

Minutes

Meeting Title:	Demand Side Response Review Working Group (DSRRWG)
Date:	10 May 2023
Time:	2:03 PM to 4:04 PM
Location:	Microsoft TEAMS

Attendees	Company	Comment
Dora Guzeleva	(Chair) EPWA	
Dimitri Lorenzo	Bluewaters Power	
Tessa Liddelow	Shell Energy	
Jake Flynn	Collgar Wind Farm	
Justin Ashley	Synergy	
Thomas Higgins	Perth Energy	
Mark McKinnon	Western Power	
Graeme Ross	Simcoa Operations	
Peter Huxtable	Water Corporation	
Oscar Carlsberg	Alinta Energy	
Toby Price	AEMO	
Devika Bhatia	ERA	
Wayne Trumble	Newmont Mining	
Claire Richards	Enel X	From 2:17pm
George Martin	Starling Energy	
Noel Schubert	Small-Use Consumer Representative	
Chris Alexander	Small-Use Consumer Representative	
Sarah Graham	EPWA	
Thomas Marcinkowski	EPWA	
Bobby Ditric	Consultant – Lantau Group	
Dave Carlson	Consultant – Lantau Group	
Mike Thomas	Consultant – Lantau Group	
Apologies	From	Comment
Michael Zammit	Integrated Management Services	No attendance, no apologies provided

Item	Subject	Action
1	Welcome The Chair opened the meeting at 2:00pm.	
2	Meeting Apologies/Attendance The Chair noted the attendance as listed above and invited each of members to briefly introduce themselves.	
3	Introductions The Chair outlined the role of the working group.	
4	Scope of Works – Demand Side Response (DSR) Review The Chair provided a summary of the scope of works of the Demand Side Response (DSR) Review and made the following key points: <ul style="list-style-type: none"> • The Government target of net zero by 2050 means DSR will become more important to the system, due to its ability to firm intermittent renewable capacity and provide flexibility services to the system. • The RCM review has suggested that large amounts of storage and demand side response will be needed to shift energy from times of high renewable generation to times of low renewable generation. • More consideration is needed as to whether DSR can fulfil this role and allow customers to extract maximum benefit – as it is flexible, does not require high upfront investment and provides quick response times. • The DSR Review is being run in three stages and will include an assessment of how Loads can participate in the WEM, as well as identifying any potential barriers. • The DSR Review will not cover issues already addressed by the RCM review but will note those issues from time to time. • Smart metering and other tools have allowed some of that flexibility of DSR to be extracted in other markets and there is no reason to believe this can't be done in Western Australia. 	
5	Demand Response – Introduction Mr Carlson provided a high level introduction to some of the concepts behind DSR (slides 6 to 10) and made the following key points: <ul style="list-style-type: none"> • With its ability to shift peak usage and potentially defer investment DSR has the potential to contribute to systems reliability, and increase market efficiency . • DSR and traditional supply are interchangeable in some ways but different in others. Understanding this is essential to defining how different technology types participate in the market. • There are 'Jeckyll and Hyde' characteristics of DER – for example more EVs coming onto the system create an initial problem by adding a significant load. However, they also present the solution in that EVs can act as batteries to help support the system. • There are different value streams from the point of view of system operation, the network, or consumers. 	

Item	Subject	Action
	<ul style="list-style-type: none"> Need to consider how to maximise the potential value of DER – for example using coordinated aggregation. <p>Mr Mike Thomas highlighted some of the key focus points for the working group's consideration, which included:</p> <ul style="list-style-type: none"> Ensuring there is harmony across the system – If some batteries are charging while some are discharging, this would result in an efficiency loss and would indicate the system is not working properly. Consideration of coordination – some markets around the world are looking at central control and asking whether they need to mandate a certain type of response or systematic approach. <p>The Chair invited views from the participants. She added that even if DSR does not actively participate in any market, markets at their core are concerned with transparency and, as a minimum, evolving technology should mean better visibility of loads.</p> <ul style="list-style-type: none"> Mr Price expressed support for the Lantau Group's framing of causer pays on one side and the impact versus the opportunities on the other side. Mr Price then highlighted the following three areas that AEMO would like the DSR Review to explore: <ul style="list-style-type: none"> the opportunity at not only the smaller scale aggregation, but at the single much larger scale (e.g. with new emergent industries such as the hydrogen economy). the move to constrained access and the ability to potentially afford connections to controllable demand that may accept a level of constrained access to gain access to the system. the current review by AEMO of technical requirements in the National Electricity Rules associated with load connections and a limited set of GPS obligations, and the relevance this may have for the DSR review. <p>The Chair acknowledged Mr Price's points and added that there is actually no equivalent to the constrained access regime on the load side. The only consideration to date has been to take into account the participation of Demand Side Programmes (DSP) under the Network Access Quantities (NAQ) modelling.</p> <ul style="list-style-type: none"> Mr Price noted that there is an exception – a storage technology is participating as a scheduled facility and is subject to constrained access both for its injections and withdrawals. Mr Price said that, while this may not be appropriate for many controllable loads, it could be used as a means to allow access when unconstrained access could not be provided. <p>The Chair agreed, but noted that currently Western Power's connection regime on the demand side operates in an unconstrained way.</p> <p>The Chair asked whether the review should consider whether a regime similar to the NAQ regime should apply to the demand side and invited views. The discussion was as follows:</p>	

Item	Subject	Action
	<ul style="list-style-type: none"> Mr Huxtable noted that the electricity market exists for loads not for generators. A large load can already enter an alternative arrangement, with constrained access under a runback scheme or similar. under which Western Power does not demand that it has enough capacity to always supply at n-2. Mr Huxtable noted that this may be a slippery slope if loads are suddenly controlled without remuneration, or paying the appropriate amount to not be controlled. <p>The Chair agreed and noted that when considering constrained access for Loads, the working group should discuss whether there should also be financial benefits for Loads.</p> <p>The Chair added that there also needs to be consideration of whether there is visibility by a central planner and taken into account in planning, noting that loads are currently treated differently to generators.</p> <p>Mr Ditric added that the NAQ regime is currently designed to signal where generators should not go and questioned whether it should do the opposite for loads.</p> <ul style="list-style-type: none"> Mr Price agreed. Regarding Mr Huxtable's point on runback schemes, he questioned whether there is opportunity and economic value in that scheme, and whether there are benefits for the types of Loads that want to participate in it. Mr Schubert made the point that there needs to be discussion (through the working group or the NAQ work) about DSR located on the same side as generation that is subject to network constraints. <p>The Chair asked Mr Price whether Security-constrained Economic Dispatch (SCED) will already do this.</p> <ul style="list-style-type: none"> Mr Price confirmed that the SCED design applies any controllable terms to the left hand side of constraint equations and co-optimises them in real time. Mr Schubert clarified that he was suggesting that there should be signals and incentives regarding a good location for loads in this context. <p>The Chair confirmed that this should be added to the list of things the working group should discuss and asked participants to think about where value can be immediately increased.</p> <ul style="list-style-type: none"> Mr McKinnon expressed support for Mr Price's suggestions and added that, regarding the point about runback schemes, a market based approach could be more appropriate. This could involve working out who gets capacity to the network through bids, rather than the network operator configuring runback schemes. Mr Huxtable asked the Chair if she was suggesting that if a Load that has already paid for a Western Power network connection, and another load decides to join, it can outbid the preexisting Load to get electricity. 	

Item	Subject	Action
	<p>The Chair responded that the NAQ scheme honours the rights of existing facilities on the system and suggested that loads should not be treated differently to generators.</p> <p>The Chair summarised that constrained access for loads will be added to the discussion topics, and will include consideration of existing loads versus loads that connect in the future.</p> <p>Mr Carlson noted that slide 11 frames the approach for evaluating the potential for demand response and what the DSR Review seeks to achieve.</p> <p>The Chair noted that the potential for stacking value streams will be added to this.</p>	
6	<p>DSR Participation Options</p> <p>Mr Ditric provided a summary of options for DSR participation in the new WEM with reference to the diagram on slide 14.</p> <p>Mr Ditric noted that the DSR Review will include identifying avenues for DSR participation in each of the identified market components, mapping out all potential revenue streams and identifying barriers to this participation.</p> <p>Mr Price suggested adding RoCoF to the diagram on slide 14 and the Chair agreed that this should be added.</p> <p>Mr Ditric summarised the options for DSR registration in the new WEM, as outlined on slides 15 and 16, noting that “Load” is now a defined term.</p> <p>The Chair clarified that a load must register as one of the Facility classes, not as a load. Mr Ditric confirmed this point, adding that the technology type is a “Load” but it must be registered as one of the Facility classes.</p> <ul style="list-style-type: none"> Mr Price noted that for clarity it may be helpful to step through this process – the Facility classes, then the Facility technology type that is being registered and then the Facility plus the technology type, which is the missing part and which can be a number of different options. <p>The Chair agreed with Mr Price and clarified that her point was that loads can register in a Facility class, not as a Load.</p> <ul style="list-style-type: none"> Mr Schubert asked whether the working group could be provided with definitions related to loads to avoid confusion. <p>The Chair noted that EPWA can extract definitions related to Loads from the rules that will come into effect on 1 October 2023.</p> <p>Mr Ditric added that a Facility can have multiple technology types if they share a common connection point and the working group needs to consider these factors when looking at opportunities and barriers.</p>	
7	<p>Participation in the Reserve Capacity Mechanism (RCM)</p> <p>Mr Ditric briefly summarised DSR participation in the RCM (slides 17 and 18) and outlined the questions identified by the RCM Review for consideration by the DSR Working Group.</p> <p>The Chair invited members to consider the RCM related discussion questions for discussion at a future meeting.</p>	

Item	Subject	Action
	<p>The Chair added that the outstanding issues have been identified in the RCM Review consultation paper which is out for consultation presently.</p> <ul style="list-style-type: none"> • Mr Schubert commented that although the treatment of IRCR is out of scope for the DSR Review, the group should discuss the following: <ul style="list-style-type: none"> ○ How to encourage more response to reduce IRCR and reduce demand more generally. ○ There is much potential for retailers and wholesale customers who are subject to IRCR to reduce it, but the dominant retailer does not appear to be very active in trying to reduce IRCR. ○ There is potential for Synergy to reduce IRCR and reduce demand on the system as a whole through various programs. ○ There are also other flexible loads that could also reduce demand but are not. <p>The Chair asked Mr Schubert to reformulate his question.</p> <ul style="list-style-type: none"> • Mr Schubert said customers are responding but there is more potential for response from those who are not presently responding. • Mr Schubert said part of the DSR Review scope was to look at particular flexible loads and why they are not responding. He mentioned that UWA, Curtin, RPH and Northam Hospital have chilled water storage systems installed to reduce peak air conditioning demand. These systems are ‘thermal batteries’ that can be recharged during low demand periods, but they are not currently responding because of a lack of signal. <p>The Chair said that is not an issue of IRCR but the ability of a load to contribute to reducing system stress. She added that the issue raised by Mr Schubert is whether loads can actually bring a benefit to the system by responding to events such as minimum load, ramping in the afternoon and duration gaps, which is outside the scope of the DSR Review.</p> <ul style="list-style-type: none"> • Mr Schubert stated that there are other loads that could respond to peak demand situations and reduce a retailer’s IRCR. He said that some smaller retailers are very active in trying to help their customers reduce demand during those 12 intervals. Mr Schubert considered that there are larger retailers that are not contributing to taking stress off the system when there is much potential for them to do so. <p>The Chair cautioned that the DSRRWG should not discuss specific contractual arrangements. The Chair stated conversation should instead be about types of loads that might extract value for the system.</p> <ul style="list-style-type: none"> • Mr Schubert said he is sighting examples that are in the public domain, and not confidential. <p>Mr Ditric briefly outlined how DSR may participate in providing Supplementary Reserve Capacity (SRC).</p> <p>The Chair noted that SRC is another way to participate and that the group should consider whether the existence of different modes of participation itself creates a barrier for participating in other market components.</p>	

Item	Subject	Action
	<ul style="list-style-type: none"> Mr Schubert offered the view that this SRC capacity has not been offered previously because SRC does not conform to the strict rules applying to DSPs and, generally, the more rigid the conditions are the less demand response will be provided. <p>The Chair noted that this issue should be left to the RCM Review, but that the current rules provide that DSPs with Capacity Credits cannot participate in the SRC procurement.</p>	
8	<p>Participation in the Short Term Energy Market</p> <p>Mr Ditric provided a summary of the potential for DSR participation in the STEM (slides 20 to 22), noting that DSR cannot currently participate as it cannot comply with STEM requirements.</p> <p>The Chair added that the focus is on Loads buying energy from the STEM. However, the DSR review should also consider whether there are incentives for Loads to reduce their demand to extract benefits from the market.</p> <p>Mr Ditric reiterated that the way STEM rules define consumption is determined as the amount of energy purchased through a bilateral contract.</p>	
9	<p>Participation in the Real-Time Market (RTM)</p> <p>Mr Ditric provided a summary of the potential for DSR participation in bidding withdrawal quantities in the RTM (slides 23 and 24).</p> <ul style="list-style-type: none"> Mr Price noted that interruptible loads do not offer to withdraw but offer a quantity of ESS (only contingency reserve raise), and added that AEMO does not co-optimize participants withdrawals, just the amount of service they offer. <p>The Chair agreed and noted the slides would be amended to remove any potential for misunderstanding.</p> <p>Mr Ditric then provided a summary of participation as a DSP in the RTM (slides 25 to 28), highlighting that:</p> <ul style="list-style-type: none"> DSPs can comprise one or more Non-dispatchable Loads; and DSPs have a separate merit order based on withdrawal quantities, i.e. not on price. <p>The Chair noted that the RCM Review did not investigate DSPs participation in the RTM and that this should be a key item on the DSRRWG's agenda.</p> <p>The Chair added that this should include exploring whether the way obligations in the RTM apply to DSPs, and the way they dispatch, creates a barrier to participating as a certain Facility type in the market.</p> <ul style="list-style-type: none"> Mr Schubert noted he found the terminology confusing, as DSPs are different from a demand side program a retailer might run (e.g. to incentivise consumers to buy more efficient refrigerators). <p>The Chair noted that the definition of DSP has always been a feature of the market, but indicated it could be possible to develop different terminology for what Mr Schubert is describing.</p> <p>The Chair proposed maintaining a running list of terms the DSRRWG members want to define.</p>	

Item	Subject	Action
10	<p>Essential System Services Participation</p> <p>Mr Ditric outlined DSPs participation in the Essential System Services (ESS) markets (slides 29 to 32).</p> <p>Mr Ditric noted that there are opportunities for Loads to provide regulation services not applicable to DSPs (e.g. Scheduled Facilities and Semi-scheduled Facilities are eligible for Regulation Raise and Regulation Lower).</p> <p>The Chair noted that the essential question is whether DSPs can provide other ESS – and noted that the DSRRWG should consider all five ESS to determine whether anything prevents Loads or DSPs from providing these services.</p> <ul style="list-style-type: none"> • Mr Price noted that, by design, there is a one to one relationship between Facility classes and the services they can provide, adding that: <ul style="list-style-type: none"> ○ the classic scenario is of a DSP, where all it can do with its Load is curtail it, so it may only provide contingency reserve raise service or capacity in the RCM; and ○ there are explicit rules to register at the same connection point as two facilities classes, but no other examples exist of that (e.g. registering a DSP and a Scheduled Facility for the same load(s)). Short of an IRCR reduction there is currently no Capacity Credit access for a Load registered as a Scheduled Facility. • Mr Price agreed that the DSRRWG should determine what markets should be opened up, and through which Facility classes. <p>The Chair noted that if the rules preclude a Load from being active in more than one market component, but the Load can add value, the DSRRWG should determine whether there is a practical way remove this barrier.</p> <ul style="list-style-type: none"> • Mr Price agreed with this point. <p>Mr Ditric noted there is a similar situation with Interruptible Loads, which can only provide Contingency Reserve Raise, though there is a very explicit provision for these to be Interruptible Loads.</p> <p>The Chair responded that, while there are no barriers in the rules to an Interruptible Load providing Contingency Raise, the ESS Procedure may have cut off sizes that prevent participation.</p> <ul style="list-style-type: none"> • Mr Schubert added that, while there is discussion about barriers, there should also be discussion about incentives as this would be a more effective signal. <p>The Chair agreed but noted that the starting point was to assess whether there are barriers to participating in the first place.</p> <p>Mr Ditric briefly noted that RoCoF had not been included in the diagram, as RoCoF cannot be provided by withdrawal, but needs to be by injection or spinning.</p> <ul style="list-style-type: none"> • Mr Price replied that the current definition of a RoCoF control service is provision of inertia, which is something that is spinning coupled to a system but could be a motor that is not a generator and it doesn't explicitly need to be something that is injecting. 	

Item	Subject	Action
	<ul style="list-style-type: none"> Mr Price noted that a barrier to this may be that a participant can currently only get access to that service by registering as a Scheduled or Semi-scheduled facility, which may not be practical. Mr Price further noted that there is the ability to accredit for a RoCoF ride through which would determine whether a load pays for that service, and that this is another opportunity for a Load to participate. <p>The Chair noted that whether one Facility class can register as another class and still keep its benefits from the first class would be one of the DSRRWG's lines of inquiry.</p> <ul style="list-style-type: none"> Mr Huxtable said the ride through capability was not yet available because it was too hard for Loads in terms of the measurement aspects (it was already difficult getting generators measured). Mr Price noted that Mr Huxtable was referring to participation for synthetic inertia from inverter-based resources, and noted that AEMO is committed to reviewing this. AEMO was in the process of setting standards around synthetic inertia provision and grid forming inverters more generally. Mr Price said that, from an accreditation perspective, where possible AEMO has tried to make this as technology agnostic as possible, and AEMO would take today's feedback into account in its consultation on relevant WEM procedures. <p>The Chair clarified that the answer to Mr Huxtable's question is that accreditation can be sought for ride through capabilities.</p> <p>Participation in Non-co-optimised Essential System Services (NCESS)</p> <p>Mr Ditric briefly summarised DSR participation in NCESS (slide 33), noting that Loads/DSR can participate but this will depend on the specific procurement requirements.</p> <p>Participation – Intermittent Loads</p> <p>Mr Ditric briefly summarised DSR participation as an Intermittent Load (slide 34).</p> <p>The Chair noted that Intermittent Loads could be extremely important, and there should be no barriers for their participation.</p> <p>The Chair then referred back to Slide 18 in the meeting papers, and made the following comments regarding RCM participation. AEMO has triggered the process for NCESS for minimum load services twice, yet the RCM Review concluded there should not be a minimum load service. The Chair suggested that the DSR Review needs to talk about minimum load services as well as load shifting.</p> <p>The Chair referred to the discussion questions on Slide 18 of the meeting papers and asked WG members whether in their opinion these were the right questions to be asking.</p> <ul style="list-style-type: none"> Mr Schubert supported the questions but suggested adding one more issue for discussion - the 2 hour notice period for demand reduction. 	

Item	Subject	Action
	<p>The Chair agreed and asked members to call minimum load services ‘minimum demand services’ so there is consistent terminology regarding NCESS procurement.</p> <ul style="list-style-type: none"> Mr Ross said network constraints need to be part of the discussion on minimum load services, as customers could provide additional load but are constrained by network constraints. <p>The Chair agreed.</p> <p>Discussion Questions</p> <p>The Chair referred back to the questions on Slides 22, 24, 28 and 32 and asked members to consider these questions for discussion at a future meeting. The Chair also requested that DSRRWG consider whether other questions should be added.</p> <ul style="list-style-type: none"> Mr Schubert requested that EnelX provide comment on its use of demand response in other markets. Ms Richards noted she would provide comment at a later time. Mr Price requested that a discussion question is added as to whether any relevant WEM procedures present barriers. <p>The Chair agreed.</p>	
11	<p>General Discussion</p> <p>The Chair suggested that the DSRRWG meet once a month (and more often if required) and that relevant WEM Procedures are explored in another meeting.</p> <p>The Chair invited members to comment on whether they anticipated any other potential barriers to DSR. The following was discussed:</p> <ul style="list-style-type: none"> Mr Schubert raised the issue of incentives, commenting that in Japan and elsewhere agencies were proactive in arranging demand management by signing people up and paying incentives to shift load from peak demand. In the absence of these measures DSR may be limited compared with overseas jurisdictions. <p>The Chair agreed with Mr Schubert and referred to European measures including smart metering, smart grids and what is referred to as ‘flexibility services’.</p> <p>The Chair suggested the DSRRWG will need to discuss enablers, not just rules and barriers, to make sure that the rules provide financial incentive for participants to maximise value.</p> <p>The Chair suggested more discussion was needed around technology and other enablers for demand side participants to extract maximum value for the market, not only for the service provider.</p> <ul style="list-style-type: none"> Mr Alexander endorsed the view of the Chair and referred to technology in businesses and homes standing on the way of DSR and suggested more discussion on those issues. <p>The Chair agreed but noted the DSRRWG would consider the WEM Rules first, as this is the primary objective of this Review.</p>	

Item	Subject	Action
12	<p>Next Steps</p> <p>The Chair invited members to consider the discussion questions (which will be circulated) with regard to what barriers and enablers there may be for greater DSR participation.</p> <p>Action: EPWA to send discussion questions to the DSRRWG.</p>	<p>DSRRWG Secretariat</p>

The meeting closed at 4:05pm