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15 November 2023

David Hatfield  
Australian Competition and Consumer Commission  
23 Marcus Clarke Street  
Canberra ACT 2601

**By Email:** david.hatfield@acc.gov.au

Dear Mr Hatfield

**Australian Energy Market Operator Limited – Application for authorisation AA1000643 – Submission in response to draft determination**

We refer to the application for authorisation filed with the Australian Competition and Consumer Commission (**ACCC**) by AEMO on 7 June 2023 (the **Application**) and the ACCC's draft determination dated 12 October 2023 (the **Draft Determination**).

AEMO provides a submission in response to the Draft Determination in Attachment A to this letter.

AEMO would welcome the opportunity to assist the ACCC with any queries or to discuss any matter in relation to AEMO's submissions.

Yours sincerely,



**Rosannah Healy**  
Partner  
Allens

[Redacted]  
T [Redacted]

**Our Ref** 121102609

## Annexure A

### Submission in response to the Draft Determination

#### 1 Summary

- (a) AEMO disagrees with the preliminary views of the ACCC in its Draft Determination that the Proposed Conduct would result in only minimal public benefits. Central to this conclusion was a finding that AEMO could readily use its *existing* processes and powers to interact bilaterally with Participants to manage System Works, and therefore, that the Proposed Conduct was unlikely to significantly increase AEMO's ability to manage these issues. For the reasons set out below, AEMO disagrees with these findings and considers that the Proposed Conduct would **significantly enhance** the tools currently available to AEMO to manage System Works by facilitating the efficient, proactive and collaborative management of scheduling issues in a manner not currently contemplated by or provided for under AEMO's existing powers.
- (b) As acknowledged by the ACCC in its Draft Determination, the rapid transformation of the National Electricity Market (**NEM**) power system is creating significant challenges for the reliability and security of Australia's electricity supply. Generating technologies have changed dramatically from dispatchable, centralised, thermal fuel-fired generation to increasing amounts of distributed renewable generation that is dependent on the weather. As thermal plants retire, their age necessitates increased maintenance and outages. Conversely, as renewable generation comes online and transmission networks are built and augmented, there is an increased frequency of outages required to allow new connections to the system. Against this backdrop, the increased electrification of Australia's economy, together with the hotter climate, drives higher electricity demand nationally. The combination of all of these factors means that capacity in Australia's electricity power system is **tight** and system security is **finely balanced** all year round.
- (c) There are a number of existing regulatory tools (including as a result of recent regulatory changes) which AEMO can and does use to help it manage the security of Australia's electricity power system. This includes requirements on participants to share detailed information on outages and unit availability, AEMO approval of outages by transmission networks (but not generators) and powers to direct generators (as a last resort measure) to maintain or re-establish reliability and security where there is an imminent threat to supply. Importantly however, many of these regulatory tools are longstanding and were developed at a time when there was **significant excess capacity** and far less uncertainty in the NEM. In the current energy transition, where electricity supply and demand is so finely balanced, and significantly weather dependent, AEMO considers that **proactive management** of the power system (including careful coordination of outages to prevent or mitigate system risks) is increasingly critical to minimising disruptions to energy supply, and the economic, financial, health and social impacts that flow from power disruptions.
- (d) AEMO applied for ACCC authorisation so that it could continue to hold maintenance forums with industry participants which it has run on a relatively regular basis since approximately April 2020 under three previous ACCC authorisations.<sup>1</sup> Those forums involve AEMO gathering information pursuant to its regulatory powers, synthesising that information to brief

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<sup>1</sup> In respect of ACCC Determination AA1000484, interim and/or final authorisation was granted for similar conduct in relation to the gas and electricity industries, for the period **April 2020 to May 2021**. In respect of ACCC Determination AA1000586, interim and/or final authorisation was granted for similar conduct in relation to the electricity industry, for the period **October 2021 to October 2022**. In respect of ACCC Determination AA1000618, interim and/or final authorisation was granted for similar conduct in respect of the gas and electricity industries for the period **July 2022 to April 2023**. AEMO currently has interim authorisation in respect of the Proposed Conduct until the ACCC makes a final determination.

industry participants on upcoming scheduled outages and AEMO's analysis of potential system issues and risks, and consulting with industry on those issues and risks, and actions that can be taken to address them. This is a **proactive** and **collaborative** approach to managing outages with a view to preventing them from escalating into incidents that require formal AEMO intervention (with consequent costs for industry and consumers). AEMO has also convened forums in the context of critical situations or emergencies. Sometimes, AEMO has been able to collaborate with industry on these issues in already scheduled rather than exceptionally convened forums. AEMO would convene urgent forums in the event the need arose (subject to authorisation being granted).

- (e) AEMO's existing powers largely do not contemplate or provide for this type of collaboration and proactive consultation with industry. They are instead premised on the assumption that AEMO will use reasonable endeavours to ensure the system operates effectively with a **minimal amount of intervention** by AEMO. While this approach is generally appropriate, AEMO considers that proactive and collaborative management of outages is essential at this **critical stage** of Australia's energy transition.
- (f) AEMO disagrees that bilateral discussions are a substitute for the collaborative discussions currently taking place in maintenance forums. These forums, when held under ACCC authorisation, allow AEMO to test with participants, in an open setting, the drivers of their scheduled maintenance and the extent to which potentially or actually problematic maintenance scheduling can be rescheduled or accelerated. With the legal protection provided by an authorisation, participants have the confidence to participate in frank discussions where they can share information, and immediately clarify or supplement information provided in the forums in real-time. In addition, the transparency of the forums (ie, where relevant industry participants hear the same information at the same time) galvanises industry, making them aware of, and focusing their attention on, broader system security issues, and encouraging voluntary action by participants that might not otherwise occur if it were requested in a bilateral discussion with AEMO alone. In short, the maintenance forums enable AEMO to manage risks that could arise from overlapping outages **proactively, efficiently and without last minute interventions** that create cost and disruption for the market. These public benefits would be even more pronounced in the event that the forums were convened in a setting of heightened system risk, such as major plant failure or a major weather event (eg, heatwave, bushfire).
- (g) Although AEMO considers ACCC authorisation to be essential to the continuation of the maintenance forums, AEMO disagrees that the forums have the potential to give rise to competitive detriment. The forums have occurred on a regular basis since April 2020 under the protection of three successive ACCC authorisations and there is no evidence of any flow on adverse effects to competition. As acknowledged by the ACCC in its Draft Determination:
  - (i) participants may only share information for the limited purpose of ensuring the safe, secure and reliable operation of the NEM power system in controlled forums facilitated by AEMO;
  - (ii) the analysis shared by AEMO is based on publicly available information;
  - (iii) an external lawyer attends meetings as a competition law observer; and
  - (iv) the ACCC is invited to attend meetings and regular reporting is provided to the ACCC.
- (h) AEMO acknowledges that regulatory changes may be an alternative avenue for addressing shortfalls in the current framework during this period of transition. More generally, it will often be the case that conduct which is authorised by the ACCC could instead be facilitated by

legislative or regulatory changes, including a formal exemption under section 51(1) of the *Competition and Consumer Act 2010* (Cth) (**CCA**). However, AEMO respectfully submits that this is not relevant to the test for authorisation, which is whether or not the Proposed Conduct gives rise to a net public benefit. In addition, the fact that AEMO, under interim authorisation, has not *to date* engaged in the full scope of conduct that would be authorised is also not relevant to the statutory test. The question is whether, the Proposed Conduct, if engaged in, would give rise to a net public benefit as compared with the counterfactual if authorisation were not granted.

- (i) Putting aside the relevant legal test, however, AEMO is currently exploring longer term, regulatory based solutions with stakeholders including the Commonwealth Government which will better equip AEMO to manage outages during the energy transition. Accordingly, as discussed in further detail in this submission, AEMO seeks an amendment to its application so that the term of authorisation is 18 months rather than 3 years. AEMO submits that the shorter period of authorisation creates even stronger arguments that the public benefits of the Proposed Conduct outweigh any potential for public detriment and that the ACCC should authorise the Proposed Conduct.

## **2 The relevant test**

As a preliminary matter, AEMO submits that the relevant test for assessing the Proposed Conduct is whether or not that conduct, *if engaged in*, would result in a net public benefit as compared with the relevant counterfactual. In this case, the relevant counterfactual is for AEMO to gather information and manage outages in accordance with its existing regulatory powers. AEMO makes two observations in relation to the ACCC's Draft Determination in this regard.

### **2.1 Relevance of regulatory alternatives to ACCC authorisation**

First, AEMO notes the ACCC's view at paragraph 4.66 of the Draft Determination that '*regulatory changes are a more appropriate mechanism to address any shortfalls that may exist in the regulatory framework*' and that '*it is open to AEMO and other market bodies to seek rule changes with the AEMC and/or other legislative arrangements*'. AEMO acknowledges that regulatory changes could be an alternative avenue for addressing shortfalls in AEMO's powers during this period of transition. It will often be the case that conduct which is authorised by the ACCC could instead be facilitated by legislative or regulatory changes, including a formal exemption under section 51(1) of the CCA. AEMO respectfully submits that this is not relevant to the test for authorisation, which, as noted above, is whether or not the Proposed Conduct gives rise to a net public benefit. Nonetheless, AEMO intends to work with stakeholders and government to develop a longer term solution based on regulatory changes (see paragraph 3 below).

### **2.2 Relevance of use of Interim Authorisation to date**

Second, AEMO notes the ACCC's view that:

*the Proposed Conduct will [not] significantly increase AEMO's ability to manage the scheduling of System Works compared with AEMO's ability to do so under existing arrangements. Specifically, the ACCC considers that AEMO has sufficient oversight to identify potential issues in the scheduling of System Works based on information currently collected. It can then use bilateral discussions and, where necessary, directions, to ensure the reliability and security of supply in the National Electricity Market. The ACCC does not consider that this ability would be significantly increased by the coordination proposed in the application for authorisation.<sup>2</sup>*

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<sup>2</sup> See page 1, Draft Determination.

Informing this view was the ACCC's attendance at several of the fortnightly meetings held between industry participants within each jurisdiction under the interim authorisation. The ACCC stated that:<sup>3</sup>

*Our experience has been that there has been limited or no discussion between the parties. The meetings have essentially involved AEMO stepping through all foreshadowed outages, using information obtained by AEMO that is largely (if not, wholly) publicly available, and confirming with relevant participants that the forecast timing for each is still current... The ACCC considers that this process could be conducted bilaterally at little to no additional burden.*

AEMO respectfully submits that the fact that AEMO has, to date, not engaged in the full scope of coordination proposed in its application is not a relevant consideration. Certainly, where a party engages in the relevant conduct during the period of any interim authorisation, this can provide the ACCC with evidence of the actual public benefits which would flow from the conduct if authorised. However, the fact that conduct is not engaged in, or is only engaged in to a limited extent, is not ultimately relevant to satisfaction of the statutory test. The question is whether, if AEMO engaged in the full suite of conduct the subject of the application, there would be a net public benefit.

### **3 Amendment of application**

Since the ACCC's Draft Determination, AEMO has been exploring longer term, regulatory based solutions with stakeholders and government which will better equip AEMO to manage outages during the energy transition. While the precise nature of these changes is to be determined, they are likely to include (subject to the AEMC's usual processes and consultation), changes to the National Electricity Rules and/or changes to the National Electricity Law or Regulations as required.

Given these developments, AEMO wishes to amend its initial application so as to seek authorisation for the Proposed Conduct for a period of **18 months** from the date of the ACCC's final determination, rather than for the three year period until 30 June 2026 as initially sought. Authorisation over this period would enable AEMO to have the benefit of the forums to manage the next two critical summer periods, which are forecast to present extremely challenging weather events and are already presenting concerning risks and constraints in relation to the adequacy of capacity to meet demand during summer peaks. Additionally, AEMO considers that authorisation for 18 months would provide sufficient time for a longer term regulatory based solution to be developed, consulted on and implemented. AEMO would need to work closely with government and other stakeholders to scope and draft the appropriate proposed regulatory changes. The length and complexity of the process to consult on and implement the proposed regulatory changes would also depend on which form(s) of legislation are amended. AEMO would be happy to discuss this in further detail with the ACCC.

AEMO submits that the shorter period of authorisation creates even stronger arguments that the public benefits of the Proposed Conduct outweigh any potential for public detriment and that the ACCC should authorise the Proposed Conduct. These reasons are discussed in further detail below.

### **4 AEMO response to the ACCC Draft Determination**

The Draft Determination acknowledges that the NEM is undergoing significant issues as part of the transition to renewable electricity<sup>4</sup> and that this is causing significant issues for AEMO, including with respect to gathering information regarding generator availability,<sup>5</sup> and in managing system security and reliability in the NEM. As the Draft Determination points out, this is resulting in AEMO is having to intervene more frequently in the NEM than ever before to ensure security and reliability of supply.<sup>6</sup>

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<sup>3</sup> See page 19, Draft Determination.

<sup>4</sup> See paragraphs 2.9 to 2.13 of the Draft Determination.

<sup>5</sup> See paragraph 4.33 of the Draft Determination.

<sup>6</sup> See paragraph 2.13 of the Draft Determination.

The Draft Determination however suggests that AEMO's existing powers are sufficient to manage the increased risks to system security and reliability<sup>7</sup> and, therefore, that any public benefits from the Proposed Conduct are likely to be minimal when compared with a future without the Proposed Conduct where AEMO can rely on its existing powers and/or engage bilaterally with industry participants to manage System Works.<sup>8</sup> AEMO disagrees with this view for the following reasons:

- **Transformation of the NEM.** AEMO's existing powers were largely developed at a time when there was far greater certainty with respect to system security and reliability due to abundant supply from a core number of synchronous generators. In that context, the market could generally be relied upon to ensure supply exceeded demand and AEMO's powers to intervene and direct participants were considered a last resort safety net. In the current context however, AEMO has to manage a much greater number of dispersed generators and supply and demand conditions are finely balanced. In this setting, AEMO considers that there are significant benefits to a more proactive and collaborative approach than what is contemplated by the existing regulatory framework.
- **Bilateral discussions cannot achieve the same outcomes as the Proposed Conduct in managing system security and reliability issues.** The ACCC's view is informed by its attendance at a number of AEMO-convened forums where the ACCC perceived there to be minimal discussion and/or coordination to manage outages, suggesting that AEMO could readily interact with participants on a bilateral basis to manage issues.<sup>9</sup> AEMO respectfully disagrees with this characterisation of the Proposed Conduct. When held under ACCC authorisations, the maintenance forums enable AEMO to provide industry with a detailed briefing of upcoming scheduling issues and potential supply risks, drawn from publicly available information but synthesised to provide participants with the whole-of-system perspective, including issues and risks that arise in relation to outages. AEMO can then facilitate frank and open discussions among participants where they can share, clarify or supplement information in real time and have confidence that all participants are hearing the same information and messages. This would not be achieved in bilateral discussions with AEMO alone.
- **Significant public benefits will flow from the Proposed Conduct.** By facilitating an open and transparent forum for briefing and engaging with industry on system security and scheduling issues, the Proposed Conduct enables AEMO to manage the risks that could arise from overlapping outages proactively, efficiently and without last minute interventions that create cost and disruption for the market. These public benefits would be even more pronounced in the event that the forums were convened in a setting of heightened system risk, such as major plant failure or a major weather event (eg, heatwave, bushfire). AEMO has convened forums in the context of critical situations or emergencies before. Sometimes, AEMO has been able to collaborate with industry on these issues in already scheduled rather than exceptionally convened forums. AEMO would convene urgent forums do so in the event the need arose (subject to authorisation being granted).
- **There is limited potential for competitive detriment and no evidence of any anti-competitive effects arising from authorised conduct to date.** The Draft Determination also suggests that public detriments could arise from the Proposed Conduct, from potential reduced competition in wholesale electricity markets<sup>10</sup> and potential reduced competition from coordination in relation to maintenance services.<sup>11</sup> AEMO respectfully submits that

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<sup>7</sup> See paragraph 4.36 of the Draft Determination.

<sup>8</sup> See paragraphs 4.37 to 4.39 of the Draft Determination.

<sup>9</sup> See paragraphs 4.39 to 4.40 of the Draft Determination.

<sup>10</sup> See paragraphs 4.47 to 4.53 of the Draft Determination.

<sup>11</sup> See paragraphs 4.55 to 4.58 of the Draft Determination.

there is no material risk of these detriments emerging. That is because the Proposed Conduct involves numerous safeguards which limit the potential for anti-competitive detriment including:

- AEMO has oversight of all meetings;
- industry participants attend meetings as coordinated by AEMO;
- the ACCC is notified of meetings, proposed attendees and agendas in advance and can attend, and it is also provided regular reports of any arrangements that may be entered into through the meetings;
- a representative of the relevant government department is present;
- an external competition lawyer is present;
- the industry participants' attendees are generally operational or maintenance employees who AEMO would not expect to be involved in competitively sensitive decisions for their respective organisations (eg, wholesale electricity trading or maintenance services procurement); and
- in practice, although the forums seek to facilitate collaborative discussion to manage outages, the information exchanged is unlikely to be highly sensitive as the key information inputs for AEMO's briefings to participants are already publicly known. New information which emerges in the forums as a result of AEMO's briefings and discussion (eg, changes to scheduling of outages or return to service dates) is reflected soon after the forums in participants' regular reports to AEMO, and subsequently also becomes publicly available information.

Further information and clarification is provided below in respect of each of these matters. AEMO submits that the ACCC should authorise the Proposed Conduct for the amended duration set out in this submission.

#### **4.1 Transformation of the power system**

The physical power system underpinning the NEM is rapidly undergoing its most significant period of change, making it increasingly challenging for AEMO to manage risks to supply. Generating technologies have changed dramatically from dispatchable, centralised, thermal fuel-fired generation to increasing amounts of distributed generation that is dependent on the weather. Importantly, the systems, processes and regulatory framework underpinning the NEM were not designed to deal with this level of change. It is in this context that AEMO considers that **proactive** management of the power system (including careful coordination of outages to prevent or mitigate system risks) is increasingly critical to minimising disruptions to energy supply, and the economic, financial, health and social impacts that flow from power disruptions.

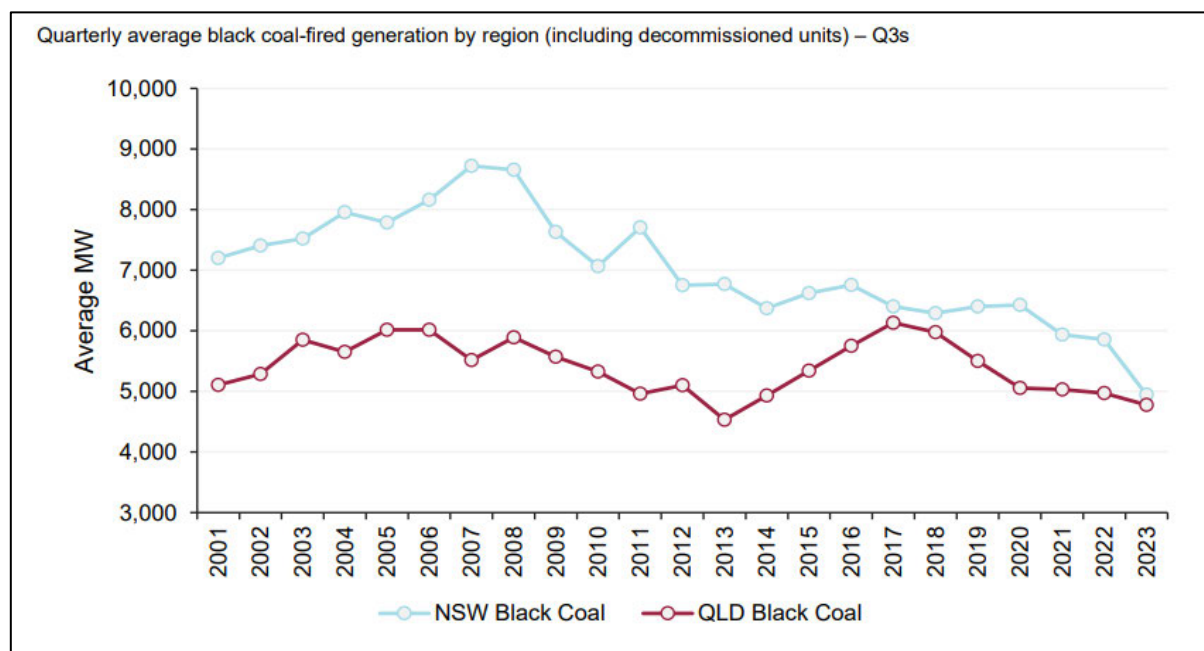
##### **(a) Security of supply is finely balanced and supply shortfalls are more likely than ever**

A key characteristic of the transition underway in the NEM is the shift from reliance on larger thermal generation sources (coal and gas), to diversified renewable sources. Together with hydroelectric sources, thermal generation can provide continuing power supply to the NEM irrespective of prevailing weather conditions, which wind and solar generation sources cannot. Coal, gas and hydroelectric, as synchronous generation sources, also support system security in the NEM as they provide essential services to support the operation of the system (including system strength and inertia).

However, a significant proportion of the NEM's scheduled capacity that is derived from thermal generation sources, is being retired in coming years. As an example, Figure 1 provides an indication of the declining levels of black coal generation, the key thermal generation source in Queensland

and NSW, over the period 2001 to 2023 (a similar picture exists for Victoria in relation to brown coal). Over the coming period prior to such units being retired, their ageing condition also necessitates increased maintenance (and therefore outages). Further, thermal source of supply can be significantly impacted if there is a shortage of raw materials, ie, coal, gas and diesel – as witnessed through shocks to global energy markets caused by the Russia-Ukraine conflict.<sup>12</sup>

Figure 1: Black coal-fired generation reduction in supply in Queensland and NSW



Source: AEMO

While investment in renewable generation is ramping up, there remains insufficient NEM-connected renewable generation and firming capacity to ensure supply always covers forecast demand when taking into account likely thermal generator retirements. Firming capacity is provided by batteries, or from synchronous generators such as gas or pumped hydro, and is critical to stabilise supply in periods when less renewable energy is produced, to smooth out potentially volatile supply from renewable sources that are weather dependent.

Furthermore, as increased renewable generation sources are developed, there is a significantly increased frequency of interruptions to electricity transmission within the NEM. That is because transmission outages are required to put in place new connections to the grid for these projects and transport their output to load centres. There is also a significant number of new transmission projects either underway or being planned, including new interconnectors between the States within the NEM, and to support Renewable Energy Zones (or 'REZ'), so as to facilitate increased electricity supply and the transition to renewables.

Demand however is becoming more volatile, with maximum demand levels increasing, and minimum demand levels decreasing, ie, demand peaks are higher and troughs are lower. Higher maximum demand levels are caused by Australia's population growth, and larger parts of the Australian economy being electrified (eg electric vehicles). Lower minimum demand levels are being driven by warmer winter temperatures and the uptake of household rooftop solar PV. The NEM is increasingly encountering unprecedented high and low demand levels. These demand levels are exacerbated by changes in climate conditions – over the coming 2023/24 summer for example, AEMO anticipates that the impact of El Niño and forecast hot and dry conditions will contribute to demand at the higher

<sup>12</sup> AEMO, [2023 Gas Statement of Opportunities](#), page 15.

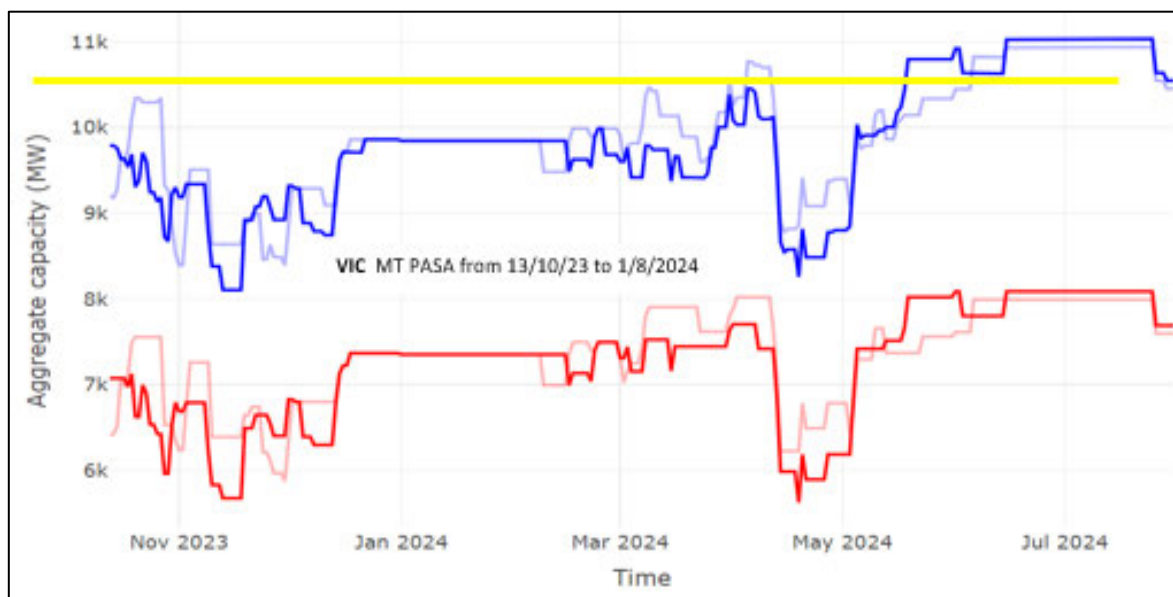


end of its usual forecast ranges.<sup>13</sup> These variations are making the supply and demand equation even more challenging for AEMO to assess when considering outage scheduling.

There are acute and ongoing reliability risks to the NEM as a result of the challenges outlined above, particularly in South Australia, Victoria and NSW, where energy supply can be insufficient to meet demand, or demand is too low to enable enough critical generators to be able to physically operate.

Figure 2 illustrates the forecast supply-demand balance for Victoria over the period November 2023 to July 2024.

Figure 2: Anticipated generator supply availability in Victoria, November 2023 to July 2024



Source: AEMO

The bold red line indicates dispatchable generators' forecasted availability in this NEM region. The faint red line indicates the availability as forecast in the previous week for this period.

The bold blue line indicates dispatchable generators' availability combined with semi-scheduled generators (ie, intermittent power from wind and solar) and also major non-scheduled generators – in other words, all available power, minus scheduled outages. The faint blue line indicates their combined availability as forecast in the previous week for this period.

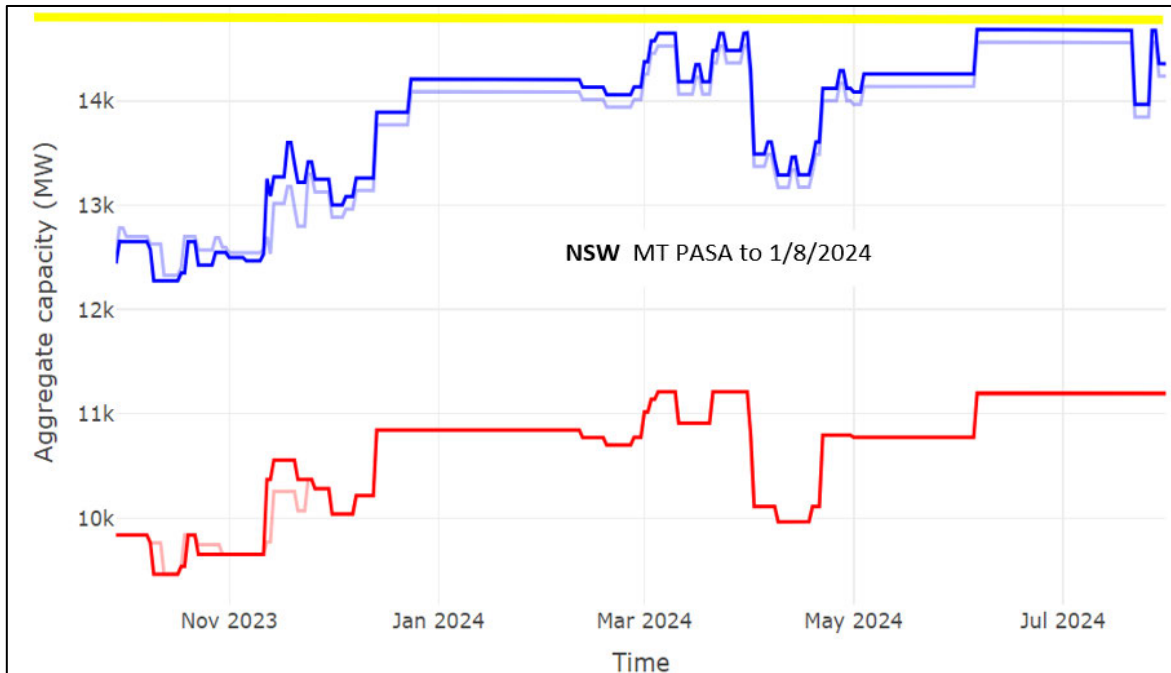
The yellow line shows the maximum demand record.

Overall, the forecast indicates that Victoria could well experience significant shortfalls in supply if demand reaches levels close to the maximum record demand. As noted above, demand is becoming more volatile, with maximum demand levels increasing, and minimum demand levels decreasing. During these periods, supply from other NEM regions (via interconnectors) is critical, as is the coordination of outages – particularly if there is a forced outage of a key generator (eg, a major thermal generator in the Latrobe Valley in Victoria). The forecast also illustrates how forecast availability continually changes and within short periods of time (as discussed in more detail below).

Figure 3 below illustrates a similar picture with respect to NSW over the same period.

<sup>13</sup> AEMO, [2023 Electricity Statement of Opportunities](#), page 6.

Figure 3: Anticipated generator supply availability in NSW, November 2023 to July 2024



Source: AEMO

**(b) Managing supply risks is increasingly challenging**

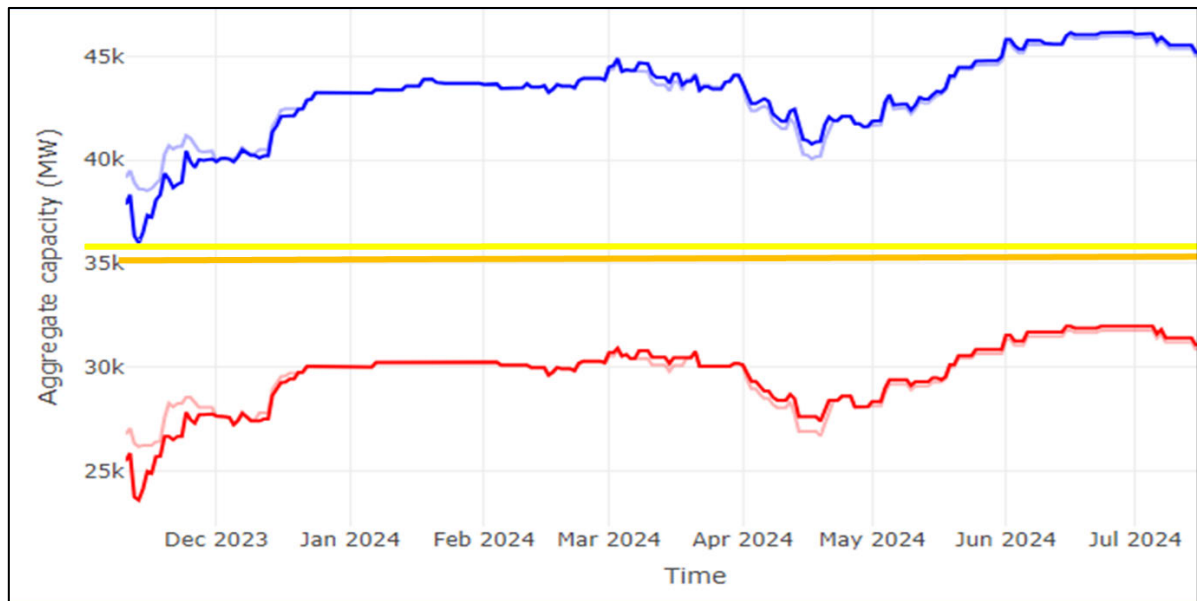
In this context, AEMO faces significant challenges in managing the electricity system, particularly: (i) in the shoulder seasons when generators typically schedule maintenance and demands on the NEM can still be high; and (ii) during extreme weather events, for example during summer heatwaves where demand on the NEM is particularly acute.

Furthermore, the task of forecasting available supply in the NEM and the potential impact of outages is becoming more difficult in the context of increased reliance on renewable generation. In particular, wind and solar are weather dependent generation sources, meaning forecast generator availability will vary significantly from actual availability up until one to two weeks from the actual supply date.

This variation between forecast and actual supply significantly compresses the time that AEMO has to manage outages if a potential shortfall becomes apparent, often to less than two weeks.

Figure 4 below illustrates how this issue has affected AEMO's analysis of generator availability in the NEM. The faint red line represents the previous week's (for the purposes of the case study) forecast for dispatchable generators' availability. The bold red line represents the current week's forecast based on more recent PASA data for dispatchable generators' availability. The faint blue line represents the previous week's forecast for aggregate available capacity of all generators, whereas the bold blue line represents the current week's forecast for aggregate available capacity of all generators. The yellow and orange lines represent record maximum demand (all averages) and recent maximum demand (recent years' averages) respectively.

Figure 4: NEM anticipated generator supply availability, November 2023 to July 2024



Source: AEMO

The chart shows that as we approached November this year, the previous week's forecast of aggregate available capacity (faint blue line) was significantly higher than the forecast produced just a few days before the relevant period (bold blue line). This is because forecasts produced closer to the relevant time provide a more accurate forecast of actually available capacity. In this case, the more recent forecast availability dropped very close to maximum demand in the NEM, due to changing weather conditions for renewable generators (less sunny or windy weather in key regions) and unscheduled outages of key thermal generating plant. This means actual available capacity was only known to AEMO (and participants) in the days leading to this critical period in November, meaning AEMO was required to manage the risk of supply shortfalls at short notice.

This is a routine event in the context of increased reliance on renewables and more volatile weather patterns – the unpredictability of supply and demand levels is even more acute in an emergency setting, such as a natural disaster.

#### 4.2 AEMO's existing powers do not provide for a collaborative approach to managing outages

There are a number of existing regulatory tools (including as a result of recent regulatory changes) which AEMO can and does use to help it manage the security of Australia's electricity power system. This includes requirements on participants to share detailed information on outages and unit availability, AEMO approval of outages by transmission networks and powers to direct generators to maintain or re-establish power where there is an imminent threat to system supply or security. While these remain important regulatory tools, many of these tools are longstanding and were developed at a time when there was significant dispatchable capacity in the NEM. This is no longer the case. There are a number of respects in which AEMO's existing powers do not provide for proactive management of outages or industry collaboration in the manner AEMO has been able to facilitate with the protection of ACCC authorisations to date.

In particular, AEMO's powers extend to:

- **Approving transmission outages only:** AEMO has powers under the NER to assess and approve systems works outages in relation to transmission networks only. AEMO may determine whether to approve a transmission network outage by assessing information

submitted by transmission network service providers in the Network Outages Schedule (**NOS**) as against weather forecasts and anticipated generation patterns – however these are not always predictable. In addition, AEMO is not able to approve or disapprove outages scheduled by generators, and has no power under the NER to convene forums to discuss the scheduling of outages with transmission providers and generators.

- **Collecting limited information through PASA:** AEMO collects outage-related information through the Projected Assessment of System Adequacy (**PASA**) program and the NOS. AEMO administers Short Term PASA and Medium Term PASA processes. Under the Short Term PASA, AEMO requires information from participants including generator availability for the next six trading days, maintenance scheduling, and return to service dates for plant. However, this information is not sufficient for AEMO to manage system risks for the following reasons. It does not provide real time information about the actual timing of outages or the risks to timings (if there are, for example, delays or overruns causing changes to scheduling timing of outages) that may have crystallised since the last PASA spreadsheet submitted by participants. Neither does Short Term PASA provide information about the nature of the outage to enable AEMO to understand potential risks to a generating plant's scheduled return to service. For example, it is often the case that, while Short Term PASA provides dates for an outage relating to repair of a breakdown of a generator plant, AEMO still needs to speak with the generator to obtain accurate information about the nature of the breakdown and repair required, the progress of repairs, and therefore the likelihood that the plant will actually be available at the estimated outage end date. AEMO's access to accurate, precise timings for a generating plant to return to service enables it to effectively anticipate and mitigate system risk. The need for AEMO to access this information becomes even more acute in critical incidents and emergencies.
- **Issuing directions to generators in certain circumstances:** AEMO has powers to direct a generator to operate, or to vary its output, if AEMO considers this is necessary: to maintain or re-establish the power system to a secure, satisfactory or reliable operating state; or for public safety. Importantly, AEMO does not have powers to direct a generator to shift a maintenance outage to a more suitable time so as to avert a period of constrained capacity or even a shortfall in supply – which is often the more practical solution. Furthermore, even if directed to bring on supply, a generator will typically need time before supply can be made available, which can vary widely: whereas hydro and gas (subject to fuel availability) may be ramped up relatively quickly within hours, coal and renewable sources can take longer (and wind and solar sources are weather dependent). The utility of directing a generator in this way is also limited in circumstances where demand is peaking and there is a potential shortfall in supply created by overlapping outages, since available generators are already likely to be supplying if they can.

Furthermore, AEMO's powers to direct generators, as acknowledged by the ACCC, are intended only as a last resort. Despite this however, they are increasingly being called on. The AER has identified that the energy transition is necessitating frequent AEMO directions to maintain power system security.<sup>14</sup> The AEMC notes that: *AEMO 'has increasingly directed synchronous generators online to keep the system secure. Directions were designed as a last resort — reliance on them increases costs to consumers, and also places increased risk on system security.'*<sup>15</sup> As discussed in more detail in section 4.3 below, voluntary action by participants as a result of the forums often avoids the need for AEMO directions.

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<sup>14</sup> Australian Energy Regulator, [State of the Energy Market 2023](#), page 75.

<sup>15</sup> AEMC, [Improving security frameworks for the energy transition](#), Information Sheet, page 1.

#### 4.3 **Bilateral discussions cannot achieve the same outcomes as the Proposed Conduct in managing system security and reliability issues**

Prior to directing participants however, and to avoid the costs and impacts to industry and consumers that such bilateral directions can have, AEMO may engage in bilateral discussions with generators to obtain further information and to secure additional supply to avert blackouts or potential crises. AEMO may also engage the Reliability and Emergency Reserve Trader Mechanism (**RERT**), to contract for and dispatch emergency reserve supply into the NEM, or engage in load shedding to reduce demand. There are significant issues with relying on bilateral means to resolve issues however, not least of all because:

- **Information delays:** Obtaining information bilaterally involves iterative contact across multiple industry participants so as to obtain a complete view on how scheduled outages may affect supply – this requires time and resources. AEMO is often not able to determine the gaps in its data independently, and requires input from industry participants who are closer to real time developments regarding specific System Works and issues affecting those System Works. As the number of industry participants increases (through additional dispersed renewable generation across the NEM), it is becoming more complex and time consuming to coordinate iterative bilateral engagement. There is the risk that information delays will lead to AEMO being forced to make decisions without the benefit of the best quality information from industry participants. Bilateral directions made this way can lead to increased costs for consumers as the most efficient options for scheduling outages may not be taken.
- **Lack of transparency:** Industry participants are not incentivised to provide more information, or to reschedule their own system works, particularly if they do not understand the full context as to why this is needed. A critical feature of the forums is AEMO's briefing of participants, having collated and synthesised a high volume of data from disparate sources (including the information already provided by industry, eg, through PASA and NOS) to form a complete context for how outages may impact supply or security. Given the number of parties submitting information via the PASA and NOS, AEMO is required to analyse a significant volume of information (there may be upward of 100 outages on any given day, with more than 12,000 outages across a year) to determine if overlapping outages may cause a risk to NEM supply or security during a particular period. AEMO's briefing provides participants with a whole-of-system perspective, which they would not otherwise have been required or incentivised to have done the analysis to gain, despite having access to much of the same information. While AEMO may brief generators bilaterally and encourage them to consider taking action to address identified system risks, generators may also perceive they are being called on to forego their own interests (ie, reschedule costly works) without complete transparency of why this may be necessary or whether alternatives have been explored, and they may be reluctant to concede any potential advantage by taking action unless directed to do so.
- **Additional resources:** AEMO must commit significant resources to seeking information and instructing multiple participants in each jurisdiction on a bilateral basis. While AEMO does commit significant resources to these exercises where required, this is becoming increasingly challenging: as thermal powered plants retire and generation sources are diversified, and the number of participants in the NEM is increasing substantially.
- **RERT is costly:** AEMO may engage RERT to avert unforeseen supply shortfalls, however this is costly. The average cost of the RERT in 2022-23 was above \$50,000 per MWh, more

than three times the current market price cap of \$16,600 per MWh.<sup>16</sup> Engaging RERT even for a short period can involve significant cost to the system which is ultimately borne by consumers and businesses in increased electricity costs.

- **Load shedding can have significant impacts:** In extreme events AEMO may be required to shed load, which will have significant impacts to consumers and businesses affected by the forced disconnection of power, and incurs significant economic cost. Despite the severity of this potential response it is becoming more likely that this will be called on given the finely balanced state of the NEM power system and the potential for significant weather patterns to lead to demand spikes.

AEMO already relies heavily on obtaining information and instructing industry participants through bilateral means to manage these issues. However, they are not a substitute for the immediacy and effectiveness with which information can be shared, clarified or supplemented in real-time in a maintenance forum convened by AEMO and attended by relevant industry participants.

The AEMC has recently introduced reforms to the NER as outlined in the Draft Determination. These include enhancing the Short Term and Medium Term PASA to, among other things: improve the information available to market participants regarding the availability of generation (so they can make more informed maintenance scheduling decisions) and requiring generators to provide additional information regarding future availability, including the reasons for availability / unavailability and the period in which a generator can be made available after a period of unavailability.

The AEMC is also consulting on additional reforms to the NER to potentially reduce the reliance on directions by AEMO. These additional reforms are complex, and AEMO notes that the AEMC is still consulting on how they may take shape and is unlikely to implement such changes for another two years.<sup>17</sup> Even if implemented, the proposed reforms address a different aspect of the energy security challenge. The proposed reforms increase system security by regulating available generators, such as committing them to maintaining reserve levels and the rate at which the generator can increase power output, but they do not address AEMO's co-ordination challenges when generators or transmission are not available. Therefore, AEMO remains of the view that there are significant public benefits to facilitating a more proactive and collaborative approach in maintenance forums through the Proposed Conduct.

#### **4.4 The Proposed Conduct is the most effective tool to manage system security and reliability issues related to System Works**

AEMO applied for ACCC authorisation so that it could continue to hold maintenance forums with industry participants which it has run on a relatively regular basis since approximately April 2020 under three previous ACCC authorisations. These forums have typically been run on a fortnightly basis. However, AEMO would, if circumstances required, convene the forums on an urgent basis, for example, in periods of heightened risk due to plant failure or critical weather events. The ACCC's Draft Determination proceeded on the basis that AEMO would not use the Proposed Conduct in the event of an emergency and that maintenance forums would be limited to the fortnightly cadence that AEMO has utilised to date.<sup>18</sup> This is not the case. AEMO has convened forums in the context of a critical or emergency incident, and would do so in future if the need arose (subject to authorisation being granted).

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<sup>16</sup> Australian Energy Regulator, *State of the Energy Market 2023*, page 73; AEMC, schedule of reliability settings for 2023-24, see: <https://aemc.gov.au/news-centre/media-releases/aemc-publishes-schedule-reliability-settings-2023-24>.

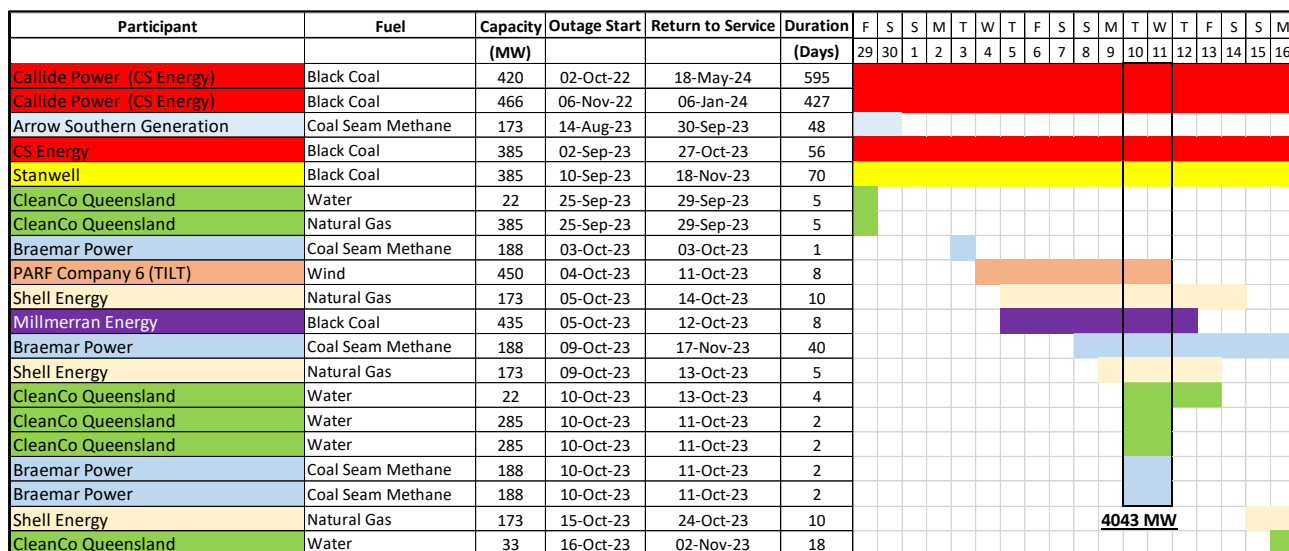
<sup>17</sup> The AEMC notes that its further reforms relating to improving security frameworks for the energy transition are proposed to be implemented 'by late 2025', see AMC Submission 8 November 2023, page 2.

<sup>18</sup> See paragraph 4.41 Draft Determination.

**(a) Overview of maintenance forums**

The maintenance forums, when held under ACCC authorisation, allow AEMO to test with participants, in an open setting, the drivers of and risks to their scheduled maintenance, and the extent to which potentially or actually problematic maintenance scheduling can be rescheduled or accelerated. Typically, AEMO synthesises the data it has received from participants into visual charts (an example of which is set out at Figure 5 below) which demonstrate for attendees potential capacity 'pinch points' as a result of scheduled and unscheduled outages.

Figure 5: Planned outages across select Queensland generators, 29 September to 16 October 2023



The above chart shows planned outages related to system works for the period 29 September to 16 October 2023 across selected generators in Queensland. It shows overlapping planned outages equating to 4043 MW in that region of the NEM, given: four large synchronous (coal) generators are experiencing significant outages, shaded in red and yellow, and a number of additional generators also scheduled overlapping outages in early October. The chart was used in the AEMO-convened forum held on 29 September 2023 to discuss the nature of the outages and the consequent risks to energy supply to the region because of these outages.

While much of the underlying data is publicly available to participants, this and other visual charts used by AEMO itself reflects detailed synthesis and analysis by AEMO of many complex data sources. No industry participant would be required or incentivised to analyse the underlying data in this way. Through the visual chart, AEMO can quickly and impactfully illustrate for industry participants, in a holistic way, the potential risks to supply security on account of overlapping scheduled outages. In response, participants can provide AEMO with real time information about:

- the drivers of their outages;
- the risks of those outages over running;
- the resources (ie, technicians, equipment) that have been committed to the work and whether they can be redeployed;
- the costs and impacts of rescheduling; and
- the extent to which there is flexibility for maintenance to be rescheduled from the perspective of their operations as a whole.

These details are not available from PASA or NOS data sources, even with the recent enhancements made by recent rule changes. In addition, with an open forum, this information can also be clarified, corrected or supplemented as required, in real time.

## **(b) Forums facilitate voluntary industry action**

Although AEMO regards the ability to coordinate outages as an important tool to manage system security, AEMO to date has not facilitated agreements or understandings between attendees with respect to rescheduling their outages. Instead, the forums have galvanised industry participants to take action voluntarily, without any intervention or direction by AEMO. In AEMO's view, the maintenance forums have achieved these outcomes for two reasons:

- First, the forums enable AEMO to provide participants with a detailed briefing about the position of the overall power system and the overlapping outages that have the potential to create supply risks. Participants do not approach maintenance decisions from the perspective of the power system as a whole. They schedule maintenance and outages when it suits them as a commercial organisation. The forums therefore equip and educate industry participants about the implications of their outages in a holistic manner that then encourages voluntary action. These kinds of detailed briefings would simply not be possible if AEMO were required to do so on a bilateral basis.
- Second, the forums provide industry participants with transparency: participants have confidence that all participants are hearing the same information, that alternatives have been considered and that rescheduling maintenance is an appropriate action (and potentially the most appropriate action) to take from the perspective of managing system risks. While AEMO could alternatively brief generators bilaterally and encourage them to consider taking action to address identified system risks, generators may perceive that they alone are being called on to forego their own interests (ie, reschedule costly works incurring additional expense) and that other participants should take action instead. They may be reluctant to concede any potential advantage to other industry participants by taking action unless directed to do so.

## **(c) Public benefits**

AEMO does not agree that the public benefits likely to arise from the conduct are 'minimal'.<sup>19</sup> AEMO considers that the Proposed Conduct would result in significant public benefits, and even more so in the event that the Proposed Conduct is used in future in the event of heightened system risks or emergencies.

- **Real time information and decisions:** AEMO, with industry participants, is able to obtain critical information regarding anticipated outages that is not conveyed through PASA or other means. For example, AEMO may discuss directly with operational personnel of industry participants whether technical teams are committed to System Works or whether they can (practically) be rescheduled or re-allocated to restore needed power to a generator unit that is down, the related costs and impacts of doing so, and / or whether there is a likelihood of an outage extending beyond initially estimated timeframes. AEMO's experience is that this process provides detailed insights directly from operations and maintenance teams, which can be used to more effectively and efficiently manage energy reliability and security in the NEM. AEMO has received similar feedback from government stakeholders.<sup>20</sup>
- **Transparency and improved context:** Industry participants benefit from the increased transparency provided by discussing these matters in an AEMO-convened forum, subject to the competition law safeguards outlined in AEMO's application. Without this, participants are generally unaware of the broader NEM-wide ramifications of outages and will only consider outages from the perspective of impact to their own operations. As noted above, the forum therefore provides useful context for participants to understand the ramifications of multiple

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<sup>19</sup> Paragraph 4.37, Draft Determination.

<sup>20</sup> See for example, [NSW Office of Energy and Climate Change 2 November 2023 submission](#).



coinciding outages, and transparency that AEMO is providing all participants with the same information and request to consider voluntary action to mitigate system risks.

- **Increased efficiency:** In some situations, for example when there is a significant forecast shortfall in supply and / or multiple coinciding outages, relying on bilateral means to coordinate participants involves AEMO committing significant time and resources which may not be practicably feasible. As noted by Powerlink Queensland,<sup>21</sup> AEMO would need to obtain and synthesise information from multiple sources, and then determine courses of action independently. The Victorian Government notes that this would be '*extremely resource-intensive, particularly where the scheduling of a maintenance instance has cascading impacts on other planned outages.*'<sup>22</sup> This bilateral process compares with the very real efficiency and effectiveness of having immediate and constructive input from industry participants to assist AEMO as to the best course of action to manage coinciding outages and secure supply. The Proposed Conduct will also reduce AEMO's reliance on other costly measures, such as using the RERT, issuing compulsory directions, or load shedding, as outlined in section 4.3 above.

Overall, the immediacy and efficiency through which the Proposed Conduct can manage risks reduces the costs and burden on industry, and the risks of supply interruptions. This reduces potential interruptions and cost spikes to Australian consumers and businesses.

Furthermore, AEMO has received feedback from industry participants about their concerns with sharing information and participating in forums in the absence of clear competition law exemption or ACCC authorisation. Industry participants are rightly mindful of their competition law obligations. They will not share potentially sensitive information concerning outages and system works, or discuss matters in a forum, if that poses an actual or perceived competition law risk. ACCC authorisation is therefore crucial to facilitating better management of supply risks pending any regulatory reforms as discussed in section 3 above, and in light of the current constraints on AEMO's powers.

There is also evidence that the ability to discuss matters in AEMO-convened forums, under ACCC authorisations to date, has already led to material advantages. The case study below provides a practical example of how such a forum can be used to significantly reduce system risk.

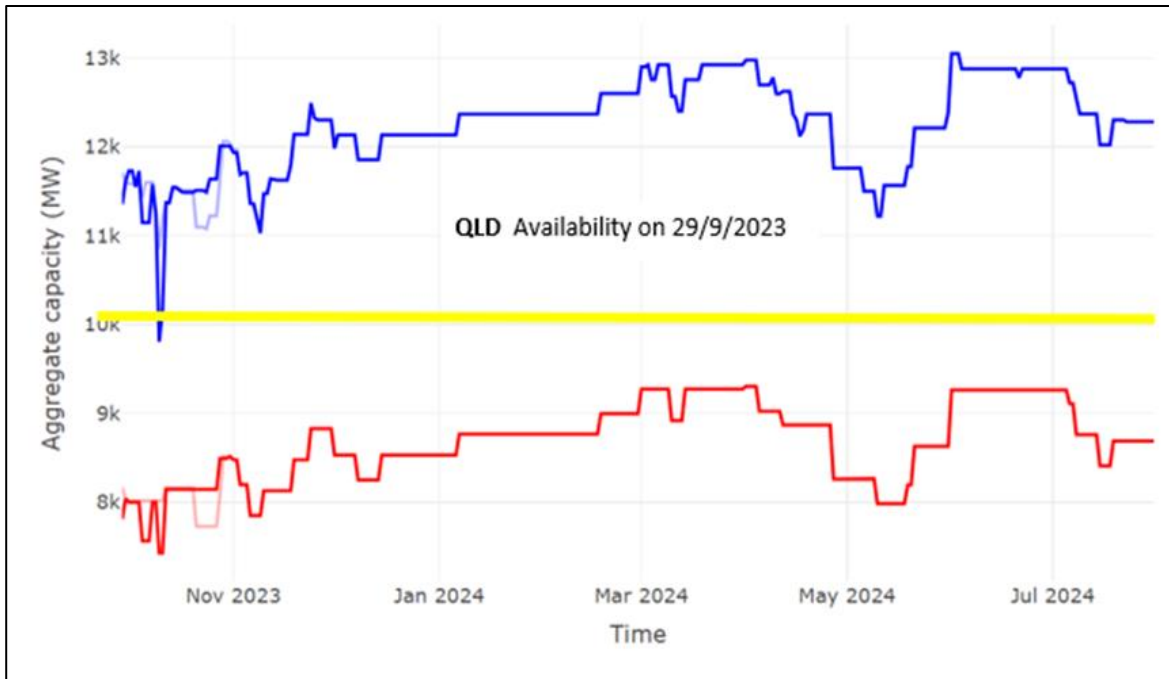
At the AEMO-convened forum on 29 September 2023 discussed above, AEMO also presented the graph in Figure 6 below. This illustrates the impact of the significant overlap in scheduled outages in early October discussed in relation to Figure 5 above for the Queensland region of the NEM. As shown in Figure 6 below, there was a significant decrease in available capacity in the same period in early October as the scheduled outages. AEMO explained the risks of high demand in Queensland (illustrated by the yellow line) combined with any potential further outages.

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<sup>21</sup> [Powerlink Queensland 31 October 2023 submission](#), page 2.

<sup>22</sup> [Victorian Government 13 November 2023 submission](#), page 4.

Figure 6: Anticipated generator supply availability in Queensland, November 2023 to July 2024

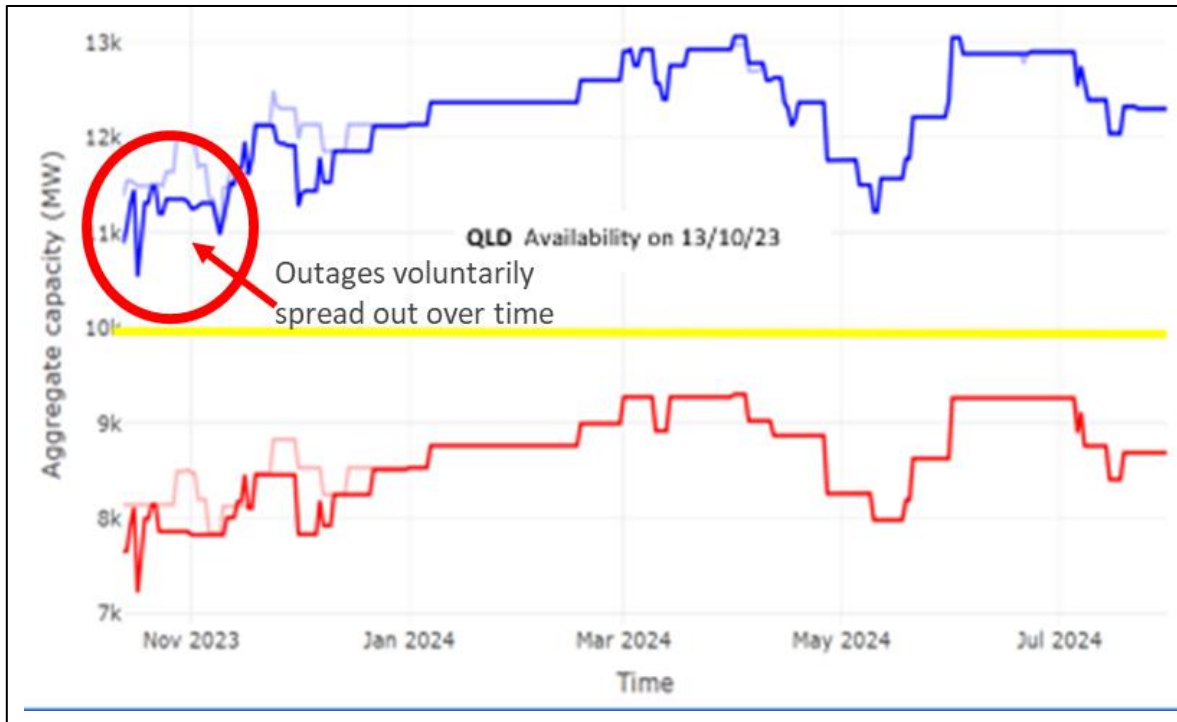


Source: AEMO

The faint red line represents the previous week's (for the purposes of the case study) forecast for dispatchable generators' availability. The bold red line represents the current week's forecast based on more recent PASA data for dispatchable generators' availability. The faint blue line represents the previous week's forecast for aggregate available capacity of all generators, whereas the bold blue line represents the current week's forecast for aggregate available capacity of all generators.

Through this briefing, participants collectively became aware of the broader system security and reliability context. The forum galvanised voluntary action by several participants to re-schedule their outages to spread plant outages over a longer period and therefore boost available capacity during the critical period. Figure 7 below illustrates the results of that voluntary action, which boosted available capacity during the critical period and significantly reduced the risk of inadequate supply being available to meet demand.

Figure 7: Anticipated generator supply availability in Queensland following AEMO forum



Source: AEMO

This multilateral action by AEMO and industry resolved the potential risks and avoided the need for AEMO intervention (and its consequences including costs to industry and consumers). It would not have been possible without interim ACCC authorisation.

The Victorian Government provides additional examples, in its 13 November 2023 submission, of instances where it has been necessary for AEMO to coordinate multilaterally with industry participants, including severe storms and flooding in 2021 which severely impacted supply from the Yallourn power station (a key synchronous generator in that state). The Victorian Government notes that '*AEMO's maintenance coordination meetings foresee problematic instances or interactions of scheduled maintenance earlier and resolve them faster than could be achieved bilaterally*'.<sup>23</sup> AEMO agrees with the Victorian Government that these benefits are particularly pronounced in the context of emergency or disaster events, such as those identified in the Victorian Government's submission.

#### 4.5 Public detriments are unlikely

AEMO respectfully disagrees with the ACCC's views in the Draft Determination that public detriments could arise from the Proposed Conduct from potential reduced competition in wholesale electricity markets and potential coordination in relation to maintenance services.

AEMO submits that there is no material risk of such detriments emerging.

Firstly, the ACCC has the benefit of observing the track record of the coordination that AEMO has engaged in with industry participants under ACCC authorisations to date. These do not provide evidence of any potentially anti-competitive conduct or information sharing emerging.<sup>24</sup> As the ACCC has observed, the purpose of sharing information and coordination among industry participants in

<sup>23</sup> [Victorian Government 13 November 2023 submission](#), pages 2 and 4.

<sup>24</sup> This view is supported by other government attendees at the AEMO convened forums, see for example [Victorian Government 13 November 2023 submission](#), page 4.

these contexts is to ensure the safe, secure and reliable operation of electricity systems and to minimise the risk of supply and security risks in the NEM caused by outages.<sup>25</sup>

Furthermore, the Proposed Conduct involves a number of robust safeguards to ensure that industry participant meetings comply with competition laws:

- AEMO has oversight of all meetings;
- industry participants attend meetings as coordinated by AEMO;
- the ACCC is notified of meetings, proposed attendees and agendas in advance and can attend, and it is also provided regular reports of any arrangements that may be entered into through the meetings;
- a representative of the relevant government department is present;
- an external competition lawyer is present;
- the industry participants' attendees are generally operational or maintenance employees who AEMO would not expect to be involved in competitively sensitive decisions for their respective organisations (eg, wholesale electricity trading or maintenance services procurement); and
- in practice, although the forums seek to facilitate collaborative discussion to manage outages, the information exchanged is unlikely to be highly sensitive as the key information inputs are publicly known. New information which emerges in the forums as a result of AEMO's briefings and discussion (e.g. changes to scheduling of outages or return to service dates) is reflected soon after the forums in participants' regular reports to AEMO, and subsequent also becomes publicly available information. It is largely the synthesis and presentation of this information in a multilateral setting that is the catalyst for participants providing input on optimal scheduling of outages to manage supply risks.

In addition, as the ACCC has acknowledged, the Proposed Conduct takes place in the context of an electricity market that is heavily regulated and scrutinised by Commonwealth, State and Territory market bodies within robust regulatory frameworks.

When taking the above into account, AEMO is firmly of the view that there is no material chance of public detriments arising from any potential lessening of competition.

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<sup>25</sup> Paragraph 4.54 of the Draft Determination.