

Australian Energy Market Commission

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COAG Energy Council Secretariat
GPO Box 787
Canberra ACT 2601

By email: energycouncil@environment.gov.au

Dear COAG Energy Council Secretariat

Review of the System Black Event in South Australia on 28 September 2016

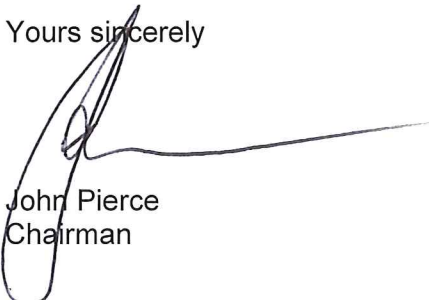
The Australian Energy Market Commission (AEMC or the Commission) welcomes the request made to it by the Council of Australian Governments (COAG) Energy Council (the Council) to review the factors which contributed to the 'system black' event experienced in South Australia on 28 September 2016.

The terms of reference for the review, which were provided to the Commission on 6 January 2017, direct it to build on the work being conducted by the Australian Energy Regulator (AER) and the Australian Energy Market Operator (AEMO), focused on the compliance of market participants with requirements in the National Electricity Law and National Electricity Rules and technical issues contributing to the event, respectively. While the review's final report is to be provided within six months of the completion of both AEMO's investigation report and the AER's compliance report, the AEMC was requested in the letter accompanying the terms of reference to advise the Council on how it proposes to conduct the review by 1 February 2017.

Consequently, the attachment to this letter sets out the approach the Commission intends to take in conducting the review and preparing a final report to Ministers. The Commission notes that the Council has requested the report under section 6 of the *Australian Energy Market Commission Establishment Act (SA) 2004*.

If you have any questions or require further information, please contact Suzanne Falvi, Senior Director at suzanne.falvi@aemc.gov.au or on (02) 8296 7883.

Yours sincerely



John Pierce
Chairman

1 Background and related work

South Australia experienced a 'system black' event at 16:18 AEST on Wednesday 28 September 2016. A substantial program of reviews and investigations has been commissioned in response to the event.

As required under clause 4.8.15 of the National Electricity Rules (NER), the Australian Energy Market Operator (AEMO) is currently undertaking a technical review of the incident. AEMO is also required to conduct an investigation of the suspension of the spot market under clause 3.14.4 of the NER.

AEMO published a preliminary report on 5 October 2016, an update to the preliminary report on 19 October 2016 and a third preliminary report on 12 December 2016. A fourth and final report is due to be published in March 2017, and this will outline AEMO's final recommendations.¹

In addition, the Australian Energy Regulator (AER) has powers under Section 15 of the National Electricity Law (NEL) to monitor compliance with, and investigate possible breaches of, the NEL and NER. The AER has commenced an assessment of compliance levels during the system black event and the subsequent period of market suspension.² The outcome of the AER's investigation will be the subject of a public report, which is expected in due course.

Following the event, an extraordinary meeting of the Council was convened on Friday 7 October 2016. At the meeting, the Council agreed to an independent review to take stock of the current state of the security and reliability of the National Electricity Market and provide advice to governments on a coordinated, national reform blueprint. The review is being led by the Chief Scientist, Dr Alan Finkel AO.

This independent review to develop a national electricity market blueprint will draw together and build on a number of recent and ongoing work streams, including the System Security Market Frameworks Review currently being conducted by the AEMC. The Commission self-initiated the System Security Market Frameworks Review on 14 July 2016 in order to consider the issues arising from the changing mix of generation technologies in the NEM. The review is being undertaken in cooperation with AEMO, whose Future Power System Security (FPPS) program will provide technical input to the AEMC's consideration of the appropriate market frameworks.

2 Approach

The terms of reference request that the Commission provide a report to Ministers on:

- any recommended actions or amendments to the regulatory frameworks, whether the NEL, NER or other jurisdictional instruments, that should be taken to address any systemic issues identified that contributed to the system black event or affected the response; and
- how the recommendations will be addressed in the AEMC's ongoing work program, to the extent that there are suggested changes to the NER.

In order to inform the preparation of its report, the Commission intends to undertake three phases of work, as described below.

Stage 1: developing a fact base

The first task will be to develop a fact base of the events of 28 September 2016. The AEMC does not possess information gathering powers such as those assigned to AEMO and the AER under

¹ AEMO, *Black System South Australia 28 September 2016*, Third Preliminary Report, December 2016, p. 4.

² AER, Quarterly Compliance Report: National Electricity and Gas Laws, July - September 2016, p. 2.

the NEL. Consequently, the Commission will need to draw upon the incident reports prepared by AEMO and the findings of the AER's investigation. The Commission will also review and capture any other relevant information from other reports and work related to the event.

The Commission will clearly set out in the report the current relevant market and operational arrangements, including a description of the relevant institutional responsibilities. The report will explain the Commission's understanding of the events and the factors leading to them, including the impacts of relevant market, regulatory, policy and technological changes, together with the roles played by market institutions and industry participants. In accordance with the terms of reference, the review will also examine why a state-wide system black event occurred, rather than the effects being contained within limited parts of the network.

Stage 2: assessing issues

Having clearly set out the events in question, the second task will be to identify the issues arising. The starting point for the Commission's assessment will be to critically evaluate the findings of AEMO and the AER. In its work to date, AEMO has highlighted issues associated with:³

- The risk of islanding of the South Australian region.
- The ability, in the event of islanding, to sustain a stable electrical island at least in part of South Australia.
- The performance of the system restart process.
- Market and system operation processes required during periods of market suspension.

AEMO has also indicated that its final report is likely to provide additional information regarding generator performance standards.

While its work is currently at an earlier stage than that of AEMO, the AER's review is covering a range of issues including, but not limited to, plant compliance with performance requirements, participant compliance with AEMO directions and/or instructions and the overall management of the power system and market in line with the NER.⁴

However, the Commission's consideration of the issues potentially arising will not be limited to those identified by AEMO and the AER. The terms of reference permit the Commission a wide scope in its considerations, including the effectiveness of the operation of the power system security frameworks and procedures leading up to, during and following the event. This is likely to include the Commission examining factors such as broader policy drivers and detailed operational arrangements, in addition to the frameworks specified in the NER. As further suggested by the terms of reference, a particular area of focus for the Commission is likely to be the effectiveness of the current arrangements in managing high impact, non-credible events.

Stage 3: developing recommendations

Having identified the issues arising, the third and final task will be to develop recommendations to address these issues. In doing so, the Commission – as in all its work – will be guided by the National Electricity Objective (NEO). The NEO is:

to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—
(a) price, quality, safety, reliability and security of supply of electricity; and
(b) the reliability, safety and security of the national electricity system.

The Commission will also have regard to the factors set out in the terms of reference, including the nature of the economic costs of disruption arising from system black events such as that occurring

³ AEMO, *Black System South Australia 28 September 2016*, Third Preliminary Report, December 2016, p. 4.

⁴ AER, *Quarterly Compliance Report: National Electricity and Gas Laws*, July - September 2016, p. 2.

on 28 September 2016 and the importance of secure and reliable energy supplies to high energy users. In doing so, however, the Commission will consider the extent to which precise estimation of economic costs – once at the clearly very high level associated with a system black event – is likely to be a useful tool in deriving or calibrating recommendations.

The terms of reference further indicate a number of potential tools that the Commission should consider the possible effectiveness of, including additional ancillary/system balancing services, additional interconnection and additional synchronous generation. In large part, the likely usefulness of such tools is already being assessed by the AEMC through the System Security Market Frameworks Review, and the Commission will therefore explain how its findings and recommendations will be addressed through this work.

To the extent that any recommendations arising from this review would not otherwise have been addressed by the AEMC's ongoing work and it would be inappropriate to progress them through this, the Commission will set out relevant implementation pathways.

3 Consultation and timing

The terms of reference requires that the AEMC must:

- consult with AEMO, ElectraNet, SA Power Networks, the AER and the South Australian Government;
- provide its report to the Council six months after the conclusion of both AEMO's investigation report and the AER's compliance report; and
- provide the Council an approach setting out how it proposes to carry out its work, including the provision of updates and status reports.

As noted above, AEMO's fourth and final report is due to be published in March 2017. The AER is not expected to report before this time, in which case the AEMC review will commence following the publication of the AER's final report.

Given the timetable for the review and the fact that the issues will have been comprehensively canvassed through the AEMO and AER processes, the Commission does not anticipate undertaking public consultation on the issues. Consultation with the parties specified in the terms of reference will instead be undertaken through a series of bilateral and/or multi-lateral meetings.

The Commission does consider, however, that there would be significant value in publicly consulting on the recommendations developed through the review. Hence, the Commission intends to publish a draft report approximately four months after the commencement of the review, and consult on this for a period of four weeks.

The Commission will provide a copy of the final report to the Council six months after the commencement of the review, and release this publicly two weeks after its submission to the Council.

This document forms the approach requested by the Council, and the Commission intends to publish this document in short order. The Commission also intends to notify both the Council and the wider community of the commencement of the review. Given the short timeframe for the work, the Commission does not intend to provide the Council with further updates or status reports beyond the draft and final reports.