21 December 2018

Mr John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

Dear Mr Pierce

Consultation Paper: Wholesale Demand Response Mechanisms (ERC0247)

Energy Queensland Limited (Energy Queensland) appreciates the opportunity to provide a submission to the Australian Energy Market Commission (AEMC) on its *Wholesale Demand Response Mechanisms* consultation paper (consultation paper) in response to the following rule change requests:

- Wholesale demand response mechanism - submitted by the Public Interest Advocacy Centre, Total Environment Centre and The Australia Institute;
- Wholesale demand response register mechanism - submitted by the Australian Energy Council; and
- Mechanisms for wholesale demand response - submitted by the South Australian Government.

These rule change requests are each seeking to facilitate wholesale demand response in the National Electricity Market.

Energy Queensland's responses to the questions raised in the AEMC's consultation paper are provided in the attached submission. Should you require additional information or wish to discuss any aspect of Energy Queensland's submission, please do not hesitate to contact me on (07) 3851 6787 or Charmain Martin on (07) 3664 4105.

Yours sincerely

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Energy Queensland

Submission to the Australian Energy Market Commission

Wholesale Demand Response Mechanisms consultation paper

Energy Queensland Limited

21 December 2018

About Energy Queensland

Energy Queensland Limited (Energy Queensland) is a Queensland Government Owned Corporation that operates a group of businesses providing energy services across Queensland, including:

- Distribution Network Service Providers, Energex Limited (Energex) and Ergon Energy Corporation Limited (Ergon Energy);
- a regional service delivery retailer, Ergon Energy Queensland Pty Ltd (Ergon Energy Retail); and
- affiliated contestable business, Yurika Pty Ltd (Yurika).

Energy Queensland's purpose is to safely deliver secure, affordable and sustainable energy solutions with our communities and customers and is focussed on working across its portfolio of activities to deliver customers lower, more predictable power bills while maintaining a safe and reliable supply and a great customer experience.

Our distribution businesses, Energex and Ergon Energy, cover 1.7 million km^2 and supply 37,208 GWh of energy to 2.1 million homes and businesses. Ergon Energy Retail sells electricity to 740,000 customers.

The Energy Queensland Group also includes the new energy services business Yurika which will provide customers with greater choice and control over their energy needs and access to the next wave of innovative technologies and renewables.

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1 Introduction

On 15 November 2018, the Australian Energy Market Commission (AEMC) published a consultation paper on *Wholesale Demand Response Mechanisms* (consultation paper). The purpose of the consultation paper is to seek feedback from stakeholders on three rule change requests that relate to wholesale demand response.

The three rule change requests received by the AEMC are as follows:

- A rule change request submitted by the Public Interest Advocacy Centre, the Total Environment Centre and the Australia Institute on 31 August 2018 seeking to introduce a mechanism for wholesale demand response;
- A rule change request submitted by the Australian Energy Council on 18 October 2018 seeking to introduce a register for wholesale demand response; and
- A rule change request submitted by the South Australian Government on 21 October 2018 seeking to introduce a mechanism for wholesale demand response and a separate, transitory market for wholesale demand response.

These rule change requests have been submitted in response to the *Reliability Frameworks Review* recommendation for "demand response aggregators and providers to be recognised on equal footing with generators in the wholesale market and so offer wholesale demand response transparently into the market".[1]

The AEMC has requested that interested parties make submissions on the issues raised in the consultation paper by 21 December 2018. Energy Queensland's comments are provided in Sections 2 and 3 of this submission.

We are available to discuss this submission or provide further detail regarding the issues raised.

[1] AEMC, *Final Report: Reliability Frameworks Review*, 26 July 2018, pp. v-vi.

2 General comments

Energy Queensland is a Queensland-based energy business that delivers electricity to its customers via an integrated business model that enables enhanced flexibility and choice in the energy market. Since its inception on 30 June 2016, Energy Queensland has worked collaboratively to form the largest electricity distribution company in Australia whilst also operating its retail business and establishing an affiliated contestable energy services business. Energy Queensland is focused on effectively leveraging its diverse capabilities across the portfolio to support the prosperity of Queensland communities through the provision of safe, secure, affordable and reliable energy.

Energy Queensland is a strong supporter of demand response participation and understands there is a growing market for demand response services. Our distribution network businesses, Energex and Ergon Energy, have effectively used load control mechanisms to manage peak loads for security purposes. Both Energex and Ergon Energy have incentivised customers to participate in demand response programs and have around 1.2 million customers, representing around 874 MW of diversified non-firm load control that can be called upon during periods of extreme weather and other network contingencies.[2] For example, Energex has successfully implemented demand response during periods of extreme demand to maintain electricity supply to end-use customers, preventing area problems and network outages. Energy Queensland has also established an affiliated contestable business, Yurika, which has developed a Virtual Power Plant (VPP) product.

The consultation paper puts forward three rule change proposals that are intended to enable demand response providers to participate in the wholesale market, namely:

- a wholesale demand response mechanism;
- a wholesale demand response register; and
- a separate wholesale demand response market.

In addition, the AEMC has suggested a mechanism for compensating customers in the event of reliability-related load shedding. While Energy Queensland's responses to the AEMC's specific questions on these proposed demand response mechanisms are

[2] However, we note that wholesale market participants are unable to access demand response information from the networks due to ring-fencing limitations.

provided in section 3 of this submission, we also provide the following high level comments for consideration:

- Energy Queensland considers that the key drivers for implementing a demand response mechanism are:
  - providing a market environment that stimulates innovative offerings for customers to assist in managing their electricity costs;
  - maintaining power system security; and
  - providing the market operator with greater visibility of demand response providers and demand response capability in the market.

  Energy Queensland agrees with the AEMC's assessment, however, that in order to achieve these benefits, "it is important that demand response is facilitated in the least cost way".[3]

- Energy Queensland is participating in the Energy Networks Australia / Australian Energy Market Operator (AEMO) Open Energy Networks consultation process and notes that the findings from this project will be beneficial in considering demand response mechanisms. An early finding from this work supports greater levels of network visibility of resources connected at distribution levels to enable the reliable and safe operation of the network and effective market response for demand response providers.

- A key issue challenging the viability of the proposed options, in particular the demand response mechanism and separate demand response market, is the potentially significant costs associated with their implementation and ongoing operation. Energy Queensland therefore considers that a robust analysis of the specific requirements of each of the proposed mechanisms and associated costs and benefits should be undertaken before consideration of these rule changes is progressed. As the implementation and ongoing costs of these measures will ultimately be borne by electricity customers, it is important that they should not exceed the benefits of introducing any demand response mechanism.

[3] AEMC, *Consultation Paper: Wholesale Demand Response Mechanisms*, 15 November 2018, p. ii.

- It is noted that the rule changes discussed in the consultation paper relate to only one of the recommendations made by the AEMC in its *Reliability Frameworks Review* final report with respect to supporting increased demand side participation, that is, that increased demand side integration into the wholesale market should be supported by "recognising demand response providers on equal footing with generators in the wholesale market…". Energy Queensland considers that any proposed demand response mechanism should not be considered in isolation from the other recommendations, namely:

    - the implementation of a voluntary, contracts-based short-term forward market; and

    - permitting customers to engage multiple retailers / aggregators at the same connection point.

  Rather, any demand response mechanism should form part of an integrated suite of measures.

  The AEMC should also be cognisant of any unintended consequences or impacts on existing demand management schemes or programs and / or linkages with other market reforms or industry initiatives.

- Energy Queensland considers that the demand side market is operating well and growing for the large business segment. Advanced meters, the retailer-led rollout of which has only just reached its first anniversary, together with appropriate pricing signals (both network and retail) and increasing community engagement are critical components for facilitating further growth in demand response in the small customer segment. In this regard, any proposal for a demand response mechanism should be considered against the potential for further growth in all customer segments under the existing market rules as well as rapid advances in technology, proposed network pricing reforms, ongoing changes in the generation mix and the wholesale market, and growing awareness of the need to manage high demand periods (both from a network and generation perspective).

Energy Queensland looks forward to participating further in the consultation process on this matter.

3 Detailed comments

AEMC Question	Energy Queensland Response
QUESTION 1: ASSESSMENT FRAMEWORK Do stakeholders agree with the proposed assessment framework? Alternatively, are there additional principles that we should be taking into account?	Energy Queensland is generally supportive of the AEMC's proposed assessment framework. However, we provide the following additional comments for further consideration: • A key issue facing any demand response mechanism is that it results in split incentives in a vertically disaggregated value chain. That is, demand response can benefit generators, transmission networks, distribution networks, retailers and other market participants as well as customers, but not all value can be extracted by all parties at all times. Consequently, in Energy Queensland's view, the frame of reference for the assessment of proposed demand response mechanisms should be firmly anchored on the party making the investment in the technology used to provide physical demand response, i.e. the customer. The proposed assessment framework appears to have lost sight of this anchor and instead views the wholesale and other energy markets from a market participant's rather than from a customer's perspective. While it is assumed that customers will benefit from the actions of market participants, it is Energy Queensland's view that there should be a greater focus placed on tangible customer benefits and costs that will result from the proposed rule changes. A full understanding of these benefits and costs is particularly important in the current environment where customers have different goals and preferences and have little interest in being engaged with, but also want choice of and reward from, any third parties to whom they cede control of their investments. Because the incentives are split, however, it is unlikely that the full value of benefits realised from utilising customer investments for demand response can be captured and passed on to the customer.

AEMC Question	Energy Queensland Response
	• Particular attention will need to be given to consumer protections for small customers, including (but not limited to) protections relating to hardship customers (i.e. "the consumer protections test") and customers who are registered as requiring life support equipment, to determine the extent to which they are able to participate in any demand response mechanism.
QUESTION 2: NATURE OF THE ISSUE RAISED (a) Is it difficult for consumers to participate in wholesale demand response? If so, which consumers face the greatest amount of difficulty? What is the cause of this difficulty? (b) What demand response providers and products are currently available in the market? (c) Is there effective competition for demand response as a service to be used by retailers? If not, are consumers able to access the benefits of wholesale demand	(a) It is Energy Queensland's understanding that it is not difficult for medium-sized enterprise and commercial and industrial customers to participate in wholesale demand response. It is acknowledged, however, that small residential and business customers may currently find it difficult to participate in wholesale demand response as they may not have the necessary systems capability and are required to participate through agents who are registered participants. It is also possible, however, that lack of customer interest may be a contributing factor to lower levels of small customer participation. It is noted that as part of the *Demand response mechanism and ancillary services unbundling* rule change consultation in 2016, the AEMC commissioned Oakley Greenwood to provide a report on the status of demand response in the National Electricity Market (NEM) at that time. The report found that in 2016 there were at least 21 businesses capable of providing a variety of demand response products and services, covering each jurisdiction in the NEM.[4] Since that time, Energy Queensland believes that the number of demand response businesses has increased. Apart from retailers offering demand response services, there are emerging aggregators and intermediaries servicing niche

[4] AEMC, *Final Rule Determination: National Electricity Amendment (Demand Response Mechanism and Ancillary Services Unbundling) Rule 2016*, 24 November 2016, p. 2.

AEMC Question	Energy Queensland Response
response directly? Is competition for wholesale demand response as a service increasing?	areas of the market, including early battery adopters. A specific example of a new demand response provider is Energy Queensland's affiliated contestable business, Yurika, and its VPP product. Energy Queensland recently undertook a market scan of competitive businesses with the potential to provide demand management services in Queensland. This scan identified that the residential demand response services market is currently immature. However, there are metering service providers and technology providers preparing to supply the residential and small commercial market. In addition, some distributors, such as Energex and Ergon Energy, offer a range of innovative demand management solutions, such as direct load control of customers' hot water systems and demand response enabled device based air-conditioning load management. These distributors also have protection schemes that will automatically shed large blocks of load under certain contingencies, including under-frequency events. (b) Demand response is already occurring in the NEM under the current regulatory framework, with the number of demand response providers, and therefore competition, steadily increasing. Large customers in particular have a range of opportunities to take on exposure to wholesale market prices directly or consider demand response services offered by retailers or other demand response providers. Benefits are more readily realised from the large customer segment where there are greater incentives to be gained from participation in the wholesale market. Conversely, the benefits from the small customer segment are more diluted and incentives may not always be sufficiently generous to compensate customers for making their appliances available for demand response. Further, it is apparent that significant volumes of demand response resources will be required in the small customer segment to not only be scheduled in the wholesale energy market but also for a demand response service provider to build a sustainable business.

AEMC Question	Energy Queensland Response
QUESTION 3: WHOLESALE DEMAND RESPONSE CURRENTLY IN THE NEM (a) Do stakeholders have views on the existing levels of wholesale demand response in the NEM? Please provide evidence or data to substantiate these views where possible. (b) Can retailers indicate to the Commission what they are currently doing to facilitate wholesale demand response?	Energy Queensland understands that many retailers are exploring demand response opportunities with their customers. Further, distributor legacy systems that provide load control in Queensland already provide a significant level of "invisible" demand response. Indeed, load control of hot water storage has been used successfully to manage the excess solar PV generation causing voltage rise and reverse flows on the network in Queensland. However, it is difficult to develop a firm understanding of the level of actual demand response occurring and / or potential demand response capacity available in the market due to lack of visibility.
QUESTION 4: APPROACH FOR FACILITATING TRANSPARENT, PRICE RESPONSIVE DEMAND Do stakeholders consider there are other regulatory solutions: (a) to providing the demand side with greater access to wholesale prices, and (b) to increase the transparency of demand side response to these prices?	(a) Energy Queensland does not consider there are any significant barriers currently in place that prevent large customers from accessing demand response products from either retailers or third party providers. Rather, it is likely that other factors are influencing the level of participation, such as the fact that it is typically only large commercial and industrial and embedded generation customers that have the capability of, or interest in, entering into bilateral contracts with retailers and aggregators. In Energy Queensland's view, it is highly unlikely that significant numbers of smaller customers, whose investments would be utilised by third parties, will actively seek to engage with the wholesale market. (b) Registered Participants are required to provide AEMO with information on demand side participation in accordance with guidelines established by the AEMC in the final determination on the *Improving demand side participation information* rule change made in 2015. Energy Queensland shares the AEMC's hope that over time there will be greater compliance with this requirement, thereby increasing visibility of wholesale demand response to AEMO. Rather than relying on additional reporting obligations, Energy Queensland supports metering of demand response to provide greater transparency of actual demand response capability in near real time and at a granular level.

AEMC Question	Energy Queensland Response
QUESTION 5: EFFICIENT CONSUMPTION OF ELECTRICITY (a) Do stakeholders agree with our characterisation of how efficient wholesale demand response would improve outcomes in the wholesale market? (b) What are stakeholders' views on how facilitating wholesale demand response could affect outcomes in the wholesale energy market?	(a) Energy Queensland agrees with the AEMC's characterisation of the benefits of wholesale demand response. (b) Energy Queensland acknowledges that efficient wholesale demand response has the potential to positively influence outcomes in the wholesale market by increasing system security and lowering customers' electricity costs over time.
QUESTION 6: COMPETITION FOR WHOLESALE DEMAND RESPONSE SERVICES Are consumers able to access competitive offers from retailers or third parties to assist consumers to undertake wholesale demand response? Is the level of competition greater for larger consumers?	As already noted above, customers are currently able to access offers from a number of retailers and third party demand response providers. Energy Queensland considers there is a growing level of competitive offers available from retailers and third parties to assist customers who value the ability to undertake wholesale demand response. In addition, in Queensland, small customers can access products provided by retailers due to the underlying network load control tariffs. Large customers are also approached to operate "on call" for demand response through contracts. As already noted, there is likely to be greater competition for large customers as they offer the best value proposition for retailers and other demand response providers and often have greater flexibility to respond to market price signals. As highlighted in the consultation paper, "retailers are incentivised to provide services to consumers which they value, to innovate new products and services to adapt to consumers' preferences and technology changes, and to do so in a manner that minimises the cost of

AEMC Question	Energy Queensland Response
	running their business".[5] Consequently, in line with this assumption, should customers place value on their ability to participate in demand response, they will be motivated to seek a retailer or demand response provider that can provide demand response services. The resultant loss of customers and demand response capabilities that act as a wholesale market risk mitigant will in turn motivate retailers to offer wholesale demand response as part of their suite of products. We also note the Energy Security Board's comments in its recently released *Consultation Regulatory Impacts Statement on the Retailer Reliability Obligation* (RRO) that, should the Guarantee be implemented, "the incentives and structures created by the RRO are also expected to accelerate the development of the demand-side response market".[6]
QUESTION 7: DEMAND RESPONSE PARTICIPATING AS A SCHEDULED LOAD (a) Has the Commission appropriately characterised the benefits of increasing transparency relating to wholesale demand response? (b) Do stakeholders consider that if demand response were to participate in the wholesale market, it should do so as a	An inherent characteristic of appliances that can be used for demand response is that, as with distributed energy resources, it is almost impossible to have any visibility of their availability in real time, let alone the ability to forecast availability at a future point in time. Therefore, as it is very difficult to determine how much load is available for demand response, it will also be difficult to participate as a scheduled load. Furthermore, it should be noted that there are obligations and penalties associated with participating in the wholesale market as a scheduled load, i.e. with respect to complying with dispatch instructions. It is unclear how those obligations would apply to demand response participating as a scheduled load.

[5] AEMC, *Consultation Paper: Wholesale demand response mechanisms*, 15 November 2018, p. 23.
[6] Energy Security Board, *Retailer Reliability Obligation – Impact Analysis Paper*, p. 9.

AEMC Question	Energy Queensland Response
scheduled load (rather than scheduled "negawatts")? Would the pros and cons of participating as a scheduled load differ for different types of demand response providers, e.g. those that have demand response controls on all or only part of their load? (c) Do stakeholders consider the obligations placed on scheduled load remain appropriate in the context of demand response? If not, how might they be changed to better allow loads to participate in central dispatch? (d) Which information provision processes should a demand response provider participate in, i.e. pre-dispatch, ST-PASA, MT-PASA? (e) How should compliance with dispatch targets and the causer pays procedure apply to demand response providers?	
QUESTION 8: REDUCING BARRIERS TO A RANGE OF DEMAND RESPONSE To what extent will these mechanisms facilitate more demand side participation throughout the NEM?	Energy Queensland does not believe that any of the proposed mechanisms alone would increase demand side participation as customers are already able to participate under the current framework. Change will primarily be customer-driven with the emergence of new technologies and service offerings that customer's value.

AEMC Question	Energy Queensland Response
QUESTION 9: COSTS OF IMPLEMENTING MECHANISMS (a) What is the extent of the upfront costs that would be imposed on participants to introduce the proposals outlined in the rule change requests? Please provide evidence or data to substantiate these views where possible. (b) Will demand response providers have sufficient information regarding expected revenue to make commercial decisions regarding the cost/benefit trade-off of incurring upfront costs in order to participate in the mechanism?	(a) The costs of any necessary upgrades to participants' systems and processes will likely be significant. These costs cannot be estimated, however, without undertaking a comprehensive, resource-intensive review when the full implications of the preferred mechanism are understood. As costs incurred by participants to implement and maintain any proposed demand response mechanism will ultimately be borne by electricity customers, it is essential that care is taken to ensure that any rule change results in a cost-effective solution that will deliver material benefits for customers and that those benefits significantly outweigh the costs of its implementation and ongoing operation. In addition, Energy Queensland considers the upfront costs to customers seeking to participate in any wholesale demand response mechanism, such as costs that will be incurred as a result of the need to modify switchboards, household wiring and metering, should be factored into the AEMC's assessment. These costs may make participation in any wholesale demand response mechanism uneconomic for many customers. (b) Factors, such as the baseline methodology, growth in demand response and subsequent impact on prices, as well as the ability to grow a business portfolio to a level where it can sustain growth and efficiency and participate competitively in the market, should inform commercial decisions regarding the cost / benefit trade-off of incurring upfront costs and subsequent choice to participate in the market.
QUESTION 10: REDUCING EXTENT OF UPFRONT COSTS Do stakeholders have suggestions for ways these upfront costs could be minimised? For example, is it possible for there to be savings by making changes at the same time as other systems changes?	Without a full understanding of the extent of changes that may be required, it is difficult to determine the potential benefits of the concurrent implementation of system changes required to support any of the proposed mechanisms. In this regard, Energy Queensland is concerned that the rule change proposals are being considered in the midst of a series of other significant reforms impacting the market. These reforms, including five minute settlement and global settlements, involve significant system and process changes that are costly and resource-intensive to implement. The addition of further system modifications would undoubtedly add

AEMC Question	Energy Queensland Response
	greater complexity to these work programs and potentially extend the timeframe required for implementation.
QUESTION 11: INDIRECT COSTS OF PROPOSALS (a) What is the likely extent of any indirect costs imposed through these proposals? (b) How could any such costs be minimised?	Energy Queensland is not aware of any indirect costs or how they can be minimised at this stage.
QUESTION 12: RISK ALLOCATION FOR BASELINES Do stakeholders have views on how risks and costs can be best allocated under a baseline used for demand response?	Energy Queensland is not supportive of a baseline approach – see response to question 18 below.
QUESTION 13: RETAILER PARTICIPATION (a) Is it necessary to place an obligation on retailers to participate in the mechanism for it to address the issues raised by the proponents? (b) Are there additional obligations these proposals would place on retailers, and do they differ between the proposals?	Of the mechanisms proposed, Energy Queensland considers that a demand response register would provide greater transparency of the availability of demand response to the market. We do not consider that there is currently sufficient justification for placing further obligations on retailers.

AEMC Question	Energy Queensland Response
QUESTION 14: EMBEDDED GENERATION AND STORAGE (a) Do stakeholders have preliminary views about the ability for the proposed mechanisms to accommodate embedded generation, in the form of reduced consumption of electricity from the grid in high price periods? (b) Do stakeholders have preliminary views about the ability for the proposed mechanisms to accommodate, as demand response, increased consumption during low price periods (whether due to charging batteries, increasing production or any other action by the customer)?	Energy Queensland acknowledges that it is important to distinguish between distributed generation and other demand response resources. In general, most demand response resources are difficult to measure and verify, with the exception of embedded generators and batteries. Given the likelihood of appropriate technology (i.e. metering) being in place, consideration would need to be given to the merits of site-specific baselines being established at these premises for settlement and billing purposes as aggregation of data would pose difficulties with respect to forecasting and bidding. We are also concerned that the baseline approach does not accommodate an increased consumption scenario (i.e. where load is turned on), but rather is focused on demand reduction. This issue is discussed further in our response to question 18. In addition, any mechanism should also accommodate generation curtailment as a means of demand response during peak generation periods.
QUESTION 15: THRESHOLDS FOR PARTICIPATION IN A MECHANISM (a) What thresholds, if any, should apply to participation in the mechanism for individual consumers and aggregated portfolios? For example, large consumers as opposed to small consumers; a MW size threshold? (b) Should there be thresholds at which different scheduling obligations apply?	Energy Queensland does not have strong views on thresholds for participation as we currently engage with customers of varying sizes and capabilities in demand response arrangements. However, we do note that in our experience larger customers are generally better placed to participate in demand response.

AEMC Question	Energy Queensland Response
QUESTION 16: IMPLEMENTATION TIMEFRAMES (a) How long do stakeholders think would be reasonably required to implement the proposals as set out in the rule change requests? (b) How could the implementation timeframe be reduced? What trade-offs may need to be made to the design to achieve this?	It is difficult to estimate implementation timeframes without a comprehensive understanding of the system and process changes required. Of the three rule change proposals, Energy Queensland considers that the wholesale demand response register would potentially have the shortest implementation timeframe due to the comparatively minimal system and process changes required.
QUESTION 17: CENTRALLY DETERMINED BASELINES (a) How important is it to design against the possibility for bias and gaming? (b) How can a baseline methodology appropriately align incentives such that the risk of systemic bias is minimised?	Determining baseline calculations that are both accurate and designed in such a way so as to limit bias and gaming are among the most challenging aspects of demand response programs as they can only estimate the counterfactual. Energy Queensland does not support the use of centrally determined baselines for these reasons.
QUESTION 18: ACCURACY OF BASELINES (a) How important is it that the baseline methodology is able to accurately estimate consumption? (b) What administrative mechanisms would improve baseline accuracy without	As noted above, Energy Queensland is not supportive of the proposed baseline approach as we do not consider that it is possible to design a baseline methodology to support a sustainable demand response mechanism that benefits all participants. In summary, the proposed baseline methodology is not recommended as it will: • not be accurate enough to recognise the actual load curtailment provided by participants;

AEMC Question	Energy Queensland Response
imposing excessive burdens? For example, regular review of baseline methodologies by independent experts, or cross-checking against consumption data from customers that are similar to the demand response provider but are not engaging in demand response. (c) Can a baseline accurately account for embedded generation and other dynamic resources that might exist behind the meter? (d) Should a wholesale demand response mechanism apply only to the types of customers for which baselines can be accurately set, and if so, what types of customers should be eligible? (e) How should long-term or permanent changes in a customer's overall level of demand be addressed in baselines? For example, factories may add or retire production lines; households may increase or decrease in size, and may install or remove equipment such as pool pumps or solar panels.	• be susceptible to gaming by participants; • not have a level of transparency and simplicity that allows all stakeholders to understand and validate the calculations and associated financial benefits that flow from a demand response mechanism; and • be subject to challenge by customers. Energy Queensland's distributors, Energex and Ergon Energy, have successfully managed demand response programs with commercial and industrial customers for many years. Bilateral contracts have been entered into directly with these customers based on an assessment of individual baselines and with individual measurement and verification. Furthermore, a key benefit of adopting an Australian Standards (AS / NZS 4755) approach for the Energy Queensland residential air-conditioning programs was to utilise the inbuilt means of evaluating the demand response. Their experience with and feedback from certified measurement and verification professionals involved in these programs has identified that there are multiple variations in demand response, even within the same industry sector. Demand response must be prescribed, measured and verified individually and cannot be generalised and deemed across the market. Similarly, for residential demand response programs, individual baselines are determined for different technologies, not one baseline across all households. The baselining, measurement and verification is done through a measured sample with individual metering. Furthermore, it should be noted that demand response can be used to turn load on. For example, Energex has trialled turning hot water load on to absorb some of the output from solar PV. This action was undertaken to make it easier for static low voltage networks to operate within agreed supply standards and harness the full potential of customers' solar energy. The baseline approach is focused on demand reduction and does not take into consideration the turning on of load to smooth the demand curve.

AEMC Question	Energy Queensland Response
	Deemed response is considered unreliable and not consistent with the National Electricity Rules as price is settled on measured, not deemed, response. Baselining is only one part of measurement and verification. Therefore, the use of separate metering is encouraged over baseline consumption methods. Type 4 metering would provide all parties with the granular data required to establish meaningful baselines and confidence that the financial benefits were being accrued accurately. In addition, a condition of participation may require customers to advise their retailer or demand response provider of significant temporary and / or permanent changes to their operations that would impact on their baseline. Such changes would be reflected in the metering data that could be used to establish a revised baseline.
QUESTION 19: SETTLEMENT UNDER THIS PROPOSAL Do stakeholders consider one of the settlement options outlined to be preferable? How would this approach to settlement impose costs and risks on market participants?	Energy Queensland's preferred method for recovery of the value of wholesale demand response is option 1 (i.e. where the value of wholesale demand response automatically accrues to the retailer and the retailer and customer then determine how to share the value through commercial arrangements) as this process does not require any changes to the existing market structure.
QUESTION 20: OTHER CONSIDERATIONS FOR THE WHOLESALE DEMAND RESPONSE MECHANISM Do stakeholders have views on these other considerations set out above? Are there other considerations not raised here that should also be considered when designing a wholesale demand response mechanism?	Energy Queensland would caution against the participation of life support customers in a demand response program as it carries a significant degree of risk that may be difficult to manage.

AEMC Question	Energy Queensland Response
QUESTION 21: COST RECOVERY FOR THE SEPARATE MARKET What do stakeholders think about the proposed cost recovery arrangements for the separate market?	Energy Queensland does not support the recovery of the costs associated with introducing and operating a separate, transitional demand response market (the costs of which are not likely to be insignificant) from all customers regardless of whether or not they choose to participate.
QUESTION 22: INTRODUCTION OF A SEPARATE MARKET (a) Would the proposal set out in this appendix be faster to implement than the wholesale demand response mechanism discussed in appendix A? (b) If stakeholders do not consider that it would be faster to implement, is there merit in exploring this as an alternative to the other proposed demand response mechanisms? What are the costs and benefits that should be considered in doing so? (c) Are there any additional mechanisms that could be implemented more quickly than a wholesale demand response mechanism? (d) What are stakeholder views on the feasibility of co-optimising this separate market with the existing wholesale market?	At this stage, Energy Queensland does not support the implementation of a separate market for demand response. We consider that further clarity is required as to how the market will operate in practice and a clearer understanding of the costs and benefits of having a separate transitional market must be established before it can be considered further.

AEMC Question	Energy Queensland Response
QUESTION 23: WHOLESALE DEMAND RESPONSE REGISTER MECHANISM 1. What are stakeholder views on this option to facilitate demand response? 2. What do stakeholders consider the benefits of this option would be? 3. What do stakeholders consider to be the costs associated with this option? 4. Are there any implications (regulatory or otherwise) that are not raised in the discussion of this option?	1. Of the various options put forward, Energy Queensland considers that a wholesale demand response register would be an effective means to make information available to the broader market without requiring costly changes to market structure and processes to facilitate. 2. The key benefit of this option is that it would provide greater transparency of the potential demand response capabilities available across the NEM. However, consideration will need to be given to restricting access to demand response-related information to prevent the potential for unintended or perverse wholesale market outcomes. 3. Energy Queensland considers there would be costs associated with establishing, maintaining and reviewing the register. However, these costs are likely to be significantly lower than those that would be incurred in establishing and maintaining a demand response mechanism or separate demand response market. 4. The proposal for development of a demand response register should take into consideration the distributed energy resources register requirement and the work currently underway by Energy Networks Australia and AEMO in their Open Energy Networks project.
QUESTION 24: STANDARD WHOLESALE DEMAND RESPONSE OFFER AND MANDATORY WHOLESALE PRICE PASS THROUGH OFFER (a) What are stakeholder views on these options to facilitate demand response? (b) Do stakeholders consider these options to be preferable to a wholesale demand response register?	Energy Queensland does not have any significant objections to the proposal to develop a standard demand response contract. However, should the AEMC pursue this proposal, Energy Queensland would prefer that it should be used as a non-mandatory tool to assist retailers, demand response service providers and customers who wish to engage in demand response. As noted, this would allow all parties to engage in commercial negotiations that reflect the value of the demand response being offered.

AEMC Question	Energy Queensland Response
(c) Do stakeholders consider these options to be complementary to a wholesale demand response register?	
QUESTION 25: ISSUE ADDRESSED BY LSCM (a) Do stakeholders agree that reliability related load shedding inefficiently allocates risks to end consumers? Does the proposed LSCM address this issue? (b) Would a LSCM facilitate greater levels of wholesale demand response?	Energy Queensland does not support the introduction of a load shedding compensation mechanism (LSCM) as it is unclear how such a complex mechanism would work in practice, particularly with the Reliability and Emergency Reserve Trader function and the obligations on retailers under the RRO proposed as part of the National Energy Guarantee, should it be introduced.
QUESTION 26: BENEFITS AND ISSUES OF AN LSCM (a) Do stakeholders agree with the outline of the benefits and challenges associated with the introduction of an LSCM? (b) What other issues would need to be considered?	No comment – Energy Queensland does not support the introduction of an LSCM.