The Power Company	✓	✓	✓	✓	✓				✓		
Top Energy Ltd	✓	✓	✓	✓	✓	✓	✓		✓		✓
Unison	✓	✓	✓	✓	✓		✓		✓	✓	
Vector Electricity	✓	✓	✓	✓	✓		✓		✓	✓	
Waipa Networks	✓	✓	✓	✓	✓			✓	✓		
WEL Networks	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Wellington Electricity	✓	✓	✓	✓	✓			✓	✓	✓	✓
Westpower	✓	✓	✓	✓	✓		✓		✓	✓	

Review observations – investment in resilience

- Overall less disclosure of the basis and the priority of resilience investments – investments not often specified as relating to resilience, and more transparency here could be useful.
- A majority of EDBs refer to general investment principles that lead to an improvement in network resilience
 - Reference to specific resilience investment would be more informative than generalised principles
- **Recommendations:**
 - EDBs should be more explicit about timeframes for investment and to get assets up to the standards they seek
 - EDBs should more clearly describe the rationale for their chosen investment level - e.g. with regard to a chosen national building standard level

Subject Area	Investment		Investment Examples	
Question	Are the specific network areas, or key individual assets, vulnerable to HILP events, explicitly identified?	Are the steps to improve the network or asset resilience, described?	Examples of network areas assessed and disclosed which are subject to natural hazards or HILP impacts	Examples (specific or general) of assets being updated to improve resilience
Alpine Energy	●	●		✓
Aurora Energy	●	●		✓
Buller Electricity	●	●		
Centralines	●	●		✓
Counties Power	●	●		✓
Eastland Network	●	●		✓
Electra	●	●		
EA Networks	●	●		✓
Electricity Invercargill	●	●		✓
Mainpower	●	●		
Horizon Networks	●	●		✓
Marlborough Lines	●	●	✓	✓
Nelson Electricity	●	●		✓
Network Waitaki	●	●		✓
Northpower	●	●		✓
Network Tasman	●	●	✓	✓
OJV	●	●		✓
Orion	●	●	✓	✓
Powerco	●	●		✓
Scanpower	●	●		
The Lines Company	●	●		✓
The Power Company	●	●		✓
Top Energy Ltd	●	●		✓
Unison	●	●		✓
Vector Electricity	●	●		✓
Waipa Networks	●	●		✓
WEL Networks	●	●		✓
Wellington Electricity	●	●	✓	✓
Westpower	●	●		✓

Investment in resilience

- Where specifically referred to, investments in resilience included some common themes:
 - seismic strengthening
 - replacing larger pole mounted substations with ground mounted units
 - replacement of oil filled cables
 - works to enable network reconfiguration and meshing
 - deployment of mobile substations

