



Department of Energy, Mines,
Industry Regulation and Safety
Energy Policy WA

Coordinator of Energy Determination: Western Power's Non-co-optimised Essential System Services Trigger Submission

Network Support Services for Perth Metropolitan Area

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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 by Western Power for Network Support Services (NSS) to resolve capacity constraints on five distribution feeders in metropolitan Perth to commence on 1 December 2025 with a three-year duration.

An NSS, procured through the NCESS process, is a contracted service provided by a generator, retailer, or Distributed Energy Resource (DER) aggregator to the network operator/Distribution System Operator (DSO) to help manage or solve localised network constraints.

The timing of the proposed services commencement will be refined through this NCESS procurement process, including through input from potential service providers in the Expressions of Interest stage of the process.

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;
- 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. Western Power Submission

3.1 Submission Process

The Coordinator received a submission from Western Power on 26 August 2024, requesting that the Coordinator triggers the NCESS procurement process for NSS at up to five Perth metropolitan locations within Western Power's distribution network.

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 triggers 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 Western Power's NCESS submission. A more detailed version of Western Power's submission is available [here](#) on Energy Policy WA's website.

3.2 Western Power's Submission in brief

Western Power has identified five suitable locations on its distribution network where capacity shortfall may be addressed through orchestrated DER and Demand Side Management solutions as an alternative option to major augmentation or new network facilities investment.

Western Power is seeking to procure NSS to resolve capacity constraints on five distribution feeders in metropolitan Perth. The proposed feeders were selected based on Western Power's assessment of the underlying need, technical requirement, and the likelihood of a viable non-network solution.

The trigger submission summarises Western Power's assessment of why a non-network solution the most efficient and cost-effective option to improve the network capacity in these five distribution network locations.

Western Power consulted EPWA and AEMO, as required by section 3.2 of the NCESS Guideline (published in accordance with clause 3.11A.2A of the WEM Rules) and clause 3.11A.2(f) of the WEM Rules. Outcomes from this engagement were included in Western Power's submission.

3.2.1 Services sought

Western Power is seeking to procure NSS at up to five Perth metropolitan locations within Western Power's distribution network. Specifically:

- the required service is the capability to decrease Withdrawal at a connection point at times of high demand on the network.

The proposed services are required during the 2025-26, 2026-27 and 2027-28 summer periods (from 1 December to 1 April).

The contract term would commence on 1 December 2025 and have a three-year duration.

Western Power will seek to gain industry feedback through the Expressions of Interest step of the NCESS procurement process on any benefits associated with a different contract duration or a change to the commencement date.

The quantity of service will be set at the forecasted shortfalls of network capacity for the 2025-26, 2026-27 and 2027- 28 summer periods, as listed in Table 1 below.

Table 1: Active power requirements

Distribution feeder	Location	2025/26	2026/27	2027/28
RO515	Rockingham	0.9 MW	1.0 MW	1.2 MW
H514	Bassendean	1.2 MW	1.4 MW	1.5 MW
MO337F	Inglewood	0.55 MW	0.65 MW	0.75 MW
NB519	North Beach	1.2 MW	1.4 MW	1.5 MW
NB520	North Beach	1.0 MW	1.0 MW	1.0 MW
Total		4.85 MW	5.45 MW	5.95 MW

The proposed service will be activated between the hours of 4:30PM and 8:30PM AWST.

Each service will need to be available at any day during the activation window, with NSS being called on as a priority to any other services contracted.

Western Power will seek visibility of any other contracted services as part of the Expressions of Interest step.

The contracted service will be called upon no more than 20 times within each summer period with a minimum duration of one hour.

Multiple providers for a single service will be considered.

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 Western Power’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 Western Power’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, a non-network solution in the locations identified by Western Power may be the most suitable and cost-effective option to resolve capacity constraints on the five identified distribution feeders in the short to medium term.

Western Power maintains its transmission and distribution networks to ensure reliable supply to the community over the near-term summer peaks. Many distribution feeders are now expected to

exceed the planning limits¹ set in line with the established planning rules, elevating the risk of a customer outage due to capacity constraints above an acceptable level.

This expected overloading is a direct result of a rapid increase in peak demand across the South West Interconnected System (SWIS) that is set to continue over the planning horizon to FY2033.

The Coordinator considers that, without procuring the NSS via the NCESS procurement process, there is a material risk that a failure to address the high levels of utilisation will lead to the increased risk of customer outages as well as non-compliance with the current Technical Rules under the Access Code.

4.1.1 The issue the NCESS is aiming to address

Following the 2021-22 summer heatwave, Western Power has accelerated its short-term capital investment on the distribution network to manage feeder overutilisation and maintain supply reliability.

Western Power is required to seek the most prudent and efficient solution to resolve any network risks or constraints. As a result, Western Power is assessing a range of non-network and network options, including whether these options can meet the scale and timing of identified capacity shortfalls.

Western Power also recognises the medium to longer term need to support the emerging NSS market in a way that enables the vision of unlocking DER capability and value in the SWIS through Western Power's role as the DSO.

The importance of unlocking DER capabilities in mitigating the network capacity risk is a high priority for Western Power who considers that these capabilities may:

- offer more cost-effective alternate solutions;
- buy time for longer lead time network investment, lowering network outage risks; and
- complement network investments, reducing their scale and cost.

Western Power seeks to provide the market with opportunities for NSS to support gradual market development in delivering viable non-network solutions. These activities form part of the DER Roadmap core actions (Action 24c) and will enable the foundational service provision of NSS by 2025.

Western Power has identified suitable locations on the distribution network where capacity shortfall may be addressed through orchestrated DER and Demand Side Management solutions as an alternative option to major augmentation or new network facilities investment.

4.1.2 Extent to which NCESS will address this issue

A NSS could alleviate distribution level peak electricity demand or reverse power flow and/or local voltage issues identified by Western Power at a cost that is less than traditional augmentation such as investment in larger transformers, more 'poles and wires' or otherwise expanding network capacity.

The five distribution feeders were selected based on Western Power's assessment of the underlying need, technical requirements and the likelihood of a viable non-network solution.

¹ The planning limit is set at 80% to reserve sufficient capacity to manage planned and unplanned contingency events. In the event of a feeder fault, it is assumed that up to four other feeders are able to backfeed the load from the faulty feeder.

The past two years has seen the delivery of several DER Roadmap achievements and milestones. Significant among them was the completion of the roll out of the end to-end pilot project, Project Symphony.

The Coordinator agrees that this NCESS procurement process will enable services provided by aggregated DER or large use customers to deliver network benefits for the market and electricity consumers.

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

The Coordinator considers that procuring the NSS via the NCESS framework is a cost-efficient alternative option to major augmentation or new network facilities investment in the short to medium term.

The Coordinator considers that Western Power 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 providers and technologies can compete for the NSS.

Contracts should be structured in a manner that ensures availability and delivery of the service without exceeding the value of the service to consumers.

At the request of Western Power, the Coordinator has redacted commercially sensitive information from the analysis in accordance with 3.11A.8.

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

Based on its assessment, Western Power considered that a non-network solution in the five identified locations may be the most suitable and cost-effective option in the short to medium term. Specifically:

- a non-network solution that aggregates behind the meter DER to create capacity.
- a non-network solution from a large use customer by reducing behind the meter load.

Western Power's financial analysis of a non-network solution versus a network build has been redacted in the publication of this determination.

The Coordinator accepts that market based service is the most suitable option to enhance reliability and security of supply to the Perth metropolitan community over the near-term summer peaks.

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

The Coordinator is not aware of any market power aspects relating to the identified trigger.

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 Western Power's submission is consistent with the Wholesale Market Objectives. Specifically:

- a service specification can be developed such that the services can be delivered by a range of providers and technologies, meeting the Wholesale Market Objective in clauses 1.2.1(c).

- the competitive NCESS procurement process will ensure the cost of the service is as efficient as possible, meeting the Wholesale Market Objectives in clauses 1.2.1(a), (b) and (d).

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 an NSS via the NCESS procurement process will ensure the cost of the services is as efficient as practicable; and
- the issues the NSS are aimed at addressing relate to Power System Security and Power System Reliability, and NSS procured via the NCESS procurement process has the potential to adequately address the issues.

- encourage competition among generators and retailers in the SWIS, 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).

- 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, Western Power 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 Western Power such that the service can be delivered by a range of providers and technologies.

In accordance with clause 3.11B.3A, Western Power 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. This would allow a range of services and technologies to compete for the NSS.

- 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 NCESS procurement of NSS 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, Western Power 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, Western Power 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, Western Power may decide to not select any NCESS offers if it considers that none of the NCESS Submissions represent value for money.

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 a non-network solution in the five locations identified in Western Power's submission may be the most suitable and cost-effective option in the short to medium term to ensure reliable and secure supply as required by the minimum reliability standards.

As noted in section 4.2, Western Power must continue to consider mitigation measures to minimise the cost of the proposed NCESS procurement. It must also ensure that the NCESS procurement process and the Service Specification include measures to deliver the lowest cost to consumers, as discussed in section 4.5.

5. Determination Summary

On the basis of the Coordinator's assessment in this determination, the Coordinator considers that an NCESS procurement for the NSS by Western Power is the most suitable option to ensure reliable supply to the Perth metropolitan community over the near-term summer peaks as required by the minimum reliability standards.

Western Power's submission included analysis to demonstrate that the expected high levels of utilisation in the five identified locations will lead to increased risk of customer outages as well as non-compliance with the current Technical Rules under the Access Code.

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

The Coordinator expects Western Power 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 Western Power's submission, the Coordinator has determined that Western Power is the procuring party for this NCESS process and will be responsible for paying for the NSS once the commercial terms are determined.

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

Within 20 Business Days of the publication of this determination, unless otherwise agreed with the Coordinator, Western Power must advertise a call for Expressions of Interest on its website and publish a notice on at least one major tender portal.

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 Western Power 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, Western Power will issue a request for tender and publish a final service specification to commence the Call for Submissions process. New providers that did not participate in the Expressions of Interest step can also apply.

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