



Government of Western Australia
Department of Mines, Industry Regulation and Safety
Energy Policy WA

Coordinator of Energy Determination: AEMO Non-co-optimised Essential System Service Trigger Submission

Reliability Services

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AEMO Non-co-optimised Essential System Service Trigger Submission*

Energy Policy WA

Level 1, 66 St Georges Terrace
Perth WA 6000

Locked Bag 100, East Perth WA 6892

Telephone: 08 6551 4600

www.energy.wa.gov.au

ABN 84 730 831 715

Enquiries about this report should be directed to:

Email: energymarkets@dmirs.wa.gov.au

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1. This Determination

The Coordinator of Energy (Coordinator) has determined, under clause 3.11A.4 of the Wholesale Electricity Market (WEM) Rules, to trigger a Non-Co-optimised Essential System Services (NCESS) procurement process for up to 354MW of Reliability (peak demand) Services to commence from 1 October 2025 at the request of the Australian Energy Market Operator (AEMO).

In accordance with clause 3.11A.8 of the WEM Rules, the Coordinator is publishing this determination to outline the reasons for triggering the NCESS procurement process on this occasion.

2. Background to the Determination

2.1 The NCESS Framework

The primary objective of the NCESS framework is to enable AEMO, a Network Operator or the Coordinator to identify and justify the need for services, not already available through existing market mechanisms, and procure those services in a transparent and efficient manner.

More specifically, the NCESS framework is intended to:

- enable the procurement of new services to respond to unforeseen events or changes in the power system that may threaten system security;
- create appropriate incentives for non-network services to be procured to meet power system security and reliability requirements in a more economically efficient manner when compared to network augmentation; and
- enable maintenance of power system security and reliability at the lowest efficient cost to consumers; and
- ensure the rapidly evolving power system continues to meet emerging technical requirements and power system security and reliability standards.

Under the NCESS framework, AEMO and the Network Operator may identify the need for NCESS through system planning processes, and if certain conditions are met, must submit a request to the Coordinator to trigger the NCESS procurement process under the WEM Rules.

The WEM Rules outline the process by which each of the entities must seek to trigger the NCESS procurement process and the factors the Coordinator must consider in assessing a submission by AEMO or a Network Operator.

3. The AEMO Submission

3.1 Submission Process

The Coordinator received a submission from AEMO on 12 October 2023, requesting that the Coordinator triggers the NCESS procurement process for Reliability (peak demand) Services.

Under clause 3.11A.2 of the WEM Rules, AEMO or a Network Operator must make a submission to the Coordinator to determine whether to trigger an NCESS procurement process if they reasonably consider that one or more of the following events has occurred or applies:

- if the forecasted or actual magnitude and frequency of Energy Uplift Payments in the WEM increases to an uneconomic level (assuming locational and situational market power is being controlled under the relevant processes), indicating a locational constraint in the network;
- If frequent AEMO Intervention Events to relieve non-frequency control constraints such as loss of reactive power or system strength indicate a network security problem;

- if network planning assumptions change at any time during the network planning timeframe (for example, demand is lower or higher than forecast), signalling the need for an emerging service such as reactive power support or voltage stability which could be provided by non-network services located in the relevant part of the network;
- if a modification to an existing Power System Security or Power System Reliability standard or the introduction of a new Power System Security or Power System Reliability standard within a network planning cycle trigger the needs for an NCESS; or
- if AEMO considers, in the course of its normal power system operations, that a significant threat to Power System Security or Power System Reliability exists or is emerging, and the existing mechanisms under these WEM Rules may not be sufficient to address the threat.

An NCESS submission must contain sufficient information and analysis regarding the potential or actual impact on Power System Security, Power System Reliability or costs for each trigger event to enable the Coordinator to make a determination (clause 3.11A3.3(c)).

The next section provides a summary of the issues raised in AEMO's NCESS submission. A more detailed version of AEMO's submission is available [here](#) on Energy Policy WA's website.

3.2 AEMO's Submission in brief

One of AEMO's primary functions under the WEM Rules is to ensure the South West Interconnected System (SWIS) operates in a secure and reliable manner. AEMO has identified material risks that, in the absence of a targeted response, may prevent the secure and reliable operation of the SWIS from October 2025 to October 2027.

Specifically, expected facility capability in the WEM will be insufficient to manage forecast demand under peak demand operating conditions during this period. This projected shortfall in capacity is due to several factors, including but not limited to:

- Strong demand growth across the forecast horizon as shown in AEMO's peak demand and energy consumption forecasts;
- Fuel supply challenges and prolonged unplanned Facility outages, which have led to the unavailability of coal and gas capacity, and which have been taken into account in AEMO setting the Reserve Capacity Target for each capacity year; and
- The anticipated exit of coal-fired power generation capacity.

AEMO considers the existing mechanisms under the WEM Rules may not be sufficient to address this risk. Its trigger submission summarises AEMO's technical and economic assessment of this risk, and proposes to commence the procurement of services under the NCESS framework.

AEMO notes that the previous NCESS procurement process for reliability services for the 2024-25 and 2025-26 Capacity Years (the 2022 Reliability Services NCESS) has already procured capacity for the 2025-26 Capacity Year. While the 2022 Reliability Services NCESS resulted in significant new capacity being contracted by AEMO, it considers that residual risks remain.

AEMO consulted with Energy Policy WA and Western Power prior to making its formal submission. Following the submission, the Coordinator requested further information using the Coordinator's powers under clause 3.11.5(a) to inform this determination.

3.2.1 Services sought

AEMO is seeking to procure Reliability (peak demand) Services. Specifically, a service with the capability to increase Injection or decrease Withdrawal at times of supply shortfalls. AEMO has identified a shortfall of up to 354MW to be covered by this service (based on AEMO's best estimates at the time of drafting the submission).

The contract term for the proposed NCESS services would commence on 1 October 2025 with a 2-year duration, with the total of service quantities set at the forecasted 354MW shortfall for the 2025-

26 Capacity Year. AEMO expects to gain feedback under the NCESS Expressions of Interest process to understand any economic or technical benefits associated with a longer contract duration or a change to the commencement date.

The service would carry availability obligations for the appropriate Dispatch intervals.

The NCESS Contracts will be structured in a manner that ensures availability and delivery of the service without exceeding the value of the service to consumers by, for example, accounting for any relevant market revenues received outside of the NCESS Contract.

AEMO has indicated that it will set a minimum service size of 1MW.

AEMO has indicated that, should AEMO not receive a sufficient quantity of the services, AEMO may determine that not proceeding with the NCESS is the best option.

AEMO considers that services may be delivered by either new Registered Facilities through offer obligations for Injection or Withdrawal in the appropriate Dispatch Intervals, or by unregistered generation or load equipment activated through alternative methods³.

To encourage development of new projects, AEMO will structure the NCESS Service Specification to preclude submissions from projects assigned Certified Reserve Capacity by AEMO in the 2023 Reserve Capacity Cycle.

The draft NCESS Service Specification, released alongside a request for Expressions of Interest would outline the full requirements for these services.

The supplementary information provided by AEMO, in response to the Coordinator's request under clause 3.11.5(a), confirmed that any requirements related to the duration of the system peak will be consistent with the relevant requirements in the Service Specification for the 2022 Reliability Services NCESS. This is discussed further in section 4.1.2.

4. Coordinator's Assessment

In accordance with clause 3.11A.7 of the WEM Rules, the Coordinator is required to take a number of factors into account when assessing AEMO's submission and determining whether to trigger the NCESS procurement process. This section provides a summary of the Coordinator's assessment of these factors, which has relied heavily on the analysis provided in AEMO's submission.

4.1 Where the issues relate to Power System Security or Power System Reliability, the extent to which an NCESS will address these issues (clause 3.11A.7(a))

The Coordinator has determined that the issues the NCESS is aimed at addressing relate to Power System Security and Power System Reliability, and that Reliability Services procured via the NCESS process has the potential to address these issues.

The Coordinator considers that, without procuring the Reliability Services via the NCESS procurement process, there is a material risk that AEMO will be unable to operate the power system securely and reliably under certain operating conditions. As a result, there is a risk involuntary load shedding events may occur.

4.1.1 The issue the NCESS is aiming to address

AEMO has forecast a need for additional capacity due to

- strong growth in peak demand and energy consumption;
- fuel supply challenges and prolonged unplanned Facility outages, which have led to the unavailability of coal and gas capacity; and
- the anticipated exit of coal fired power generation capacity.

AEMO has assessed fleet sufficiency to meet peak demand through analysis of the Reserve Capacity Requirement for the 2025-26 Capacity Year according to the 2023 WEM Electricity Statement of Opportunities (ESOO). The Reserve Capacity Requirement was assessed according to the Planning Criterion under clause 4.5.9 of the WEM Rules.

The inputs into the peak demand modelling included new entrants, announced retirements, expected increase and reductions in capacity in the 2023 Reserve Capacity Cycle, capacity secured through the 2022 Reliability Services NCESS, and any reductions due to constrained Network Access Quantities (NAQ).

Taking into account changes to capacity forecasted for the 2025-26 Capacity Year from the 2023-24 values and based on best estimates at the time of the submission, AEMO has identified a shortfall of up to 354MW. AEMO considers that this shortfall exceeds the quantity that may be accessed through a subsequent SRC process. AEMO expects to refine this analysis following the Expressions of Interest phase of the NCESS procurement.

AEMO's assessment of available capacity in the 2025-26 Capacity Year includes the following increase and decreases from Capacity Credits in the 2023-24 Capacity Year:

- announced plant retirements by October 2025 (Muja 6, 193MW);
- expected reductions in capacity from existing Facilities for the 2025-26 Capacity Year (based on known reductions for the 2024-25 Capacity Year);
- entry of new facilities for the 2024-25 Capacity Year and forecast for the 2025-26 Capacity Year (based on feedback from Western Power and applications for Certified Reserve Capacity for the 2023 Capacity Cycle);
- expected increases in capacity from existing facilities for the 2025-26 Capacity Year; and
- capacity from the 2022 Reliability Services NCESS for that is not otherwise expected to receive Capacity Credits.

4.1.2 Extent to which NCESS will address this issue

Without procuring the Reliability Services, AEMO's analysis indicates that there is a significant risk that involuntary load shedding cannot be fully mitigated via other available measures. AEMO has indicated that this is critical for AEMO's ongoing ability to maintain power system security and reliability.

AEMO notes that the existing mechanism under the WEM Rules to mitigate capacity shortfalls is the Reserve Capacity Mechanism (RCM), including the Supplementary Reserve Capacity (SRC) mechanism.

The Certified Reserve Capacity process for the 2023 Reserve Capacity Cycle (2025-26 Capacity Year) is underway. AEMO expects assigned Certified Reserve Capacity will not meet the full requirement, leading to a shortfall of Reserve Capacity.

The SRC procurement process for the 2022-23 Hot Season procured 96.1MW of the 174MW requirement.

Based on the outcomes of both SRC procurement processes, AEMO considers that a SRC process for the 2025-26 Capacity Year is unlikely to address the identified shortfall in full. In addition, the timing of the SRC process, being six months before the start of the relevant Capacity Year, is too short to access new generation or storage developments.

Therefore, AEMO considers that the existing mechanisms under the WEM Rules may not be sufficient to address the identified risks.

AEMO has indicated that it continues to assess the inputs to this analysis to ensure risk factors are reflective of forecast operational conditions and expected operational practices, and that AEMO may refine its analysis during the NCESS procurement process.

Additional information relating to the identified shortfalls will become available as the 2023 Reserve Capacity Cycle progresses, which may alter the input assumptions associated with quantification of the service need. However, industry feedback and AEMO's own assessment of the development time to deliver new capacity in the SWIS suggests that the NCESS procurement needs to be initiated ahead of completion of the 2023 Reserve Capacity Cycle to allow sufficient time for proponents to deliver capacity.

The Coordinator notes that the 2022 Reliability Services NCESS for the 2024-25 and 2025-26 Capacity Years sought to cover a 4 hour duration system peak. The supplementary information provided by AEMO, in response to the Coordinator's request under clause 3.11.5(a), indicates that the Service Specification for this 2023 NCESS procurement will have the same duration requirements.

More generally, the Coordinator considers it is important that the Service Specification that is released under clause 3.11B.1 of the WEM Rules does not impose unnecessary or premature requirements on potential proponents.

4.2 The extent to which an NCESS will minimise costs in the WEM (clause 3.11A.7(b))

The Coordination considers that procuring the Reliability Services via the NCESS framework can reduce risks associated with the identified trigger conditions and can be procured at an efficient cost.

AEMO's submission concluded that existing mechanisms under the WEM Rules are unlikely to mitigate the identified risks, and that the economic impacts of this are likely to increase costs in the WEM.

The Coordinator considers that AEMO must apply appropriate mitigation measures to minimise the cost of this procurement. In particular, consideration must be given to the requirements in the Service Specification to ensure that a range of technologies can compete for the Reliability Services. This includes technologies with shorter duration characteristics, as discussed in section 4.1.2.

Contracts will be structured in a manner that ensures availability and delivery of the service without exceeding the value of the service to consumers, including by accounting for any relevant market revenues received outside of the NCESS Contract. For example, in accordance with clause 3.11B.7(i), an availability payment must not exceed the incremental fixed costs, which would be incurred to make the capability available for the NCESS, that are not already covered by any Capacity Credit payments.

The Coordinator considers that AEMO must do everything practicable to execute the relevant NCESS contracts for the Reliability Services before the start of the 2024 certification applications window. This will ensure that the contracted parties are required to apply for capacity certification in the 2024 Capacity Cycle. It would also ensure that the parties are provided with adequate time to effectively deliver their services at the start of the 2025/26 Capacity Year.

AEMO notes, in its draft submission, that it expects to set an Upper Price Limit for the Reliability Services. The submission also indicates that AEMO will undertake a robust competitive process to ensure the lowest cost can be achieved for consumers. However, the Coordinator considers that the Upper Price Limit should be set at a level that balances the desire to address the projected capacity shortfall with minimising the costs to consumers.

For example, an Upper Price Limit that may be appropriate for a Supplementary Reserve Capacity (SRC) tender, where the expectation is that only demand side response can provide the service, may not be appropriate for an NCESS service procurement. Further, SRC is contracted for a short period over the Hot Season, and therefore the impact of an offer price on the market (and, therefore, consumers) is limited.

4.3 The relative merits between procuring an NCESS or augmenting the network (clause 3.11A.7(c))

In making its assessment of the emerging risks to its ability to manage Power System Security and Power System Reliability, AEMO did not find any instances of relevant network augmentation being able to mitigate the risks. The Coordinator accepts that market based services will be required to mitigate the risk.

4.4 Whether it is suspected that there is a potential exercise of market power (clause 3.11A.7(d))

AEMO states that it is not aware of any market power aspects relating to the identified trigger.

The Coordinator considers that AEMO must give careful consideration to the ability for market power or gaming to be exercised in the NCESS procurement process. For example, there is the potential for market power to be exercised by participants who may strategically withdraw capacity from the normal RCM processes in order to contribute to a capacity shortage and participate in the NCESS process instead.

The RCM (and SRC) remain the primary mechanisms for procuring capacity in the WEM and the integrity of these mechanisms should not be comprised by forcing the trigger of the NCESS framework. AEMO must take into account these matters in the way it structures the NCESS procurement process and the Service Specification.

4.5 Whether the procurement of an NCESS is consistent with the Wholesale Market Objectives (clause 3.11A.7(e))

The Coordinator considers that the proposed procurement of an NCESS as a mitigation of the risks identified in the AEMO submission is consistent with the Wholesale Market Objectives.

The current Wholesale Market Objectives, under section 122 of the *Electricity Industry Act 2004* and clause 1.2.1 of the WEM Rules, include to:

- promote the economically efficient, safe and reliable production and supply of electricity (clause 1.2.1(a));

The Coordinator considers that:

- a robust competitive procurement process for the Reliability Services via the NCESS will ensure the cost of the services is as efficient as possible; and
 - the issues the Reliability Services are aimed at addressing relate to Power System Security and Power System Reliability, and Reliability Services procured via the NCESS has the potential to adequately address the issues.
- to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors (clause 1.2.1(b));

The Coordinator considers that the two-stage NCESS procurement process in the WEM Rules has been developed to encourage maximum competition and, therefore, the proposed use of this process meets the objective in clause 1.2.1(b).

- to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions (clause 1.2.1(c));

In accordance with clause 3.11B.1, AEMO must prepare a draft NCESS service specification, which amongst other things must include the “maximum” quantity of the service required.

The Coordinator considers that, to meet the Wholesale Market Objective in clause 1.2.1(c), a service specification can (and should) be developed by AEMO such that the service can be delivered by a range of technologies.

In accordance with clause 3.11B.3A, AEMO must develop and publish, an Expressions of Interest form, setting out the details prospective service providers must provide, which must include whether the facility or equipment that may be able to provide the service can “fully or partially” meet the draft NCESS Service Specification.

The Coordinator also agrees that, consistent with the Supplementary Reserve Capacity service requirements, setting the minimum size of a service at 1MW is appropriate.

The above would allow a range of technologies to compete for the Reliability Services.

- minimise the long-term cost of electricity supply to customers in the SWIS and encourage measures to manage the amount of electricity used (clause 1.2.1(d) and (e)).

The Coordinator considers that the proposed procurement of NCESS has the potential to minimise the long-term cost of electricity supply to customers in the SWIS, as follows:

- In accordance with clause 3.11B.10, AEMO must select one or more NCESS offers which meet the NCESS Service Specification and will result in the highest value for money for providing the NCESS;
- In accordance with clause 3.11B.11, AEMO must, when assessing highest value for money conduct cost-benefit analysis or other assessments to demonstrate how a NCESS offer will maximise value for money; and
- In accordance with clause 3.11B.12, AEMO may decide to not select any NCESS offers if it considers that none of the NCESS Submissions represent value for money.

In order to minimise the long-term cost of electricity supply, AEMO must not impose unnecessary or premature requirements on proponents (as discussed in section 4.1.2) and must set the Upper Price Limit at a level that balances the desire to address the projected capacity shortfall with minimising the costs to consumers.(as discussed in section 4.2).

4.6 Whether procurement of an NCESS will be in the long-term interests of consumers (clause 3.11A.7(f))

The Coordinator considers that the mitigation of the risks identified in AEMO’s submission are in the long-term interest of consumers as the alternative is insecure and unreliable operation of the power system and the potential for load-shedding.

As noted in section 4.2 AEMO must continue to consider mitigation measures to minimise the cost of the proposed NCESS procurement to consumers. It must also ensure that the NCESS procurement process and the Service Specification include measures that avoid compromising the effectiveness of the RCM, which remains the primary mechanism for procuring reserve capacity for the SWIS at the lowest cost to consumers, as discussed in section 4.4.

5. Determination Summary

On the basis of the Coordinator's assessment in this determination, the Coordinator considers that without an NCESS procurement for the Reliability Services, there is a risk that AEMO will be unable to operate the power system in a secure and reliable manner.

AEMO's submission included both technical and commercial analysis to demonstrate that the existing mechanism under the WEM Rules are unlikely to be sufficient to mitigate the identified risks.

AEMO has indicated that it continues to assess the inputs to this analysis, and that AEMO may refine this analysis following the Expressions of Interest phase of the NCESS procurement.

The Coordinator is satisfied that the trigger conditions in section 3.11A of the WEM Rules have been met, and that a NCESS procurement process should be conducted in accordance with section 3.11B of the WEM Rules.

The Coordinator expects AEMO will take into account the matters regarding the NCESS procurement process addressed by the Coordinator in section 4 of this determination.

6. Next Steps - NCESS Procurement Process

Based on the information in AEMO's submission, the Coordinator has determined that AEMO is the procuring party for this NCESS and will be responsible for paying for the Peak Demand Service and the Minimum Demand Service once the commercial terms are determined.

On this basis, AEMO must prepare a draft NCESS Service Specification for the Reliability Services in accordance with clause 3.11B.5 of the WEM Rules. AEMO must consult with the Coordinator and Western Power in the preparation of this draft specification.

Within 20 Business Days of the publication of this determination, unless otherwise agreed with the Coordinator, AEMO must advertise a call for Expressions of Interest on the WEM Website and in a major Australian newspaper.

Respondents must be given at least 20 Business Days to respond to the Expressions of Interest call, from the time it is published.

This first step of the process will enable AEMO to determine what suitable service providers exist and what solutions they can provide to meet fully or partially the requirements. Suitability may depend on several factors such as the type of technology, operational limitations, etc. If suitable providers are not found, the service specification may need to be modified.

If the NCESS procurement is to proceed based on the Expressions of Interest received, AEMO will issue a request for tender and publish a final service specification to commence the procurement process.

Any existing or new facility or equipment whether belonging to registered or intending market participants is able to participate in an NCESS procurement. New providers that did not participate in the Expressions of Interest step can also apply.

Energy Policy WA

Level 1, 66 St Georges Terrace, Perth WA 6000

Locked Bag 100, East Perth WA 6892

Telephone: 08 6551 4600

www.energy.wa.gov.au

