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Clare Stark
Australian Energy Market Commission
GPO Box 2603
Sydney NSW 2000
Submitted online to: www.aemc.gov.au

Dear Clare

Submission: Draft Rule Determination on Enhancing Operational Resilience in Relation to Indistinct Events

CS Energy welcomes the opportunity to provide a submission to the Australian Energy Market Commission's (**AEMC's**) *Draft Rule Determination – Enhancing Operational Resilience in Relation to Indistinct Events (Draft Determination)*.

About CS Energy

CS Energy is a Queensland energy company that generates and sells electricity in the National Electricity Market (**NEM**). CS Energy owns and operates the Kogan Creek and Callide B coal-fired power stations and has a 50% share in the Callide C station (which it also operates). CS Energy sells electricity into the NEM from these power stations, as well as electricity generated by other power stations that CS Energy holds the trading rights to.

CS Energy also operates a retail business, offering retail contracts to large commercial and industrial users in Queensland, and is part of the South-East Queensland retail market through our joint venture with Alinta Energy.

CS Energy is 100 percent owned by the Queensland government.

Key recommendations

The NEM is changing and will continue to do so as it transitions to a market with more variable renewable energy (**VRE**) and an overall lower carbon footprint. The ability to effectively and efficiently manage power system security and reliability against this evolving landscape is paramount, and CS Energy supports the need to develop flexible and adaptive market and regulatory frameworks to enhance operational resilience in relation to indistinct events.

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The resilience of a power system is a function of its physical characteristics and this is likely to change as the NEM transitions to a system with more VRE. At the same time, the system security risk profile is broadening due to increased reliance on weather fuelled technologies and the increasing impact of weather-related phenomena such as storms, bushfires and lightning.

CS Energy is broadly supportive of the AEMC's more preferable draft rule which integrates indistinct events into the existing contingency framework as it clarifies the Australian Energy Market Operator's (**AEMO's**) ability to act and to issue directions in order to prepare the power system for the impact of current and forecast indistinct events in the operational timeframe.

CS Energy does have concerns that the proposed rule drafting of the definition of a *contingency event* and the amendment of *plant* introduces ambiguity into the framework. The rule definition must clearly specify the relative quantum of sudden supply/demand changes that constitute a contingency event and explicitly capture load.

As per its submission to the AEMC's earlier consultation, CS Energy is strongly supportive of these frameworks being codified with the necessary level of detailed and accurate information. CS Energy considers the Draft Determination could be strengthened in this respect in order to give full effect to the proposed draft rule. The development and execution of appropriate transparency and governance arrangements that are robust must balance the ability of AEMO to operate in a manner consistent with the long-term interests of consumers while at the same time enabling Market Participants to respond to and manage the risk arising from the presence of indistinct events in an operational timeframe. Appropriate transparency and governance frameworks will allow both AEMO and the market to adapt to and evolve with the changing power system dynamics.

The essence of the Draft Determination is the ability of AEMO to identify and reclassify non-credible indistinct events which then empowers it to manage the event through existing mechanisms. The development of reclassification criteria for an event and the associated operational actions required to manage the event if it is deemed credible are thus crucial and need to have appropriate assessment from the market perspective given the potential impact of these management actions on the market. CS Energy is concerned that the targeted consultation proposed in the Draft Determination will maintain the current process undertaken to consult on reclassification criteria which is limited to a relatively restricted group of stakeholders. Provisions could be made in the rule change to ensure adequate consultation with Market Participants.

CS Energy also maintains its concerns regarding the timeliness and level of detail of information that is provided to the market. Reporting on indistinct events through regular reviews, reviewable operating incident reports and inclusion in the General Power System Risk Review (**GPSRR**) will be invaluable to stakeholders if they provide a thorough examination of the events as opposed to a statistical summary. Similarly, the issuance of market notices to manage indistinct events will only be effective if there are clear protocols and guidelines on the information to be included in the notices and the frequency of updates to the market.

Responses to the specific proposals

CS Energy's responses with further detail on the framework for indistinct events under the Draft Rule in the Draft Determination are set out in Attachment A.

If you would like to discuss this submission, please contact Henry Gorniak (Market and Power System Specialist) on 0418 380 432 or hgorniak@csenergy.com.au.

Yours sincerely



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ATTACHMENT A

The changing technology mix in the power system is changing its physical characteristics including its resilience, where AEMC has defined resilience to be the ability of a power system to avoid, recover and learn from high-impact, low-probability (HILP) events.¹ Separate to system resilience, the nature of events that may impact the power system are changing, driven largely by weather-related phenomena. This presents an evolving risk profile that needs to be factored into system operations, with frameworks appropriately empowering AEMO to act when required to the level required.

CS Energy supports the integration of indistinct events within current contingency frameworks as reflected in the more preferable rule change. The rationale outlined in the Draft Determination on the key features including:

- Definition of contingency event;
- Discretionary mechanism for AEMO;
- Updates to the reclassification criteria and power system operating procedures; and
- AEMO review requirements,

provide the necessary ingredients of a flexible, streamlined and accountable process to manage the indistinct event component of the contingency event framework.

In CS Energy's view, these components can be further strengthened to remove potential ambiguity and provide long-term efficiency for consumers.

(a) Definition of contingency event

CS Energy is supportive of amendments to the definition of contingency events to ensure its applicability to all current and potential components that form part of the power system as well as the broader risks to system security that are emerging. CS Energy, however, is concerned with two aspects of the drafting in the Draft Determination:

- *The inclusion of sudden demand/supply changes without qualification.*

While it is true that the power system will be vulnerable to sudden changes in supply or demand due to indistinct events, the lack of qualification of what constitutes a "sudden change" both quantitatively and temporally inadvertently creates ambiguity that may lead to interpretational issues such as those that the rule change is seeking to address.

In a power system that is becoming more variable, sudden changes in supply and/or demand generally referred to as ramping, are to be expected and to some degree will constitute a new normal operating condition. While the loss of a discrete element such as a generating unit has an implied scale, the same is not true of sudden changes in supply/demand.

To remove potential ambiguity, CS Energy suggests that the AEMC consider introducing a metric to parameterise the nature of the "sudden changes" associated with indistinct events and ensure that the rule change reflects the intent of managing power system resilience with respect to HILP events that are indistinct of nature. For example,

“sudden and unplanned changes in supply/demand that are greater than X% of total power system demand to the loading level of plant that occurs within a X minute period.”

The exact quantum could be determined by the Reliability Panel in consultation with AEMO. The inclusion of a time specification is important to capture the potential range of indistinct events that affect plant in aggregate either instantaneously (for example, disconnection of inverters) or over a period of time due to, for example, a moving stormfront. This will provide greater clarity for both AEMO and the market.

- CS Energy supports the consideration of all technologies that may impact power system security including Distributed Energy Resources (**DER**). It is also important to consider how new approaches to operating existing technologies may impact power system security. With an increased focus on demand-side response and challenges associated with minimum demand periods, the contingency events framework should clearly include the potential impact of load.

While the Draft Determination expresses this intent, the drafting could be strengthened to explicitly capture load. While the drafting of *contingency event* in Section 3.2.5 integrates load through reference to the *loading level*, the proposed paragraph (g) addition in the definition of *plant* does not pick up load.

The explicit inclusion of load in the contingency event framework also complements the potentially increased role of pre-contingent load shedding as a mechanism of last resort if it is required to maintain a secure operating state for a prevailing technical envelope.

CS Energy notes that the AEMC has maintained the delineation between the type of contingency events that apply in the operational timeframe and those in the planning timeframe (such as Schedule 5.1 for network planning) in the context of Chapter 5. Whilst CS Energy agrees that in the planning timeframe it would be difficult to predict and plan for the exact abnormal conditions that would cause the contingent event to be reclassified as credible, this delineation shouldn't preclude the use of existing special protection schemes to manage the impact of indistinct events where appropriate.

(b) Identification and management of indistinct events

Condition-dependent indistinct events

Notwithstanding the comments above, broadening the definition of contingency events should alleviate concerns that current mechanisms do not sufficiently allow for AEMO to manage indistinct events *ex-ante*. The proposed integrated contingency events framework can be readily accommodated in AEMO's *Power System Security Guidelines*¹ (**PSSG**) which outline the actions required to ensure the maintenance of a secure operating state including under abnormal weather conditions.

In CS Energy's view, the key challenge and essence of this rule change request is not AEMO's ability to undertake *ex-ante* actions, but rather AEMO's ability to classify an indistinct event and its likelihood. The ability to act *ex-ante* if required to ensure that the power system is in a secure operating state for the prevailing technical envelope is contingent on this identification and classification, while the capability to act is facilitated by current mechanisms.

¹ AEMO, [SO OP 3715 Power System Security Guidelines](#), October 2021

The nature of indistinct events prohibits their pre-identification but AEMO's existing probabilistic approach to assessing the potential reclassification of events can be applied to indistinct events. As outlined in the Technical Working Group, AEMO is focused on the aggregate *impact* to the power system of an indistinct event and its management. This requires AEMO to at some point quantify or discretise the potential risk of the indistinct event based on available information and set criteria. So while AEMO may not be able to identify or model every combination of power system elements that may be impacted by an indistinct event, it can form an assessment as to the likelihood and dimension of the forecast indistinct event, and thus determine the impact and requirements to maintain a secure operating state.

Given AEMO's contingency analysis capability, CS Energy agrees that AEMO is best placed to identify the risks and set criteria for this identification. However, the key challenge is determining what level of likelihood and potential impact warrants action; that is, the reclassification process. Given the ill-defined nature of indistinct events, their reclassification criteria should have a clear governance process. CS Energy agrees that it is reasonable for AEMO to set out the following in advance in the PSSG:

- The most relevant abnormal conditions that may affect the power system;
- The criteria that would see AEMO reclassify a non-credible contingency to a credible contingency (for each abnormal condition);
- The criteria that would see AEMO manage a reclassified credible contingency event as an indistinct event (i.e. the point at which it is unreasonable to define the specific assets that are likely to be impacted by abnormal conditions because the abnormal conditions are so extreme); and
- The actions AEMO would typically take to manage these credible contingency events (to the extent practicable).

This should result in outcomes that provide confidence to Market Participants in the delivery of 'expected' and transparent outcomes.

CS Energy reaffirms that the Reliability Panel should have oversight of key aspects of the reclassification decision-making process given its potential to impact the power system and the market. This could include the qualification of the sudden change in supply or demand that would constitute a contingency event.

CS Energy recognises that unusual circumstances can arise and AEMO should not be restricted in the use of an 'ad-hoc' mechanism provided it is held accountable to the proposed transparency and governance arrangements as discussed below.

Standing indistinct events

CS Energy maintains its support for identifying and managing standing indistinct events through the existing protected events frameworks under the auspices of the Reliability Panel.

Given only one protected event has been declared to date, CS Energy suggests that the AEMC ensure that the process and framework does not inadvertently present as a deterrent to AEMO to manage certain indistinct events as a protected event compared with the reclassification process. Understanding the trade-offs between the two will be important for indistinct events that may be reclassified as credible on a recurring basis. From the market

perspective, the protected events framework provides the market with certainty and confidence, and so is likely to lead to an efficient outcome in the longer-term.

(c) Transparency and governance arrangements

CS Energy considers appropriate transparency and governance arrangements as pivotal to an effective and efficient reclassification process, particularly with respect to indistinct events. The importance and rationale of these frameworks was highlighted by the Australian Energy Regulator (**AER**) in its Black System Event (**BSE**) Compliance Report:²

Where the Rules provide parties such as AEMO with the flexibility to apply judgement and expertise, this power is usually accompanied by a requirement to establish a decision-making process in consultation with affected participants and by obligations ensuring transparency of decision-making. This recognises that participants require certainty and transparency around decisions that may fundamentally impact their investment and operational outcomes, as well as the overall efficiency of the market.

The Draft Determination specifies the following several key components of the proposed transparency and governance arrangements:

- Targeted consultation on reclassification criteria and likely actions;
- Six monthly reporting obligation on AEMO for decisions for managing credible indistinct events;
- Market notices for credible indistinct events;
- Reporting on use of the discretionary mechanism; and
- AEMC review of contingency event framework.

These do not reflect the full frameworks proposed in the rule change request and previously supported by CS Energy, nor do they reflect the AEMC's concerns on the inadequacy of existing requirements and processes for consultation on AEMO's criteria for reclassification expressed in its BSE Review.

Given the changing dynamics of the power system and the more nebulous nature of indistinct events, CS Energy considers that both AEMO and the market could benefit from stronger accountability frameworks.

Targeted consultation

The draft rule allows AEMO to undertake targeted consultation with relevant stakeholders in accordance with clause 4.2.3B(d) and as currently conducted to amend the criteria for contingency event reclassification. Consultation on the actions likely to be required should an indistinct event be reclassified as credible is undertaken via a similar targeted process.

In CS Energy's view, this does not provide adequate transparency, nor does it address previous concerns that were elucidated in the Draft Determination regarding the effectiveness of the targeted consultation AEMO currently performs with respect to reclassification. In the BSE Review final report, the AEMC considered that, given AEMO's

² AER, *Black System Event Compliance Report*, p.78

decisions to reclassify contingency events and manage indistinct events will influence market outcomes for all participants, including end users, consultation should be public rather than targeted. The Draft Determination does not provide justification of why this is no longer the case.

Currently, the Power System Security Working Group (**PSSWG**) which is tasked with providing technical advice to the NEM Operations Committee (**NEMOC**), is responsible for reviewing reclassification criteria. Specifically, the PSSWG will '*assess the validity of the power system reclassification frameworks through a review of recent relevant contingency events, reclassification statistics and an assessment of future or emerging power system threats.*'³ The PSSWG is exclusively a forum for AEMO and Transmission Network Service Providers (**TNSPs**) to share information relevant to secure operation of the power system. It reports to the NEMOC whose industry representation is limited to a representative from the Australian Energy Council (**AEC**) and the Clean Energy Council (**CEC**).

Transparency on this process is currently limited, with only the quarterly NEMOC minutes publicly available. In the most recently published minutes from June 2021, it is stated that '*The PSSWG over recent months, have focussed on the review of the Reclassification Framework with the specific focus on non-credible contingencies... It was agreed that there is potential to include cloud cover on PV under the Reclassification Framework with further discussions to take place at the next PSSWG meeting.*'⁴

Under the draft rule, this targeted consultation will likely remain the format for consideration of indistinct events, with Market Participants largely excluded from the consultation and little transparency on the decision-making process. This risks the consideration of indistinct events and their management to be limited to the operational management perspective to the detriment of the market and subsequently consumers.

Whilst CS Energy has no objection to targeted consultation if appropriate and transparent, the Draft Determination does not necessitate/incentivise this. If the requirement for consultation is not broadened, then CS Energy suggests the AEMC strengthen clause 4.2.3B(d) to establish clear avenues for consultation with Market Participants.

Six-monthly reporting requirement

The integration of indistinct events into the contingency events frameworks facilitates the reporting of their management within the existing six-monthly reporting on the reclassification framework as required by NER clause 4.2.3A(i).

CS Energy supports a review of these existing requirements for AEMO to report on its decisions to reclassify contingency events including decisions on indistinct events to be reduced from six months to three months.

Given the nature of indistinct events, on occasions their management is likely to result in unusual challenges and outcomes. A reduced reporting period would enable immediate learnings to be captured more effectively. This would also provide timely insights to key stakeholders including but not limited to, AEMO, Network Service Providers and Market Participants that may lead to enhancement of existing criteria.

Furthermore, the review and publication on the management of non-credible contingency events must not be a statistical reporting exercise but provide a detailed analysis on the

³ AEMO, [Power System Security Working Group Terms of Reference](#)

⁴ AEMO, [NEMOC Minutes](#), 18 June 2021

efficacy of existing criteria and recommend or change criteria to give effect to the learning from any review.

Market notices

CS Energy supports the form and content of the market notices as an integral part of the consultation on the reclassification criteria for indistinct events but maintains concerns related to their timeliness and detail.

CS Energy acknowledges that the provision of updates can be challenging for AEMO as it manages its priorities for secure operation, however, the requirement to issue a detailed market notice as soon as practicable is a non-negotiable for the market. Not only do Market Participants need to ensure they are in the best position to manage their risk exposure arising from the reclassification under abnormal conditions, their responsiveness to the system needs will be increased through greater transparency.

In its previous submission, CS Energy suggested that details in many market notices are limited to the generic statement '*Non-credible contingency event more likely to occur due to the existence of abnormal condition/s*'.⁵ A lack of detail in market notices proves challenging in identifying what risk is being managed by AEMO, what reclassification criteria have been met and the subsequent signals to the market.

The issuance of market notices to manage indistinct events will only be effective if there are clear protocols and guidelines on the information to be included in the notices and the frequency of updates to the market. This could be outlined alongside the codification of the reclassification criteria in the PSSG. A systematic approach to the content specification of market notices should not impose an administrative burden on AEMO and are proportionate to the benefits as to how power system operations impact the market.

Review of discretionary mechanism

CS Energy acknowledges that AEMO can only make decisions based on available information at the time which includes balancing efficiency and effectiveness under uncertainty. In instances where AEMO utilises its discretion and deviates from the reclassification criteria or power system operating procedures in a way that could not reasonably have been expected, the requirement to conduct a review of the event as a reviewable operating incident as well as separately examining the event in the GPSRR provides appropriate accountability.

CS Energy also supports the requirement for AEMO to report use of the discretionary mechanism to the Reliability Panel, however, considers that the Draft Determination could be strengthened to require the Reliability Panel to determine guidelines for AEMO's *ex-ante* management of contingency events.

The incorporation of these incidents in AEMO's GPSRR will provide valuable insight on managing the uncertainty of indistinct events, and CS Energy anticipates that these will not be limited to statistical analysis but provide a thorough examination of the event(s) that would provide learnings for both AEMO and the market. For example, Market Participants do not have full visibility of the jurisdictional special protection schemes except for those detailed in Network Service Provider annual planning reports. CS Energy is keen to understand the utility and risk of special protection schemes being incorporated into the reclassification process. While each event may require different actions, the suite of such

⁵ CS Energy, [Submission: Consultation Paper on Enhancing Operational Resilience in Relation to Indistinct Events Rule](#), 11 February 2021

schemes number over 500 across the NEM. This could potentially allow AEMO to leverage existing arrangements which in turn may minimise the use of constraints in the management of contingency events. While achieving a similar operational outcome, there would likely be benefits to the market.

AEMC review

CS Energy supports the AEMC's intention to review the amended contingent event framework within five years to assess if the contingency event framework and risk management represent best practice. This review will be important to provide confidence in the framework and its governance and identify opportunities for improvement.

Given the transitioning nature of the power system and the pace of this change, coupled with the changing risk profile for system resilience, CS Energy recommends that the review is conducted sooner than five years. This will optimise the consistency and efficacy in the management of threats to the power system arising from the reclassification of non-credible contingency events.

Comments on the rule drafting

Following the rationale set out above, CS Energy suggests the following changes to the rule drafting:

- Clause 4.2.3 Credible and non-credible contingency events and protected events:
 - Clause 4.2.3(a) (2) to include qualification of the level of sudden and unplanned change that constitute a contingency event. For example, percentage change in loading level of plant relative to system demand;
- Clause 4.2.3A Reclassifying contingency events:
 - Clause 4.2.3A(c) omit "AEMO must provide *Market Participants* with a notification specifying" and replace with "AEMO must provide *Market Participants* with a notification appropriately detailing";
 - Clause 4.2.3A(i) (i) Omit "Every six months" and replace with "Every three months"
 - Clause 4.2.3A(i) Add either after (2) or within (2) any recommendations to revise criteria and/or measures applied to maintain power system security.
- Clause 4.2.3B Criteria for reclassifying contingency events
 - Clause 4.2.3B(b) omit "every two years" and replace with "every six months". Given the nature of indistinct events, the frequency of review should reflect the pace of change.
 - Clause 4.2.3B(d) (1) AEMC could explore whether this can be strengthened to ensure an appropriate level of transparency and consultation with *Market Participants* rather than the current target consultation.
 - Clause 4.2.3B(e) (2) include special protection schemes as a viable action.

- Clause 4.3.1 Responsibility of AEMO for power system security
 - Clause 4.3.1(j1) omit “in doing so:” and replace with “in doing so *AEMO* must”.
- Clause 4.8.15 Review of operating incidents
 - Clause 4.8.15(a)(1) (i) omit “on the *transmission system*” and replace with “on either the *transmission system* or *distribution system*” to appropriately capture DER and the increased volume of connections at the distribution level more broadly.
- Chapter 10 Glossary
 - In the definition of *plant*, paragraph (g) omit “involved in the *generation*” and replace with “involved in the *generation, load*”