TRANSPOWER

QUALITY ALERT!

27 March 2020
Maximo REF No. 123070

Failure To Identify CB Fail Intertrip During Testing

ISSUE IDENTIFIED:

A CB Fail Intertrip was activated at Haywards (HAY) during planned Buszone/CB Fail maintenance testing, resulting in an unintentional tripping of the Paraparaumu (PRM) T2 supply transformer. The CB Fail Intertrips had not been identified in the work management plan, and therefore were not isolated during CB Fail testing. This incident occurred in October 2019.

This incident is very similar to an event at Clyde (CYD) in March 2017, where CB Fail Intertrips were unintentionally sent from CYD to Twizel (TWZ) during planned CB fail testing. This led to an islanding of the network and the subsequent activation of the Automatic Under Frequency Load Shedding (AUFLS) scheme.

A number of actions were undertaken following the March 2017 CYD event, including the issuing of a 'CB Fail Intertrip Isolation During CB Fail Testing' quality alert (ref QA No. 2017-001 issued on 11 May 2017). However, the October 2019 event indicates that some actions from the March 2017 event have not been fully communicated or embedded into Business As Usual (BAU).

CONTIBUTING FACTORS:

- No dedicated local isolation facilities associated with CB Fail Intertrip for external CB fail timer testing
- CB Fail Intertrip isolation issue not identified when planning for external CB fail timer tests
- Relay and Instrumentation (R&I) diagrams show Intertrip send to remote end and associated advice about external CB Fail initiation, but older R&I diagrams do not show the complete initiation path.
- Technicians were not aware that the outage system (IONS) identified the outage as a 'Significant Impact Protection Outage'. Therefore they were also not aware of the associated protection notes about the CB Fail Intertrip functionality and extra care/precautions.

ACTIONS TAKEN TO PREVENT REOCCURENCE:

Transpower advises and reminds personnel planning and carrying out protection testing works

- to be aware of CB Fail Intertrip functionality, associated isolation options and to plan accordingly
- to embed the contents (including isolation options, actions and learnings) of the previous CB Fail Intertrip quality alert REF No. 2017-001
- use R&I diagrams as an aid to help identify functionality on circuits and before testing, such as CB Fail Intertrips (even if older R&I diagrams state the initiation on a note)
- to be aware of 'Significant Impact Protection Outages' information identified in IONS (implemented in late 2017) that includes specific protection notes and required extra care/precautions. Further action is occurring regarding communication of this initiative and how the required information is conveyed to technicians
- a plan is being developed for the addition of a local Intertrip isolation facility onto existing circuits with CB Fail Intertrip and external timers. Further communication will follow.

LEARNINGS FROM THIS:

Transpower teams, consultants and service providers that are involved with design, testing and advice on protection circuitry need to take particular care in:

- **Considering, planning, communicating, implementing and testing non-standard protection**

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