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Mr Noel Ryan
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Dear Mr Ryan

IMPROVING ACCESS TO THE WESTERN POWER NETWORK

The Australian Energy Market Operator (AEMO) welcomes the publication of the consultation paper titled *Improving access to the Western Power network* by the Public Utilities Office (PUO) and the opportunity to provide this submission.

AEMO supports a transition to a constrained network access regime in the South West Interconnected System (SWIS), which recognises that some level of network congestion can be economically efficient and can significantly reduce the need for high cost network investment. AEMO also supports the government's proposed reforms to the Wholesale Energy Market (WEM) arrangements.

As the independent market and system operator, AEMO is keen to play an active role in the design and implementation of new arrangements for market and power system operation and is looking forward to working with the PUO and other stakeholders through this process.

If you would like to discuss any matters raised in this submission, please contact Stuart Featham, Manager, WA Market Development, on (08) 9469 9905.

Yours sincerely

Cameron Parrotte
Executive General Manager, Strategy & Innovation

Attachments: AEMO's responses to consultation questions

AEMO's responses to consultation questions

As the independent market and system operator, AEMO has not responded to the majority of the consultation questions about transitional assistance, which relate to market participants.

Question 1: Are there other reforms that are essential to implement a constrained network access regime?

An effective transition to a constrained network access regime requires broad changes to the current regulatory framework and the arrangements for power system and market operation.

AEMO advises that the following areas will require consideration:

1. Service standards and planning criteria for power system security and reliability, and responsibility for satisfying those standards and criteria, currently lack clarity.

These standards and criteria are used to define the technical envelope for the power system and to define network constraints. They will need to be addressed at an early stage in the program to ensure they are fit-for-purpose for a constrained network access regime and to enable design and implementation activities to continue.

2. The incorporation of constraints into the WEM will be a substantial undertaking and needs to be recognised in the scoping of the reform program.

Significant aspects of market and system operation that will be affected include:

- a. long-term processes, such as network planning, power system planning and the Reserve Capacity Mechanism (RCM);
 - b. medium-term processes, such as outage scheduling and Projected Assessment of System Adequacy (PASA);
 - c. short-term and real-time processes, such as bidding (including facility-based bidding for all participants), the Short Term Energy Market, pre-dispatch, dispatch of energy and ancillary services, and backstop intervention arrangements; and
 - d. ex-post processes, such as market settlement and compliance monitoring.
3. It is crucial that the changes implemented to market and system operations provide sufficient flexibility for a rapidly evolving power system.

This will require examination of matters that are less directly connected to the transition to a constrained network access model, such as the incorporation of new technologies and the consequent emergence of non-network system-related constraints. Reform should be used as the opportunity to address these matters, including through the allocation of institutional responsibilities and powers to the bodies that are best placed to resolve these issues.

Question 2: Are there other issues associated with the implementation timeline, including the proposed 'go-live' date of 1 October 2022?

- AEMO recognises that the implementation of constrained capacity allocation in time for the 2020 Reserve Capacity Cycle will be challenging. In addition to the time required for detailed design of a new process for constrained allocation of Capacity Credits, the following will be required:

- establishment of a framework for developing the various model inputs for this process, particularly the framework for defining and developing network constraints;
 - the development of the various model inputs according to the new framework, including considerable work for development of the constraints; and
 - the publication of the new capacity allocation model and its inputs, in advance of its commencement, to provide transparency and predictability for market participants on the updated capacity accreditation process.
- Other elements of the design of energy and ancillary service arrangements may need to be in place at the time of implementing constrained capacity allocation rules to allow new investors to make investment decisions within RCM timeframes. For example, registration rules need to be in place when a participant applies for capacity certification.
 - AEMO does not foresee any operational problems arising due to a mismatch between the first Capacity Year of the constrained capacity allocation and the commencement of new spot market and dispatch arrangements, provided there is sufficient capacity margin to ensure reliability is maintained.
 - AEMO considers that a 'go-live' date of 1 July 2022 would be more practical than the proposed date of 1 October 2022. 1 July 2022 aligns with the commencement of both Western Power's fifth Access Arrangement and AEMO's triennial Allowable Revenue cycle, as well as with various financial year processes (e.g. Western Power price lists, market fees, margin values, energy price limits, annual Ancillary Service reports).

AEMO anticipates that new generators may wish to receive Capacity Credits for the 2022-23 Capacity Year and connect to the SWIS soon after the go-live of new market and dispatch arrangements. If new generators were to connect after 1 October 2022, AEMO will be unable to assign them Capacity Credits.¹ Even if rules were amended to overcome this barrier, AEMO would either be forced to manage the commissioning of these new facilities before 1 October using current dispatch systems, while simultaneously conducting market trials and preparing for the transition date; or the facilities would be unable to commence commissioning until after 1 October, failing to meet their capacity obligations and incurring capacity refunds until they are fully tested, commissioned and operational.

- While the consultation paper acknowledges the need for AEMO to build and test new market and dispatch systems, AEMO notes that market participants will need to expend significant effort to update their own systems and processes. This will require significant market testing and trialling and will require the development of detailed and robust industry plans and governance arrangements.
- AEMO will need to seek approval of its Allowable Revenue by the Economic Regulation Authority (ERA) for the 2019-2022 review period by 30 November 2018.² Appropriate funding arrangements need to be put in place before AEMO may commence work. This may require the development of additional Allowable Revenue proposals, which may impinge on other market design and implementation work.

¹ AEMO is unable to assign Certified Reserve Capacity to a facility if it is not expected to be fully operational on 1 October of the relevant year, as detailed in clause 4.11.1(a) of the WEM Rules.

² As required by clause 2.22A.2 of the WEM Rules.

Question 3: *[In respect of contractual provisions that are inconsistent with a constrained network access regime] Are there other principles that should be considered?*

AEMO advises that maintenance of physical firm access rights is incompatible with least-cost security-constrained economic dispatch, which is implemented using a constrained optimisation linear programming (LP) model that operates very close to real time to optimise input data accuracy. Grandfathered physical access rights are incompatible with this optimisation process as they would fundamentally alter the least-cost objective.

Question 8: Are there other options that could be utilised to provide transitional assistance?

AEMO advises that consideration needs to be given to the mechanism for recovery of any costs associated with transitional assistance.

Question 11a: Are there other considerations that influence the choice of the dispatch engine?

As the independent market and system operator, AEMO will consider and select the optional suite of IT systems to implement the market design confirmed by the PUO, having regard to technical requirements, delivery timeframes, system lifespans and ongoing operational costs.

In discussions with market participants and when requesting funding from the ERA, AEMO will present the justification for its recommendations. In doing so, AEMO acknowledges the operational efficiencies that will be achieved by accommodating the 'constraint equation' network representation that is used in the National Electricity Market.

Question 11b: Are transitional arrangements required to facilitate the relocation of the reference node?

The current location of the reference node at Muja is not compatible with the introduction of the security-constrained market design. Accordingly, AEMO considers a change of the reference node to a demand centre (such as Southern Terminal) to be an essential feature of a security-constrained market with a single settlement region. The reference node is the point that constraints are oriented towards, therefore with a reference node at a generation site, it is not possible to constrain the generation facilities at this node. Consequently, price setting can be distorted and the limitation to constrain facilities at the reference node creates security management complexity.

The new reference node needs to be confirmed as early as possible as it underpins design elements of the reform program.