



Mr John Pierce
Australian Energy Market Commission
Level 6, 201 Elizabeth Street
Sydney NSW 2000
Lodged via www.aemc.gov.au

Friday, 17 February 2017

Dear Mr Pierce,

RE: Emergency frequency control schemes (ref ERC0212)

ENGIE appreciates the opportunity to comment on the Australian Energy Market Commission (AEMC) emergency frequency control schemes draft rule determination (draft determination). ENGIE supports the proposed enhanced governance framework for the development of a national emergency frequency control scheme (EFCS), as well as the introduction of a new category of contingency event, the protected event, as ENGIE believes that both of these initiatives will result in improvements to the effective management of power security in the NEM.

Emergency Frequency Control Scheme

The proposed EFCS is intended to provide a more effective management regime to prevent widespread blackouts following non-credible contingency events. The need to introduce these enhancements is being driven largely by two factors. The first is the reduction in power system inertia due to synchronous generators being displaced by non-synchronous generators. The second driver is the recognition that some of the distribution circuits selected for under frequency load shedding now have substantial amounts of household solar PV generation sources and at times, may represent a net generation rather than load on the power system. In such cases, shedding these circuits in response to an under frequency event will have the effect of making the frequency fall further – increasing the risk of blackout.

The proposed EFCS also introduces a more formal arrangement of over frequency generator shedding, which is required to ensure a coordinated emergency response to severe over frequency events due to non-credible contingencies. This need has also become more pronounced due the reduction in power system inertia.

ENGIE is supportive of the proposed governance model which assigns responsibility to AEMO, the network service providers and the Reliability Panel in an appropriate way. The draft determination notes that AEMO would submit their EFCS proposal to the Reliability Panel when it deems this as being necessary. It is desirable that the

Australia

Level 33, Rialto South Tower,
525 Collins Street Melbourne, Victoria 3000, Australia
Tel. +61 (0)3 9617 8400 Fax +61 (0)3 9617 8401 engie.com.au

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arrangement provides sufficient flexibility for AEMO to initiate a proposal as and when it is required. ENGIE would suggest that consideration be given to including into the governance framework, a mechanism to avoid multiple proposals that might not be sufficiently coordinated. ENGIE also suggests that the framework include a process whereby stakeholders other than AEMO and network service providers can identify issues and concerns for consideration by AEMO.

Protected Events

The need to consider the introduction of the new protected event category of contingency is also being driven by reduced power system inertia which means that the rate of change of frequency (RoCoF) following some non-credible contingency events can be so fast that the under frequency load shedding is unable to operate to prevent a widespread blackout.

A non-credible contingency event in the past may have caused some under frequency load shedding to occur, but it would have been unlikely to cause a widespread blackout, and this was regarded as a reasonable assessment of the risk. However, with increasing RoCoF, the same non-credible contingency event can now mean that the post contingency frequency falls too quickly for the under frequency load shedding to respond, and the result can be a widespread blackout. For this reason, the risk assessment of these non-credible contingencies has shifted – the likelihood of the event is the same (very low), but the consequence has increased from under frequency load shedding, to widespread blackout.

ENGIE supports the proposed governance framework in which AEMO would initiate consideration of whether a non-credible contingency event should be classed as a protected event, and then apply to the Reliability Panel. ENGIE notes that the proposed framework would then have the Reliability Panel decide on the post contingent operating state that AEMO must ensure for the particular protected event, including the post contingent frequency disturbance, load shedding and time to recover to a secure operating condition.

ENGIE queries whether it is desirable customise the post contingent operating state to each and every protected event. If there are a very small number of protected events declared in the NEM, which ENGIE expects will be the case in the short term at least, then the 'customised' post contingent conditions may be reasonable. However, if there turns out to be a relatively large number of protected events in the NEM (for example, more than five), then ENGIE is concerned that such an approach might become quite complex, and may also raise questions as to why the conditions should vary from one event to another.

ENGIE suggests that as an initial approach, the Reliability Panel should determine the post contingent conditions that would then apply to all protected events, noting that it is likely that there would be very few of them for the foreseeable future. If it becomes apparent in the future that there is a need to customise post contingent conditions for different events, then this can be considered later.

One final comment on the protected event proposal relates to the current arrangement that applies in South Australia whereby the jurisdiction has decided to have a different post contingent frequency standard apply in that state, which ENGIE understands was done to avoid the need to purchase contingency raise frequency services. If the Heywood interconnector is declared as a protected event and the post contingent frequency standard requires



AEMO to purchase contingency services to achieve that, then the situation may arise where a less stringent standard applies to the Heywood interconnector when it is a credible contingency.

ENGIE believes that if the Heywood interconnector is declared as a protected event, there will need to be consideration also given to the existing separation event frequency standards that apply in South Australia.

ENGIE trusts that the comments provided in this response are of assistance to the AEMC in its deliberations. Should you wish to discuss any aspects of this submission, please do not hesitate to contact me on, telephone, 03 9617 8331.

Yours sincerely,

A handwritten signature in black ink, appearing to read "C. Deague".

Chris Deague
Wholesale Regulations Manager