

24 October 2014

Dr Brent Layton
Chair
Electricity Authority
PO Box 10041
Wellington 6143

Dear Brent

SRC advice on the investigation into the 5 October 2014 Penrose substation event

As part of its functions, the Security and Reliability Council (SRC) is tasked with providing the Electricity Authority (Authority) with independent advice on reliability of supply issues. One way that the SRC performs this function is by providing advice to the Authority in the wake of power system events that may provide valuable lessons for the electricity industry.

During its 21 October 2014 meeting, the SRC discussed the 5 October 2014 Penrose substation event. It received a verbal update from the Authority's Chief Executive and reviewed the 7 October 2014 letter to you from the Minister of Energy and Resources.

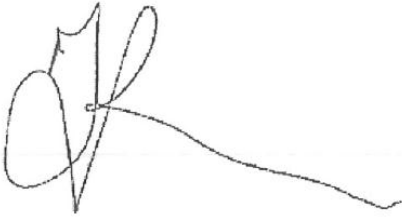
The SRC understands that the Authority intends to identify whether Transpower and Vector have undertaken appropriate analysis of reliability and resilience at Penrose and in the Vector network and whether there are any systemic issues found. The SRC agrees that this is a vital element of the investigation.

The SRC's advice is as follows:

- a) The Authority's investigation should consider whether the industry and regulatory arrangements that influence the system design principles and standards (such as N-1 and the value of lost load (VOLL)) were appropriately applied.
- b) Changes in technology and consumer lifestyles are resulting in a growing 'internet of things', whereby more and more products and services are unable to function without electricity, or can be affected by other system components being without power. Given this growing dependence and interdependence, the Authority should consider the extent to which its estimation of VOLL is recognising the full costs to consumers of power outages. Furthermore, the Authority should consider whether its VOLL calculation accounts for the breadth of consumer impacts under a range of outage durations (such as two-day outages) and areas of effect (such as parts of Auckland versus all of Auckland, or rural versus urban).
- c) The Authority should consider whether customer communication during this outage was appropriate for such a serious event. Communication of the outcome of the investigation should be in language plain enough for the public to understand.

The SRC intends to meet in late-March 2015 to provide feedback on the draft investigation prior to its presentation to the Authority's Board meeting in early-April 2015.

Yours sincerely

A handwritten signature in black ink, appearing to be 'Mike Underhill', with a long horizontal flourish extending to the right.

p.p.
Mike Underhill
Chair
Security and Reliability Council

cc SRC members, Carl Hansen (Electricity Authority)