SOP431 – Brush Eclipse Drive Beam Bearings

On the 21st July 2022, an issue was found in NGED (WPD) with a Brush (Hawker Siddeley) Eclipse Circuit Breaker when closing to earth during fault repair work on the 11kV feeder cable.

Field operatives found that the circuit breaker had failed to close L3 due to the drive beam bearings having worked loose detaching the L3 side of the circuit breaker closing mechanism.

The defect could cause the circuit breaker not to close on L1 or L3 when the 3-position disconnector is in any position (on, off or earth).

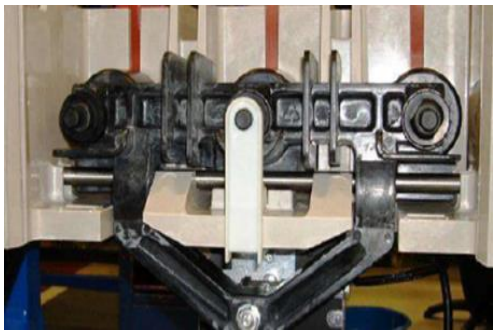
The asset that failed in WPD had an operational count of 127.

Brush have produced a modification that will secure the drive beam bearings in place. Work is underway to schedule these repairs for all affected breakers.

SOP 431 has been issued to ensure the continuation of safe working procedures for operational staff. The SOP has been applied in SPEN to units manufactured between January 2010 and November 2014.



Brush Eclipse



Eclipse Drive Beam

Recommendations and action points

- Following manually initiated live switching (in person or telecontrol) to energise, correct operation of the CB on all phases shall be confirmed.
- When the CB is closed to apply an earth, all phases shall be proved closed under a Sanction for Test before a Permit for Work is issued.
- Guidance for earthing to be found in OPSAF-16-431 under SPEN Application.
- SOP 431 shall remain in force until the drive beam bearing modification has been carried out on all affected circuit breakers.