

Proposed changes to power system incident reporting rules



Consultation Paper

Introduction

Power and Water Corporation in its capacity as the Power System Controller is seeking to make changes to provisions in the System Control Technical Code (Code) that relate to power system incident reporting procedures.

Section 7 of the Code currently prescribes obligations on the System Controller and System Participants in regards to reporting and investigation of power system incidents. The System Controller has determined that these provisions are not fit for purpose and should be amended to reflect good electricity industry practice.

In order to amend the Code, clause 1.8.2 requires the System Controller to consult with industry and seek approval of Utilities Commission (the Commission).

This consultation paper has been prepared to assist in facilitating consultation with interested industry stakeholders. It describes the issues with current Code provisions, the scope of amendments being proposed as well as some key consultation questions that will assist in finalising the changes prior to seeking the Commission's approval.

The proposed clean and marked-up amendments to the Code provisions are published along with this consultation paper. To further assist stakeholders in understanding the proposed changes, a draft of the Power System Incident Reporting Guidelines (Guidelines) is also published. These Guidelines have been developed to reflect the proposed new incident reporting arrangements. Feedback on the draft guidelines is welcomed. However, it should be noted that the Guidelines will be finalised following the Code changes approval by the Commission.

Rationale for change

The key drivers behind the proposed amendments are as follows:

- The current thresholds for minor reportable incident classification in the Code are not fit for purpose. The proposed changes seek to amend the Code to align with the current practice of the System Controller as it yields more equitable outcomes for customers than the existing requirements. The threshold also needs a more streamlined process to be varied as conditions change and having it prescribed in the Code does not provide the most responsive process for facilitating changes.
- There is currently no clear timelines in the Code for completing investigations into major reportable incidents. For the System Controller to finalise investigations on major reportable incidents within a set time period, improvements to the overall incident reporting process are required along with obligations on System Participants to provide the necessary information within defined timeframes.
- There is currently no established process in the Code for managing recommendations and negotiating actions stemming from major reportable incidents to prevent a repetition of avoidable incidents impacting supply to customers.

The scope of this Code amendment is limited to incident reporting. It is recognised that stakeholders have raised a number of other issues for Code amendments in previous consultations. However, given the NT Government's NTEM priority reform program currently underway that already contemplates substantive changes, multiple Code change processes may not be ideal at this point and could create confusion. The System Controller is prioritising this Code amendment since it is unrelated to NTEM priority reform areas and is necessary to improve current incident reporting obligations to ensure better reliability of supply outcomes for customers.

Summary of proposed amendments

The proposed Code amendments to power system incident reporting procedures along with a brief explanation of the changes is provided in a separate document to this consultation paper. In summary, the proposed amendments relate to:

- Changes to reporting obligations on System Participants including the System Controller;
- Introduction of obligations surrounding recommendations made in incident reports;
- Changes to the scope of the Power System Incident Reporting Guidelines;
- Restructuring of the reporting functions within the Code to a logical (predominantly chronological) sequence; and,
- Consequential changes to Section 8.4 (Power System Controller Reports) of the SCTC.

Key aspects of the proposed changes are discussed below.

Minor incident reporting thresholds

The Code currently classified power system incidents into two categories; being minor and major. A major reportable incident is predominantly an incident relating to system security, whereas a minor reportable incident does not involve system security risks, but adversely impacts the reliability of supply for customers.

The thresholds for a minor reportable incident have been reviewed and are considered to be inequitable in their assessment of impact on reliability of supply for customers. Clause 7.3.3 of the Code currently prescribes two thresholds¹ for defining an incident as a minor reportable incident:

- (a) **an outage lasting longer than six hours affecting more than 200 customers** and that, in the opinion of the Power System Controller, can be classified as a minor incident; or
- (b) **an outage lasting longer than 30 minutes affecting more than 1000 customers** and that, in the opinion of the Power System Controller, can be classified as a minor incident.

These thresholds are presented graphically in Figure 1 below.



Figure 1: System Control Technical Code Version 6.0 Minor Reportable Incident Thresholds

As shown in Figure 1, these thresholds are rather arbitrary and can exclude events that would typically be considered to have a high customer impact. In particular, this criteria would result in an event of 999 customers out for 5 hours and 59 minutes or an outage of 199 customers indefinitely, both of which are seen to have a reasonably adverse impact to customers.

The proposed approach is to establish the requirement for minor incident reporting thresholds in the Code but have those defined within the Guidelines. In addition, the threshold will instead be based on 'customer minutes' which will be defined as duration of the outage in minutes multiplied by number of impacted customers. An additional criteria is also proposed to capture outlier events that are considered appropriate to report on. This additional criteria can be used to further include incidents exceeding a certain duration regardless of customers or for a cause that warrants further investigation as determined by the System Controller.

¹ Note that the concluding conditions in the clauses "and that, in the opinion of the Power System Controller, can be classified as a minor incident" is read in conjunction with clauses 7.3.2 (d) and (e) relating to Major Reportable Incidents. It has been interpreted that the System Controller treat these outages as minor rather than non-reportable.

Prescribing the defined thresholds within the Guidelines is seen as practical approach to the status quo, as over time incidents will occur that give rise for additional criteria and this form of continual improvement is best managed outside the Code amendment process.

The draft Guidelines accompanying this consultation sets the threshold for minor reportable incidents. That is, the System Controller will report on all incidents exceeding a criteria of 50,000 customer minutes. This provides equal weight to the total cumulative effect of the outage on customers. The proposed threshold in the Power System Incident Reporting Guidelines are compared against the current codified thresholds in Figure 2 below.



Figure 2: Proposed approach to incident reporting thresholds

This approach is industry best practice for capturing the customer impact of an individual outage and also serves as input data to industry standard reliability metrics that are averaged over time such as System Average Interruption Duration Index (SAIDI).

The selection of 50,000 customer minutes as the minor incident reporting threshold was on the basis of analysis of all outages over the past five years and their causes. The objective in the analysis was to set the threshold which captures outages where there is a more significant customer impact rather than outages that are transient or brief in nature. In this analysis, it was found that the majority of incidents below 50,000 customer minutes were transient incidents and did not warrant any further investigation.

Consistent with utility industry practice, the Network Operator will not attempt to restore supply to a distribution feeder for an outage within a 15 minute period. The response time of the on-shift controller may reasonably be delayed further by several minutes beyond the 15 minute window where restoration cannot occur as they may be undertaking other network operations and should be undistracted to ensure this is undertaken safely. The 50,000 customer minutes threshold allows for feeders with an average number of customers to be out for approximately 30 minutes before being reportable.

Timelines

The efficacy of the incident reporting process to identify root cause of incidents, contributing factors, remedial action and informing the Commission and System Participants is driven by the ability to deliver the reports in a timely manner.

The Code currently does not provide a clear deadline for providing final incident reports. However, to introduce such an obligation on the System Controller to produce a final incident report within a pre-determined time, the System

Controller must have the necessary information from all System Participants and then have sufficient time to undertake the analysis. Therefore, System Participants need to have a corresponding obligation placed on them to provide their reports to the System Controller within a prescribed timeframe to ensure that the System Controller has the necessary information to complete the report. The deadlines that are being proposed have been developed based on the experience with existing System Participants.

Managing actions arising from investigations

The proposed Code amendments provide for the development of actions from power system incident investigations and their completion within agreed timeframes. Corrective actions will be critical in preventing recurrence of avoidable system security issues that have the potential to cause widespread supply disruption for customers.

The Code requires that the Power System Controller will meet with System Participants and negotiate in good faith the actions arising from incident investigations and timing for the completion thereof. The Code also provides a point of escalation to the Commission if the corrective actions are not agreed to within a set period of time or actions are not completed within the agreed timeframe. The Commission as the regulator, is responsible for managing disputes and ensuring that System Participants (those licensed by the Commission) comply with their license conditions.

Consultation questions

The following questions are provided as a prompt for stakeholders and interested parties regarding areas that are of particular interest to System Controller:

- Is the move to customer minutes an appropriate metric for incident reporting threshold?
- Is the approach of prescribing minor incident reporting threshold in the Guidelines reasonable in providing flexibility to adjust as the circumstances require?
- Are the timelines for System Participants providing reports to the System Controller considered practicable?
- Does the Code amendment and Guidelines adequately capture the obligations for the System Controller and System Participants regarding the agreement and timeframe of actions that are reasonably required to prevent the repetition of a reportable incident?
- Does the Code amendment adequately scope the content included in the draft Power System Incident Reporting Guideline?

How to make a submission

Submissions on the proposed amendments to Code are invited by 4 pm ACST 29 June 2021 and should be emailed to market.operator@powerwater.com.au.

Power and Water will publish all submissions received in full. Should a stakeholder consider sections of their submission as confidential, a separate public version of the submission should be provided to Power and Water for publication.