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Tēnā koutou,

Consultation on Ancillary Services Procurement Plan – Emergency Reserve Update

Unison Networks Limited and Centralines Limited are consumer-owned electricity distribution businesses serving communities in Hawke's Bay, Taupō, Rotorua, and Central Hawke's Bay. We welcome the opportunity to comment on Transpower's proposed amendments to the Ancillary Services Procurement Plan to implement Emergency Reserve.

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

We recognise that the Electricity Authority has determined the policy framework for Emergency Reserve, including its intended role as a penultimate resource to reduce the likelihood and extent of involuntary load shedding during grid emergencies, and that this consultation is focused on implementation. Accordingly, our comments are limited to practical operational matters relevant to distribution network operation, focusing on the practical operation of Emergency Reserve at the distribution network interface and the risks that may arise as participation increasingly involves aggregated distributed energy resources, controllable load and other flexibility connected to distribution networks.

From an EDB operational perspective, we consider five matters warrant particular attention:

1. **Visibility and coordination with distributors** where Emergency Reserve resources are connected to distribution networks and may also be subject to distributor load-control arrangements.

2. **Interaction with existing distributor-controlled load**, including the potential for Emergency Reserve resources to overlap with or be affected by existing load-control arrangements.
3. **Aggregated distributed energy resources**, where the System Operator may see an aggregate response but have limited visibility of the underlying assets, their location and their interaction with the distribution network.
4. **Metering, data and baselining**, including the practical limitations of determining delivered Emergency Reserve where response is aggregated across multiple ICPs or interacts with other forms of flexibility.
5. **Restoration**, particularly the potential for coordinated restoration of previously curtailed load, battery charging and other flexible demand to create a secondary demand peak or local distribution constraints.

We consider these issues can be addressed without introducing disproportionate barriers to participation. In particular, we support Transpower's proposed pragmatic, high-trust approach for Year 1, but consider that distribution-network operational requirements should be incorporated into the provider onboarding, tender assessment, notification and restoration processes from the outset.

Of the five matters above, we consider restoration to be the most significant for distribution networks. Restoration is not simply a reversal of activation: the simultaneous return of previously curtailed load, hot-water load, EV and battery charging and other flexible demand could create a secondary demand peak and local network constraints, even where the transmission system can accommodate the returning load. If unmanaged, this could overload local network assets and lead to further supply interruptions for consumers while the power system is still recovering.

Our priority recommendation is therefore that Transpower develop restoration arrangements that recognise an EDB may have constraints on the rate or timing at which load can safely return, and that allow affected EDBs to identify material local constraints so that staged or managed restoration can be considered where practicable.

We also recommend that Transpower:

- retain the proposed broad and technology-neutral participation framework, so that the widest practical pool of flexibility is available to help avoid involuntary load shedding;
- obtain sufficient information about the EDB, GXP and relevant resources to identify material distribution network interfaces;
- establish a practical process for notifying and engaging affected EDBs where Emergency Reserve activation or restoration could materially affect distribution operations, so that EDB control rooms are not surprised by material changes in demand;
- explicitly consider interactions with distributor load-control systems during tender assessment and operation;
- ensure aggregated resources do not result in double-counting of flexibility that is already committed to another operational or market service;
- provide sufficient information and data access to allow EDBs to understand the operational effects of significant Emergency Reserve events, so that any adverse network impacts can be identified and addressed before they recur; and
- lead a formal post-winter review after Year 1, involving providers and affected EDBs, to identify any issues arising from activation, baselining, communications and restoration, and use its findings to determine whether more formal EDB coordination, verification or locational requirements are required in future.

These measures would help ensure Emergency Reserve operates as intended at the transmission level without creating unintended operational risks or costs for distribution networks and their consumers.

1. Scope and background

Transpower's consultation proposes amendments to the Ancillary Services Procurement Plan to operationalise Emergency Reserve for winter 2027. The proposed framework covers forecasting, procurement, technical review, onboarding, pre-activation, activation, restoration, performance assessment and payment arrangements. Transpower describes the Year 1 approach as a minimum viable product, recognising the compressed implementation timeframe and the intention to refine the scheme through operational experience.

Unison supports this pragmatic approach.

Our comments are deliberately limited to matters within the scope of Transpower's consultation and, in particular, to the operational interface between Emergency Reserve and distribution networks.

2. Distribution network visibility and coordination

Visibility of Emergency Reserve resources

Transpower proposes that tender information will include the source node/GXP, ICP, MW offered, baselining methodology and whether the resource is load or generation. Transpower also proposes to identify the relevant EDB for each resource to assess potential impacts from distributor load-control systems.

Unison supports this requirement.

However, identifying the EDB alone may not provide sufficient information to assess operational impacts where Emergency Reserve is provided through an aggregated portfolio of resources.

For example, an aggregator may provide a contracted quantity comprising numerous residential, commercial or industrial resources spread across a distribution network. The aggregate response may be visible to the System Operator at a GXP, while the EDB may need to understand:

- where the underlying resources are located;
- whether they are concentrated behind particular GXPs or feeders;
- whether resources are subject to existing distributor control;
- whether the resources are connected to constrained parts of the network; and
- whether simultaneous activation or restoration could create a localised operational issue.

We therefore recommend that Transpower's tender and onboarding processes provide sufficient information to identify material distribution network impacts, while avoiding unnecessary asset-level requirements for every individual resource.

A proportionate approach could involve additional information being requested where an aggregated portfolio is materially concentrated within a particular distribution network or where an EDB identifies a specific operational concern.

3. Interaction with distributor load control

A particularly important interface is between Emergency Reserve and existing distributor load-control systems.

EDBs routinely control certain forms of demand for network management purposes. These arrangements can be material to maintaining distribution network security and may operate automatically or in response to network conditions.

Transpower acknowledges this issue in the consultation, noting that it may consider interactions with automated load-control systems operated by distributors when assessing tenders.

We support this consideration but believe the operational requirement should be made more explicit.

An Emergency Reserve provider may not have full visibility of whether a particular load is simultaneously subject to distributor control. Conversely, the EDB may not know that a load connected to its network has been committed by an Emergency Reserve provider.

This creates a risk that:

- the same flexibility is effectively committed to more than one service;
- distributor load control changes the availability of Emergency Reserve;
- Emergency Reserve activation changes the quantity of load available to the EDB's control system;
- restoration of Emergency Reserve coincides with restoration of distributor-controlled load; or
- the System Operator and EDB make assumptions about available demand flexibility that are inconsistent.

We therefore recommend that Transpower establish a clear operational principle that Emergency Reserve participation should be designed and operated to minimise adverse impacts on distributor operational requirements and network security.

At a minimum, providers should be required to identify resources that are subject to distributor-controlled load management and demonstrate that their Emergency Reserve arrangements appropriately account for that control.

This should not necessarily require the EDB to approve every individual resource. Rather, it should provide a mechanism for resolving material operational conflicts before a resource or portfolio is contracted.

4. Aggregated DER and the distribution network interface

We support the consultation's recognition that aggregators may be well placed to provide Emergency Reserve. Transpower notes that aggregators can combine resources with different availability profiles and provide a reliable aggregate response.

This approach is likely to become increasingly important as participation expands to include:

- distributed batteries;
- EV charging;
- commercial flexible loads;
- distributed generation;
- residential demand response; and
- other distributed energy resources.

However, aggregation creates a distinction between system-level visibility and distribution-level visibility.

An aggregate response at a GXP may appear straightforward from the System Operator's perspective while potentially producing different effects across the underlying distribution network.

For example, a 10 MW reduction aggregated across several thousand ICPs could be operationally benign from a distribution perspective. The same 10 MW response concentrated in a particular part of a network could have materially different consequences, particularly where the response subsequently reverses.

We therefore recommend that the Emergency Reserve framework remain technology-neutral and aggregation-friendly, while incorporating appropriate safeguards for material distribution impacts.

We do not consider that locational procurement is necessary for Year 1. However, Transpower should retain the ability to consider the geographic distribution of aggregated resources when assessing tenders where this is necessary to identify material network impacts.

5. Avoiding double-counting of flexibility

Unison considers it important that Emergency Reserve should represent additional flexibility and should not inadvertently count the same capability more than once.

This is particularly important as flexibility markets and distribution-level flexibility services develop.

A resource may potentially be capable of supporting:

- Emergency Reserve;
- distributor load management;
- distribution network flexibility;
- wholesale market response;
- other ancillary services; or
- customer energy-management objectives.

The consultation already recognises some of these interactions. For example, equipment providing Emergency Reserve cannot also provide Instantaneous Reserve, and Transpower proposes specific provisions addressing this interaction.

From an EDB perspective, a similar principle should apply where the resource is already relied upon for a distribution network operational requirement.

The key issue is not necessarily whether an asset can technically participate in multiple arrangements. Rather, it is whether the same MW of flexibility can genuinely be relied upon simultaneously for more than one purpose.

We therefore recommend that Transpower provide clear guidance on:

- when flexibility committed to another service can participate in Emergency Reserve;
- how competing activation instructions will be prioritised;
- how conflicts with distributor operational requirements will be resolved; and
- how providers should demonstrate that contracted Emergency Reserve is genuinely available when called.

This will reduce the risk that the System Operator and distributors each assume the same flexibility is available to them.

6. Metering, data and baselining

Unison supports the principle that delivered Emergency Reserve should be measured against an appropriate baseline. Transpower proposes that the baseline methodology be agreed between the provider and System Operator during pre-contract review and recognises that baselining is particularly challenging across diverse loads.

We agree that this flexibility is appropriate for Year 1.

However, baselining becomes more challenging where resources are:

- aggregated across multiple ICPs;
- subject to distributor load control;
- affected by local network conditions;
- capable of both import reduction and generation;
- subject to customer behaviour changes; or
- participating in multiple flexibility arrangements.

There is also a distinction between measuring system-level delivery and understanding the operational consequences within a distribution network.

Getting this right matters for both cost and security of supply. If baselines do not properly account for these factors, Emergency Reserve payments could reward response that would have occurred anyway (for example, through distributor load control), and the quantity of Emergency Reserve genuinely available in a future event could be overstated.

We recommend that Transpower consider, as part of its Year 1 monitoring and the formal post-winter review recommended in section 10:

1. whether the data available to the System Operator is sufficient to assess aggregate performance;
2. whether EDBs need access to relevant event information to assess distribution network impacts;
3. how distributor load-control actions are treated in baseline calculations; and
4. how changes in load caused by another flexibility service are distinguished from Emergency Reserve response.

We support the proposed one-minute monitoring resolution for Year 1. Transpower proposes that providers retain relevant data for at least 30 business days and provide it to the System Operator when requested.

We suggest that consideration also be given to retaining sufficient event-level information for post-event operational analysis, particularly where an event has material distribution network consequences.

7. Pre-activation and activation

Transpower proposes that pre-activation may occur up to 36 hours ahead of real time, with the likely Year 1 range being 12–24 hours, and that activation may occur up to one hour ahead of real time.

From an EDB perspective, advance visibility of a material event may be important where Emergency Reserve resources interact with distribution network operations.

Without that visibility, an EDB may make load-control or switching decisions based on demand assumptions that no longer hold, or be unprepared for the subsequent restoration, increasing the risk of avoidable local network issues for consumers.

We therefore recommend that Transpower establish a mechanism for operational notification to affected EDBs where an Emergency Reserve event is expected to have a material distribution network impact.

This does not necessarily require EDBs to receive every Emergency Reserve notification.

Instead, a risk-based approach could be adopted, based on factors such as:

- the size of the contracted resource;
- concentration of resources within an EDB;

- known interaction with distributor load control;
- network constraints; and
- the expected scale of restoration.

This would avoid creating unnecessary operational communications while ensuring EDB control rooms are not surprised by material changes in demand.

8. Restoration

We consider restoration to be the most significant operational issue for EDBs.

Transpower proposes that restoration will be a manual process, with the System Operator issuing restoration notifications through FlexPoint. Providers may restore later than the notification, recognising that some resources may not be capable of immediate restoration. Transpower has deliberately avoided imposing a fixed maximum restoration time because premature restoration could worsen the grid emergency.

We support the principle that restoration must remain subject to the System Operator's assessment of the wider grid situation.

However, from an EDB perspective, restoration is not necessarily a simple reversal of activation.

The simultaneous restoration of:

- curtailed industrial and commercial load;
- residential flexible load;
- hot-water load;
- EV charging;
- battery charging; and
- other distributed demand

could create a secondary demand increase.

Where significant quantities of flexible demand are connected to a constrained distribution network, restoration could also create local network constraints even if the transmission system can accommodate the returning load.

We therefore recommend that Transpower's operational procedures recognise that restoration may need to be coordinated with affected EDBs where material distribution constraints exist.

This could include:

- providing affected EDBs with visibility of expected restoration;
- allowing an EDB to identify a material local constraint;
- considering staged or managed restoration where practicable; and
- monitoring post-event demand recovery to identify unintended secondary peaks.

We do not recommend imposing a fixed restoration timeframe in the Procurement Plan. Instead, we recommend that the operational procedures allow sufficient flexibility to manage restoration safely at both transmission and distribution levels.

9. High-trust self-certification

Unison supports Transpower's proposed high-trust approach for Year 1.

The compressed implementation timeframe and the potentially aggregated nature of participating resources make a fully prescriptive verification regime impractical. Transpower proposes director-level self-certification, supported by testing, reporting, audit and financial consequences for non-performance.

However, from an EDB perspective, the high-trust approach makes it particularly important that providers understand their operational obligations at the distribution network interface.

We recommend that the self-certification and tender documentation make clear that providers are responsible for understanding:

- the distribution network location of their resources;
- relevant distributor load-control arrangements;
- any material network limitations known to the provider; and
- the implications of activation and restoration for those resources.

We consider this can be achieved without creating a separate EDB approval process.

Clearly documenting these responsibilities would also provide a basis for accountability where a resource cannot deliver because of a distribution network interaction that the provider should reasonably have identified.

The formal post-winter review recommended in section 10 should then be used to determine whether more formal verification is warranted.

10. Future development

Unison supports Transpower's minimum viable product approach for Year 1.

We consider it particularly important that the first year generates useful operational learning about the interaction between transmission-level Emergency Reserve and distribution networks.

To capture this learning, we recommend that Transpower lead a formal post-winter review after winter 2027, involving providers and affected EDBs. The review should identify any issues arising from activation, baselining, communications and restoration, and its findings should be used to refine the operational arrangements before participation volumes increase materially.

Future development could consider:

- improved visibility of aggregated DER;
- standardised information exchange between Transpower and EDBs;
- more sophisticated treatment of distribution network constraints;
- coordination with distribution flexibility services;
- more granular information about resource location;
- improved baseline methodologies; and
- managed or staged restoration of aggregated flexible demand.

We expect these issues to become increasingly important as DER penetration and customer participation in flexibility services increase.

Conclusion

Unison and Centralines recognise the Electricity Authority's decision to establish Emergency Reserve and support Transpower's pragmatic implementation approach for winter 2027.

Our submission is focused narrowly on ensuring that Emergency Reserve can operate safely and practically at the distribution network interface.

We consider the most important operational requirements are:

1. **Visibility** — Transpower should have sufficient information to identify material distribution network impacts from contracted resources and aggregations.
2. **Coordination** — Emergency Reserve should operate consistently with existing distributor load-control arrangements and be designed and operated to minimise adverse impacts on distribution network security.
3. **Additionality** — the same flexibility should not be relied upon simultaneously for Emergency Reserve and another operational requirement where it cannot physically deliver both services.
4. **Data and baselining** — the framework should recognise the additional complexity created by aggregated DER, distributor load control and multiple sources of flexibility.
5. **Activation** — appropriate mechanisms should exist for affected EDBs to receive operational information where an Emergency Reserve event could materially affect their network.
6. **Restoration** — restoration should recognise that returning flexible demand can create secondary peaks and local distribution constraints.
7. **Learning** — a formal post-winter review involving Transpower, providers and affected EDBs should be used to refine the EDB/System Operator interface before participation volumes increase materially.

We consider these measures consistent with Transpower's proposed minimum viable product approach. They need not materially delay implementation or impose disproportionate participation requirements, but would reduce the risk that an Emergency Reserve activation or restoration creates unintended operational consequences within distribution networks.

Unison appreciates the opportunity to comment and would welcome further engagement with Transpower as the operational arrangements and tender documentation are developed.

Nā māua noa, nā

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Appendix — Responses to consultation questions

Consistent with the focus of this consultation on implementation, the following responses are limited to practical operational matters relevant to distribution network operation.

Question 1 — Forecasting inputs and analysis

Do you have suggestions for other inputs or analysis that should form part of the forecasting process?

We recommend that the forecasting process consider, where relevant:

- the expected availability and utilisation of existing distributor-controlled load;
- material changes in distributed generation and flexible demand;
- known changes in aggregated DER participation;
- relevant network constraints that could affect the deliverability of contracted resources; and
- lessons from previous Emergency Reserve events and other emergency response actions.

The purpose should not be to introduce unnecessary complexity into Year 1 forecasting, but to ensure that forecast Emergency Reserve requirements are not based solely on transmission-level demand and supply assumptions where material distribution-level factors could affect deliverability.

Question 2 — Forecasting approach

Do you have any comments on the suggested forecasting approach?

We support the proposed annual forecasting approach for Year 1.

We consider it appropriate for the System Operator to retain flexibility to refine the methodology as operational experience develops.

Question 3 — Accuracy versus pragmatism

What are your thoughts on the balance between accuracy and pragmatism?

We support a pragmatic Year 1 approach, provided there is a clear commitment to a formal post-winter review of operational outcomes involving Transpower, providers and affected EDBs.

The most useful learning is likely to come from actual Emergency Reserve events, including the interaction between provider response, distributor load control and restoration.

Question 4 — Procurement approach

Do you have comments on the proposed procurement approach?

We support the proposed open tender and technology-neutral approach.

We recommend that tender evaluation explicitly consider material interactions with distributor load-control systems and distribution network constraints where these could affect the deliverability of the proposed reserve.

Question 5 — Tendering

Do you have feedback on the tendering approach?

We support the proposed approach.

Where resources are aggregated, the tender process should obtain sufficient information to identify the relevant EDB and the geographic concentration of the underlying resources where this is material to operational risk.

Question 6 — Pre-contract technical review and testing

Do you support the proposed approach?

Yes, subject to the inclusion of appropriate consideration of distribution network interfaces.

Testing should, where relevant, demonstrate that the provider can deliver the contracted response without relying on flexibility that is simultaneously required for another operational purpose.

Question 7 — High-trust self-certification

Do you support the high-trust system and self-certification?

Yes, for Year 1.

However, self-certification should include confirmation that the provider has considered relevant distributor load-control arrangements and distribution network operational requirements.

Question 8 — Eligibility

Do you support the proposed eligibility settings?

Yes, broadly.

We support broad participation, including aggregation, but recommend that eligibility and tender assessment provide sufficient scope to identify resources that may create material conflicts with distributor-controlled load or other network requirements.

Question 9 — Additional eligibility considerations

We recommend clear guidance on the treatment of aggregated resources and resources subject to distributor control.

The objective should be to avoid excluding useful flexibility while ensuring that the same capability is not relied upon simultaneously for incompatible operational purposes.

Question 10 — Potential participation

Unison is not commenting on participation in the Emergency Reserve market as a provider.

Our interest is in the operational impacts of resources connected to distribution networks.

Question 11 — FlexPoint

Do you have comments on the proposed use of specified software?

We have no objection to the proposed use of FlexPoint.

However, consideration should be given to how information relevant to affected EDBs will be communicated where an Emergency Reserve activation or restoration could materially affect distribution network operations.

We do not suggest that EDBs need direct access to FlexPoint for all events.

Question 12 — Availability requirements

Do you support the proposed availability requirements?

We support the proposed Year 1 approach, including the use of a defined call period and 24/7 availability during that period.

The absence of a fixed maximum response duration is understandable given the emergency nature of the service.

Question 13 — Pre-activation/activation settings

To the extent the question concerns the proposed trigger settings, Unison supports the need for transparent and predictable settings.

Where an event is likely to have a material distribution network impact, appropriate operational communication with the affected EDB should be considered.

Question 14 — Pre-activation, activation and restoration

We support the proposed operational approach, subject to greater recognition of distribution network restoration considerations.

In particular, restoration should account for the possibility that multiple flexible resources return simultaneously and create a secondary demand peak or local distribution constraint.

Where material, affected EDBs should have an opportunity to communicate relevant operational constraints to the System Operator.

Question 15 — Reporting

We support the proposed reporting requirements.

We recommend that post-event reporting provide sufficient information to assess:

- contracted versus delivered response;
- timing of activation and restoration;
- material changes in demand following restoration; and
- any significant operational issues encountered by affected EDBs.

Question 16 — On-demand testing

We support the proposed approach.

Testing should focus on demonstrating that the contracted service can be delivered reliably and that relevant communications and operational interfaces function as intended.

Question 17 — Monitoring and verification

We support the proposed monitoring and verification approach for Year 1.

The proposed one-minute metering resolution appears reasonable.

The framework should also recognise the need for sufficient information to understand interactions between Emergency Reserve response and distributor-controlled load.

Question 18 — Technical feasibility

Unison is not commenting on the technical feasibility of participating as an Emergency Reserve provider.

However, where resources are connected through an EDB network, the technical arrangements should recognise the potential interaction with existing distribution control systems.

Question 19 — Baselineing

We support a flexible approach to baselineing during Year 1, recognising that different resources will require different methodologies.

However, baseline methodologies should appropriately account for:

- distributor load control;
- other committed flexibility;
- changes in operating conditions;
- aggregated resources; and
- load substitution between feeds where relevant.

The key principle should be that Emergency Reserve payments reflect incremental response attributable to the Emergency Reserve service, rather than response that would have occurred through another mechanism.

Question 20 — Enforcement and penalties

We support proportionate enforcement arrangements.

From an EDB perspective, it is important that providers are not penalised for circumstances genuinely outside their control, including a bona fide distribution network event that prevents delivery.

Conversely, providers should be accountable where contracted flexibility is unavailable because of arrangements within their control or because the same resource has been committed elsewhere.

Question 21 — Fees

We have no specific comment on the proposed fee structure.

We note, however, that fee arrangements should not create incentives for behaviour that could adversely affect distribution network operations, particularly around repeated pre-activation, activation or restoration of aggregated demand.

Question 22 — Drafting

We recommend that the Procurement Plan or associated tender/contract documentation make clear that:

- providers must identify material interactions with distributor load-control systems;
- contracted resources must be genuinely available when activated;
- Emergency Reserve participation should be designed and operated to minimise adverse impacts on distributor operational requirements and network security;
- the System Operator may consider distribution network impacts when evaluating tenders; and
- restoration arrangements may need to account for material distribution network constraints.