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Greg Ruthven
Specialist, Energy Market Regulation
AEMO

Submitted by email: WDR@aemo.com.au

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Dear Mr Ruthven

RE: Wholesale demand response guidelines – Issues paper

Thank you for the opportunity to provide feedback on the development of the wholesale demand response guidelines.

Enel X operates Australia's largest virtual power plant.[1] We work with commercial and industrial energy users to develop demand-side flexibility and offer it into the NEM's energy and ancillary services markets, the RERT mechanism, and to network businesses.

We appreciate the early development of the guidelines and the time that has been allocated between guideline finalisation and market start. Thank you also for the strong engagement that AEMO provides through the consultative group and technical working group.

This submission provides Enel X's views on the questions raised in the issues paper. The key points are:

- It is still not clear what telemetry requirements are being proposed.
- The imposition of a threshold for non-telemetered WDR is not a rule requirement, and a strong case for introducing one has not been made.
- More clarity about AEMO's proposed assessment of power system security impacts is needed.
- Further information about what fees would apply when, how much any fees are likely to be, and whether such fees would be charged on a per NMI or per application basis, would be helpful.
- The guideline should include information about the classification and participation of WDR loads that have also been classified for FCAS provision, and whether any technical requirements will be streamlined. More generally, it is not yet clear how existing MASPs will transition to the DRSP category, or whether grandfathering arrangements will apply.

I look forward to continued engagement with AEMO in the development of the guidelines. If you have any questions or would like to discuss this submission further, please do not hesitate to contact me.

Regards

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[1] Bloomberg NEF, December 2019.

3: Guidelines scope and principles	
3.1	*Would stakeholders like the Guidelines to cover any Additional Information relating to the supply of WDR, having regard to the trade-offs between flexibility and certainty and the Guidelines development timeline in Table 1? If so, should this Additional Information be included in the initial Guidelines, or added through a future amendment?*

Enel X's preference is for AEMO to consult on all matters relating to WDR participation at once, so stakeholders can consider the package as a whole and understand the interactions between each part. However, we recognise that the detailed baseline, dispatch and compliance arrangements will take more time to develop. These matters are key parts of the framework and prospective DRSPs will need to understand this detail to determine if / how they will participate. For this reason, we support development and consultation on those matters as early as possible. When all matters are finalised, it would make sense for them all to be set out in the one guideline.

It would also be helpful if the guidelines made clear how a DRSP will enroll loads that are to be used to provide FCAS as well as WDR. The more streamlined this process is across the two services (for example in terms of classification, aggregation and technical validation), the better. Similarly, given the MASP category will be replaced by the DRSP category, guidance (either in the guidelines or elsewhere) on how existing MASPs will be transitioned to the new category, or whether grandfathering arrangements will apply, would be helpful.

3.2	*To what extent do you agree with the proposed Additional Principles for developing and amending the WDR Guidelines?*

On the first additional principle: while power system security and reliability are very important, this needs to be considered alongside the NER obligation for AEMO to have regard to "the need to maximise the effectiveness of WDR at the least cost to end use consumers of electricity". The WDR mechanism should not be used as an opportunity to impose obligations on new participants to address broader power system security and reliability issues that they are not responsible for or will not contribute to. Doing so has the potential to introduce market distortions and create barriers to entry.

3.3	*Do stakeholders consider that AEMO should have regard to any other Additional Principles in developing or amending the Guidelines? If so, what are these and why?*

No comment.

4: Classification and aggregation of WDRUs	
4.1	Do stakeholders consider that any further requirements for classification or aggregation need to be stipulated in the WDR guidelines? If so, what are these and why?

In line with the questions raised in recent TWG meetings, we seek clarification on the eligibility of loads with multiple NMIs. Many commercial and industrial sites have multiple NMIs, including parent and child NMIs, so further clarification on their ability to participate would be appreciated. Importantly,

these types of sites are currently able to provide FCAS under the MASP framework, and thus it is not clear whether FCAS provision would be prevented when the DRSP framework replaces the MASP framework.

Regarding the timing for AEMO's assessment of a classification application: the issues paper notes that AEMO must advise within five business days of any further information or clarification required to support the application, but there is no specific deadline for AEMO to approve or reject the application. The guideline should include a deadline, so that application approvals are not delayed indefinitely, and applicants have certainty about the timing of AEMO's decision.

We also seek clarification on whether any fees would apply to applications for classification and aggregation, and whether these would be charged on a per NMI or per application basis.

4.2	What further information do stakeholders consider should be included in the Guidelines in relation to AEMO's assessment of the potential power system security impacts of WDRU aggregation? What is the rationale for including this further information?

The grounds for conducting a system security assessment for aggregations over 5MW are not clear.

It is important to be mindful of the various ways in which wholesale demand response can be provided, in line with the additional principle proposed in section 3.2. It is also important to remember that wholesale demand response is generally provided:

- by way of a reduction in load
- in response to very high spot prices (i.e. not all the time, primarily in summer months)
- by energy consumers who have autonomy over how and when they use electricity.

The types of customers who are likely to participate in the mechanism are similar to those who choose to be spot exposed. Spot exposed customers can and do change their consumption in response to wholesale prices without any notification to AEMO. From a visibility and controllability perspective, AEMO would presumably prefer energy users to participate in the mechanism than be spot exposed. Power system security assessments for small aggregations of wholesale demand response are likely to deter participation and push customers toward spot exposure instead, over which AEMO has no visibility or control.

Any limitations on potential aggregations should be proportionate to the portfolio's actual potential to materially affect power system security when the demand response is likely to be provided. Limitations that are disproportionate to the risk will only introduce market distortions and create barriers to entry.

The issues paper states that the assessment of the power system security implications of aggregation will be similar to that which AEMO uses for non-scheduled generating units between 5-30MW. While it may be helpful to draw on existing frameworks, wholesale demand response is not non-scheduled generation. Further information about what the existing system security assessment for non-scheduled generation involves, and how this is applicable to wholesale demand response, would be helpful.

If an assessment is necessary, the process and considerations should be clearly set out in the guideline. The load classification process requires a DRSP to have already recruited customers for participation and installed relevant metering and telemetry hardware *before* a system security assessment would occur. If the outcome of the assessment is that the aggregation is not permitted, the time and costs that were

expended to reach that stage may be wasted. If AEMO publishes detailed information upfront about what the assessment will involve, DRSPs will be able to self-assess before they recruit and enable customers for participation.

The guidelines should also provide clear direction on how AEMO will interpret the phrase "materially affect", how long a system security assessment would take, and who would bear the costs.

With respect to the concept of "weaker areas of the power system": there is unlikely to be a consistent view of what this means across the reports mentioned in the issues paper, and what technical parameters it includes. The more information AEMO can provide upfront in the guideline about how AEMO would define a weak area, and where these areas are, the better. Transparent and regularly updated information about these matters will help inform DRSPs before they recruit loads for WDR participation.

Similarly, further information about why AEMO expects wholesale demand response might materially affect power system security in a weaker area of the system would be helpful, particularly given that demand reductions do not have the same system impact as increasing generation, and in fact can help alleviate grid congestion.

As noted above, it is reasonable to be cautious about, and protect against, the potential impact of WDR on system security. However, the framework should not be used as an opportunity to restrict participation by, or impose obligations on, new participants to address broader system security or reliability issues that they are not responsible for or have no ability to manage, e.g. system strength.

Energy users can currently reduce their demand at any time, without notice. Similarly, customers who choose spot exposure will tend to engage in synchronised demand reduction without AEMO having any visibility, notice or control over that. One of the objectives of the mechanism is to make wholesale demand response more visible and controllable. This objective is unlikely to be achieved if the requirements for participation are onerous or opaque.

5: Telemetry and communications	
5.1	What information should the Guidelines include in relation to the process for seeking exemption from the requirement to provide telemetry data, and why?

The rationale for requiring real time telemetry is still not clear. The starting point should not be to apply the same telemetry requirements to DRSPs as to scheduled generators.

Imposing the same telemetry requirements on DRSPs as scheduled generators is not proportionate to the risk or reflective of the way in which they will be participating. A market that requires DRSPs to make the significant investment in SCADA for a portfolio of load that will only participate during high price events (and will only earn revenue during those periods) is unlikely to be attractive to enter. The costs of real-time telemetry for scheduled generators are small compared to the revenue potential of regular market participation. As demand response customers will not seek to be regularly dispatched, the cost-benefit trade-off for real-time telemetry is very different.

This approach is inconsistent with one of the principles that the final rule requires AEMO to have regard to: to "maximise the effectiveness of WDR at the least cost to end use consumers of electricity." Markets overseas that have significant levels of wholesale demand response participation have recognised that real-time telemetry isn't required, and that the cost/benefit trade-off for it is very

different for large aggregations of small loads than it is for centralised generators. These markets instead rely on aggregators properly managing their commitments through their offers or availability reporting.

Under the final rule, AEMO must approve the classification of a load as a wholesale demand response unit if it is reasonably satisfied that, among other things "the DRSP has adequate communications and/or telemetry in place to support the issuing of dispatch instructions in respect of the load".[2] There are a range of alternatives to SCADA that can meet this requirement.

The issues paper references the *Power system data communications standard* as the starting point for telemetry requirements but notes that this document will soon be amended. In the absence of further detail about why and which aspects of the standard will be reviewed, it is not clear to what extent the existing standard reflects what is proposed to apply to DRSPs. The paper also flags that the review of this standard is not expected to be complete until mid-2021. Potential DRSPs will be unable to decide whether to participate in the WDR mechanism, or make the necessary investments in hardware, until the telemetry requirements are clear. The earlier AEMO can set out what requirements will apply to DRSPs, the better.

The issues paper notes that telemetry data would be used to "represent real-time estimates of the quantity of WDR that is being provided by the WDRU". This suggests that AEMO would only find telemetry data from a DRSP useful for the periods in which the portfolio is being dispatched. DRSPs, while required to be scheduled, will not seek to be dispatched anywhere near as often as scheduled generators are. Most prospective WDR loads (commercial and industrial customers) do not want their load to be interrupted too often, and so will only agree to offering demand response where the benefits outweigh the costs, i.e. during high spot price events. It would be inefficient and inconsistent with the principles of the mechanism to require DRSPs to invest in telemetry arrangements that are only useful during dispatch periods.

Further discussion of the following should precede any further development of this aspect of the guideline:

1. What data AEMO actually needs from DRSPs to fulfil its functions.
2. How frequently this data needs to be provided, and what latency is acceptable, noting that the stricter these requirements are the more expensive and less attractive participation in the mechanism becomes.
3. Alternatives to SCADA to deliver on the above.

Given the potential for the mechanism to include small customers in future, and the long-term objective to move to a two-sided market, the question of whether SCADA is really required is eventually going to need to be addressed.

Lastly, the interactions between the provision of FCAS and the provision of WDR under the DRSP category are unclear. Further consideration of the telemetry and other technical requirements that will apply to a DRSP's provision of WDR and FCAS is needed.

[2] See clause 2.3.6 (e)(4) of the final rule.

5.2	Under the methodology for setting regional thresholds for non-telemetered WDR, what triggers do stakeholders consider would be appropriate for updating parameters and hence the thresholds (e.g. time-based, dispatch event-based), and why?

The phrasing on pages 2 and 5 of the issues paper suggests that AEMO is *required* to determine a threshold for the total quantity of WDR in a region above which it will impose additional or alternative telemetry and communications equipment requirements. Rather, the rule gives AEMO the flexibility to decide whether a threshold is necessary, with the requirement being that AEMO must publish this threshold if it determines that one is needed. Enel X does not believe that the case for a threshold has been made.

Further, Figure 1 in the issues paper suggests that all participating WDR providers will only deliver 50 per cent of what was asked of them. It is plausible that a single load will underdeliver significantly, but the likelihood of entire portfolios of multiple competing DRSPs underdelivering significantly is extremely low. The WDR mechanism will impose a range of commercial, regulatory and reputational incentives on DRSPs to make sure they deliver on their dispatch instructions. It is important not to overstate the problem to justify a policy position, even in examples.

Instead of imposing restrictions now based on an assumption that DRSPs will be poor dispatch performers, AEMO should observe actual dispatch error trends following market start and decide on the best way to address this should the problem arise.

The indicative threshold of 1% of max demand is extremely low. This approach is likely to drive first-mover DRSPs to establish WDRUs that are <5MW, and to continue to do so until the regional threshold is reached. A cap would give first movers an advantage – the parties that enter the market first will benefit from less stringent requirements. The suggestion that the threshold could be revised over time is unlikely to give potential DRSPs any certainty about the requirements that will apply to them.

The equitable and efficient approach would be to determine appropriate telemetry requirements for DRSPs in line with the considerations set out in our response to question 5.1, and to apply these across the board. Again, the costs and benefits of the requirements should be assessed in light of the intention that the mechanism include small customers in future, and the move to a two-sided market.

6: Baseline processes	
6.1	Do stakeholders consider that the proposed process and timing for development of BMs strikes an appropriate balance between flexibility and prudent management of implementation cost and time? Why or why not?
6.2	What further information do stakeholders consider should be included in the Guidelines in relation to the processes and timing for baseline development and application to WDRUs?

The proposed process and timing for assessing new baseline methodologies appears sensible. We agree that the guideline should include information about what matters AEMO will have regard to when deciding whether to add a new methodology, and how it will assess what the costs and benefits are.

We seek clarification on whether there would be any costs to the Registered Participant proposing a new baseline methodology.

Regarding timing for implementation, we propose that the guideline include at least a maximum timeframe for AEMO to implement a proposed baseline methodology, so that implementation is not delayed indefinitely. This will also give DRSPs some certainty about when they might be able to apply the new methodology to current / potential customer loads.

The proposed approach to applying a baseline methodology and settings to a WDRU also appears sensible. However, we seek clarification on whether any fees would apply to a DRSP's request to change the baseline methodology, and whether any such fees would apply per NMI or per application.

7: Maximum responsive component	
7.1	What are the circumstances where an updated NMI-Level MRC or DUID-Level MRC should take effect earlier than proposed process?
7.2	What alternative approaches to adjusting the DUID-Level MRC may be appropriate and why?

We seek clarification on whether AEMO would charge DRSPs a fee to change a NMI-level MRC or DUID-level MRC.

One issue that may benefit from further discussion is whether DRSPs will be able to suspend a NMI from its portfolio. This will be important given the assumption that all loads in a portfolio will participate when dispatched and the potential for a non-participating load to be penalised for consumption above its baseline.

8: Access to baseline data	
8.1	What, if any, confidentiality issues could arise with the proposed approach to provision of WDRU-specific data? How would these occur?

No comment.

8.2	What are the issues that could arise with dispatch data being provided to the retailer on day D+1?

No comment.

8.3	For the periodic reports of WDRU classification data that AEMO proposes to provide to retailers, what frequency do stakeholders consider is appropriate and why?

No comment.