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29th May 2023

Jai Thomas
Coordinator of Energy
Level 1, 66 St Georges Tce
Perth WA 6000
Email: jai.thomas@dmirs.wa.gov.au

Dear Jai,

RE: Review of the Reserve Capacity Mechanism

SwitchDin welcomes the review of the Reserve Capacity Mechanism (RCM). We are happy to provide some recommendations that we believe will reduce costs to electricity consumers in Western Australia (WA), enhance social license and improve system reliability and security. In our submission we focus on the demand side program (DSP) under the RCM and the potential to significantly improve its effectiveness by allowing participation by virtual power plants (VPPs).

SwitchDin is an Australian energy software company that bridges the gap between energy companies, equipment manufacturers and energy end users to integrate and manage energy resources on the grid. SwitchDin's technology enables our clients to build and operate vendor-agnostic virtual power plants and microgrids, and to optimise performance across fleets of diverse assets. Founded in Newcastle NSW in 2014, SwitchDin now operates in all states of Australia, including in leading-edge distributed energy projects like Project Symphony, Simply Energy's national VPP, Flexible Exports (in SA and Victoria), and the Solar Connect VPP (NT), among others.

SwitchDin strongly supports allowing sites with generation or storage to be able to be part of a DSP that is eligible for support under the RCM. Demand side response from aggregations of load, generation and storage will become increasingly important and it is appropriate that the RCM be reformed to reduce barriers to using this important resource.

VPPs have demonstrated their capability in a range of successful trials in WA and elsewhere. They can flatten the demand profile and delay the need for additional conventional capacity to address system stress events. The current RCM design, which does not permit aggregated sources to enter the market, will not be fit for purpose in a future with increasing levels of aggregated energy storage. VPPs should be considered viable new sources of dispatchable capacity and the review should ensure that payments under the RCM are available to appropriately accredited VPPs.

We support the proposal to allow the Market Participant to nominate the Certified Reserve Capacity (CRC) value so that proponents manage the risk of uncertain output for the load response. However, we would need to understand how the potential impact of bi-directional dynamic operating envelopes (DOEs) on demand response would be accounted for and how particip[ants are expected to manage that risk before we would be comfortable supporting the proposal to remove the Consumption Deviation Application (CDA) mechanism entirely.

We support the proposal to develop a methodology for a dynamic baseline and to reduce the number of hours for which DSPs must be available for dispatch. We would be happy to participate in a process to determine the methodology and annual dispatch requirements for DSPs.

Thank you for the opportunity to respond to these important issues. I remain available for further discussions and inputs.

Best regards,

Andrew Mears

Andrew Mears PhD
CEO and Founder

Responses to Proposals and Questions raised in the Consultation Paper (Stage 2)

PROPOSAL I: Allow sites with collocated load and generation or storage to be Associated Loads of a DSP.

QUESTION 11: Do stakeholders agree that sites with generation or storage should be able to be part of a DSP?

SwitchDin strongly supports allowing sites with generation or storage to be able to be part of a DSP that is eligible for support under the RCM. VPPs should be considered viable new sources of dispatchable capacity and the review should ensure that payments under the RCM are available to appropriately accredited VPPs.

PROPOSAL G: Where a DSP has:

- the same Associated Loads that it had in the previous year, assign the Certified Reserve Capacity (CRC) based on Individual Reserve Capacity Requirement (IRCR) of the Associated Loads less the minimum load requirement of the Associated Loads; and
- different Associated Loads from the previous year, assign CRC based on a value nominated by the Market Participant.

QUESTION 9: Do stakeholders support the proposed DSP CRC allocation method?

SwitchDin supports the proposed DSP CRC allocation method. We agree that the different characteristics of different loads mean that it is appropriate to use different methods for different types of DSPs. It is appropriate to place the onus on aggregators of smaller loads to "overfill the programme" to provide evidence that they have sufficient load to curtail when needed.

Allowing the Market Participant to nominate the CRC value will allow proponents to manage the risk of uncertain output for the load response it commits to provide, when called. It would ensure the system reliability objective is met while giving participants control over changes in CRC from year to year. SwitchDin would be happy to participate in the development of Reserve Capacity Testing requirements for the nominated CRC approach.

PROPOSAL H: Remove Consumption Deviation Applications (CDAs) from the assessment of DSP CRC.

QUESTION 10: Do stakeholders support the removal of CDAs?

SwitchDin seeks more information regarding the proposed treatment of the DSP CRC if, in future, the DSP performance is affected by the application of bi-directional dynamic operating envelopes (DOEs).

As noted in the Consultation Paper, the current DSP CRC allocation approach allows participants to nominate specific intervals as being affected by an instruction from the Australian Energy Market Operator (AEMO), or by maintenance, and to have those intervals excluded from the CRC assessment. The Consultation Paper proposes to exclude maintenance intervals from consideration, so that DSP Associated Loads are measured on their actual consumption during periods of system stress.

While we understand the rationale for no longer allowing maintenance intervals to be excluded from consideration, we seek to understand how the application of bi-directional DOEs would be accounted for in the measurement of actual consumption. Participants are unable to determine how DOEs are

applied, and if the CDA mechanism is removed entirely it is unclear how participants will be expected to manage the risk of DOEs affecting DSP performance.

PROPOSAL J: Adopt a dynamic baseline to measure DSP dispatch performance against. Continue to assess the detailed dynamic baseline methodology. Consider reducing the number of hours that DSPs can be dispatched.

QUESTION 12: Do stakeholders agree that measurement against a dynamic baseline would better reflect the actual contribution of DSPs at times of system stress?

Yes. A dynamic baseline should more accurately reflect measurement against the counterfactual of what would otherwise have been consumed, *provided the dynamic baseline is set appropriately*. A dynamic baseline would also allow better forecasting of the actual response expected from dispatched DSPs. The devil will be in the detail of the dynamic baseline design. SwitchDin would be happy to participate in the development of methodology used to determine dynamic baselines.

QUESTION 13: Would reducing the 200 hours that DSPs can be dispatched for in a year meet better the Wholesale Energy Market (WEM) objectives and, if so, what would be a more appropriate number of hours?

Yes. As noted in the Consultation Paper, the use of DSPs as a last-resort reserve capacity supplier means that they are seldom dispatched. Requiring DSPs to be available for dispatch for up to 200 hours each year would be an unnecessary barrier to participation if it is known that in all likelihood DSPs will be drawn upon for significantly less than that.

The minimum availability requirement for DSPs should be based on historical experience (i.e. how many hours they were required in previous years) plus a margin of safety to allow for years when demand for the services of DSPs are higher than anticipated. SwitchDin has not conducted this analysis and nor do we have the data required to do so, so we have not nominated any specific number of hours that would be more fit for purpose than the current 200 hours.

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