# **ABB NVA Earth Switch operated with locking pin**

# **ISSUE IDENTIFIED:**

The ABB NVA Earth Switch has a locking pin and padlock that **MUST BOTH** be removed before the Earth Switch (ES) is operated. Failure to remove the locking pin will result in shearing of the drive shaft when the ES is operated. This has occurred on three NVA ES and is applicable for all ABB NVA or NVB ES.

## **CONTRIBUTING FACTORS:**

Operation of ES with locking pin still attached, while the ES operating mechanism SM800 is equipped with an integrated slip clutch, the slip clutch is:

- not designed to stop the force of the mechanism being operated with the locking pin still attached
- only designed to reduce torque at the end of the mechanism rotation stroke as the motor slows down

The locking pin is designed to be stronger than the ES drive shaft so that the ES does not operate inadvertently.



### **ACTIONS TAKEN TO PREVENT REOCCURENCE:**

 A service instruction will be issued in early 2024 to install warning labels on the front panel of ES operating mechanisms which state the following:

#### "CHECK AND REMOVE LOCKING PIN PRIOR TO OPERATING EARTH SWITCH"

• TP.OG 42.02 Section 15.2 will be reviewed to include a note to explicitly state that both the locking pin and padlock must be removed prior to operating the ES.

#### **LEARNINGS FROM THIS:**

- . Both locking pin and padlock MUST be removed prior to operating the ABB NVA earth switch
- The slip clutch is not designed to stop the force of mechanism being operated with locking pin still attached
- All Service Providers SHALL review their switching plans to ensure both the locking pin and padlock are removed before operating the ABB NVA earth switch



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