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Tēnā koutou

SUBMISSION ON RESILIENCE PRINCIPLES: DECISION-MAKING FRAMEWORK FOR CRITICAL INFRASTRUCTURE PROVIDERS

Unison Networks Limited (Unison) and Centralines Limited (Centralines) are consumer-owned electricity distribution businesses serving communities in Hawke's Bay, Taupō, Rotorua, and Central Hawke's Bay. We appreciate the opportunity to respond to the Commerce Commission's draft guidance document: *Decision-making Framework for critical infrastructure providers*.

As consumer-owned entities, we operate in the best interests of the communities we serve. Guided by our vision, and values, we strive to deliver economic benefits to both our customers and community shareholders, while championing a sustainable energy future. We are committed to maintaining the right balance between keeping electricity affordable and making strategic investments that secure the long-term reliability and resilience of our network. In all aspects of our operations, we place strong emphasis on meeting industry compliance requirements, ensuring we uphold all relevant standards. This approach not only supports New Zealand's transition to new energy solutions but also enables our communities to access cleaner, smarter, and more flexible energy options, now and for generations to come.

Executive Summary

The Commission is addressing a material problem: critical infrastructure faces natural hazards, climate-related stressors, cyber threats, and cascading cross-sector failures, while resilience decisions are not always made through a consistent, transparent, and system-wide process.

The draft guidance is directionally sound. Its focus on multi-hazard risk, consumer, and community consequences, structured optioneering, interdependencies, adaptive

pathways and governance oversight is consistent with prudent asset management. It also appropriately recognises that resilience is broader than asset hardening.

The guidance should also recognise that many mature infrastructure providers already incorporate resilience considerations into asset management, risk management, and capital investment processes. Resilience risks are routinely identified, assessed, and prioritised through risk frameworks, asset management plans, and investment governance processes, with mitigation often delivered through existing renewal and augmentation programmes rather than standalone resilience projects.

The final guidance will be useful if it reinforces judgement and proportionality, rather than creating a new compliance layer. This is particularly important for mature electricity distributors that already manage resilience through asset management, engineering, emergency management, and governance processes.

We recommend that the Commission:

- retain the guidance as non-binding and principles-based, and clarify how it will interact with regulated allowances, information disclosure, quality standards, and expenditure assessment;
- define a practical proportionality framework, with materiality tiers, examples, and clear expectations for providers at various stages of maturity;
- recognise existing sector evidence, including asset management plans, disclosed risk information, engineering standards, lifelines work, asset risk management programmes, and post-event reviews;
- clarify that conventional NPV is not the sole gateway for resilience investment, particularly for low-probability, high-consequence, non-market and distributional impacts;
- recognise that resilience investment is often most efficiently delivered through existing renewal and augmentation programmes, with standalone business cases generally reserved for material risks requiring additional funding;
- develop common assumptions, datasets, valuation guidance, and interdependency information-sharing arrangements before expecting sophisticated quantitative techniques;
- clarify the pathway from emerging to mature resilience practice, including realistic implementation timeframes across sectors; and
- link higher expectations to clear and timely cost recovery for staged, anticipatory, and adaptive investment.
- clarify the pathway from emerging to mature resilience practice, including realistic implementation timeframes across sectors, and recognise asset management maturity and relevant independent accreditation as sources of assurance regarding the credibility of resilience planning

Figure 1: Resilience as a Consumer and Community Outcome

The most efficient resilience outcome is often a combination of targeted infrastructure investment, operational preparedness, business continuity, distributed energy resources, community preparedness, and cross-sector coordination. Resilience should

be assessed by its ability to reduce consumer harm and maintain essential services, rather than by network investment alone.



1. The problem the Commission is seeking to solve.

The Commission is seeking to close both a decision-quality gap and a regulatory-assurance gap.

Core problem statement. How can infrastructure providers and the Commission as regulator be confident that resilience investment is prudent, efficient, targeted to the risks and service outcomes that matter most, and affordable for consumers, when hazards are uncertain, benefits are often non-market or avoided-loss benefits, sectors have different levels of maturity, and infrastructure systems are highly interdependent?

The draft guidance identifies related challenges: increasing and changing risk, ad hoc decision-making, inconsistent maturity, difficult valuation, consumer legitimacy, and the need for regulatory confidence. The problem is not simply too little resilience investment. It is whether providers identify and deliver the right mix of prevention, robustness, redundancy, response, recovery, insurance, flexibility, and community preparedness, and can demonstrate why that mix is in consumers' long-term interests.

These challenges are interrelated. For example, low-probability/high-consequence events can be hard to value, but may have severe impacts for isolated communities,

critical services, and consumers with limited capacity to withstand prolonged outages. A structured framework should help make these trade-offs transparent without assuming that more capital expenditure is always the right answer.

2. Overall response to the draft guidance

2.1 What the guidance gets right.

- A system and service-outcome perspective rather than isolated asset projects.
- Recognition of multi-hazard, cascading, and cross-sector risks.
- Attention to distributional impacts, vulnerable and isolated communities, iwi and hapū, and differing capacity to bear loss.
- Structured optioneering, including do-nothing, relocation, readiness, insurance, decentralised solutions, and staged investment.
- Proportionate evidence, adaptive decision-making and governance visibility of residual risk and trade-offs.

2.2 The main risk: guidance becoming a de facto regulatory test.

Although the document says it does not create immediate requirements, it also signals fuller application over a reasonably short timeframe and a need for systematic evidence where additional revenue is sought. In practice, suppliers, auditors, and verifiers may treat the indicators as a checklist. The final guidance should guard against retrospective application, mechanistic scoring, and rejection of expenditure merely because every indicator or sophisticated technique has not been used.

The phrase "reasonably short timeframe" should be defined or removed. A realistic transition pathway should recognise different sector starting points, data availability, capability constraints, and affordability impacts, rather than implying that all providers can move to mature practice on the same timetable.

The Commission should distinguish between good-practice prompts, baseline evidence normally expected, and additional evidence for material, novel, or uncertain proposals. It should also explain how departures may be justified.

3. Recommended refinements

3.1 Make proportionality operational.

Proportionality is stated but not yet operational. Mature EDBs already incorporate resilience considerations through risk registers, criticality frameworks, engineering standards, asset management plans, contingency planning, and investment governance processes. Repackaging this evidence into standalone resilience business cases for every project would add cost without improving decision quality.

The final guidance should distinguish between early-stage, developing, and mature practices. For mature providers, the focus should be on demonstrating that existing processes deliver sound resilience decisions, rather than creating new documentation requirements. For sectors still in transition, such as parts of the water sector, expectations should support staged capability development. Quantification of simultaneous or cascading hazards should be encouraged where reliable data exists, but qualitative scenario analysis should remain acceptable where evidence is limited or still evolving.

The credibility of a provider’s resilience planning should also be assessed in the context of its broader asset management maturity. A mature asset management system provides assurance that resilience risks are identified, evaluated, prioritised, and integrated into investment and operational decision-making rather than considered in isolation. Independent accreditation against recognised asset management standards, such as ISO 55000, may provide useful assurance regarding the quality and consistency of those underlying processes. Accreditation should not, however, operate as a prerequisite or safe harbour; it should be treated as one relevant source of evidence alongside demonstrated practices, governance, decision records, maturity assessments, and outcomes.

The final guidance could include tiers:

Tier	Indicative application	Proportionate evidence
Routine / embedded	Renewal or maintenance applying established standards	Existing asset-management evidence, engineering judgement, and normal approval records
Material programme	Material expenditure, changed standard or concentrated bill impact	Documented risk case, options, consumer impacts, sensitivities, and programme prioritisation
Major / novel	Large, irreversible, or unprecedented proposal with material uncertainty	Comprehensive business case, wider engagement, cross-sector evidence, adaptive pathways, and proportionate independent assurance

3.2 Align regulatory assurance with cost recovery.

If the Commission expects providers to improve resilience maturity and undertake more systematic analysis, regulatory settings must allow efficient expenditure and capability costs to be recovered. Otherwise, providers face an asymmetric signal: improve evidence and reduce risk earlier but remain uncertain whether expenditure will be recognised.

The final guidance should explain how it will inform DPP resets, CPP proposals, reopeners, information disclosure, and quality regulation, including timing mismatches. Where new evidence emerges within a regulatory period or resilience programmes require multi-period delivery.

3.3 Avoid over-reliance on willingness to pay and conventional CBA.

Consumer engagement is essential, but willingness to pay is not equivalent to the efficient level of resilience. Responses are sensitive to framing, recent events, and affordability. Safety obligations, minimum service expectations, cross-sector effects, and distributional impacts cannot be determined by survey evidence alone.

The guidance should more clearly distinguish consumer risk tolerance from risk-bearing capacity. What consumers say they are willing to pay for is not always the same as what they can cope with during a prolonged disruption. This distinction is particularly

important for vulnerable, rural, and isolated communities, and for essential service users whose actual need may not be fully captured through willingness-to-pay evidence.

Expected-value CBA can also understate low-probability/high-consequence risks, option value, cascading failure, and non-market impacts. The guidance should present CBA as one input and allow cost-effectiveness analysis, multi-criteria analysis, real options, least-regrets approaches and qualitative evidence where better suited.

3.4 Support cross-sector analysis with shared information.

Principle 3 is important but cannot be delivered by one provider acting alone. Interdependency data may be sensitive, confidential, incomplete, or held by public agencies. The Commission should work with DPMC, NEMA, Lifelines Groups, local government, and sector regulators to clarify roles and support secure information-sharing.

Providers should be accountable for reasonable efforts to identify and engage on dependencies, not for independently assuring another provider's resilience, data quality, or investment decisions.

In practice, mapping physical, cyber, geographic, and logical interdependencies requires a level of cross-sector information-sharing that individual providers cannot create alone. The Commission should take, or advocate for, a more active facilitation role with relevant agencies and regulators so that appropriate datasets, protocols, and confidentiality protections are available.

The guidance should also recognise current uncertainty across local government and related infrastructure planning environments. Many resilience decisions rely on inputs from councils, CDEM groups, regional hazard modelling, transport planning, water entities, land-use planning, managed retreat assumptions, and community adaptation processes. These inputs may be incomplete, changing, inconsistently funded or outside the control of an EDB.

The Commission should clarify how shared studies and regional modelling should be funded where benefits extend across multiple sectors, agencies, and communities. Electricity consumers should not automatically bear the full cost of regional hazard modelling or interdependency studies that also support local government, transport, water, telecommunications, emergency management, and community outcomes.

3.5 Recognise non-network and operational resilience.

Resilience is ultimately a consumer, business, and community outcome, not simply a network investment outcome. For electricity distributors, it is delivered through network investment, operational preparedness, business continuity, distributed energy resources, batteries, EVs, microgrids, mobile generation and cross-sector coordination.

The guidance should avoid favouring network hardening where non-network or operational solutions can deliver equivalent or better outcomes at lower cost. The objective should be to minimise consumer harm and maintain essential services, not solely prevent outages.

The framework should recognise distributed energy resources, batteries, EVs and microgrids as potential resilience resources, including vehicle-to-home and vehicle-to-

grid capability develops. Greater emphasis should also be placed on organisational resilience, business continuity, restoration capability, and emergency response arrangements.

The framework should also recognise differing levels of business and community risk-bearing capacity. Some commercial and industrial customers may be able to manage outage impacts through backup generation, batteries, alternative sites, process flexibility, telecommunications redundancy, or established business continuity arrangements. Others, including small businesses, customers with perishable goods, vulnerable consumers and isolated communities, may have limited ability to absorb prolonged interruptions. Resilience assessments should therefore consider outcomes, actual need, and risk-bearing capacity, rather than relying solely on customer type, load size, or broad consumer categories.

There is also potential for a disconnect between resilience outcomes and SAIDI/SAIFI, which capture interruptions and restoration times but not whether customers can maintain essential services during an outage. Affordability should remain central: accepting residual risk, supported by effective preparedness, response and recovery, may sometimes be more efficient than further hardening.

Future resilience frameworks should focus on minimising consumer harm and maintaining essential services, rather than assuming resilience is achieved by preventing every outage. In many circumstances, the most efficient resilience outcome may be a combination of targeted network investment, operational preparedness, distributed resources, business continuity capability, and community readiness. This is particularly relevant where the cost of further hardening is high relative to the resilience benefits delivered.

Future regulatory settings may need to recognise resilience outcomes that reduce consumer harm even where they do not materially improve traditional reliability metrics. A community battery, microgrid, EV backup arrangement or resilience hub may support essential services during an outage while the customer remains disconnected from the main distribution network.

3.6 Clarify terminology and outcomes.

The guidance would benefit from a concise glossary distinguishing resilience, reliability, security, emergency management, adaptation, preparedness, robustness, redundancy, response, and recovery. It should also distinguish asset criticality from service criticality.

The criteria for ranking asset criticality should be sufficiently objective and reproducible to support investment prioritisation, while still allowing judgement where socio-economic, cultural or community impacts are material. The guidance should make clear how these qualitative factors should be evidenced without turning criticality assessment into a mechanistic scoring exercise.

A clearer outcome hierarchy, covering essential service continuity, maximum tolerable disruption, restoration objectives and residual risk, would reduce the risk that resilience becomes synonymous with asset hardening. The Commission should also provide guidance on outcome-based measures, such as restoration performance, prolonged

outage exposure, continuity to critical facilities and response and recovery effectiveness.

Outcome measures should focus on service continuity, restoration, and consumer impacts rather than prescriptive asset-based metrics or expenditure levels.

4. Responses to consultation questions

Question 1 - Purpose, status, and expected rigour.

The purpose is broadly clear, but the practical status is not. The final guidance should confirm it is non-binding, prospective, and principles-based; specify its regulatory use; distinguish baseline from enhanced evidence; and state that the indicators are neither a checklist nor safe-harbour criteria.

Question 2 - Proportionate application across sectors

Not fully. Proportionality should turn on materiality, novelty, irreversibility, uncertainty, and consequences, not maturity alone. Mature providers should be able to rely on existing integrated processes rather than produce additional standalone documentation.

Question 3 - Barriers, overlaps, and accountability

Key barriers include fragmented hazard and interdependency information, unclear ownership of cross-sector risks, security and confidentiality constraints, engagement fatigue, limited specialist capability and overlap with AMP, information disclosure, DPP/CPP, emergency-management, climate-related and sector-standard requirements. Accountability is also unclear where resilience outcomes depend on councils, CDEM groups, transport, water, telecommunications, land-use planning, managed retreat assumptions, or regional adaptation processes outside an EDB's control.

Question 4 - Priorities for further work

Priority should be given to: (1) regulatory integration and cost-recovery guidance; (2) a proportional business-case framework with EDB examples; (3) shared hazard, interdependency, and valuation inputs; (4) outcome-focused resilience measures; (5) practical maturity assessment templates; and (6) more detailed business case guidance before any additional reporting is introduced.

Question 5 - Most helpful aspects

The most helpful aspects are the system-wide framing, multi-hazard assessment, interdependency principle, distinction between risk tolerance and risk-bearing capacity, broad optioneering, distributional impacts and adaptive approaches to uncertainty.

Question 6 - Unclear or improvable aspects

The status of "what good looks like", the timeframe for maturity, materiality thresholds, meaning of comprehensive CBA, treatment of willingness to pay, regulatory consequences of non-alignment and interaction with Part 4 processes require clarification. The guidance should also explain how providers should evidence distributional impacts and equity for vulnerable, rural, or isolated communities without creating disproportionate engagement or analytical burdens. Absolute language such as "all hazards" or "all interdependencies" should be replaced with "material and reasonably foreseeable".

The Chapter 3 indicators should also be clarified. They are useful examples of mature practice, but it is unclear whether they are intended as illustrative guidance, maturity indicators, or evidential requirements. Providers should be able to demonstrate the principles through alternative approaches appropriate to their circumstances, risk profile, and maturity.

Question 7 - Missing or overlapping principles.

The 11 principles are broadly complete but could be streamlined. Principles 7-10 form a related investment-assessment sequence and could be grouped. A clearer overarching principle should be added: regulatory coherence and deliverability.

Question 8 - Missing frameworks or tools

The guidance should include robust decision-making/least-regrets analysis, cost-effectiveness analysis, outage-cost approaches, portfolio optimisation, stress testing, bow-tie analysis, service-level methods, and after-action learning, with guidance on when simple tools are preferable. Advanced techniques such as computable general equilibrium models and agent-based models require specialist capability, high-quality datasets, and clear assumptions, and should not be treated as routine expectations for most providers.

Question 9 - Current approach and experience

Electricity distribution businesses already apply many of the draft resilience principles through established asset management systems, asset criticality and risk frameworks, engineering standards, network planning, investment governance processes, emergency response arrangements, consumer engagement, Lifelines participation and post-event reviews. For mature networks, resilience is generally embedded within existing decision-making processes rather than managed as a standalone programme.

At Unison, resilience-related investment decisions are guided by our Asset Management System, risk management framework, asset criticality assessments, network planning processes, and investment prioritisation practices. Resilience risks are identified, assessed, and made visible through these processes, enabling resilience outcomes to be considered alongside other network drivers such as asset condition, reliability, contingency and network growth.

The maturity of these underlying asset management processes is therefore relevant to assessing the credibility of resilience planning and the level of additional assurance or documentation reasonably required.

To support this, Unison has developed additional resilience-specific capabilities. The Network Vulnerability Assessment Model (NVAM) uses publicly available hazard information and network data to assess asset exposure and vulnerability to natural hazards. Assessments currently incorporate hazards such as earthquake, coastal inundation, flooding, liquefaction, tsunamis, and volcanic activity, with the level of analysis dependent on the availability and maturity of underlying datasets. The outputs are integrated into asset management processes, enabling resilience related asset issues to be identified, prioritised and considered within normal planning and investment activities.

Unison also undertakes annual resilience maturity assessments using the Resilience Management Maturity Assessment Tool (RMMAT), developed by Unison and subsequently adopted by the EEA. Unison also maintains a Critical Sites Register to improve understanding of the infrastructure, services and communities that are most critical to wellbeing and emergency response. These initiatives support continual improvement and help ensure resilience considerations are appropriately reflected in planning and investment decisions.

Once a resilience risk has been identified, the appropriate response depends on its materiality, consequence, and the efficiency of available mitigation options. In many cases, resilience improvements can be delivered through existing renewal, replacement, or augmentation programmes. Standalone resilience investments are generally reserved for material risks that cannot be efficiently addressed through existing capital or operational programmes.

This approach enables resilience to be embedded within routine asset management and investment decision-making rather than treated as a separate programme by default. Recent events, including Cyclone Gabrielle, reinforced that resilience outcomes depend not only on asset hardening, but also on preparedness, restoration capability, strategic spares, access, coordination, and community readiness. These lessons continue to inform resilience-related investment decisions across the sector.

Question 10 - Practical examples

Many of the resilience principles are applied through Unison's normal planning and investment processes. For example, publicly available hazard information is combined with network asset data to improve understanding of network exposure and vulnerability to hazards such as earthquake, coastal inundation, flooding, liquefaction, tsunami, and volcanic activity. This provides an evidence base for identifying resilience risks across the network and understanding where the performance and resilience of the network may be most affected during a major event.

The potential impacts of these risks are then assessed by considering asset criticality, network connectivity and the consequences for infrastructure, services and communities that are most critical to wellbeing and emergency response. This helps ensure resilience decisions consider community and essential service impacts, rather than focusing solely on asset-level risk.

Once risks and consequences are understood, potential mitigation options can be assessed alongside other network drivers. Unison presents resilience related issues alongside asset condition, reliability, contingency and other network constraints in a common geospatial view. This enables teams across the business to identify where resilience risks intersect with planned network work and incorporate appropriate resilience improvements into renewal projects where it is efficient to do so. Depending on the nature of the risk, this may include asset relocation, flood protection measures, seismic strengthening, network automation, strategic spares, vegetation and access-route management, alternative supply arrangements, mobile generation, or other measures designed to improve network resilience and recovery capability.

This approach enables resilience to be considered as part of normal planning and investment activities. It helps ensure risks are identified early, mitigation options are

evaluated alongside other network priorities, and decisions are informed by evidence and community outcomes.

Question 11 - Iwi, hapū and Māori perspectives

The framework should recognise Māori as consumers, infrastructure owners, mana whenua, Treaty partners, and holders of local knowledge. Engagement should be early, place-based, and appropriately resourced, with flexibility for local relationships and context.

The Commission should avoid prescribing a single engagement model. The framework should allow providers and iwi/hapū to determine appropriate engagement based on local relationships, existing forums, project materiality, and the nature of the resilience decision.

5. Priority amendments to the final guidance

- State that the guidance is non-binding, prospective, and not a checklist, and explain its evidential role in each relevant Part 4 process.
- Replace absolute references to “all hazards,” “all costs and benefits” and “all interdependencies” with materiality-based language.
- Add a tiered proportionality framework, worked EDB examples and clear treatment of Chapter 3 “what good looks like” indicators.
- Clarify that willingness to pay and CBA inform, but do not determine, the efficient resilience level, particularly for low-probability/high-consequence and non-monetisable impacts.
- Recognise technology-neutral, non-network, opex and community-based options, including equivalent regulatory treatment.
- Clarify accountability for cross-sector dependencies and establish secure information-sharing arrangements.
- Map the guidance to existing AMP, information disclosure, DPP/CPP, quality, emergency-management, and climate-related requirements.
- Develop common assumptions, outcome-focused measures, maturity assessment templates, and detailed business case guidance before adding new reporting and review the guidance after practical application.

Conclusion

We support the Commission’s objective of improving the quality, transparency, and consistency of resilience decision-making. The draft provides a durable foundation through its focus on risk, interdependencies, consumer impacts, uncertainty, and structured decision-making.

To be effective, the final guidance should remain proportionate, recognise existing sector practices and maturity, and provide greater certainty about its application within regulatory processes. It should support good judgement rather than become a retrospective checklist or unfunded evidential hurdle.

The framework should also recognise resilience as a consumer, business, and community outcome, not simply an asset investment outcome. The most efficient response will often combine targeted infrastructure investment, operational preparedness, business continuity, distributed energy resources, community preparedness, and cross-sector coordination.

Resilience is not achieved by mitigating every hazard. It is achieved by making transparent, proportionate, and affordable decisions about risk, recovery, and the most efficient mix of measures to reduce consumer harm and maintain essential services over time.

No part of this submission is confidential; we acknowledge it will be published. Please contact us for further information.

Nā māua noa, nā

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