

24 April 2026

Ms Lyndal Bubke
Director, Energy Innovation Toolkit
Australian Energy Regulator
GPO Box 3131, Canberra ACT 2601

By online submission

Dear Ms Bubke,

AER's consultation paper on VIOTAS regulatory sandboxing trial waiver application

AEMO welcomes the opportunity to contribute to the Australian Energy Regulator's (AER) consideration of the VIOTAS regulatory sandboxing trial waiver application (trial waiver application) which seeks temporary relief from clause 2.3.6(m)(1)(i) of the National Electricity Rules (NER). The proposed waiver would permit loads with multiple, electrically interconnected connection points to participate in the Wholesale Demand Response Mechanism (WDRM) for the purposes of a time limited trial.

AEMO supports regulatory sandboxing trials where learnings can inform broader policy reform, such as improved demand side enablement. AEMO acknowledges the role WDRM can play to support efficient wholesale market outcomes. VIOTAS' trial waiver application aligns with this broader reform trajectory in that it seeks to test a narrowly defined relaxation of existing eligibility restrictions, with a stated objective of supporting evidence-gathering rather than immediate market-wide implementation. Based on the AER's consultation paper, AEMO understands that the trial waiver application is limited in scale and scope in that:

- up to 20 large commercial and industrial sites across multiple jurisdictions may be involved,
- each trial site would be registered as a single Wholesale Demand Response Unit (WDRU),
- all connection points associated with a site would be registered for the WDRM,
- the sites would be registered by a single DRSP and share the same Market Customer or retailer, and
- the proposed trial duration is up to five years.

AEMO understands the trial waiver application to be primarily targeted at assessing whether temporary relief from the NER can be granted without undermining settlement integrity, rather than implementing a scaled alternative WDRM design.

Having assessed the application, AEMO considers that a trial project can be facilitated on a least cost and least change basis and that there are likely relevant insights that could help inform broader policy reforms. It is worth noting the approach AEMO may take when facilitating a limited sandbox trial may differ from the arrangements and feasibility of a more enduring rule change, though learnings from the trial could help inform that future consideration.

This submission discusses the potential learnings, expected power system and market operational impacts, implementation requirements, trial waiver risks, and proposed conditions required to mitigate risks.

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Potential learnings

AEMO recognises that a sandbox trial may provide useful evidence in relation to:

- whether WDRM participation without aggregation is feasible for sites with multiple, electrically interconnected NMIs,
- whether existing baseline methodologies remain robust when applied to multi-NMI sites, including those potentially with dispatchable generation,
- the practical detectability and materiality of settlement risks, and
- operational processes required to support such arrangements, even if manually.

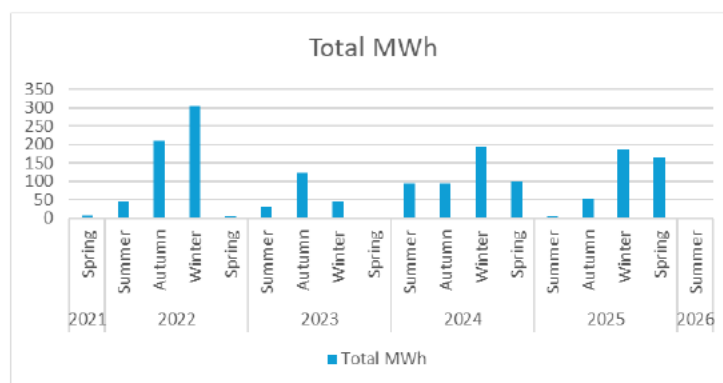
Ideally, any trial waiver project would be able to inform the AEMC’s upcoming rule change process expanding eligibility under the WDRM. However, the extent to which the trial can inform future rule making will depend on a range of factors, such as how quickly trial sites become active, the occurrence of suitable market conditions to trigger wholesale demand response (WDR), the diversity of trial sites, and the sufficiency of observable events and data. AEMO notes that some risks, particularly baseline covariance may not scale linearly and may not manifest within the limited duration or conditions of a sandbox trial.

VIOTAS proposes a trial duration of up to five years, citing commercial contract terms while further indicating capacity to launch in less than six (6) months. While AEMO acknowledges that some lead time is required to bring demand response capacity to market, AEMO considers that:

- many of the key settlement, baseline, and operational learnings could be realised relatively early in the trial, and
- a smaller number of diverse trial sites is still likely to generate useful regulatory insights.

Depending on the types of trial sites, AEMO considers five sites but no more than ten sites, representing different configurations and operational requirements, would likely deliver the identified learnings, as learning value is more likely to be driven by the diversity of site configurations and operating characteristics rather than the total number of participating sites. AEMO can facilitate a trial project of up to five years but considers learnings may be achieved relatively quickly, subject to market conditions. The AER may wish to consider the likelihood and extent to which timeframes for any trial project and AEMC rule change process align in defining the trial period. As shown in the figure below, historical WDR energy dispatch suggests some seasonal concentration in WDR participation in winter which may inform setting any trial period.

Figure 1. Historical WDR energy dispatch 2021-2026



Source: AEMO data

Power system and market operational impacts

Subject to the scale and conditions outlined below, AEMO considers the proposed trial is unlikely to give rise to material power system or wholesale market operational impacts. Potential power system impacts are assessed as manageable given the limited number of trial sites, the constrained aggregate demand response capacity involved, and the requirement for normal bidding, dispatch, and telemetry arrangements to apply.

Any demand response delivered under the trial would be visible to AEMO through existing Market Management System, National Electricity Market Dispatch Engine (NEMDE), telemetry platforms, and meter data management processes. The proposed trial conditions, including strengthened performance and conformance requirements, further mitigate operational risks to system security.

Market and system implementation requirements

Noting that WDRM is delivered through a complex system architecture, this proposal is not expected to involve any material changes to AEMO's core market systems including Portfolio Management System, WDR baselining engine or settlement systems. Instead, the trial could be facilitated through the establishment of defined internal processes and manual controls delivered by existing resources through incremental change to business-as-usual activities.

This reflects a deliberate least-cost and least-change approach appropriate to a sandbox trial. In the event material, costly system changes are identified as required to facilitate the trial, AEMO would need to revise its assessment.

Clarifications and assumptions underpinning AEMO's assessment

AEMO's assessment indicates that this proposal is not expected to involve any material system changes. Some key aspects of the VIOTAS trial are currently implied and would require formal clarification in any waiver decision, in particular that:

- all NER requirements (aside from NER clause 2.3.6(m)(1)(i) identified in the proposed waiver) continue to apply and would be met by VIOTAS,
- each trial site nominates a single, existing baseline methodology,
- all National Metering Identifiers (NMI) associated with a trial site (to be registered as one WDRU) are required to be available for participation in the WDRM, such that if any NMI associated with the site is unavailable, the site must not bid into the market, and
- participation arrangements do not permit partial or selective inclusion of NMIs.

Clear definition of these requirements is critical to maintaining settlement processes and minimising impacts on other participants.

Noting that the NER do not define a "site" construct, and no authoritative mechanism currently exists to verify the complete set of NMIs associated with a facility, the effectiveness of this requirement depends on the accuracy and completeness of applicant provided information.

Trial waiver risks

While potential gaming was a rationale for not including loads with multiple connection points in WDRM, AEMO acknowledges it can be difficult to execute given the need for specific market conditions and the primacy of customers' core operations. Proposed trial conditions can provide some safeguards to mitigate this type of risk, noting their effectiveness depends on clear site definition, complete NMI participation and performance monitoring. The trial could provide an opportunity to help inform the likelihood and materiality of this risk and future monitoring requirements.

In addition, market settlement risks may arise due to the potential presence of NMI baseline covariance. NMI baseline covariance refers to the situation where baseline errors across multiple NMIs associated with a single site are correlated due to shared operational, weather, or process drivers. In such circumstances, individually acceptable baseline errors may compound, potentially leading to over- or under-statement of delivered demand response at a site level. Importantly, such covariance effects may not be readily observable at small scale or over limited time periods, and may only become material under broader participation or repeated dispatch conditions. For trial purposes, AEMO would monitor to the extent possible for covariance to determine the presence of NMI baseline covariance at individual trial sites. Were AEMO to observe persistent or material covariance arising during the trial, this learning could help inform what may be required to ensure settlement integrity outside a sandbox environment and future eligibility of a potential WDRM trial sites.

AEMO-proposed trial conditions

Conditions to apply to the proposed trial project will be critical in providing broader assurances to the wider market. AEMO proposes the following conditions to help inform learnings from the sandbox trial and manage certain risks:

1. **Single Line Diagram (SLD):** Each trial site must provide an SLD at registration, and updated SLDs in the event of any material changes to the electrical configuration of a site. The SLD must clearly identify the complete and fixed set of NMIs that together represent a single operational facility for the purposes of the trial. AEMO may engage with the local Network Service Provider to validate SLD. This defines the trial site. This condition supports the veracity of the trial project, allows for effective monitoring and mitigates potential market settlement risk.
2. **Site selection:** AEMO must retain discretion to assess proposed trial sites and declare sites ineligible where electrical complexity or other factors were likely to introduce an unacceptably high risk. This condition supports trial learnings and insights by providing for diversity of trial sites while effectively mitigating market settlement risk. This would be done in close consultation with the proponent.
3. **Performance and conformance:** AEMO has the discretion to declare trial WDRU non-conforming after a single non-conforming dispatch outcome. This condition supports the trial project operating as intended by earlier identification and resolution of non-conformance issues and allows AEMO to test different conformance requirements to inform the ongoing suitability of AEMO's WDR – Post Event Dispatch Conformance Policy. This condition has been discussed with the proponent who is agreeable to its application.
4. **Reporting and validation:** Biannual reporting of observed outcomes under the trial arrangements with outcomes that would have occurred under aggregation approaches, to support validation of settlement impacts. This condition supports trial learnings and informs the AER should they wish to amend trial project arrangements.

These conditions are bespoke for the purposes of this proposed sandboxing trial only, and should not be interpreted as scalable or appropriate for enduring market arrangements.

Other considerations

AEMO notes that other stakeholders have raised concerns regarding potential competition impacts of the trial project. While this is a matter for the AER, AEMO is able to share preliminary data from our upcoming WDRM annual report (currently under development) on a confidential basis, if it may help inform the AER's assessment on competition impacts.

Thank you for the opportunity to provide comments on the proposed trial. AEMO is supportive of the regulatory sandboxing being used as a vehicle to test new concepts and approaches. As a regulatory sandboxing partner AEMO is committed to working with the AER as you consider VIOTAS' trial waiver application. Should you wish to discuss any of the matters raised in this submission, please contact [REDACTED].

Yours sincerely,

[REDACTED]

Violette Mouchaileh
Executive General Manager – Policy & Corporate Affairs