

Guidelines for identifying reviewable operating incidents

These guidelines are set by the Reliability Panel under clause 8.8.1(a)(9) of the National Electricity Rules (NER) and are to be used by the Australian Energy Market Operator (AEMO).

Definitions

Italicised terms are defined in the NER and have the same meaning in these guidelines. In addition:

- (a) **multiple contingency events** is an incident comprising *contingency events*, including but not limited to any inappropriate automatic or manual operation of a *transmission element*, that occur within 30 minutes of each other and the residual impact of an earlier *contingency event* interacts with a later *contingency event*;
- (b) **critical transmission elements** are *transmission elements* with a *nominal voltage* of 220 kilovolts or above or *transmission elements* of a lower *nominal voltage* that are critical to the supply of electricity in or between *regions*.

Guidelines to be applied by AEMO

When determining whether a *power system* operating incident is of significance under clause 4.8.15(a) of the NER, and hence reviewable, AEMO should apply the following guidelines:

1. Under clause 4.8.15(a)(1)(i): A reviewable operating incident is an incident comprising a *non-credible contingency event* or multiple *contingency events* that impact critical *transmission elements* or that impact the *transmission system* of multiple *regions*. Under this provision:
 - a) exclude events where a successful auto-reclose occurs or where a *transmission element* is de-loaded but remains energised and, in each case, where there is no significant impact on the *power system*;
 - b) exclude events where a *transmission element* trips at one end only or a single circuit breaker trips, and where no other *power system security* issues are identified.
 - c) exclude events resulting from a sudden and unplanned change to the level of output, consumption or power flow of *plant*, unless AEMO determines that the event should be a reviewable operating incident.
2. Under clause 4.8.15(a)(1)(ii): An incident comprising of a *black system* condition is a reviewable operating incident. For this purpose, a *major supply disruption* affecting a significant number of customers is considered as one resulting in loss of at least 60 per cent of the predicted *regional load* with the exception of the Queensland *region*, where the loss of 60 per cent of the *load* (excluding the pot line loads) in any of the Northern Queensland, Central Queensland or Southern Queensland areas (as defined in Appendix A) is also considered to be a *major supply disruption*.
3. Under clause 4.8.15(a)(1)(iii): Define as reviewable operating incidents all incidents where the *frequency* is outside the *operational frequency tolerance band*, which is set out in the Reliability Panel's frequency operating standards.
4. Under clause 4.8.15(a)(1)(iv): Define as reviewable operating incidents all incidents where the *power system* is not in a *secure operating state* for more than 30 minutes.
5. Under clause 4.8.15(a)(1)(v): Define as reviewable operating incidents all incidents where there is *load shedding* due to a clause 4.8.9 instruction.
6. Under clause 4.8.15(a)(3): The Reliability Panel has determined that reviewable operating incidents include all incidents that satisfy one or more of the following descriptions:

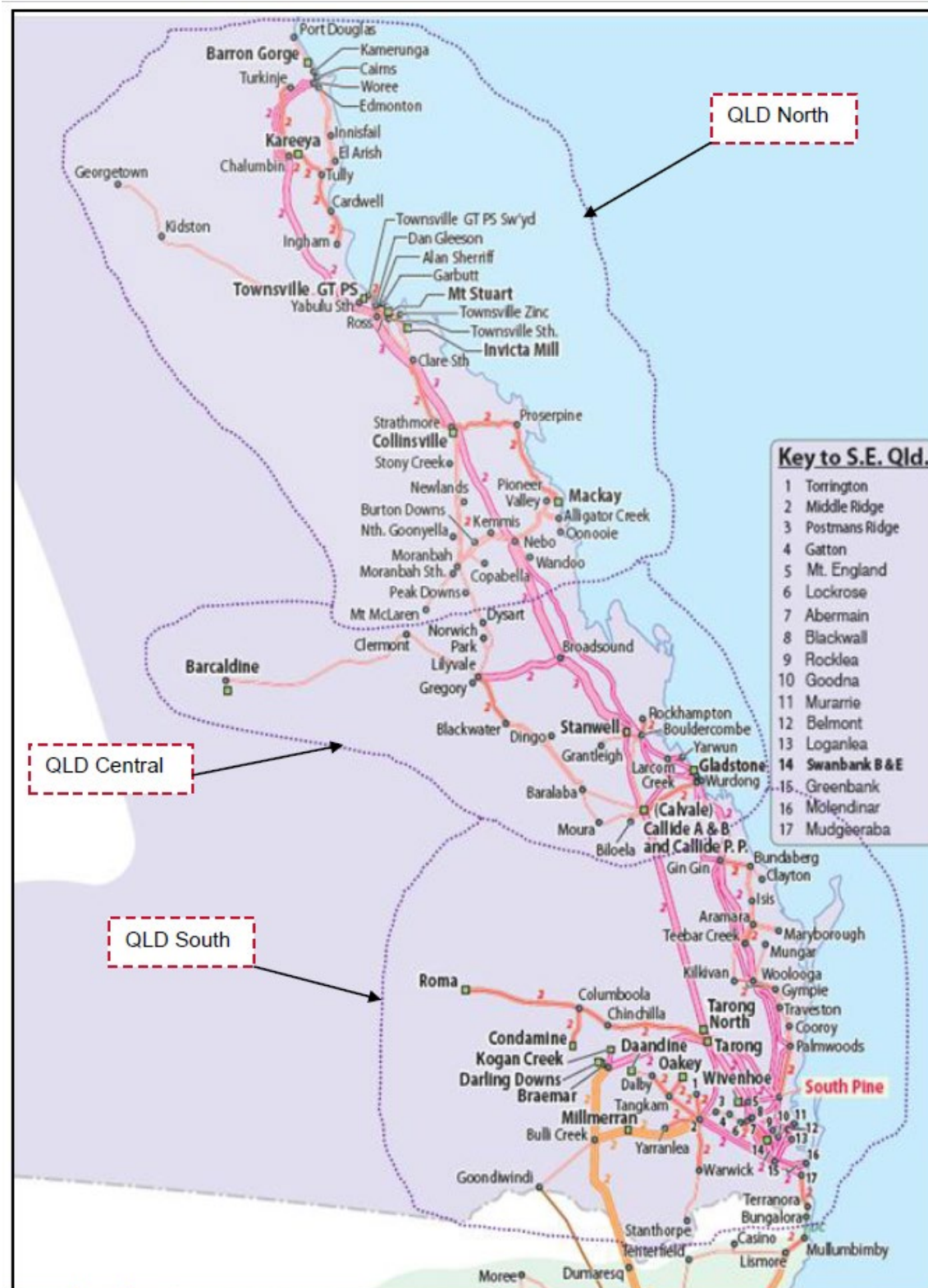
- a) the *power system* is not in a *satisfactory operating state* for more than 5 minutes (excluding issues involving potential oscillatory or transient stability)
- b) AEMO's on-line oscillatory and transient stability monitoring systems detecting a potential instability for 30 minutes, continuously
- c) incidents originating on a distribution network that impact critical *transmission elements* including (but not limited to):
 - i) faults of extended duration within the *distribution network* where these have had a material impact on the *transmission system*; and
 - ii) loss of *generation* with a total capacity exceeding the size of the largest *credible contingency event* at that time for the region (or any of the regions) in which the *generation* was lost;
- d) incidents that result in the operation of under frequency or over-frequency protection and control schemes involving:
 - i) automatic under frequency *load shedding*, except where under-frequency *load shedding* occurs under a contract (or other arrangement) or
 - ii) automatic tripping of a *generating unit* due to over-frequency, except where over-frequency generation tripping occurs under a contract (or other arrangement);
- e) incidents that the Reliability Panel requests AEMO to review and report on under clauses 4.8.15(b) and (c) ¹, after considering whether:
 - i) the incident represented a threat to *power system security*; and
 - ii) the benefits to the *NEM* are likely to exceed the cost to AEMO and the affected participants;
- f) any other *power system* event that AEMO considers of significance to the operation of the *power system*. This includes (but is not limited to) recurring minor incidents where there may be underlying systemic issues or incidents involving material loss of *load* or *generation*.

¹ The Panel considers that the following parties should be able to apply to the Panel for it to request AEMO to investigate an incident:

- a registered participant, or group of registered participants.
- a participating jurisdiction, or group of participating jurisdictions; or
- AEMO (for clarification).

Appendix A

For the purposes of identifying reviewable operating incidents according to section 2(a) of the guidelines, the 2013 Queensland electrical sub-networks will be applied.



Source: AEMO 2013, Queensland SRAS Electrical subnetworks map