

9 August 2023

Hugh Cosolo
Analyst
Australian Competition and Consumer Commission

Email Hugh.Cosolo@accc.gov.au

Dear Hugh,

Restriction of Publication of Part Claimed

Brookfield/Origin - request for information under section 90(6) of the Act

On 21 July 2023, the ACCC issued a request for information to AEMO under section 90(6)(d) of the *Competition and Consumer Act 2010 (Act)* in relation to the proposed acquisition by MidOcean Reef Bidco Pty Ltd (**MidOcean**) of 100% of the ordinary shares in Origin Energy Limited (**Origin**) and the proposed subsequent on-sale of the 'Origin Energy Markets' business to Eos Aggregator (Bermuda) LP (**Brookfield**).

AEMO's responses to these questions are included in the attachments to this letter.

Confidentiality

AEMO has obligations under the National Electricity Law to maintain the confidentiality of certain information to which it has access in its role as market operator. AEMO requests, pursuant to section 89(5) of the Act, that responses identified as confidential be excluded from the ACCC's public register for the reasons given.

AEMO understands that the AER is assisting the ACCC in its review of the proposed transaction. We consent to the ACCC sharing the entire response with the AER for use for this purpose.



For any queries related to this letter, please contact Samantha Lloyd, Engagement Strategy Lead, System Design, Government and Stakeholder at [REDACTED]

Yours sincerely,

[REDACTED]

Merryn York
Executive General Manager - System Design

Cc Daniel McCracken-Hewson – General Manager, Merger Investigations

Attachments

- Attachment 1 AEMO Response to the ACCC request for information received 21 July 2023 – *confidential*
- Attachment 2 AEMO Response to the ACCC request for information received 21 July 2023 – *non-confidential*
- Attachment 3 AusNet Declared Transmission System Operator applications 28 July 2023 – *confidential*
- Attachment 4 Victorian transmission network contestable projects 2018-23 – *confidential*

AEMO response – non-confidential

The responses in Attachment 2 (this document) are non-confidential.

Question	AEMO Response
<p>2. Set out the process for seeking connection to the AusNet transmission network, including any parts of the process where AusNet provides input or has discretion relating to the proposed connection.</p>	<p>The process to seek a connection to the Victorian transmission network is set out on AEMO's website:</p> <p>AEMO Stage 3 - Application</p> <p>AEMO Stage 4 - Contracts</p> <p>Through the AEMO process of the Connection Stages above, Ausnet provides input into the following activities:</p> <ul style="list-style-type: none">• The proposed connection arrangement• The development of the Primary Functional Requirements (PFRs) and Protection and Control Requirements (PCRs) for connection, shared, terminal station and interface works (including adjacent terminal station works). These infrastructure specifications enable the Generator to get a budget cost for network infrastructure from the Declared Transmission System Operator.• Providing an offer for network infrastructure works including the connection interface and network infrastructure works.• Negotiations of and entering into signed connection agreements usually including a Project Construction and Coordination Deed (PCCD) and the Use of System Agreement (UoSA) with AEMO and the Generator; Network Services Agreements (NSAs) with AEMO and a Connection Services Agreement (CSA) with the Generator.

	<p>Please note that AusNet may have engaged with a proponent for connection point works prior to the application being made to AEMO.</p> <p>Under the National Electricity Rules, AusNet is required to direct all Transmission Enquiries they receive to AEMO.</p>
<p>3. What sorts of confidential information about new generation projects does AusNet receive as part of the connection process? For example, potential locations, capacity, timeframes for development, etc?</p>	<p>AEMO Victorian Connections provides connection information to AusNet regarding connection enquiries and potential upcoming works for connection to assets which AusNet owns or operates.</p> <p>AEMO Victorian Connections also provides information on future transmission 'line cut ins' (new terminal stations) to promote contestability in Victoria. However, in these circumstances AusNet is likely to already be involved as it will own the transmission lines which will connect these new terminal stations to the Victorian Transmission Network.</p> <p>The same applies for other Declared Transmission System Operators in Victoria. AEMO Victorian Connections does not share the name of the proponent or timeframes as that could provide an advantage to any of these parties in terms of the provision of the connection services.</p>
<p>4. A summary of the information provided by AusNet to AEMO for the purpose of operating the spot market in the National Electricity Market, and any processes AEMO undertakes to ensure the accuracy of such information.</p>	<p>AEMO's operational interaction with AusNet Services is in its capacity as a Transmission Network Service Provider (TNSP). TNSPs have an extensive and complex set of responsibilities that are outlined in the National Electricity Rules.</p> <p>TNSPs are required to provide AEMO with information related to planned transmission outages submitted through the Network Outage Scheduler (NOS), limits advice, connections/network augmentations/power system modelling information. Some of this information is used in the dispatch process as well as inputs into the Projected Assessment of System Adequacy (PASA) system which monitors the supply/demand balance in</p>

the National Electricity Market across the medium-term and short-term timeframes. In addition, AusNet provides metering information to AEMO which supports AEMO's role in settling the spot market.

TNSPs are also required to comply with policies and procedures related to AEMO's management of network congestion, including providing AEMO with data/information as outlined in the Congestion Information Resource Guidelines available on the AEMO website: [AEMO | Congestion information resource](#).

AEMO also shares responsibilities with AusNet Services as Victorian TNSP. Currently there are discussions occurring between AEMO, the Victorian Government and AusNet Services where the most appropriate location for these responsibilities reside. In particular, it has been agreed that the Victorian Planning role will move to VicGrid as part of the Victorian Government. Other responsibilities are still under discussion.

8. AEMO's forecast or estimate of the level of new generation capacity needed in the National Electricity Market in order to meet the government's target for net zero by 2050. This estimate can be supplied as a range. In your response, please categorise the type of capacity needed (e.g. Solar, Wind, Storage).

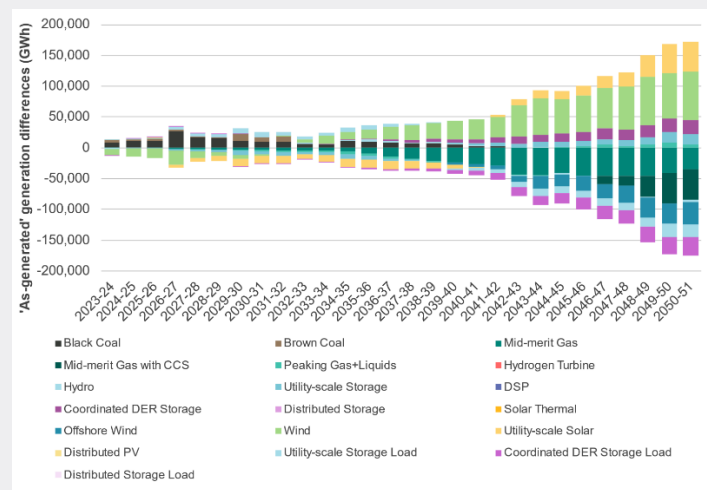
AEMO's forecast for new generation capacity needed in the National Electricity Market (NEM) to meet the government's target for net zero by 2050 is outlined in the 2022 Integrated System Plan. The Step Change scenario, identified by stakeholders as the most likely, forecasts we need to develop over 100GW of utility wind and solar by 2050 and over 50GW of storage capacity, complementing consumer energy resources (of ~50GW of distributed PV).

This effectively triples the overall generation and storage capacity in the NEM to meet the economy's electricity needs in Step Change. Today, NEM installed capacity of nearly 60 gigawatts (GW) delivers approximately 180 TWh of electricity to industry and homes per year. In Step Change, utility-scale generation and storage capacity would need to grow to 173 GW and deliver 320 TWh per year to customers by 2050 to cater for existing loads and new loads created from the electrification of

gas, petrol and other fuels consumed by our transport, industry, office and domestic use.

AEMO will have an updated view of the capacity requirements when the Draft 2024 ISP is released in December 2023.

The [2022 Final Integrated System Plan \(ISP\) results workbook tab REZ](#) Generation capacity shows the breakdown by type of capacity needed including solar, wind and offshore wind and storage. The diagram below shows the NEM difference in generation by year based on the Step Change scenario ([2022 ISP](#)).



9. AEMO’s current forecast or estimate of the new renewable generation capacity and storage assets that will be built in the National Electricity Market over time (e.g. every 5 years) up until 2050. This estimate can be supplied as a range. In addition to the information published in AEMO’s NEM generation information spreadsheet, please comment on the likelihood of the forecasted generation being committed and, if possible, the proportion that AEMO considers is reasonably likely to occur.

Detailed information on ISP forecast generation capacity and storage assets can be found in the published ISP Generation Outlook files that complement the 2022 ISP publication, including for the Step Change scenario. Based on stakeholder engagement with a panel of experts, the Step Change scenario is the most likely forecast for generation that is likely to be committed to.

As identified in the 2023 Inputs, Assumptions and Scenarios Report (IASR) – which will underpin the 2024 ISP – significant policy expansion has occurred, supporting the energy transition, however supply chain and social licence challenges remain. AEMO doesn’t have any other commentary on the likelihood of generation becoming committed or developed, other than identifying the scale of investments that are needed

to support the transition that all Governments have policy supporting.

In the 2022 ISP published spreadsheets, refer to the Step Change scenario to see an outline of the generation mix for each year until 2050, aggregated by technology and by region. Other scenarios provide a development range relative to Step Change, due to the differences in the scenario narratives and pace of change in each, as described in the 2021 IASR.

The 2022 ISP and the assumptions workbook is accessible [here](#).

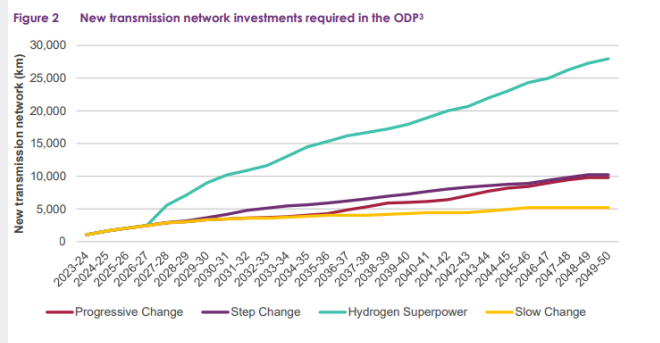
The Step Change Final ISP results workbook is accessible [here](#).

10. The level of investment required in the transmission network in the National Electricity Market to facilitate the connection of new renewable generation and storage assets necessary to meet the government's target for net zero by 2050. What is the likely timeframe and cost for upgrading the transmission network as required to achieve this? In your response, please explain the nature of the upgrades to the transmission network that are required.

The total level of transmission investment to facilitate the new generation and storage scenarios under the Step Change scenario is estimated at approximately \$13Bn, or about 4% of the total investment required over the outlook period of the ISP.

The 2022 ISP appendix "A5 - Network Investments" provides an outline by jurisdiction on the required transmission build for each scenario, including the influence of the actionable projects.

The ISP identifies between 5,000 km and 28,000 km of new transmission network investment is required to connect new generation and storage opportunities to demand centres. Figure 2 highlights the new network investments required per year across all scenarios. Under the Step Change and Progressive Change scenarios approximately 10,000 km of transmission is required, but with initially earlier build times in the Step Change scenario.



In addition to the transmission network required, between 1,000 km and 13,100 km of connection assets are required to connect the generation identified in this ISP to the transmission network. Approximately 3,200 km of connection assets are required under both the Step Change and Progressive Change scenarios by 2050, bringing the total network investment required under these scenarios to approximately 13,200 km.

Further detail is outlined in Appendix 5. Network investments, accessible [here](#).

11. The typical lead-time for a renewable generator to connect to the grid in the National Electricity Market, including how long it takes to progress through each 'Commitment Status' (Publicly Announced, Anticipated, Committed* and Committed) - 'Commitment Status' as defined in AEMO's NEM generation information spreadsheet, available from the [AEMO website](#). In your response, please detail the practical challenges associated with connecting a generator to the grid.

The typical time that a project takes to connect to the grid i.e., from submitting a connection application to effectively approving registration to (connect to the grid) commence commissioning can be between 18-30 months. The typical lead time for a renewable energy connection can be affected by several factors including by not limited to:

- Generating plant technology
- Size of plant
- Project reaching financial close to commence construction
- Connecting plant location in NEM
- OEM experience and support
- Availability and engagement of construction contractors
- Supply of the generation and other equipment

12. Whether AEMO can suspend or halt a generator's connection, or retirement, if it would impact system security or strength, or reliability. Can AEMO provide recent examples of either scenario? For example, does AEMO consider Eraring will be able to be closed in August 2025 (from a system security and strength or reliability perspective)?

As part of the process for registration of a new generator under the National Electricity Rules, AEMO assesses a range of matters before registration can occur. This includes whether a generator can meet its agreed performance standards. If not AEMO will not register the generator and it cannot connect to the NEM.

During operation of the power system AEMO monitors all generators in real time. If a generator is assessed as causing impacts to system security, then AEMO can constrain the generator's output to alleviate the issue.

These limitations do not apply to reliability considerations.

In terms of closure of generators, the National Energy Rules (NER 2.10.1 (c2)) requires a notice period for closure of 42 months. Provided this notice period is met there is no formal role for AEMO regarding closure of plant other than deregistration.