TRANSPOWER

QUALITY ALERT!

19 February 2025
Maximo REF No. 175804

Relay Mistakenly Switched to the Commissioning Setting Group Caused Unwanted Asset Tripping

ISSUE IDENTIFIED:

During the restoration switching of a 110kV circuit, one of the line protection relays was mistakenly switched to group 4 (**commissioning setting group**) and left in this group with the circuit returned to service. This resulted in non-selective protection elements being left enabled for a period, which caused unwanted tripping of an asset for a fault elsewhere on the grid.

The commissioning group is intended to provide high speed, non-discriminative protection during the initial livening of new equipment, or if the circuit voltage transformer (VT) is unavailable for a considerable period. The commissioning group is not intended for use when the circuit is on-load under normal operating condition.

CONTRIBUTING FACTORS:

- A Switcher was attempting to reset a 'CDiff Inhibited' alarm by pressing push button 2 on the relay. However, they accidentally pressed push button 1, which is located just above, this is shown circled below. This action selected the relay's group 4 settings. While the relay indicated that group 4 had been selected the Switcher did not understand the impact of this change and did not seek advice from a Protection Technician.
- Group 4 selection in the relay did not trigger an alarm in SCADA. Consequently, the relay remained in the commissioning group without notifying the Grid Controllers.

ACTIONS TAKEN TO PREVENT REOCCURENCE:

- The lessons learned from the incident will be shared and integrated into the relevant training programs for individuals responsible for field operations and maintenance switching.
- Group-related SCADA points, e.g. GPNO, will be configured in a timely manner to trigger an alarm in the SCADA system when the relay is selected to group 4.
- The findings of this incident will be presented in the Permitting and Operating Sequence Practice (POSP) Working Group and Technician Best Practice Group (TBPG) meetings.

LEARNINGS FROM THIS:

- A modern protection relay has many push buttons or function-keys on its front panel. Operating push buttons can turn settings/functions on or off. Activating these at the wrong times can cause assets to trip unexpectedly
- Extra care is required when operating any relay push buttons. If a push button is pressed, an LED next to it will be lit. If this action is unintentional or a mistake, please take appropriate action to reset the function, i.e. de-activate the LED. Please note that there may not be a SCADA alarm for each function.

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