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From: Electricity Engineers' Association of NZ

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Subject: EEA Submission – Consultation Paper – *Network connections project: stage one amendments*

OVERVIEW

The Electricity Engineers Association (EEA) appreciates the opportunity to provide a submission on the Electricity Authority's consultation paper for the *Network Connections Project: Stage One Amendments*.

The Electricity Engineers' Association (EEA) represents professionals and organisations across New Zealand's electricity sector. Our members include electricity generators, transmission and distribution companies, consultants, and equipment suppliers. The EEA plays a key role in driving innovation, enabling safe and resilient electricity networks, and ensuring the sector can meet the challenges of decarbonisation and electrification while supporting the transition to a net-zero carbon future.

Our submission reflects the perspectives of our members and highlights key insights derived from their extensive expertise in network connections, demand management, and integration of emerging technologies.

This submission responds to the consultation questions outlined in the paper, addressing the proposed amendments and their implications for network connection processes. We draw on industry feedback to provide constructive input aimed at enhancing the efficiency, transparency, and fairness of these processes while supporting the sector's transition toward a more flexible and distributed energy system.

Key themes emphasized in our responses include:

- Streamlining connection processes: Recommendations to reduce complexity and improve timelines for new connections to support customer engagement and investment.
- Enabling innovation and flexibility: Insights into integrating new technologies such as distributed generation, storage, and demand flexibility while maintaining network security and reliability.

- **Improved coordination and communication:** Suggestions to enhance collaboration between stakeholders, including distribution businesses, customers, and regulators, to address existing challenges and future needs.

The EEA remains committed to supporting the Electricity Authority in achieving the goals of the Network Connections Project and ensuring the framework is fit for purpose in delivering long-term benefits to all stakeholders.

We trust this submission will contribute valuable perspectives to the consultation process and look forward to further engagement on this critical initiative.

Discussion Questions

Proposal A questions: Amend the application processes for larger-capacity DG applications

Question A) What are your thoughts on the proposal to replace nameplate capacity with maximum export power?

The EEA supports the move to define distributed energy resource (DER) capabilities more accurately through the adoption of maximum export power. This approach better aligns with the operational realities of DER integration, as nameplate capacity often does not reflect the actual power that can be exported to the network under typical operating conditions. Maximum export power provides a more precise metric for assessing the impact of DER on network capacity, system stability, and hosting capacity.

Key benefits of the proposal include:

- **Enhanced Network Planning and Management**
  Using maximum export power facilitates a more accurate evaluation of network constraints and helps electricity distribution businesses (EDBs) optimise grid planning and investment. It ensures that the network's operational safety margins and flexibility potential are correctly identified.
- **Improved Equity in Connection Standards**
  By focusing on actual export capability rather than the theoretical maximum, this change ensures fairer outcomes for DER owners and network operators, as technical requirements and connection conditions will reflect practical export limits rather than oversized theoretical values.
- **Alignment with International Best Practices**
  The shift to maximum export power mirrors international trends in DER integration,

particularly in jurisdictions with advanced DER uptake, enhancing New Zealand's alignment with global standards and practices.

However, to implement this change effectively, the following considerations must be addressed:

- Clear Definition and Measurement Protocols
  Maximum export power should be clearly defined, and consistent measurement protocols should be established to ensure transparency and comparability across different DER technologies and connection arrangements.
- Transition Arrangements
  Existing connections should be carefully transitioned to the new framework, avoiding unnecessary compliance burdens on current DER owners while ensuring the new rules deliver their intended benefits.
- Stakeholder Engagement
  Comprehensive consultation with EDBs, DER owners, and technology suppliers will be critical to address potential implementation challenges, including data collection and updates to existing connection agreements.

The EEA views the proposal to replace nameplate capacity with maximum export power as a positive step toward more effective DER integration and network management. We recommend ensuring that implementation is accompanied by robust guidance, stakeholder engagement, and support mechanisms to maximise its benefits for the electricity sector and consumers.

Question B) Do you support the proposed Process 2 for medium DG (>10kW and <300kW), including the proposed requirements and timeframes? What are your thoughts on the proposed size threshold? What other changes would you make to the medium DG application process, if any?

Support for Process 2 Requirements and Timeframes

EEA broadly support the proposed Process 2 for medium DG installations, as it introduces greater clarity, efficiency, and standardisation for DG connections. The proposed requirements align with the overarching objectives of improving transparency and reducing administrative complexity while ensuring safety and reliability standards are met.

The proposed timeframes for assessment and response appear reasonable, balancing the need for timely processing with sufficient rigor to evaluate network impacts. However, we recommend periodic review of these timeframes to ensure they remain fit for purpose as the uptake of DG continues to evolve.

Considerations for Size Thresholds

Upper Limit: Raising to 1MW

The current proposed threshold of >10kW and <300kW should be revised to reflect the growing size of DG installations. Setting the upper limit for Process 2 at 1MW would better align with:

- Transpower System Operator Requirements: The System Operator must be informed of DG installations exceeding 1MW. Using this threshold for Process 2 creates a natural alignment and avoids unnecessary fragmentation of the connection process.
- Streamlined Processes for Larger DG Applications: Increasing the upper limit supports the industry's progression toward larger DG systems, reflecting technological advancements and growing consumer demand for renewable energy solutions.
- Future-Proofing: A 1MW threshold would better accommodate the rapid growth of DG installations, ensuring the process remains fit for purpose for years to come.

Lower Band: Raising to at Least 15kW

The lower limit for Process 2 could also be adjusted upward to reflect more typical system sizes and reduce unnecessary administrative overhead for smaller systems. We suggest increasing the lower threshold to at least 15kW (5kW per phase) and potentially to 20kW or 30kW, which would:

- Focus Resources: Ensuring that small-scale DG systems remain under Process 1 would allow Process 2 to concentrate on larger, more complex applications that require greater scrutiny.
- Reflect Industry Trends: This adjustment reflects the increasing prevalence of larger DG systems as the default for consumers and businesses adopting distributed energy solutions.
- Achieve Administrative Efficiency: Raising the lower band would streamline application processing and reduce delays caused by small-scale applications requiring disproportionate levels of assessment.

Recommendations for Changes to the Medium DG Application Process

- Standardised Technical Guidelines: Developing clear, standardised technical guidelines for medium DG applications would assist applicants and distributors alike. These guidelines should address design, safety, and operational parameters to streamline the process and avoid unnecessary delays.
- Digital Application Platform: Implementing a centralised digital platform for medium DG applications could enhance transparency and allow for real-time tracking of submissions, improving efficiency for all stakeholders.

- **Capacity Pre-Assessment:** Introducing an optional pre-assessment phase would allow applicants to understand network hosting capacity and feasibility prior to a full application, reducing unfeasible submissions.
- **Stakeholder Collaboration:** Greater collaboration between distributors, regulators, and applicants during the application process could help resolve potential issues early, leading to smoother project execution.
- **Transparency in Decision-Making:** Providing detailed justifications for approvals or rejections of medium DG applications would enhance transparency and help applicants better address any concerns.

The EEA supports the intent of Process 2 to streamline medium DG connections and improve clarity for all parties. We strongly recommend the Authority consider adjusting the size thresholds to better align with industry practices, including raising the upper limit to 1MW and increasing the lower band to at least 15kW. These changes, coupled with the recommended process improvements, would better accommodate the growing size of DG applications while ensuring the framework remains robust, fair, and adaptable.

Question C) Do you support the proposed Process 3 for large DG applications (≥300kW), including the proposed requirements and timeframes? What are your thoughts on the proposed size thresholds? What other changes would you make to the large DG application process, if any?

EEA supports the intent of Process 3 to enhance clarity, standardisation, and efficiency in handling large DG applications. By formalising requirements and timeframes, the process ensures greater transparency and accountability, which is critical for supporting the rapid integration of distributed energy resources in the transition to a low-carbon electricity system.

The resource consent (landowner approval) requirements proposed as part of the process are a good indicator of project maturity and should remain. They help ensure that projects entering the application pipeline are sufficiently advanced to proceed to delivery, thereby reducing the risk of speculative applications occupying queue space and causing delays.

Timing and Enforcement Considerations

While we support the defined steps and timeframes in the process, we emphasise that the enforceability of these requirements is critical to their success. For instance:

- The 18-month application window for progressing applications is a reasonable timeframe but is not always enforced consistently by electricity distribution businesses (EDBs). This has led to stalled projects remaining in the queue and hindering the processing of active applications. Mechanisms for policing these timelines—such as requiring EDBs to remove dormant

applications from the queue after the deadline—should be developed to ensure fairness and efficiency in the application process.

- A clear accountability framework for both EDBs and applicants is essential to avoid unnecessary delays, and the Authority should provide guidance or oversight mechanisms to support adherence to timeframes.

Final Investment Decision (FID) and Final Approval

EEA agree that the current sequencing of Final Investment Decision (FID) and Final Approval in the process requires adjustment. Most equity providers and all financial institutions require Final Approval before committing to FID. Therefore, Final Approval must be a prerequisite for FID in the process design. Aligning these steps with the financing reality of projects will provide greater certainty to developers and financial stakeholders, enabling smoother project delivery.

Considerations for Business Investment Decision Support

To address the concern that businesses may withdraw after understanding connection costs, wasting resources:

- Early-Stage Information Sharing: EDBs could develop mechanisms to provide indicative cost estimates and high-level feasibility studies early in the process. These preliminary assessments would allow businesses to evaluate their options before requiring detailed design work.
- Demand-Side Engagement: EDBs should proactively engage with applicants to understand operational needs and explore options for demand smoothing, operational shifts, or adopting energy-efficient alternatives. This consultative approach ensures that the connection design aligns with business goals and energy efficiency priorities.

Thoughts on Proposed Size Thresholds

The proposed ≥300kW size threshold for large DG applications seems reasonable and aligns with the increased complexity and potential impact of larger installations. However, periodic review of this threshold is advisable to account for evolving technology and market conditions. Additionally, the Authority could explore introducing an intermediate threshold category (e.g., 300–500kW) to better match process requirements to project scale.

Recommendations for Further Enhancements

To strengthen the large DG application process, we suggest the following:

- Enforcement of Project Maturity Requirements: The inclusion of resource consent or landowner approval as a prerequisite for applications is a good measure of project maturity and should remain. It ensures that only viable projects occupy the application pipeline, thereby reducing speculative applications that can delay other projects.

- Digital and Administrative Tools: Developing standardized templates, digital submission platforms, and centralized tracking systems for DG applications could improve transparency, reduce administrative burden, and enhance coordination between developers and EDBs.
- Queue Management Improvements: To address stalled applications, the Authority should consider requiring EDBs to implement robust queue management practices. This could include mandatory regular updates from applicants and clear criteria for removing inactive projects from the queue.
- Stakeholder Engagement and Pre-Application Guidance: Facilitating early engagement between applicants and EDBs prior to formal applications could help resolve technical challenges upfront and minimize the risk of delays during the formal assessment process.
- Energy Efficiency Mechanisms: Develop a framework requiring EDBs to incorporate energy efficiency and demand management considerations into the connection design process, ensuring connections are optimized for actual business needs.

Question D) Do you think the Authority should apply any of the proposed changes for large DG to medium DG applications also?

The EEA acknowledges the Electricity Authority's efforts to enhance the efficiency and consistency of network connection processes. The proposed changes for large distributed generation (DG) applications represent a valuable step in this direction.

In considering whether these changes should also apply to medium DG applications, the EEA suggests the following key considerations:

- Proportionality of Requirements: Medium DG applications, as currently defined (10kW–300kW), generally involve smaller-scale projects that carry less complexity compared to large DG. Extending the same requirements without adjustments could impose disproportionate administrative and compliance burdens on medium DG applicants, potentially discouraging development. Any application of the changes should maintain proportionality in relation to project size and complexity.
- Potential Reclassification of Medium DG: If the size range for medium DG applications were to be adjusted from the current 10kW–300kW to 30kW–1MW, as has been suggested in some discussions, the proposed changes would be far more applicable and beneficial. The larger size range would align medium DG projects more closely with the scale and impact of large DG, making the additional rigor and process improvements both necessary and appropriate.

- Consistency and Clarity: A consistent approach across DG categories fosters transparency and predictability for all stakeholders. However, if the current size definition of medium DG remains unchanged, applying the same changes as for large DG could result in overly complex processes for smaller, less impactful projects. The processes should be tailored to suit the needs of the redefined medium DG category, should the size range be updated.
- Scalability and Simplification: If the proposed changes are to apply to medium DG, they must be scaled appropriately. Simplifications to the technical and administrative requirements may be necessary to avoid placing unnecessary burdens on smaller projects within the medium DG category, especially under the current size definition.
- Stakeholder Feedback and Trial Periods: Before any extension of the proposed changes to medium DG, we recommend further consultation with stakeholders engaged in medium DG projects. A trial or phased approach to implementation could provide critical insights into the suitability and practicality of these changes for medium DG.
- Supporting Decentralised Energy Growth: Medium DG plays a vital role in the transition towards a decentralised, low-carbon energy system. Any process changes should encourage the development of medium DG projects, ensuring that they remain accessible to a wide range of stakeholders, including smaller businesses and community groups.

In summary, while the proposed changes for large DG are beneficial, their application to medium DG depends significantly on how medium DG is defined. Should the size range for medium DG applications shift to 30kW–1MW, these changes would provide valuable improvements to the application process. However, if the current size range is retained, modifications to ensure proportionality and simplicity will be essential. We support a tailored, stakeholder-informed approach that balances consistency, efficiency, and accessibility to achieve New Zealand's broader energy goals.

Question E) What are your thoughts on industry developing the detailed policies to complement the Code changes proposed in this paper?

The EEA supports the approach of industry collaboration to develop the detailed policies required to complement the proposed Code changes outlined in the consultation paper. Leveraging industry expertise ensures that the resulting policies are both practical and technically robust, while fostering a sense of ownership and accountability among stakeholders.

However, while industry-developed policies provide the flexibility to adapt to diverse local needs and conditions, we consider that certain elements—particularly those fundamental to consistency and fairness—would be better placed within the Code provisions associated with these processes. For

example, timescales for progressing the build of distributed generation (DG) assets could be codified to establish a clear and consistent baseline expectation across the sector.

The EEA suggests that the Code could require, for instance, a designated time frame for DG asset construction (i.e. 2 years), unless otherwise agreed or specified in the relevant EDB's connections queue management policy. This approach would provide certainty and consistency across the industry while allowing flexibility for adjustments:

1. Project-Specific Flexibility: Where agreement is reached between the connecting party and the EDB, time frames could be adjusted to accommodate unique project requirements.
2. EDB-Specific Flexibility: EDBs could outline specific policies in their connections queue management approach to reflect local conditions and operational practices.

This balance between a Code-mandated baseline and tailored flexibility would provide much-needed clarity to developers and other stakeholders, reduce the risk of disputes, and support the efficient progression of connection projects.

To support the successful development of industry policies, the EEA recommends:

- Structured Industry Engagement: Establishing working groups or panels that include a diverse range of industry stakeholders, such as EDBs, generators, retailers, technology providers, and consumer representatives. This ensures comprehensive input into policy development.
- Guidance from the Authority: Clear guidance and facilitation from the Electricity Authority to align policies with the overarching objectives of the Code amendments.
- Transparency and Consultation: A transparent process with opportunities for public consultation and feedback to promote wide acceptance and alignment of policies.
- Alignment with Broader Industry Goals: Ensuring policies support New Zealand's broader goals, including decarbonisation, resilience, and enabling greater consumer participation in the electricity market.

The EEA is committed to providing technical expertise and acting as a platform for industry collaboration throughout this process. We believe that this combined approach—establishing clear Code provisions for key elements while allowing industry flexibility for specific applications—will deliver robust and practical policies that align with the long-term interests of consumers and the electricity sector.

Question F) What are your thoughts on the Authority's summary of capacity rights allocation?

The EEA acknowledges the Electricity Authority's efforts to address capacity allocation. While we agree with the sentiment that capacity should be allocated in a way that supports efficient, transparent, and fair use of network resources, we disagree with the summary as it currently stands.

The Authority would need to explicitly define what it intends by the term "capacity allocation" and consider using terminology such as "preferential capacity," "future capacity," or "optional capacity" to avoid creating a sense of legal entitlement. The use of terms that imply a property right to network capacity could create unintended barriers to system-wide optimisation, restrict equitable access to network resources, and conflict with the dynamic and shared nature of electricity networks.

We also recommend the following considerations to refine the framework:

1. Clarity on Objectives: Clear articulation of the objectives of capacity rights allocation is essential. Is the focus on enhancing competition, ensuring reliability, or optimising DER integration? A precise definition will guide implementation and provide confidence to stakeholders.
2. Avoiding Exclusivity or Permanence: Any allocation framework must avoid creating exclusive or permanent entitlements that could limit flexibility and hinder broader system optimisation. It is critical that capacity rights remain adaptable and aligned with the evolving needs of the electricity sector.
3. Fair Access and Equity: The allocation of capacity rights should be equitable, ensuring fair access for all participants, including smaller players like community energy projects and residential DER aggregators. A framework that inadvertently prioritises larger entities could stifle innovation and reduce sector resilience.
4. Recognition of Flexibility Services: Demand-side flexibility, including demand response and energy storage, plays a critical role in optimizing network capacity. The allocation process should integrate and incentivize the use of flexibility services to enhance efficiency and lower costs.
5. Transparency and Stakeholder Engagement: Transparent processes for capacity rights allocation are vital. Ongoing engagement with stakeholders is necessary to build trust, refine the framework, and ensure alignment with broader sector goals.
6. Alignment with Long-term Sector Goals: Capacity rights allocation must support New Zealand's decarbonisation and renewable energy integration objectives. The framework should be evaluated against these outcomes to ensure it contributes positively to the sector's sustainable development.

Proposal B questions: Add application processes for larger-capacity load

Question G) For Process 3 for medium load (>69kVA and <300kVA) applications:

- Do you support the proposed process and why?
- What are your thoughts on the proposed requirements, size thresholds and timeframes?
- What changes would you make to the medium-load application process, if any?

The EEA supports the intent of the proposed process for medium-load applications, as it aims to streamline and standardise connection approvals across the sector. A clear and efficient process for medium loads is essential to reducing delays, minimising administrative burdens, and ensuring timely access to network capacity for customers and stakeholders. The proposed framework aligns with efforts to enhance network transparency and improve the customer experience.

However, we encourage the Authority to adopt additional provisions allowing an Electricity Distribution Business (EDB) to decline a load connection application when reasonable to do so. This would provide EDBs with the necessary discretion to address instances where a connection would pose significant challenges to network stability, safety, or operational viability.

Thoughts on the Proposed Requirements, Size Thresholds, and Timeframes

- Proposed Requirements: The technical requirements outlined in the consultation appear reasonable, as they address potential impacts on network performance and safety. However, additional clarity on the specific technical criteria and their consistency across EDBs would be beneficial. This would help mitigate the risk of variability in implementation and improve alignment with customer expectations.
- Size Thresholds: We believe the lower threshold for medium-load connections is currently set too low. A more appropriate range would be 300 kVA to 500 kVA, which better aligns with the transformer sizes and capacities typically deployed for these types of connections. Larger loads at or above 300 kVA generally involve greater technical complexity and require more detailed assessment compared to a circa 69 kVA connection. This adjustment would ensure the process more accurately reflects the operational and technical realities of managing medium-load connections.
- Timeframes: The proposed timeframes seem reasonable in principle but should be further validated against real-world EDB processes. Ensuring timeframes account for variability in EDB resource availability and network conditions (e.g., rural versus urban contexts) is critical. Introducing mechanisms for flexibility, such as agreed extensions in specific circumstances, and incorporating stop-the-clock mechanisms to address delays outside of the EDB's control (e.g., awaiting third-party inputs), may be helpful.

Suggested Changes to the Medium-Load Application Process

- Standardisation of Criteria: Developing a more standardised approach to the technical and administrative criteria across EDBs would help reduce inconsistencies and ensure customers face a uniform process nationwide.
- Customer Communication and Guidance: Enhancing communication tools, such as guidance documents and digital platforms, would help customers better understand the requirements and navigate the process more effectively.
- Timeframe Flexibility and Monitoring: While defined timeframes are essential, incorporating a flexible mechanism that accounts for unique network conditions (e.g., constrained areas) or unforeseen complexities would improve practicality. Additionally, ongoing monitoring and reporting of compliance with these timeframes could help identify systemic issues and areas for improvement.
- Integration with Broader Demand Management Initiatives: Encouraging the inclusion of demand flexibility solutions for medium-load applications could provide additional value to both customers and the network, particularly in areas of high capacity utilisation.
- Adjustment of Size Thresholds: As noted above, revising the size thresholds for medium-load connections to 300 kVA to 500 kVA would ensure the process appropriately reflects the technical complexity and network impact of these connections.
- Provision to Decline Applications: Including provisions that allow EDBs to decline applications when reasonable to do so would enable them to address connections that could significantly disrupt network performance or exceed available capacity. This provision would enhance network resilience and ensure resources are allocated effectively.

The EEA welcomes continued engagement with the Authority and other stakeholders to refine these processes and ensure their successful implementation.

Question H) For Process 5 for large load (≥300kVA) applications:

- Do you support the proposed process and why?
- What are your thoughts on the proposed requirements, size thresholds and timeframes?
- What changes would you make to the large load application process, if any?

The EEA supports the intent of the proposed process for large load applications, as it provides greater structure and consistency in managing connections for large loads. The clarity and standardisation of steps should enhance predictability for both electricity distribution businesses (EDBs) and applicants.

However, the EEA notes that while the process is a positive step, it must also account for the varying capabilities, constraints, and requirements of individual networks. Flexibility remains critical to ensure the process works across different contexts and system configurations.

What are your thoughts on the proposed requirements, size thresholds, and timeframes?

The EEA considers that the lower threshold for 'large load' connections is currently set too low at 300kVA. A more appropriate threshold would be 500kVA. A higher threshold would better reflect the capacity at which connections typically begin to have significant impacts on network planning and operation. It would also avoid unnecessarily subjecting mid-sized commercial connections to the complexities of the large load process, streamlining the application process for both EDBs and applicants.

Regarding timeframes, the proposed timelines appear reasonable in most cases but may require adjustments for complex applications or where substantial technical assessments are needed. Balancing timely processing with the need for thorough evaluation remains crucial.

What changes would you make to the large load application process, if any?

The EEA recommends the following refinements to the proposed process:

1. Increase the Lower Threshold for Large Load Connections: As noted, raising the lower threshold to 500kVA would better align with practical network considerations, focusing the process on genuinely large and impactful loads. This adjustment would also reduce the administrative burden for smaller-scale applications.
2. Introduce Flexibility for Network-Specific Adjustments: Allow EDBs to make case-by-case adjustments to thresholds and requirements based on local network constraints, demand profiles, and other relevant factors. This flexibility would enable a more tailored approach without compromising consistency.
3. Encourage Demand Flexibility Integration: Introduce provisions encouraging or requiring applicants to consider demand flexibility options, such as load shifting or onsite generation, as part of their connection application. This aligns with the broader goals of enhancing grid efficiency and resilience.
4. Provide Guidance on Cost Allocation: Ensure the process includes clear and transparent guidelines on how connection costs will be calculated and allocated. This will reduce potential disputes and improve certainty for applicants.
5. Allow Timeframe Adjustments for Complex Applications: Include provisions for extending timeframes where required for technically complex connections or where additional stakeholder engagement is necessary. Introduce a "stop the clock" mechanism to pause the timeframe when awaiting critical information or actions from the applicant or third parties. This

approach would maintain process integrity, ensure thorough evaluation of complex applications, and effectively manage applicant expectations.

6. Stakeholder Engagement for Innovative Technologies: Establish a defined step for engaging with applicants proposing innovative or non-standard technologies, such as large-scale EV charging infrastructure or energy storage systems. This would facilitate collaboration and reduce uncertainties early in the process.

The EEA appreciates the Electricity Authority's efforts to improve the network connection process for large loads and supports the direction of the proposed changes. By refining the size thresholds, enhancing flexibility, and encouraging demand flexibility, the proposed process can better accommodate current and future sector challenges, ensuring robust outcomes for applicants, EDBs, and the wider electricity system.

Question I) Do you think the Authority should apply any of the proposed changes for large load to medium-load applications also? If so, which ones and why?

The EEA acknowledges the importance of ensuring an efficient and transparent connection process across different load categories. However, given the large volume of applications that would fall into Process 4 (medium-load applications), we believe applying the more stringent requirements proposed under Process 5 for large loads could be overly onerous for all parties involved, with limited benefits.

Key Considerations:

- Administrative Burden: Extending stringent requirements to medium-load applications would significantly increase the workload for both applicants and network providers. For example, mandating detailed assessments or prolonged coordination processes for medium-load applications may not always yield proportional benefits, especially when the network impact of such connections is typically less complex than for large loads.
- Proportionality of Effort: The additional compliance and resource requirements under Process 5 are designed for large and often more complex connections. Applying them to medium loads risks creating inefficiencies and could delay approvals for a wide range of projects, potentially undermining the Authority's goal of streamlining connections.
- Focus on Fit-for-Purpose Processes: The EEA suggests that the requirements for medium-load applications should remain fit-for-purpose, balancing the need for transparency and efficiency with the scale and complexity of these connections. Retaining the existing framework for Process 4, with minor enhancements for transparency or standardization, would be a more practical approach.

- **Potential Enhancements:** Where specific aspects of the Process 5 changes could add value, such as improved transparency or information-sharing protocols, these could be considered for selective application to medium-load projects. However, this should be done in consultation with stakeholders to ensure that any additional requirements are proportionate and do not unintentionally hinder the connection process.

The EEA does not recommend wholesale adoption of the Process 5 requirements for medium-load applications, as the added complexity and administrative burden are unlikely to deliver commensurate benefits. Instead, targeted refinements to Process 4, focusing on transparency and efficiency, would better serve the objectives of the Network Connections Project while avoiding unnecessary strain on stakeholders. We welcome further dialogue with the Authority to refine these processes and ensure they meet the needs of all parties involved.

Question J) What are your thoughts on the Authority's summary of capacity rights allocation?

In response to the question, the EEA has assumed that the applicant generator should indeed be regarded as the load applicant in the capacity rights allocation framework, as outlined in the consultation paper. This interpretation is consistent with the Authority's aim to streamline the process for allocating capacity rights and to align the roles and responsibilities of all parties seeking network access.

As noted in our response to Question F, we support an approach where the entity that will draw capacity or impact the network directly—be it through load or generation—should bear responsibility for applying and participating in the allocation process. This ensures accountability and fairness while avoiding unnecessary duplication or misalignment in the process.

To provide further clarity, we suggest that the Authority confirm this assumption in the final framework and provide illustrative examples of how capacity rights would be allocated in scenarios involving generators who may also act as load applicants. Clear communication on this point will help stakeholders better understand and engage with the proposed framework.

Question K) What else does the Authority need to consider beyond the proposals in this paper and why?

The EEA commends the Authority for progressing the Network Connections Project and appreciates the opportunity to provide feedback. Beyond the proposals outlined in the consultation paper, the Authority should also consider the following critical areas to ensure equity, efficiency, and long-term sustainability of the network connection processes:

1. Fairness and Equity for EDBs in Connection Responsibilities

The proposed changes introduce potential inequities between Electricity Distribution Businesses (EDBs) and third-party providers regarding responsibilities and obligations in the connection process. If EDBs are subject to additional requirements—such as regulated timelines for undertaking tasks like network power flow studies or civil works—while third parties are not, this may inadvertently create an imbalance in how connection services are perceived and delivered.

From the perspective of connecting parties, this disparity might make it more desirable to have all connection-related tasks commissioned via the EDB rather than through external providers. While this approach could simplify the process for access seekers, it risks overburdening EDBs and reducing their operational flexibility. Under the current framework, EDBs and access seekers can collaborate to determine which connection elements are best delivered by the EDB versus those that can be undertaken by third parties, provided they meet EDB standards for quality and compliance.

The Authority should consider how to maintain this balance and flexibility to ensure that EDBs are not disproportionately burdened or inadvertently disadvantaged relative to third-party providers.

2. Implications for EDB Capacity and Regulated Timelines

If the changes result in a significant increase in tasks being commissioned through EDBs, this could strain their resources and capacity to deliver connection processes within the regulated timelines. The Authority should examine the potential implications for:

- Resource availability within EDBs to meet increased demand for connection-related services.
- Cost implications for EDBs and whether these can be reasonably recovered through the regulatory framework.
- Potential delays in connection timelines if EDB capacity becomes a bottleneck due to heightened demand for their services.

A more flexible framework that allows EDBs and access seekers to share responsibilities according to capacity and expertise will help manage these risks.

3. Consumer Impact and Choice

Restricting connection-related tasks to EDBs may limit consumer choice, increase costs, reduce competition, and potentially (by overburdening EDBs) the technical quality of outcomes in the provision of these services. The Authority should carefully evaluate the impact of the proposals on access seekers' ability to engage their preferred service providers for aspects of the connection process, such as civil works, design studies, and other technical elements. Preserving consumer

choice while maintaining quality and compliance is essential to ensure a fair and efficient connection process.

4. Maintaining Flexibility Under the Status Quo

The current framework provides a degree of flexibility that benefits both EDBs and access seekers by enabling them to tailor the connection process to their specific circumstances. Any changes to this framework should preserve the ability for:

- Access seekers to engage qualified third parties for specific elements of the connection process, as long as EDB standards are met.
- EDBs to focus their resources on tasks that align with their core competencies, reducing unnecessary strain on their capacity.

5. Equitable Allocation of Obligations Across Stakeholders

The Authority should ensure that obligations and regulatory requirements are equitably distributed across all stakeholders, including third-party providers. Establishing consistent standards for all parties involved in the connection process—EDBs and third parties alike—will help create a level playing field while ensuring quality and compliance.

By addressing these considerations, the Authority can enhance the proposed amendments to support an efficient, equitable, and sustainable network connection framework. The EEA welcomes further engagement with the Authority and industry stakeholders to develop solutions that balance the interests of all parties while advancing New Zealand's electrification and decarbonisation objectives.

Proposal C questions: Require distributors to publish a 'network connections pipeline' for large-capacity DG and load, and provide information on this pipeline to the Authority

Question L) Do you support the proposed network connections pipeline, why, why not? What changes would you make, if any? What are your thoughts on the scope of the information to be published?

The EEA supports the proposed network connections pipeline in principle, as it aims to enhance transparency, streamline processes, and provide critical information to stakeholders involved in network connections. Establishing a well-structured pipeline can deliver significant benefits by fostering better planning, improving coordination across the electricity sector, and enabling more efficient allocation of resources.

Our support of the proposal is based on the following benefits:

- Transparency and Visibility: Publishing clear, accessible information about upcoming network connections is essential for stakeholders to anticipate and plan for changes - reducing the likelihood of bottlenecks or delays, and potentially interrelated projects – improving the

potential of achieving more optimal solutions as well as speeding up the proponent's decision making process.

- Improved Decision-Making: With a clear pipeline, stakeholders, including distributed energy resource providers, developers, and network operators, can make informed decisions based on a holistic view of system capacity and demand.
- Enabling Innovation and Collaboration: The pipeline provides an opportunity for distributed generators to support load connections and for customers to collaborate in building shared-use assets. This approach encourages innovation and the adoption of non-network solutions, reducing reliance on costly electricity infrastructure upgrades.
- Alignment with Strategic Goals: The pipeline supports broader industry objectives, such as enabling electrification and enhancing system resilience, by providing clarity and consistency in the connections process.

However, we suggest some changes could improve the proposal, including:

1. Granularity of Information: While we support the scope of information outlined in the proposal, it is important to ensure that published data is detailed enough to be actionable without overwhelming stakeholders. For example:
    - Include estimated timelines, high-level project statuses, and indicative costs where appropriate.
    - Clearly delineate between different connection types (e.g., residential, commercial, industrial) to provide tailored insights.
2. Flexibility in Implementation: Recognising that different electricity distribution businesses (EDBs) have varying capabilities, some flexibility in the timescale to comply and the extent of information that needs to be published would be sensible. This ensures that all EDBs can participate effectively without creating undue burden.
3. Confidentiality and Commercial Sensitivity: Care should be taken to protect commercially sensitive information while still providing stakeholders with meaningful data. Clear guidelines for information sharing should be established to balance transparency and privacy concerns. Care needs to be taken to ensure that concern about disclosure of commercially sensitive information does not become a barrier to businesses proceeding with electrification projects. For example, there may be mid points where this information can be shared with the stakeholders who would benefit from access to it, rather than being broadly publicly available.
4. Stakeholder Engagement: We recommend incorporating ongoing feedback loops with stakeholders to refine the pipeline over time, ensuring it remains relevant and fit for purpose.

Scope of Information to be Published:

The proposed scope strikes a reasonable balance between providing essential details and maintaining manageability. However, the following additions could further enhance its value:

- Hosting Capacity Insights: Information on local network hosting capacity could be invaluable for distributed energy resource planning.
- Environmental and Planning Considerations: Highlighting potential constraints, such as environmental or planning permissions, would help stakeholders anticipate challenges.
- Real-Time Updates: Including periodic updates or a real-time tracking mechanism for projects in the pipeline would ensure the information remains current and actionable.

In conclusion, the EEA supports the proposed network connections pipeline as a critical step toward a more transparent and efficient connection process. We believe the suggested changes, including support for distributed generators and customer collaboration, as well as flexibility for EDBs, will enhance the pipeline's effectiveness and provide greater value to the sector.

Question M) What are your thoughts on the proposal for distributors to provide information directly to the Authority on an ongoing basis?

The EEA acknowledges the intent behind the Authority's proposal for distributors to provide information directly to the Authority on an ongoing basis and supports it in principle. Access to timely and accurate data is critical for ensuring transparency, improving decision-making, and enabling the effective functioning of New Zealand's electricity sector. However, there are several important considerations that we believe should guide the implementation of this proposal:

1. Clarity on Information Scope and Purpose: It is essential that the Authority clearly defines the specific types of information it requires from EDBs, the frequency of reporting, and the intended use of this information. Providing clarity upfront will help distributors focus on delivering relevant, high-quality data while minimising unnecessary administrative burden.
2. Alignment with Existing Reporting Frameworks: The EEA supports efforts to streamline reporting obligations by ensuring that any new requirements align with existing regulatory and reporting frameworks. Leveraging data that distributors are already required to collect and report could reduce duplication and administrative inefficiencies.
3. Proportionality and Feasibility: Consideration needs to be given to the size and capability of each EDB and the value that this information might provide. Smaller EDBs may face resourcing challenges, and the costs of meeting new reporting obligations should be weighed against the

benefits delivered to the wider system. We recommend a phased approach, allowing time for capacity building and system upgrades where necessary.

Also, as outlined in our response to Question L, the approach should be pragmatic and tailored, ensuring that data provision is proportionate to the capabilities of individual EDBs and aligned with the overarching goals of the Network Connections Project.

4. Standardisation and Interoperability: To ensure consistency and ease of data submission, the Authority should consider establishing standardised templates, formats, and data-sharing protocols. This will not only make it easier for distributors to comply but also enhance the quality and comparability of the data collected.
5. Data Privacy and Security: With the increased sharing of information comes the need for robust data privacy and security measures. Distributors must have confidence that sensitive or commercially confidential information will be handled appropriately and safeguarded against misuse.
6. Collaboration and Continuous Improvement: The EEA emphasises the importance of collaboration between the Authority, EDBs, and other stakeholders in the design and implementation of this reporting framework. Regular feedback loops and opportunities for dialogue will help refine the process and ensure it delivers value to all parties.
7. Resource Implications: The Authority should consider the additional resources that may be required for distributors to comply with ongoing reporting obligations, including investments in data systems, staff training, and process adjustments. Appropriate support mechanisms or transitional arrangements may be necessary.

In conclusion, while the EEA supports the principle of improved data provision to the Authority, the implementation of this proposal must carefully balance the benefits of enhanced transparency with the practical realities faced by EDBs and project proponents. By addressing the considerations outlined above and ensuring consistency with our response to Question L, the Authority can ensure this initiative achieves its objectives without imposing undue burden on industry participants.

Proposal D questions: Require distributors to provide more information on network capacity

Question N) What do you think of the proposal to publish more information on network capacity? What challenges do you see with providing the data? What changes would you make, if any?

The EEA acknowledges and supports the intent behind the Electricity Authority's proposal to publish more information on network capacity, recognising its potential to enhance transparency and enable more informed decision-making. However, as with other aspects of the consultation, it is crucial to

consider the diversity of EDBs across New Zealand, particularly regarding their size, resources, and capabilities.

New Zealand's EDBs range from large, well-resourced networks to smaller, community-focused entities with limited technical and operational capacity. A one-size-fits-all approach to data publication risks placing undue strain on some businesses, particularly if the required resources or expertise are not readily available. We encourage the Authority to introduce flexibility in compliance timeframes for this requirement to reflect these differences, ensuring that smaller EDBs are not disproportionately burdened and have the time to build the capability required.

Key areas for flexibility could include:

- Implementation Timelines: Allowing phased or extended timelines for compliance, enabling EDBs to plan and allocate resources effectively.
- Breadth of Information: Tailoring the scope of data publication based on the EDB's capacity to provide meaningful and accurate information, with less granular requirements for smaller networks if appropriate.

Value of Published Data

It is also essential to balance the cost and effort required to publish network capacity information with the value it delivers to stakeholders. We recommend ongoing engagement with end-users, developers, and other stakeholders to refine the requirements and ensure that the published data meets their needs without imposing unnecessary burdens on EDBs.

Smart Meter Data as a Key Enabler

We also note the Authority's stated intent to improve EDBs' access to smart meter data. This is a critical enabler for providing accurate and dynamic insights into network capacity. Without reliable access to high-quality, granular smart meter data, it will be challenging for some EDBs to meet the proposed requirements or deliver value through the published information. Ensuring that EDBs have appropriate access to this data should be treated as an imperative and prioritized in parallel with these reforms.

In summary, the EEA supports the goals of improving transparency and publishing more network capacity information but strongly recommends a nuanced and flexible approach to implementation. Tailoring requirements to reflect the variability in EDB capabilities and ensuring access to enabling data such as smart meter information will be key to achieving equitable and effective outcomes. We look forward to collaborating with the Authority and other stakeholders to develop solutions that are both practical and beneficial for all parties involved.

Question O) What are your thoughts on the scope and granularity of the information to be published?

The EEA supports the goal of increasing transparency and accessibility of information related to network connections. Publishing detailed and accurate data is essential to enable efficient decision-making for stakeholders, including EDBs, generators, technology providers, and consumers. However, we have concerns with the proposal as currently drafted and believe that further refinement is required to ensure it is both useful to access-seekers and practical to implement.

The EEA suggests that the Authority refrain from introducing this obligation on the sector in its current form. Instead, we recommend taking additional time to work with the sector—ideally via the Streamlining Connections Project—to develop a more effective and practical means of providing capacity information. This collaborative approach would enable the development of solutions that are better aligned with the needs of access-seekers while remaining achievable for electricity distribution businesses (EDBs) to deploy.

The Authority could introduce an obligation on EDBs to give effect to this at a later date without materially undermining the effectiveness of the other measures proposed in this consultation. Taking this extra time would also allow the sector to address key considerations, such as:

- Fit-for-Purpose Granularity: The level of detail should align with the needs of different stakeholder groups. For instance:
    - High-level summary data for general stakeholders and public communication.
    - Detailed technical data (e.g., hosting capacity, constraints) for developers and engineers assessing new connections or projects.

  Collaborative refinement will ensure these levels are both useful and manageable.
- Standardisation and Consistency: Information should be standardised across networks to enable comparability and usability. This requires careful coordination with sector participants to ensure practicality in deployment while minimising administrative burden.
- Timeliness and Accuracy: Published data must be current and regularly updated to reflect network changes and planning assumptions. Accuracy should be prioritised to avoid misinformation or inefficiencies in planning.
- Data Privacy and Commercial Sensitivities: Transparency must be balanced with privacy and confidentiality requirements, ensuring no commercially sensitive or customer-specific data is exposed. Aggregation techniques or anonymization may be necessary.
- Future-Proofing: The framework for publishing information should be adaptable to evolving sector needs, including increased uptake of distributed energy resources (DERs) and demand-side flexibility. A phased approach may support this adaptability.

- Accessibility and Clarity: The information provided should be easily accessible and presented in a clear, user-friendly manner. Visualisation tools or interactive platforms could greatly enhance usability for diverse stakeholders.

By allowing more time to engage with the sector and refine the framework, the Authority can achieve a solution that delivers greater value to access-seekers while minimising implementation challenges for EDBs. This approach will foster a more effective and sustainable outcome for the sector.
The EEA remains committed to supporting the Authority and industry participants in developing a framework that achieves these objectives and delivers on the intended benefits of this proposal. We welcome the opportunity to contribute further to this process through the Streamlining Connections Project or other collaborative initiatives.

Proposal E questions: Update the regulated terms for DG

Question P) What are your thoughts on the proposed changes to the regulated terms?

The EEA acknowledges the importance of the proposed changes to the regulated terms and supports the Authority's efforts to streamline and enhance network connection processes. However, we offer the following observations and recommendations:

1. Applicability to Larger Installations: While the regulated terms are primarily applicable to smaller installations, bespoke connection agreements are typically used for larger projects. The industry would benefit significantly from a standardised set of regulated terms that could be applied to larger installations. This would reduce the negotiation overhead for developers and Electricity Distribution Businesses (EDBs), resulting in lower overall costs and more efficient project delivery.
2. Flexibility for Bespoke Agreements: It is essential to retain the flexibility to use bespoke terms where required, as larger and more complex installations often have unique technical and operational requirements. The regulated terms should, therefore, allow for reasonable adjustments while still providing a standard framework for consistency and fairness.
3. Key Clauses for Power Quality Management: Specific clauses, such as 4, 7, and 15(1)(ab), are critical enablers for collaboration between EDBs and Distributed Generators (DG). These clauses support proactive management of potential power quality issues, ensuring that connections do not adversely impact network stability or other users. Retaining and refining these provisions is vital to maintaining a balance between network reliability and facilitating connections.

4. Clarity, Alignment, and Implementation

- The regulated terms must prioritise clarity and alignment with existing industry standards to minimise misinterpretation and disputes.
- Where new provisions are introduced, clear guidance on their practical application will be necessary.
- A phased or adaptive approach to implementing changes could help address unforeseen challenges and ensure a smooth transition.

5. Benefits for the Wider Industry: A consistent, well-defined framework for regulated terms that extends its applicability to larger installations could significantly enhance the efficiency of network connection processes across the sector. It would enable developers to plan and execute projects more confidently, fostering innovation and investment in the energy sector.

Proposal F questions: Add regulated and prescribed terms for load applications and amend dispute resolution requirements

Question Q) What are your thoughts on the proposed regulated and prescribed terms for load? What changes would you make, if any?

The EEA appreciates the Authority's efforts to introduce regulated and prescribed terms for load connections. However, we believe that significantly more work is required to ensure these terms are fit for purpose. The current proposal appears to draw heavily from the Distributed Generation (DG) framework, which is not well-suited to address the fundamentally different requirements and challenges of load connections.

Key Issues with the Proposed Approach

- Inappropriate Reuse of the DG Framework: The DG framework was developed to address the specific needs of generation connections, focusing on export capabilities and system integration. In contrast, load connections have different technical, operational, and economic requirements, including:
    - Load growth dynamics and variability.
    - Demand management and flexibility capabilities.
- Impacts on hosting capacity and localized network constraints: Repurposing the DG framework without adequate adaptation risks introducing inefficiencies, misalignment with load-specific requirements, and unintended barriers for stakeholders.
- Limited Consideration for Load-Specific Flexibility and Technology Needs: Modern electricity systems increasingly rely on loads that can respond flexibly to network conditions, such as

through demand response or smart energy management systems. The prescribed terms do not adequately address:

  - Dynamic load profiles and their interaction with network stability.
  - Integration of smart technologies like EV chargers, batteries, and energy management systems that may act as both loads and ancillary service providers.

- Cost and Connection Complexity: The proposed terms may unintentionally increase the complexity and cost of connection processes for loads, particularly in areas with constrained networks or where new technologies are being deployed. This could disadvantage consumers and deter beneficial load growth.
- Insufficient Recognition of Local Network Contexts: Load connections are heavily influenced by local network conditions, including hosting capacity, voltage management, and regional growth patterns. The proposed standardized terms do not provide adequate flexibility to account for these localised variations.

Recommendations for Improvement

1. Develop a Load-Specific Framework: The EEA recommends the development of a dedicated framework tailored to the unique requirements of load connections. This framework should address:
   - Load-specific technical, operational, and economic requirements.
   - Mechanisms to support demand-side flexibility and integration with modern energy technologies.
2. Incorporate Flexibility and Emerging Technologies: The prescribed terms should explicitly accommodate:
   - Dynamic load management and participation in flexibility markets.
   - Integration of behind-the-meter technologies, including EVs, batteries, and demand response systems.
   - The ability for load connections to contribute positively to network stability and efficiency.
3. Local Adaptation and Stakeholder Engagement: A more adaptable framework is needed to reflect regional network differences. This includes:
   - Allowing for localised variations in connection terms based on network constraints and growth.
   - Strengthening stakeholder consultation to ensure terms are practical and equitable for all parties.
4. Refinement of Cost Allocation Principles: The allocation of connection costs must reflect the principles of cost causation and equitable treatment, ensuring that load connections are not

disproportionately burdened. Clear guidance on cost-sharing arrangements should be included.

5. Enhanced Dispute Resolution and Oversight: To build trust and confidence in the framework, robust mechanisms for dispute resolution and regular review of the prescribed terms are essential.

The EEA urges the Electricity Authority to take a more considered approach in developing the regulated and prescribed terms for load connections. The unique requirements of load connections necessitate a purpose-built framework that supports innovation, ensures equitable treatment, and facilitates the efficient integration of flexible and dynamic loads. We recommend revisiting and refining the proposal to ensure it better aligns with the needs of the electricity sector and contributes meaningfully to New Zealand's energy transition.

The EEA stands ready to provide further input and support to achieve these outcomes.

Question R) What are your views on the proposed dispute resolution changes for Part 6? In what ways could dispute resolution be further improved? What are your thoughts on the alternative options to deliver dispute resolution discussed in this paper? Do you have any feedback on the 20-business day timeframe proposed?

The EEA acknowledges the need to enhance dispute resolution processes under Part 6 as part of the broader efforts to streamline network connections. Clear and effective mechanisms for addressing disputes are essential to maintaining trust and fostering collaboration among stakeholders, including distributors, developers, and customers.

However, while we agree that improved dispute resolution will play a critical role in achieving the objectives of the Network Connections Project, we suggest that it may be premature to determine the specifics of the dispute resolution framework at this stage. The effectiveness of any process will depend on its ability to respond to the diversity and complexity of potential disputes. Therefore, a phased or iterative approach to developing these processes may be more appropriate, allowing for learnings from initial implementation to guide further refinement.

Further Considerations

To ensure the proposed framework remains fit for purpose consideration should be given to:

- Flexibility and Scalability: The dispute resolution process should be flexible enough to accommodate a range of dispute types and scalable to handle increased volumes as the industry evolves.

- Stakeholder Input: Further engagement with stakeholders, particularly those directly involved in disputes under Part 6, is essential to ensure the framework addresses real-world challenges and practical needs.
- Alignment with Broader Industry Initiatives: Any dispute resolution mechanism should align with existing frameworks and initiatives to avoid duplication and ensure consistency across the sector.

Alternative Options to Deliver Dispute Resolution

The alternative options discussed in the consultation paper offer a useful starting point, and we support further exploration of these approaches. However, a decision on the most suitable model should be informed by additional consultation and potentially by trialling different approaches in specific contexts to identify best practices.

Feedback on the 20-Business Day Timeframe

The proposed 20-business day timeframe provides a useful benchmark for timely resolution. However, flexibility to extend this timeframe, where necessary, will be important to accommodate complex or technically challenging cases. Ensuring this flexibility is balanced with clear communication and accountability will be key to maintaining stakeholder confidence.

The EEA supports the inclusion of enhanced dispute resolution as part of the Network Connections Project but suggests that it may be too early to commit to specific mechanisms. A measured approach, including further consultation and the opportunity to adapt based on early experiences, will provide the best foundation for a robust and effective dispute resolution framework. We appreciate the Authority's work on this important issue and look forward to ongoing dialogue as these proposals evolve.

Question S) Do you consider the alternative contractual terms option discussed in this paper (and in the Distribution connection pricing consultation paper) would be better than the proposal without contractual terms? What are your thoughts on the other alternative options referred to?

The EEA acknowledges the potential value of introducing alternative contractual terms as outlined in the consultation paper. Such an approach could provide greater clarity and consistency for network users while addressing key issues related to distribution connection pricing and allocation of responsibilities.

However, we believe the success of this option depends heavily on the ability to create terms that are fair, equitable, and easily understood by all parties, including smaller consumers who may not have the

resources to negotiate complex agreements. To achieve this, the Authority should ensure significant engagement with stakeholders across the sector to design these terms collaboratively.

Compared to the proposal without contractual terms, the alternative option has the advantage of formalising obligations and rights, which could reduce disputes and misalignment over time. Nevertheless, the added complexity of implementing and administering these contracts may pose challenges, particularly for smaller distribution businesses or customers. Any additional compliance or administrative burden must be weighed against the potential benefits.

Regarding the other alternative options discussed in the paper, the EEA sees merit in exploring these further. For instance, standardising connection pricing across networks may provide improved transparency and predictability for customers. However, the challenges of achieving this within the diverse network environments and cost structures across New Zealand would require careful consideration to avoid unintended consequences, such as cross-subsidisation or diminished investment incentives.

We also note that non-contractual approaches, such as guidelines or codes of practice, may offer a lighter-touch solution while still delivering improved outcomes. These alternatives could reduce the need for regulatory intervention and provide flexibility for innovation in connection services.

In summary, while alternative contractual terms could enhance transparency and accountability, the EEA recommends that the Authority undertake detailed cost-benefit analyses and stakeholder engagement to evaluate their feasibility alongside other options. This should include consideration of how each approach aligns with broader objectives of enabling a fair, efficient, and secure electricity system.

Proposal G questions: Increase record-keeping requirements for distributors

Question T) Do you support the proposal to increase the record-keeping requirements for distributors and why? What changes would you make, if any?

The EEA supports the proposal to increase record-keeping requirements for distributors, as accurate and consistent data is fundamental for regulatory oversight, network planning, and fostering a transparent electricity sector. These improvements can enhance operational efficiencies and better align distributor practices with the objectives of the Network Connections Project.

However, we believe the proposed requirements should balance the need for comprehensive record-keeping with practical considerations to manage administrative burdens effectively. To achieve this balance, the EEA recommends the following refinements:

1. Incorporate Sunset Provisions for Historical Records: The Authority should consider implementing sunset provisions that define how long historical records must be retained. This

approach would reduce unnecessary administrative burdens over time while ensuring the retention of data essential for current regulatory oversight and process improvement.

2. Focus on Value-Adding Information: Record-keeping requirements should prioritize information that delivers genuine value for regulatory and operational purposes. This means focusing on data that directly supports compliance, informs network planning, and improves customer connection processes, rather than creating an exhaustive list of requirements that may lead to diminishing returns.
3. Streamline Implementation and Support Standardisation: The Authority should provide clear guidance on data formats, retention practices, and expectations to reduce ambiguity and ensure consistency across distributors. Encouraging standardised approaches to record-keeping will enhance interoperability and reduce costs associated with compliance.
4. Scalability for Distributors of Varying Sizes: The requirements should account for the diverse capabilities of distributors, particularly smaller ones. Tailored approaches that reflect differing operational scales and resource levels will enable all participants to comply effectively without undue strain.

By incorporating sunset provisions and focusing on value-adding information, the Authority can strengthen its oversight capabilities while avoiding unnecessary complexity and cost for distributors. The EEA is committed to working collaboratively to support the implementation of these refinements and achieve the broader objectives of the Network Connections Project.

Proposal H questions: Introduce new Part 1 definitions and amend existing definitions (Part 1 only)

Question U) What are your thoughts on the proposed new definitions and amended definitions for Part 1 of the Code? What changes would you make, if any?

The EEA appreciates the opportunity to provide feedback on the proposed new and amended definitions for Part 1 of the Code as part of the Network Connections Project: Stage One Amendments. We recognise the critical role clear and consistent definitions play in supporting the effective implementation of regulatory provisions, fostering alignment across stakeholders, and minimising ambiguity in compliance and enforcement.

General Feedback

The proposed new and amended definitions generally align with the intent of the amendments and provide clarity in critical areas. However, we suggest the following refinements to ensure that the definitions are both future-proof and sufficiently flexible to accommodate evolving industry practices and technologies.

Suggested Changes

1. Definition of “Customer Connection Agreement”

- *Comment:* The definition appropriately emphasises the contractual nature of these agreements but could benefit from explicitly recognising flexibility services and emerging distributed energy resource (DER) arrangements.
- *Proposed Change:* Include wording such as "and may include provisions for demand flexibility services, DER integration, and other emerging energy services" to ensure alignment with future grid requirements.

2. Definition of “Connection Point”

- *Comment:* While the definition effectively identifies the physical point of connection, it would be beneficial to include references to virtual or aggregated points of connection to reflect developments in DERs and virtual power plants (VPPs).
- *Proposed Change:* Add clarification such as "including virtual or aggregated points of connection where applicable" to future-proof the definition.

3. Definition of “Distributed Energy Resources (DERs)”

- *Comment:* The definition of DERs should be comprehensive and inclusive of all current and emerging technologies, such as electric vehicles, smart appliances, and energy storage systems.
- *Proposed Change:* Expand the definition to read: "Distributed energy resources (DERs) include generation, storage, electric vehicles, demand-side resources, and other technologies capable of exporting or modulating electricity at the distribution network level."

4. Amendments to “Generator”

- *Comment:* It is essential to clarify whether small-scale or behind-the-meter generators (e.g., rooftop solar) fall within the definition. Ambiguities in this regard could lead to inconsistencies in application.
- *Proposed Change:* Explicitly state the scope, e.g., "Generator includes utility-scale, community, and behind-the-meter generation systems."

5. Definition of “Flexibility Services” (New Term)

- *Comment:* Given the increasing focus on demand flexibility and the integration of DERs, we suggest the inclusion of a definition for "Flexibility Services" in Part 1.
- *Proposed Definition:* "Flexibility Services refers to the capability of electricity consumers or devices to alter demand or supply patterns in response to external signals, such as price, grid constraints, or market participation opportunities."

6. Suggested Changes to the Definition of "Load"

a. *Inclusion of Bi-Directional Energy Flows*

- *Comment:* With the rise of prosumers, battery storage systems, and electric vehicles, the concept of "Load" should accommodate the possibility of energy being imported and exported at the same point of connection.
- *Proposed Change:* Modify the definition to state: "Load refers to the consumption of electrical energy at a connection point and, where applicable, includes any bi-directional flows of energy associated with distributed energy resources or demand-side management activities."

b. *Recognition of Dynamic and Flexible Load Characteristics*

- *Comment:* Modern loads, such as smart appliances and controllable devices, can dynamically respond to external signals (e.g., price signals, grid constraints). This flexibility is critical to achieving system-level efficiency and resilience.
- *Proposed Change:* Expand the definition to include: "Load encompasses fixed and flexible consumption patterns, including the ability of connected devices to respond dynamically to external signals for the purpose of demand management or grid optimisation."

c. *Inclusion of Aggregated Loads*

- *Comment:* The emergence of aggregated load management, particularly in the context of virtual power plants (VPPs) and community energy schemes, necessitates that the definition of "Load" also includes aggregated demand profiles.
- *Proposed Change:* Add clarification such as: "Load may include aggregated consumption profiles or demand managed collectively under agreements or through technological platforms."

The EEA is committed to supporting the Electricity Authority in ensuring that the Code reflects a modern, flexible, and resilient electricity system. We welcome further engagement to refine these definitions as needed.

V) What other terms do you think the Authority should define and what definitions do you propose for those terms?

Clear and consistent terminology is critical to achieving alignment and minimising ambiguity across the sector. In addition to the new definitions and amended definitions suggested in our answer to question U, we recommend the Authority consider defining the following additional terms:

1. Demand Flexibility

- *Proposed Definition:* The capability of electricity consumers, either individually or collectively, to adjust their electricity consumption patterns in response to external signals, such as price changes, incentives, or grid conditions, to support the efficient operation and reliability of the electricity system.
- *Reasoning:* Demand flexibility is a growing focus in the electricity sector and plays a critical role in enabling consumer participation in grid optimisation and decarbonisation objectives. A clear definition will ensure stakeholders interpret and apply this concept consistently across regulatory and operational contexts.

2. Hosting Capacity

- *Proposed Definition:* The maximum amount of distributed energy resources (DERs), such as solar photovoltaic systems, batteries, or electric vehicles, that can be accommodated on a specific part of the network without requiring significant infrastructure upgrades or adversely affecting network performance or reliability.
- *Reasoning:* Hosting capacity is increasingly referenced in discussions around distributed generation and DER integration. Defining this term would provide a basis for evaluating network planning and investment needs as DER penetration increases.

3. Connection Capacity

- *Proposed Definition:* The amount of electrical load or generation that a specific network connection point can support under normal operating conditions, considering physical and technical limitations of the infrastructure.
- *Reasoning:* Connection capacity is central to determining the feasibility of new connections or upgrades. A defined term will aid in providing clarity and consistency across connection agreements and planning processes.

4. Grid Services

- *Proposed Definition:* Services provided by electricity users, generators, or aggregators that support the operation, reliability, and resilience of the electricity grid, such as frequency regulation, voltage control, or demand response.
- *Reasoning:* As the energy system transitions, the role of consumers and DERs in providing grid services is becoming increasingly important. A standardised definition will help facilitate discussions on value stacking and regulatory frameworks for grid service provision.

5. Resilience

- *Proposed Definition:* The ability of the electricity network to anticipate, absorb, adapt to, and recover from disruptive events, ensuring the continuity of reliable electricity supply to consumers.
- *Reasoning:* Resilience has become a key focus area following recent extreme weather events. Defining the term will support a common understanding for resilience planning and investment decisions.

Additionally, we would the Authority to conduct a further limited technical consultation on the proposed Code drafting. This additional consultation will provide stakeholders with the opportunity to scrutinise the detailed drafting, ensuring the terminology and provisions are appropriately aligned with practical implementation and technical considerations. Such an approach will mitigate potential ambiguities and inconsistencies, ultimately leading to a more robust and effective regulatory framework.

Proposal I question: Make minor and incidental amendments to Part 6

Question W) What are your thoughts on the proposed minor and incidental changes to Part 6? What minor and incidental changes has the Authority missed and what changes would you make, if any?

From our review, the proposed changes, aside from grammatical errors and formatting issues, appear appropriate and consistent with the intended scope of this stage of amendments. The updates align well with the objectives of improving clarity and reducing ambiguity.

Transitional arrangement questions

Question X) What are your thoughts on the transitional arrangements for the proposals in this paper? Submitters can consider individual proposals when responding to this question.

The EEA acknowledges the importance of carefully balancing progress toward a more effective regulatory framework with the practical realities faced by industry stakeholders during the transition period. In relation to the transitional arrangements, we would like to highlight the following key points:

- Flexibility in Timing and Scope of New Obligations: The EEA strongly encourages the Authority to consider introducing flexibility in the timing and scope of the new obligations arising from these proposals. This flexibility would be particularly beneficial in accommodating varying levels of readiness among stakeholders, mitigating the risk of rushed implementation, and ensuring a more seamless transition. A one-size-fits-all approach may not adequately address the differing circumstances of distribution businesses, consumers, and developers.

- Phased Implementation Process: To support a more manageable transition, we suggest that the Authority consider a phased implementation process or equivalent approach. By prioritising key components of the amendments and sequencing their introduction, stakeholders can focus their efforts and resources more effectively. This phased approach would also allow time for iterative improvements based on initial experiences and feedback from early adopters.
- Stakeholder Engagement and Collaboration: The EEA emphasises the importance of ongoing engagement with stakeholders during the transition period. Input from industry groups, such as the Network Connection Technical Group (NCTG) and/pr with broader Streamlining Connections programme, will help refine the practical details of the transitional arrangements and ensure alignment with operational realities.
- Alignment with Broader Objectives: Flexibility and a phased approach should align with the overarching objectives of these amendments, including enabling fair and efficient network connections, fostering innovation, and supporting New Zealand's decarbonization goals. Clear prioritisation of initiatives that deliver the highest value for consumers and the sector is crucial.
- Minimising Disruption and Unintended Consequences: A flexible and phased approach can also minimise the risk of unintended consequences, such as financial strain on smaller participants, challenges in integrating emerging technologies, or disruptions to system reliability.
- Monitoring, Review, and Adjustment Mechanisms: The EEA recommends that the Authority establish mechanisms for monitoring the progress of implementation and assessing the effectiveness of transitional arrangements. This could include scheduled reviews and opportunities for stakeholders to provide feedback, enabling adjustments to the process as needed.

In conclusion, the EEA supports the Authority's efforts to design transitional arrangements that enable a smooth and effective shift to the new framework while maintaining stability in the electricity sector. Introducing flexibility in timing and scope, along with a phased implementation process, would ensure that these changes are both practical and equitable. The EEA looks forward to engaging further with the Authority to support the successful implementation of these amendments.

Question Y) What proposals do you consider the most important? How long do you think is needed to implement these?

The EEA considers the following proposals to be the most significant and impactful for ensuring alignment with the goals of the Network Connections Project while balancing the need for sector readiness:

1. Proposals Related to the Connection of Distributed Generation

The EEA considers that the proposals related to the connection of distributed generation are the most incremental and straightforward changes. These proposals build upon existing practices and frameworks, enabling faster integration of distributed energy resources (DERs) without introducing substantial disruption to the sector.

- *Implementation Timeframe:* These changes could be implemented within 12–18 months, allowing time for stakeholder engagement and minor adjustments to processes and systems.

2. Introduction of Regulation for Load Connections

The introduction of regulation governing load connections represents a significant intervention by the Authority and a substantial shift for the sector. While this change has the potential to deliver long-term benefits, including greater transparency, equity, and efficiency in network access, its complexity requires a cautious approach.

- *Implementation Timeframe:* Taking additional time to ensure that the proposed changes are well-considered, collaboratively designed, and thoroughly tested is critical. A timeframe of 24–36 months is recommended to ensure robust consultation, process development, and systems alignment.

3. Transitional Provisions for Legacy Projects

Providing transitional provisions for projects already in progress is essential to avoid penalising stakeholders mid-project. This ensures fairness and allows the sector to adapt progressively to the new framework.

- *Implementation Timeframe:* Transitional measures should be implemented immediately, with a sunset clause of 12 months to address projects nearing completion.

4. Harmonisation of Technical Standards and Enhanced Information Disclosure

Harmonising technical standards for connections and improving information disclosure will drive long-term efficiencies, reduce costs, and enhance decision-making for customers and developers.

- *Implementation Timeframe:* A phased approach over 18–24 months is appropriate to accommodate sector-wide alignment and readiness.

Rationale for Prioritisation and Phased Implementation

The phased approach reflects the relative complexity and sector-wide impact of the proposals. Distributed generation-related proposals can serve as a foundation for immediate progress, while more transformative changes, such as load connection regulations, require additional time to ensure they are robust and equitable. This approach mitigates risks and provides stakeholders with clarity and sufficient preparation time.

The EEA emphasises the importance of ongoing collaboration and feedback mechanisms throughout the implementation phases to address emerging challenges and refine the framework effectively.
We welcome further dialogue with the Authority to contribute to the successful development and execution of these amendments.

Code drafting question

Question Z) Do you have comment on the Authority's drafting of the proposed Code changes? What changes would you make, if any?

Due to the wide-ranging nature of the Code changes being proposed, our review did not focus on identifying or correcting all minor issues within the drafting. However, we note that a number of drafting issues have been identified across the document. These could benefit from further scrutiny to ensure the clarity, consistency, and practical application of the proposed amendments.

Recommendations for Further Review

To address the issues identified and improve the overall quality of the drafting, the EEA recommends the following steps:

1. **Independent Third-Party Review:** Engage a third-party expert to review the entire document after incorporating all changes resulting from the consultation. This will provide a fresh perspective on the coherence and readability of the Code.
2. **Technical Consultation:** Following the third-party review, undertake a limited technical consultation with key industry stakeholders to test the proposed drafting. This step would help validate the practicality of the changes and ensure they address real-world scenarios effectively.
3. **Legal Review:** Conduct a thorough legal review of the proposed changes to identify and mitigate any potential unintended consequences or conflicts with existing regulations. This will ensure the amendments achieve their intended purpose without creating legal or operational ambiguities.

The EEA supports the intent behind the proposed Code changes and acknowledges the Authority's effort to streamline network connection processes. However, the steps outlined above are essential to refine the drafting and ensure it is robust, clear, and fit for purpose. We look forward to ongoing engagement with the Authority and other stakeholders to achieve these outcomes.

Contact

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