



1 SCOPE

This document details the application of SOP 143 issued by the Electricity Association.

2 ISSUE RECORD

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Issue Date	Issue No	Author	Amendment Details
October 2000	1	Esther Stewart	Initial Issue in New Format: 2 Page Document

3 ISSUE AUTHORITY

Author	Owner	Issue Authority
Esther Stewart	Roger Bracey	Roger Bracey Group Head, Standards



4 SOP DETAILS

TYPE: GEC Alstom FG1 SF6 circuit breaker.

ORIGINATING REC: Eastern Electricity

DATE: 8/3/95

NO. INSTALLED IN MANWEB: 25

NO. INSTALLED IN SCOTLAND:

STATUS: No restriction in Manweb (see note below).

REASON:

Following a 'catastrophic' failure of the circuit breaker, in Eastern Electricity; investigations showed that a fractured bolt found in the tank did have the potential to cause the failure, although this could not be proven. Investigation of the bolt fracture has shown that a possible cause of the fracture was stress corrosion. Stress corrosion will occur on a continually stressed component when there is a higher than normal humidity level present in the SF6. If there is an SF6 leak, it is possible for moisture to enter via the leak path.

It had been practice in Eastern Electricity to test the dewpoint of the gas at a routine maintenance. This has now been modified to require a dewpoint test after each top up of SF6 and each top up carried out with the circuit breaker open.

UPDATE:

REMEDIAL ACTION:

Access to compounds containing a type FG1 circuit breaker, which has not had a satisfactory dewpoint test since last being topped up, shall be restricted to that required for essential operational purposes only and an 'Access Restriction' sign fitted to all access gates. No person shall be in the compound when routine controlled switching of such circuit breakers is taking place.

Before further topping up or dewpoint testing is undertaken on a type FG1 circuit breaker which has not had a satisfactory dewpoint test since last being topped up, it shall be confirmed that there is no-one in the compound and the circuit breaker shall be opened remotely.

NOTE: Manweb's policy has always been to carry out a dewpoint test at each top up, therefore, this restriction will not to apply in Manweb.