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Submission to Demand Response Mechanisms consultation paper (ERC0247, RRC0023, ERC0248, RRC0025, ERC0250, RRC0027)

AGL Energy Limited (AGL) is one of Australia's leading integrated energy companies and the largest ASX listed owner, operator, and developer of renewable generation. Our diverse power generation portfolio includes base, peaking and intermediate generation plants, spread across traditional thermal generation as well as renewable sources. AGL is also a significant retailer of energy and provides energy solutions to over 3.5 million customers in New South Wales, Victoria, Queensland, Western Australia, and South Australia.

We welcome the opportunity to comment on the Australian Energy Market Commission's (**AEMC**) Demand Response Mechanisms consultation paper (**DRM consultation paper**). The DRM consultation paper raises three main options for increasing the levels of demand response in the wholesale market, as well as several additional ideas from the AEMC that could either complement or be an alternative to the options raised in the rule change requests. This is a significant piece of work and AGL commends the AEMC's efforts to investigate a variety of options to facilitate greater levels of demand response.

We note that, given the range and complexity of options put forward, the views presented in this submission are made on the information known to date. As the rule change progresses and further detail of a preferred option is developed, AGL will be able to provide more informed views on the proposal. In response to the DRM consultation paper we make the following overarching comments and have provided initial responses to the AEMC's consultation questions in the attached feedback template.

AGL's demand response activities

There are real and significant incentives for retailers to provide wholesale demand response services to their customers. Demand response can be used to manage spot price exposure during high price periods, in the same way as other hedging options. In AGL's experience, there is competition for customers that can provide demand response for an efficient price – retailers are interested in the most cost-efficient risk management strategies.

AGL has engaged many customers in demand response, focusing predominantly on commercial and industrial (C&I) curtailable load as well as residential loads and batteries. AGL has technology and capabilities in place to call upon customers to curtail their load at times of peak wholesale price events, for network support events or during emergency situations.

In the past such incentives have been typically available only for large customers. With the advent of new technology enablers, AGL is now actively developing products and services for smaller C&I and for residential



customers to access demand management incentives. This has involved collaborating and partnering with other companies that have experience providing demand response solutions and the required technologies.

The volumes of various demand response arrangements currently engaged by AGL include the following:

- More than 1300 MW of large customer curtailable load.
- Up to 5 MW of small customer load through the Virtual Power Plant in South Australia.
- 20 MW of emergency demand response through an ARENA and NSW Government trial to manage extreme peaks. This includes 17 MW from commercial and industrial customers, and 3 MW from up to 10,000 residential customers (including both behavioural response and controllable load).
- 20 MW of network demand response to assist network operators with managing peak demand and network issues.

These volumes are individually resourced and there is no duplication between the different arrangements.

In addition, as part of the staged replacement of the Liddell Power station in NSW, AGL will engage additional demand response capability. Stage 1 is underway and a feasibility study for stage 2 will be completed by the end of 2019.

Some of the demand response programs that have been undertaken by AGL include the following:

- In 2015/2016 we worked with United Energy to deliver the Peak Rewards Trial in Victoria, which involved the use of household batteries and air conditioners to provide network support services during extreme temperature days.
- In February 2018 AGL launched its Managed For You load control program. Customers nominate a device, such as an air conditioner or electric vehicle, which can be remotely controlled in a demand response event. Customers are paid a financial incentive for joining the program and for participation in each event. Our experience from this program has been that some small customers can be reluctant to allow others to control certain devices that may impact their comfort, such as air conditioners.
- In 2017/2018 we recruited 750 customers in NSW to participate in our Peak Energy Rewards demand response program. Ahead of a peak event, customers received an email and SMS requesting them to reduce consumption for a two-hour period. Customers were paid a financial incentive for joining the program and for participation in each event.
- Building on the success of the Peak Energy Rewards demand response program, we have recruited 4000 customers to participate in 2018/2019. During the event customers will be able to monitor their demand reduction in near real time through an app.

AGL is involved in exploring the opportunities, challenges and value that could be generated from virtual power plants (VPPs). Our South Australian VPP Project commenced in 2016 with support from ARENA. The project comprises the sale, installation, and orchestration of 1,000 energy storage systems installed behind the meter in homes and small businesses in South Australia. When complete, the VPP will deliver up to its nameplate output of 5MW and nominal projected energy storage capacity of 12 MWh. For further information, including the two milestone reports published to date, please refer to <https://arena.gov.au/projects/agl-virtual-power-plant/>.



We note that VPP capabilities are also being investigated through several other trials:

- AEMO VPP demonstration will leverage government subsidy schemes to develop up to 700 MW of VPPs into the NEM by 2022. It will inform regulatory changes and operational processes to effectively integrate distributed energy and storage into the NEM.
- The NSW Government's Smart Energy for Homes and Business Program will incentivise customers to join a VPP with a demand response capability of up to 200 MW, to help manage peak demand on the grid.

As the above illustrates, demand response projects to manage peak demand and high price events are occurring now under the current market arrangements. This area is evolving, particularly the participation of small customers and the use of smart energy technologies that sit behind the meter. The trials currently underway will investigate how customers can get the most value from their smart devices, with aggregators maximising value streams from the energy market, FCAS, and existing demand response programs (such as with AEMO or networks). The findings from these trials will be highly relevant for the AEMC's consideration of a mechanism to encourage more wholesale demand response.

AGL notes that AEMO recently introduced a portal for market participants to report their demand response arrangements. The portal aims to improve transparency of the amounts of wholesale demand response that may be activated, to better enable AEMO to manage supply and demand balances. While AGL has provided the information requested by AEMO, we note that the process had some limitations that may have affected the ability of participants to report on their demand response capabilities. We understand that compliance has been lower than expected, possibly for this reason. Also, we have not yet been informed how AEMO has used the data, which was expected from the process. AGL suggests that some of the issues with transparency of existing demand response capability could be alleviated by:

1. improving the reporting process to the demand response portal, which could be more user-friendly
2. ensuring participants comply with those requirements.

Ideally this assessment of existing demand response would be completed before considering whether there is an issue with the volume of demand response being provided.

Customer protection and fairness

The options put forward for a demand response mechanism would involve a third-party providing demand response services to customers. Two of the options (the wholesale demand response mechanism and the separate demand response market) would involve significant changes to the settlements and customer billing process.

With reforms of this nature, it is vital to at least maintain the existing consumer protections and not expose customers to any risks, particularly small customers. While the "consumer protections test" is considered for changes to the National Energy Retail Rules, AGL suggests that the AEMC's assessment framework for the rule changes should explicitly include consideration of whether the reforms place additional risks on consumers or erode their existing protections.

There is one main area that stands out to AGL as being particularly concerning with regard to customer fairness.



AGL is highly concerned with the prospect of charging customers for energy they have not used (ie the baseline) during periods where demand response is activated. The customer pays for the inflated energy usage and then receives a rebate from the third-party, which means the customer bears the risk of an inaccurate baseline. This is fundamentally different to the current provision of demand response services, which involves the customer paying for its actual energy usage, and then receiving a rebate for the demand response provided. While a baseline is still used to estimate the amount of demand response, the retailer (or aggregator) bears the risk of an inaccurate baseline.

AGL has considerable experience managing baseline calculations for demand response, not only for AGL's wholesale demand response customers, but also through the ARENA and NSW Government Demand Response trial mentioned above. While the use of baselines can have an acceptable level of error across a large portfolio, our experience is that there is a high risk of inaccurate baselines for individual customers.

Under AGL's Peak Energy Rewards (residential customer) program, which is part of the short-notice RERT, AEMO supplies the baseline formula against which the aggregate demand response is measured, however it is up to the aggregator to determine how each individual customer should be incentivised to meet the overall portfolio objectives. AGL used an in-house baseline methodology to calculate the result for individual customers, specifically developed from experience in a previous demand response trial conducted in Victoria to deal with temperature sensitive loads.

Based on a statistical analysis of the summer 2017/8 Peak Energy Rewards trial, AGL's baseline methodology performed to an accuracy level of approximately 4 per cent across all customer loads (calculated based on per cent absolute error of the forecast on non-event days). However, the accuracy of the individual customer baselines within this portfolio was on average 52 per cent. That is, some consumers were over-estimated and some were underestimated, such that the portfolio error is only 4 per cent but the average error of any individual consumer was 52 per cent. The portfolio also included edge case customers with baseline error an order of magnitude worse again. Due to the inherent issues with rewarding individual consumers against a statistical baseline, AGL has elected to move away from this approach in the 2018/19 Peak Energy Rewards trial to an alternative consumer incentive mechanism.

While the exact statistical methods proposed under the wholesale demand response mechanism are yet to be determined, AGL questions how fairness and baseline risk allocation to an individual consumer could be reasonably achieved using statistical baseline methods.

AGL considers that if baselines are to be used in settlement and billing, it's vital for the protection of individual customers that those baselines are accurate. We appreciate that this may affect the ability of households and other types of customers that have sensitive loads from participation in such a mechanism and have made some suggestions for investigating a suitable program for those customers in the next section below.

Forward process for the rule changes

Given the complexities of the issues raised and options put forward in the DRM consultation paper (elements of which could be "mixed and matched" to some extent), AGL suggests that the next stage of the rule change process involve further consultation on the AEMC's preferred option (or options).

Given the volume of demand response already engaged by retailers and aggregators, it will be important that the costs of any new demand response mechanism are outweighed by the benefits of demand response being provided by third parties under the mechanism (ie additional demand response). We caution that introducing a new participant into the retailer-customer relationship will disrupt the existing value flows, and



suggest that the next stage of the rule change carefully assesses and evaluates the full impacts of the AEMC's preferred option. The next stage of the rule change could include a directions paper on the AEMC's preferred option (or options) and technical working groups to tease out these impacts.

We also note that the rule changes raise complex issues that may take longer to work through than provided in a standard rule change process. For example:

- Customers with sensitive baselines: As mentioned above, the use of baselines in settlement and billing is likely to result in unfair outcomes for customers that have sensitive loads. AEMC may wish to consider other options for encouraging those customers to shift load from high priced periods to low priced periods and provide appropriate compensation for such behaviour. It may also be possible that developments in retailer led demand management or tariff reforms are the best way to encourage behaviour from these customers.
- Customers with storage: Given the dynamic nature of these resources, it will be complex to determine the role of demand response. The various VPP trials underway will help to illustrate how these dynamic resources can be operated and the value streams that can be optimised. It is highly possible that a baseline cannot be determined for these types of customers. However, there may be other technological solutions to determine the level of demand response. AGL considers it likely that a demand response mechanism as described in the rule change request is not the right way to encourage these dynamic resources to shift load from high priced periods to low priced periods. It is possible that demand response from these customers needs to be considered together with Multiple Trading Relationships.

There are several projects currently underway that are closely related to various aspects of this rule change, given the consideration of demand response from new technologies. Coordination will be vital to achieve an efficient outcome, and the AEMC should consider the timeframes of the DRM rule change process with regard to the following reforms:

- The various VPP trials
- Implementing the DER register
- AEMO's Energy Storage Systems and Emerging Generation Systems review

If you have any queries about this submission, please contact Jenessa Rabone on (02) 9921 2323 or JRabone@agl.com.au.

Yours sincerely,

Elizabeth Molyneux

General Manager Energy Markets Regulation

Wholesale demand response – consultation paper: stakeholder feedback template

The template below has been developed to assist stakeholders in providing their feedback on the questions posed in this paper and any other issues that they would like to provide feedback on. The AEMC encourages stakeholders to use this template to assist it to consider the views expressed by stakeholders on each issue. Stakeholders should not feel obliged to answer each question, but rather address those issues of particular interest or concern. Further context for the questions can be found in the consultation paper.

Organisation: AGL

Contact name: Jenessa Rabone, Wholesale Market Regulation Manager

Contact details: JRabone@agl.com.au (02) 9921 2323

Questions		Feedback
Chapter 4 – Assessment framework		
Question 1: Assessment framework		
A)	Do stakeholders agree with the proposed assessment framework? Alternatively, are there additional principles that should be taken into account?	AGL suggests the assessment framework should explicitly consider consumer protections and fairness. Any reform should at least maintain the existing consumer protections and not expose customers to any risks, particularly small customers. Some examples where this may be a relevant consideration are: introducing a new market participant (the demand response provider) who interacts with the customer; using baselines for customer billing; allowing small customers to take on spot price risk; or the participation of life support customers.
Chapter 5 – Issues for consultation		
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?	No response.

Questions		Feedback
B)	What demand response providers and products are currently available in the market?	<p>AGL offers a number of different types of demand response products. At any point in time these products may or may not be taken up by our customers.</p> <ul style="list-style-type: none"> • Large customers: voluntary curtailment; mandatory curtailment. • Small customers: behavioural/voluntary demand response; control of certain devices during agreed periods. <p>AGL also offers network tariff arrangements that allows customers to reduce costs by moving their demand to off-peak times.</p>
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 response directly? Is competition for wholesale demand response as a service increasing?	<p>There are incentives for retailers to engage in wholesale demand response with their customers. Retailers can use demand response to hedge their position and reduce exposure to high market prices, as well as bringing down high prices during peak demand times. Demand response can be used as a hedging strategy just like contracting with generators or entering financial contracts. Retailers are interested in the lowest cost options to mitigate risk.</p> <p>In AGL's experience there is competition with other retailers and aggregators for customers with reliable demand response loads. To retain customers that are interested in demand response, we must make competitive offers.</p> <p>We also note that historically, during periods of low wholesale prices there have been fewer drivers to engage in demand response activities. These drivers have now changed.</p>
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.	<p>The existing levels of demand response should be available through AEMO's demand side participation information portal. However, AEMO has not yet published the reported demand response levels. We also understand that compliance with the reporting requirements has been lower than expected.</p> <p>AGL suggests that the portal could be improved, and that AEMO focus on improving compliance with the reporting requirements.</p>
B)	Can retailers indicate to the Commission what they are currently doing to facilitate wholesale demand response?	<p>AGL is involved in various types of agreements with customers that can deliver wholesale demand response, emergency demand response and network demand response:</p> <ul style="list-style-type: none"> • More than 1300 MW of large customer curtailable load. • Up to 5 MW of small customer load through the Virtual Power Plant in South Australia. • 20 MW of emergency demand response through an ARENA and NSW Government trial to manage extreme peaks. This includes 17 MW from commercial and industrial customers, and 3 MW from

Questions		Feedback
		<p>up to 10,000 residential customers (including both behavioural response and controllable load).</p> <ul style="list-style-type: none"> 20 MW of network demand response to assist network operators with managing peak demand and network issues. <p>As part of the staged replacement of the Liddell Power station in NSW, AGL will engage additional demand response capability. A feasibility study will be completed by end of 2019</p>
Question 4: Approach for facilitating transparent, price responsive demand		
A)	<p>Do stakeholders consider there are other regulatory solutions to:</p> <p>(a) providing the demand side with greater access to wholesale prices, and</p> <p>(b) increase the transparency of demand side response to these prices?</p>	<p>In the consultation paper, AEMC notes an option to give customers greater access to wholesale prices (and therefore the value of demand response) by allowing the customer to request a spot price pass through. The customer would take on the spot price risk, or engage a third party to manage this risk on their behalf.</p> <p>Retailers are currently able to provide spot pass through arrangements to customers. For example, Amber Electric (small customers) and Flow Power (C&I) actively provide these types of services. While AGL offers this option for large customers, our experience has been that even many large customers are not adequately equipped to take on spot price risk.</p> <p>With regard to third parties offering these types of services to customers, we note that retailers are subject to retail compliance obligations. These provide consumer protections for customers with regard to the way costs are passed on, the explanation of the products and services, the way complaints are handled, etc. Should a third-party become involved in providing these types of services, it will be important that the same consumer protections are applied.</p>
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?	No response.
B)	What are stakeholders' views on how facilitating wholesale demand response could affect outcomes in the wholesale energy market?	No response.
Question 6: Competition for wholesale demand response services		

Questions		Feedback
A)	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?	Certain customers are interested in demand response options. We have strong interest in offering these services to retain these customers.
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?	We note that AEMO's portal of demand response loads is currently underutilised and suggest that some effort should be put into improving compliance with those reporting requirements. This may help to alleviate AEMO's transparency concerns with existing demand response.
B)	Do stakeholders consider that if demand response were to participate in the wholesale market, it should do so as a 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?	No response.
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?	Many of the customers currently engaging in demand response activities with retailers do so under voluntary agreements and in addition may require advanced notice to organise the demand response. These types or arrangements are typically unsuitable for scheduling – the customer retains the right to choose whether or not to reduce load. Should a demand response mechanism be implemented, these voluntary arrangements with retailers should be able to continue without a requirement to participate in the demand response mechanism. If rigid requirements are introduced, it may inadvertently act to reduce the amount of demand response that can be provided.
D)	Which information provision processes should a demand response provider participate in, i.e. pre-dispatch, ST-PASA, MT-PASA?	No response.

Questions		Feedback
E)	How should compliance with dispatch targets and the causer pays procedure apply to demand response providers?	No response.
Question 8: Reducing barriers to a range of demand response		
A)	To what extent will these mechanisms facilitate more demand side participation throughout the NEM?	<p>In AGL's view, a demand response mechanism may support greater participation from batteries and controllable loads, which are better suited to scheduling. However, we note that a demand response mechanism might not be the best way to value the services that can be provided by batteries (see question 18 below).</p> <p>As discussed in question 7, demand response from customers on a voluntary/behavioural basis may not be suitable for scheduling.</p>
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.	<p>Our initial assessment of the wholesale demand response mechanism has identified the following substantial system changes:</p> <ol style="list-style-type: none"> 1. Develop a new retail contract for customers with a third-party demand response provider. 2. Update the meter data upload process and systems to accommodate the second data stream. We anticipate this system upgrade would be the most expensive part in implementing the reform. 3. Bills would need to be delayed until all the components of the bill are received – as we would receive meter data from networks and baseline data from AEMO. 4. Retailers would need to decide whether to develop a new rate for the demand response volume, or charge the demand response volume at the same rate as actual consumption. 5. Update the billing process: <ol style="list-style-type: none"> a. The bill may require a new format b. Addition of new lines to include different data streams c. If retailers must calculate the difference between baselines and actual meter data, this would also be done in the billing process. 6. The reconciliation process and settlement process would need to be updated to take into account demand response volumes. <p>If the wholesale demand response register were to be implemented, we would need to develop new retail contracts and contracts with the third party, potentially update our billing systems, and develop systems for the payment of third parties.</p>

Questions		Feedback
B)	Will demand response providers have sufficient information regarding expected revenue to make commercial decisions regarding the cost/benefit trade-off to participate in the mechanism?	No response.
Question 10: Reducing extent of upfront costs		
A)	Do stakeholders have suggestions for ways these upfront costs could be minimised? E.g. could there to be savings by making changes at the same time as other systems changes?	AGL cautions against incorporating any more reforms into the five-minute settlement / global settlement implementation process. Industry has already commenced implementation processes, and needs to focus on delivering those significant changes, without distraction or last-minute additions.
Question 11: Indirect costs of proposals		
A)	What is the likely extent of any indirect costs imposed through these proposals?	<p>Introducing a new participant into the retailer-customer relationship will disrupt the existing value flows that enable retailers to pass cost savings onto the customer. AGL suggests that the next stage of the rule change carefully assesses and evaluates the full impacts of the AEMC's preferred option.</p> <p>The retailer manages spot price risk for the customer and provides the customer with a set price or tariff structure. To do this, retailers obtain hedging for the amount of electricity we forecast the customer to use, to provide certainty of the price we pay for electricity.</p> <p>It has been argued previously that, because their customers are using less electricity when they engage in demand response, retailers would be able to reduce their hedging costs, and pass those cost savings onto the customer through reduced electricity prices. Unfortunately, this is not the case if the third party is activating the demand response. The retailer would not know if or when the demand response would be activated, and to effectively manage spot price risk would continue to hedge at the forecast levels of demand for its customers.</p> <p>Transparent information, such as the scheduling of demand response loads, would not assist as the retailer would not know which of its customers in the third party's fleet are being activated. This is also the reason that retailers are unable to 'learn' over time which of their customers are likely to participate in third party demand response.</p> <p>We also consider there may be costs involved in customer confusion with new billing arrangements, particularly where baselines are used in the retail bill. Baseline and demand response volumes cannot be validated, and we would anticipate a significant risk of bill investigations and disputes.</p>

Questions		Feedback
B)	How could any such costs be minimised?	No response.
Question 12: Risk allocation for baselines		
A)	Do stakeholders have views on how risks and costs can be best allocated under a baseline used for demand response?	No response.
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?	No response.
B)	Are there additional obligations these proposals would place on retailers, and do they differ between the proposals?	No 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?	Please refer to question 18 below. AGL considers that a demand response mechanism and the use of baselines may not be the most appropriate way to value embedded generation and storage.
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)?	Ideally, customers would be encouraged to increase consumption during low priced periods, as well as decrease consumption during high priced periods. This would encourage a customer with dynamic resources to shift load to off peak times, instead of creating new peaks. However, it's currently unclear how a demand response mechanism would accommodate this. AGL considers that a demand response mechanism might not be the most appropriate way to value embedded generation and storage, or to promote increased consumption during low priced periods.

Questions		Feedback
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?	No response.
B)	Should there be thresholds at which different scheduling obligations apply?	No 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?	No response.
B)	How could the implementation timeframe be reduced? What trade-offs may need to be made to the design to achieve this?	No response.
Appendix A – Wholesale demand response mechanism		
Question 17: Centrally determined baselines		
A)	How important is it to design against the possibility for bias and gaming?	No response.
B)	How can a baseline methodology appropriately align incentives such that the risk of systemic bias is minimised?	No response.

Questions		Feedback
Question 18: Accuracy of baselines		
A)	How important is it that the baseline methodology is able to accurately estimate consumption?	<p>AGL considers it vital that, if baselines are to be used in settlement and billing, they need to accurately estimate consumption.</p> <p>While baselines may be accurate at an aggregated level (ie accurate enough for scheduling a fleet of resources), the accuracy at the customer level can be very poor. We have elaborated on our experience with baseline accuracy in the cover letter.</p> <p>AGL is highly concerned with the prospect of charging customers for energy they have not used (ie the baseline) during periods where demand response is activated. The customer pays for the inflated energy usage, and then receives a rebate from the third-party. The customer bears the risk of an inaccurate baseline. This is fundamentally different to how demand response services are currently provided, which involves the customer paying for its actual energy usage, and then receiving a rebate for the demand response provided. While a baseline is still used to estimate the amount of demand response, the retailer (or aggregator) bears the risk of an inaccurate baseline.</p>
B)	What administrative mechanisms would improve baseline accuracy without 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.	<p>AGL notes that there is not one baseline that suits all customers, or all demand response events. This applies even to large customers. In one example, we selected the best baseline to suit the customer in each demand response event they participated in.</p> <p>If baselines are to be used, there should be enough flexibility to choose the best baseline to suit the customer's load profile.</p> <p>There could also be an independent audit process to make sure an appropriate baseline is being applied to customers, and a regular review to make sure the best baseline is still being used for each customer. We note that these safeguards may add additional costs to the demand response mechanism.</p>
C)	Can a baseline accurately account for embedded generation and other dynamic resources that might exist behind the meter?	<p>AGL considers this to be a significant and complicated question that warrants further investigation. To demonstrate the complexities of the question, consider two examples:</p> <ol style="list-style-type: none"> 1. Dynamic resources could be managed such that a customer's load conforms exactly with a customer's baseline of demand. If this were the case, the baseline would be highly accurate when demand response is activated. 2. Dynamic resources could be optimised to respond to energy prices, FCAS, and the customer's energy needs. In this case the load profile would be much less predictable, and the baseline much more likely to be inaccurate. <p>We note the complexities of these questions and the additional time that may be required for the AEMC to consider the participation of dynamic resources.</p>

Questions		Feedback
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?	<p>AGL notes that many of the options being considered for a demand response mechanism rely on the use of baselines to determine the level of demand response.</p> <p>Where baselines are used in settlement and billing, AGL has concerns with the impact of inaccurate baselines on the customer. If baselines cannot be accurately determined, those customers should not participate in the demand response mechanism.</p> <p>As discussed elsewhere, AEMC may wish to consider whether a different type of mechanism is more appropriate for those customers (for example those with sensitive loads or dynamic resources).</p>
E)	<p>How should long-term or permanent changes in a customer's overall level of demand be addressed in baselines?</p> <p>For example, factories may add or retire production lines; households may increase or decrease in size, and may install or remove equipment such as batteries, pool pumps or solar panels.</p>	<p>If baselines are to be used, they should be periodically reviewed and updated to maximise accuracy. This would capture permanent changes in the customer's load profile over time.</p>
Question 19: Settlement under the wholesale demand response mechanism		
A)	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?	<p>While AGL has not developed a view on a preferred cost recovery methodology, we note that in principle the causers of the issue should pay the costs of addressing that issue.</p> <p>We also note that it can be difficult for retailers to hedge costs that are smeared across energy users, such as the RERT.</p>
Question 20: Other considerations for the wholesale demand response mechanism		
A)	<p>Do stakeholders have views on these other considerations set out in the appendix?</p> <p>(See pp. 60-61 of the consultation paper).</p>	
B)	Are there other considerations not raised that should also be considered when designing a	<p>AGL is highly concerned with the possibility of billing customers at an amount that is higher than their actual usage.</p>

Questions		Feedback
	wholesale demand response mechanism?	<p>In addition to the fundamental concern with customers paying for more electricity than is actually used, small customers will very likely find these arrangements confusing and take up its concerns with the retailer instead of the third party. This is because:</p> <ul style="list-style-type: none"> • The customer would be required to pay a bill to the retailer, which would include a baseline amount of usage wherever the customer has participated in demand response. • The customer would receive a payment from the third party for demand response, which would be less than the amount that is paid to the retailer for the demand response periods. <p>These arrangements would lead customers to believe that the retailer is involved in calculating the baseline and charging the customer.</p> <p>AGL also notes that customers will have little avenue to challenge baseline calculations, given the difficulty in verifying the amount of demand response provided. While this should not prevent the use of baselines, it is likely to add to small customer frustration where they do not fully understand how a demand response mechanism works and are unable to obtain answers from their retailer.</p> <p>It will be important for customer protections to apply to the third party.</p>
Appendix B – Separate wholesale demand response market		
Question 21: Cost recovery for the separate market		
A)	What do stakeholders think about the proposed cost recovery arrangements for the separate market?	Please refer to question 19 above.
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?	No.
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	<p>As we understand from the consultation paper, this option would still involve using baselines in settlement and customer billing. As noted above, AGL is concerned with any option that incorporates the use of baselines into billing and settlement for customers that have sensitive loads.</p> <p>However, should the wholesale demand response mechanism option be considered further, it may be</p>

Questions		Feedback
	costs and benefits that should be considered in doing so?	worth exploring the option of a separate demand response market. A separate market could be designed specifically for demand response with regard to their capabilities and the value provided.
C)	Are there any additional mechanisms that could be implemented more quickly than a wholesale demand response mechanism?	No response.
D)	What are stakeholder views on the feasibility of co-optimising this separate market with the existing wholesale market?	No response.
Appendix C – Wholesale demand response register		
Question 23: Wholesale demand response register mechanism		
A)	What are stakeholder views on this option to facilitate demand response?	Given the likely costs involved with a wholesale demand response mechanism and the potential customer impacts of the required changes to billing systems, an option to enhance commercial arrangements should be assessed further.
B)	What do stakeholders consider the benefits of this option would be?	AGL considers this to be a significantly lower cost option than the wholesale demand response mechanism option, given it does not require changes to meter data, settlement and billing systems.
C)	What do stakeholders consider to be the costs associated with this option?	This option could result in retailers having to manage a large number of different contracts with different demand response providers. The administrative costs involved are likely to be significant for small customers – with regard to negotiating, managing and enforcing contracts. As discussed in question 24A below, standardisation of contracts may assist to reduce these costs.
D)	Are there any implications (regulatory or otherwise) that are not raised in the discussion of this option?	If a wholesale demand response mechanism was implemented, some of the types of scenarios that may have to be considered include the following: <ul style="list-style-type: none"> • providing customer information to the retailer (and AEMO). • the third party does not pay the customer as intended • the third party becomes insolvent (and have not paid customers)

Questions		Feedback
		<ul style="list-style-type: none"> the third party does not perform as expected and the retailer suffers a loss (given the obligation of retailers to participate in the agreement) <p>These could largely be managed by placing requirements on the third party in the rules though their registered participant category. This is preferable to managing these risks though the contract between retailer and third party because individually, the amounts involved are likely to be small, but added up across many contracts may come at a significant cost and administrative expense to the retailer and the program as a whole.</p>
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?	<p>If a wholesale demand response register were to be introduced for small customers, requiring retailers to offer a standard wholesale demand response contract may reduce the number of different contracts to be managed and therefore help to minimise the administrative costs involved. However, we note the trade-off between introducing a regulated default contract with standard terms, prices and baselines to minimise administrative costs, with allowing some flexibility to best suit the arrangement.</p> <p>For small customers, the market may evolve to develop a suite of contracts that contain clauses for which a few different options can be selected. We also note that there are risks where competitors must negotiate contract terms – take for example the Power of Choice reforms that require unilateral negotiation between different providers.</p> <p>Large customer contracts are more likely to require bespoke arrangements and it may be unrealistic to develop a standard contract. However, a deemed default contract may be valuable as a last resort should the parties not reach agreement on bespoke arrangements.</p> <p>With regard to a spot price pass through contract, as discussed in question 4A above, we note that retailers can already offer spot price pass through to its customers. If the third party is managing this risk on the customer’s behalf, it will be important that consumer protections are maintained.</p>
B)	Do stakeholders consider these options to be preferable to a wholesale demand response register?	No response.
C)	Do stakeholders consider these options to be complementary to a wholesale demand response	No response.

Questions		Feedback
	register?	
Appendix D – Load shedding compensation mechanism		
Question 25: Issues 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?	No response.
B)	Would an LSCM facilitate greater levels of wholesale demand response?	AGL notes that load shedding for reliability reasons occurs rarely and that AEMO and networks are responsible for deciding which customers are curtailed. Retailers are unlikely to be able to anticipate such a load interruption and therefore would not be in a position to forecast and contract greater levels to avoid the load shedding.
Question 26: Benefits and issues associated with an LSCM		
A)	Do stakeholders agree with the outline of the benefits and challenges associated with the introduction of an LSCM?	No response.
B)	What other issues would need to be considered?	We note that with greater levels of distributed energy resources in the future, load shedding for reliability reasons may contribute to greater reliability issues.