



ENERGY SECURITY BOARD
National Energy Guarantee
TECHNICAL WORKING PAPER

Liabe Entities for the
Reliability Requirement

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Executive Summary

- The reliability requirement needs to cover all demand from all customers to ensure there is sufficient capacity to meet customer peak demand. Some customers are so small that the only practical option is for a retailer to manage this on their behalf. Other, larger customers may benefit from having the choice to either manage the obligation themselves (via contracts) or to transfer the obligation to a retailer to manage on their behalf.
- Further consideration will be given to the treatment of large customers under the reliability obligation prior to completing the final detailed design of the Guarantee, as noted in the Draft Detailed Design Consultation Paper.
- It is proposed that large customers with a load above a threshold of 5 MW, measured as peak demand at a single site (NMI), will be liable entities. This does not mean that large customers will need their own backup generation. As for all liable entities, it simply means that large customers will need to have entered into qualifying contracts for their electricity supply.
- This threshold captures approximately 100 sites with total load of 36 TWh – approximately 20 per cent of the NEM.
- When combined with existing large non-retailer consumers who are market customers (seven customers, 17 TWh total load), approximately 30 per cent of NEM load is included.
- The administrative burden of identifying these sites and associated customers is not excessive.
 - A lower threshold (less than 5 MW) or applying the threshold to corporate groups would significantly increase the administrative burden and be disproportionate to the additional load and demand captured by the reliability obligation.
 - These customers should, however, be able to opt in to manage their own reliability obligation (for example a corporate entity with a large load, spread over many sites) if they believe that they can better manage their obligation than a retailer.
 - The ability for liable large customers to either manage the obligation themselves or to contract with a retailer to manage the reliability obligation on their behalf, gives the largest customers control and flexibility to ensure their obligation is managed at lowest cost.
- The reliability requirement would apply to new entrant retailers and newly liable sites (for example those exceeding the peak demand threshold or greenfield sites with a connection agreement that indicates that they are above the peak demand threshold). New entrants and new sites would be accommodated within the compliance assessment.
- The reliability requirement implementation has been designed to meet the primary objective of encouraging investment to ensure the reliability of the power system is preserved, whilst ensuring that it does not undermine competition, including allowing commercial and industrial customers to obtain competitive energy offers during a compliance year.

1 Introduction

On 20 April 2018, the Energy Security Board (ESB) presented the COAG Energy Council with a high-level design proposal for the National Energy Guarantee (the Guarantee). The COAG Energy Council agreed that the ESB progress the detailed design of the Guarantee for determination by the Council at its August 2018 meeting.

As part of the development process, the ESB convened Technical Working Groups to advise on certain detailed design elements of the Guarantee. The Technical Working Groups were comprised of a broad range of stakeholders with relevant expertise from more than 30 organisations.

The purpose of this paper is to outline options and preferred approaches relating to liable entities for the reliability requirement under the Guarantee, in particular:

- the size threshold for determining liable entities
- whether entities are corporate entities or individual sites
- the transfer of the reliability obligation between parties, and
- the treatment of new entrants and ROLR events.

These issues relate to the reliability arm of the Guarantee as they determine which large customers would have the option to directly manage their reliability obligation and how the obligation applies to entities (retailers or large customers) entering or exiting the market.

These detailed design issues were considered by the Retail Technical Working Group, comprising representatives from large customers and retailers.

This paper provides additional detail and context to the [Draft Detailed Design Consultation Paper](#). Interested parties are encouraged to lodge a submission to the consultation by **13 July 2018** for consideration by the ESB prior to the publication of the final design of the Guarantee.

2 Overview of High-Level Design

Liable entities will be retailers and large customers (including commercial and industrial users that are not market customers) subject to a size threshold to be determined as part of the detailed design.

The reliability requirement is designed to incentivise retailers and customers to support, through their contracting, investment in resources that maintain the long-term reliability of the power system.

Retailers, in aggregate, should be willing to help manage the long-term reliability of the power system on behalf of their residential and small-to-medium enterprise customers because they are confident in their future demand for electricity.

However, there are a range of very large customers in Australia whose future demand for electricity is unknown and is unknowable to electricity retailers. Without a long-term contract from these customers, retailers (in aggregate) may be unwilling to help support the long-term reliability of the power system on behalf of these customers without charging a significant risk premium.

Further, if the reliability obligation is automatically placed only on retailers (on behalf of all their customers) then the majority of the obligation to purchase contracts will be with a concentrated number of market participants making it more difficult for smaller retailers to compete, negatively impacting the affordability of electricity.

Requiring retailers to carry the obligation for customers they have not yet contracted would likely result in additional costs being imposed on customers (such as an additional risk premium) over the longer term. The additional risk premium would be built into the customer's contract rate, recovered over the term of the contract, to protect the retailer should the customer exercise the option to extend. However, providing larger customers the option to agree with their retailer to manage their obligation recognises that retailers are likely to be able to more cost effectively manage the obligation – provided they have sufficient visibility of the customer's load and/or future demand potential.

Giving large customers the choice to contribute to the reliability of the power system directly or to contract with a retailer should ensure that the reliability requirement is managed at least cost.

All retailers (large and small) will then be able to compete to manage the reliability requirement on behalf of large customers. This should have significant benefits for competition in the electricity market.

This gives large liable customers the option of managing their reliability obligation themselves (at lower cost if they can do so) or contracting with their retailer to manage it on their behalf. It gives large liable customers the opportunity to negotiate contracts that combine supply, reliability, and demand response that can provide the lowest cost to these large customers.¹

Each year, as part of its Electricity Statement of Opportunities (ESOO) process, AEMO would assess whether the NEM reliability standard will be met or if a reliability gap is forecast. If a material gap persists or emerges three years out from the relevant period, the reliability obligation

¹ However, some large customers have suggested that this additional optionality would negatively – rather than positively – impact upon them. Further consideration will be given to the treatment of large customers under the reliability obligation prior to completing the final detailed design of the Guarantee.

may be triggered, and liable entities may be expected to demonstrate future compliance with the reliability obligation by securing sufficient qualifying contracts to cover their share of system peak demand.

To provide a safe harbour within the reliability obligation, it is appropriate to only require liable entities to demonstrate sufficient contracts are in place to cover their share of system peak demand expected to occur one in every two years.

Emissions-intensive trade exposed (EITE) entities will not be exempt from the reliability obligation as the obligation will need to cover all customer load to ensure that appropriate action has been taken to secure electricity supply.

3 Threshold for liable entities

3.1 Calculation of the threshold

A decision is required as to how the threshold will be determined, and at what level the threshold will be set. Setting a threshold is intended to ensure liable entities are readily identifiable and that it is clear where liability resides if the reliability obligation is triggered.

The threshold for liable entities could be calculated in a variety of ways, including using an entity's historic peak demand (in MW), an average of its historic monthly peak demand (also in MW), or its historic annual consumption (in GWh). However, there are drawbacks with the last two options.

Using historic peak demand, a timeframe should also be considered to accurately reflect the peak demand profile of the entity. For example, an entity may have historically had higher periods of demand but has since acted to reduce its peak demand (either through investment in energy efficiency or demand response). Historic peak demand could be based on the previous 12 months or previous financial/calendar year. This would provide a more accurate picture of an entities' expected demand over the next year and would eliminate historical demand outliers. This would also provide a basis for reassessment in the future.

If an average of an entity's historic peak demand was used (also assuming a similar period of analysis, e.g. the previous 12 monthly peak demands), this may result in a misrepresentation of the entity's contribution to system demand when the system is at peak demand. Using an average of monthly peak demands risks excluding sites that may otherwise be liable and would not accurately reflect the demand the site adds to the system during periods of system stress. A similar problem would occur if the threshold was calculated using historic consumption, as this would not reflect the demand put on the system in peak periods.

In addition to determining the basis for the calculation, the threshold needs to be set at a level to capture a significant portion of NEM load to ensure the reliability obligation incentivises an appropriate response from the system. It is proposed the threshold be set at 5 MW. Analysis of NEM load indicates setting the threshold at 5 MW will result in the reliability obligation applying directly to large customers for approximately 20 per cent of NEM load as well as market customer accounting for an additional (approximately) 10 per cent of NEM annual load. Setting the threshold below 5 MW (say 3 MW) will make identifying liable parties with current data more difficult, with the liability itself likely being too onerous a requirement for an entity of that size. It would also complicate compliance for the AER.

The preferred approach would be to calculate the threshold using historic peak demand over a defined period, with the threshold set at 5 MW.

The 5 MW threshold criteria could be established in the Rules, streamlining compliance for the AER by avoiding the need for case by case consideration.

Preferred approach

- Threshold calculated using recent historical peak demand, set at 5 MW.
- Using historical peak demand (over a recent time period of at least twelve months) will allow for identification of liable entities and provide an accurate reflection of their operational demand profile.
- Setting the threshold at 5 MW would still see a significant share of the market take on the liability and provide an incentive to either manage the obligation or transfer it to a retailer to support the reliability of the system.

3.2 Application of the threshold

A decision is required on the application of the threshold; will it apply individually at site level, or to aggregated corporate groups?

Once the threshold size is determined, consideration of how the threshold will be applied is necessary to ensure transparency of the liability for liable entities.

The threshold could be applied across a corporate group to ensure a greater share of C&I customers are required to manage the liability. The benefit of this approach is it would likely match the contracting approach taken by corporate entities when tendering for their energy supply, as the entire group will go out to tender as an aggregated entity to achieve a better price outcome. However, this approach would also require the development of new software platforms to track NMI data associated with the corporate group.

Another option could be to identify liable entities on a site by site basis, possibly using NMI data. This approach would require the retailer for NMIs that exceed the threshold to identify the entity responsible for that NMI.

A challenge in identifying the liable entity is determining where the liability sits in a scenario where an entity's operation is being undertaken in a factory setting where the site itself is leased from another entity.

It will also be important to determine which entity would be the liable entity when the site is operated by a joint venture.

The entity that has entered into a retail supply contract will be deemed to be the liable entity.

It is proposed to apply the threshold to a single site at a NMI. This approach should also streamline the compliance process.

Preferred approach

- The threshold should apply to a single site as identified by a NMI.
- Where a site has multiple supplies (e.g. for redundancy), the reliability obligation will be met by complying contracts for the coincident maximum demand of all connections.
- The liability should rest with the electricity supply contract account holder of a site.
- AEMO will identify liable entity NMIs on commencement of the Guarantee.
 - The current retailer for each liable NMI will be required to identify the account holder for that site to the AER.
 - The AER will advise each liable entity of their obligation (however it is likely that their retailer will have already advised them and engaged with them to discuss transferring the obligation).

4 Transfer of reliability obligation

4.1 Transfer of the obligation between a large customer and a retailer

A decision is required to determine how the reliability requirement could be transferred from a large customer to a retailer.

Large customers would have the ability to contract with their retailer to transfer the reliability obligation to their retailer under the Guarantee. This will continue to provide an opportunity for small and large retailers to compete to manage the requirement on behalf of large customers.

If a large customer meets the threshold and is a liable entity when the reliability obligation is triggered at the three year-out mark, then the customer (along with other liable entities) will need to anticipate its likely share of system peak demand. The customer would then decide whether it will contract or transfer its obligation to a retailer. By one year out from the period where the reliability requirement has been triggered, liable entities will be required to disclose their contract positions to the AER, and the transfer process would need to be complete.

If the obligation is triggered, it is proposed that liable entities could be notified by the AER and/or assigned an Obligation Notice (with a corresponding unique identifier). Over the next two years, if the large customer decides to transfer the obligation to a retailer, both parties could notify the AER the obligation has been transferred, with the Obligation Notice being reassigned to the retailer. This would provide a transparent process for transferring the obligation and remove any doubt where the liability rests.

There may be large customers who have sites that fall below the threshold, but who wish to manage their own reliability obligation. In this scenario, the same mechanism used to transfer the obligation from a customer to their retailer could be used to assign the obligation to a customer from a retailer. A retailer would be required to demonstrate that the customer has accepted the obligation – for example by having an Obligation Notice created by the AER for a specified load at the request of the retailer and then both parties could notify the AER that the obligation has been transferred.

This process would need to be completed prior to the one-year mark as retailers and liable entities would be required to submit their contract positions to the AER for assessment.

Although unlikely, this process could be used to transfer the reliability obligation between any liable entities, provided the AER is formally advised prior to the one-year out mark.

Certain customers who are also liable entities (or may become liable entities) may have existing long-term contracts, executed prior to the release of the High-Level Design. These contracts would be grandfathered and would be deemed to have met the reliability obligation regardless of whether they meet the firmness test (see the *Technical Working Paper on Qualifying Contracts*).

The preferred solution to provide clarity on the transfer of obligation process is to develop a process where obligation notices are issued to liable entities by the AER, where these notices can be traced and transferred between willing participants.

Preferred approach

- The AER would issue obligation notices to liable entities at the three year-out point if the reliability obligation is triggered.
- Over the next two years, these notices could be transferred between participants, subject to any commercial arrangements, with the AER being notified by the counterparties of the transfer prior to the one-year mark.
- In force, long-term contracts that commenced before the commencement of the Guarantee and the introduction of the reliability obligation would be deemed to have met the reliability obligation (subject to consideration as per the *Technical Working Paper on Qualifying Contracts*).

5 Treatment of new entrants

5.1 New entrants

A decision is required to clarify how the load of new entrants is treated for the purposes of compliance if a new entity commences during the compliance year.

If the reliability obligation is triggered, it is not unreasonable to anticipate that new entrants, including retailers or large customers, may enter the market during the compliance year. The treatment of these customers should be consistent with other liable entities under the reliability obligation.

One option may be that new entrants will be required to seek contracts or attempt to enter into an agreement with a retailer to meet their obligation for their load over the forecast gap period. Following the gap period, when the AER commences the compliance process (assuming exceedance of a one in two-year demand scenario), the new entrant could demonstrate to the AER any action it undertook to comply with the reliability obligation (being either obtaining qualifying contracts or transferring the obligation to a retailer). This would be consistent with the overall objective of the Guarantee by ensuring parties take appropriate steps to ensure the reliability of the system as the new party is potentially contributing to increased system peak demand (assuming it's a new large user and not a retailer taking load from an existing party).

Alternatively, the new entrants could be exempt from the reliability obligation. This approach leaves any additional load unaccounted for in the system and would need to be spread across remaining retailers for the purposes of compliance and meeting the Procurer of Last Resort costs.

The proposed solution for the treatment of new entrants is to require them to take steps to support the reliability of the system in the lead up to the forecast gap.

Preferred approach

- Require new entrants to take steps to support reliability by seeking contracts to cover their forecast load during the gap period.
- This approach is consistent with objective of the Guarantee to support the reliability of the system. This also avoids the need to otherwise apply the load of any new entrants to existing retailers who would have not necessarily had any way of anticipating the load associated with the new entrant.

A Abbreviations and defined terms

AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
COAG	Council of Australian Governments
Compliance year	The period between one year before a forecast gap period and the gap period. At the start of the compliance year at T-1, retailers and liable entities are required to have complying contracts that cover their expected load for a one in two-year probability of exceedance load.
Coincident maximum demand	<p>When measuring demand across more than one connection at a site, for the purposes of determining maximum demand for all of the connections, there are two commonly used ways of doing this:</p> <ol style="list-style-type: none">measure the demand for each connection point for each period (e.g. 5 minutes or 30 minutes), sum the demand together for each connection point for each period, and find the maximum of the summed demands – this is referred to as coincident maximum demand, orfind the maximum for each connection point, and sum the maximum demand – this is referred to as arithmetic maximum demand. <p>Coincident maximum demand is appropriate for measuring the demand's impact on system supply, as it is only this amount that needs to be supplied by generation. Arithmetic maximum demand can be appropriate for measuring the impact of the demand on a distribution network, as the network needs to support each demand over the distribution network, and as multiple connections are typically used for redundancy, this means there is more than one set of poles and wires that need to support this maximum demand, even if each connection reaches its maximum at a different time.</p>
ESB	Energy Security Board
Guarantee	National Energy Guarantee
GWh	Gigawatt-hour
MW	Megawatt
NEM	National Electricity Market
NMI	National Metering Identifier
Rules	National Electricity Rules
TWh	Terawatt-hour

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