

1. SCOPE

This document details the application of SOP 419 (Applicable to ABB IMB420 CTs) issued by the Energy Networks Association.

2. ISSUE RECORD

This is a Reference document. The current version is held on the EN Document Library.

It is your responsibility to ensure you work to the current version.

Issue Date	Issue No.	Author	Amendment Details
March 2021	1	Ryan Miller	Initial issue
June 2021	2	Kevin Butter	Section 0 "Update" part amended to provide criteria to lift SOP based on successful DGA and Tan- δ testing.

3. ISSUE AUTHORITY

Author	Owner	Issue Authority
Kevin Butter Lead Engineer	Fraser Shaw Substations Manager	Fraser Ainslie Head of Engineering Design and Standards

4. REVIEW

This is a Reference document which has a 5 year retention period after which a reminder will be issued to review and extend retention or archive.

5. DISTRIBUTION

This document is not part of a Manual maintained by Document Control and does not have a maintained distribution list.

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7. SOP DETAILS

EQUIPMENT TYPE	ABB IMB420 CT
ORIGINATING COMPANY	National Grid
DATE	19 th February 2021
NUMBER INSTALLED IN ENERGY NETWORKS NORTH	18 (Strathaven 400kV, Devol Moor 400kV and Gretna 400kV)
NUMBER INSTALLED IN ENERGY NETWORKS SOUTH	0
REASON	<p>Access restrictions introduced in vicinity of affected assets due to explosive asset failure.</p> <p>DIN 2021/0007/01 refers.</p>
STATUS IN INITIATING COMPANY	<p>Risk Management Hazard Zones established around affected assets.</p> <p>Based on risk from a single CT asset:</p> <ul style="list-style-type: none">• Inner 80m radius zone has access limited to maximum of 45 minutes per week.• Outer zone extending from 80m to 130m from asset has access limited to maximum of 36 hours per week. <p>Overlapping inner zones restricted to "traversing only".</p> <p>Overlapping outer zones restricted based on number of overlaps i.e. 36 hours reduced to 24 hrs for two overlapping zones, 12 hrs for three overlapping zones.</p> <p>Site Specific Risk Assessments in preparation for all affected sites.</p>
SPEN APPLICATION	<p>Risk Management Zones have been established around all IMB 420 CTs at the above sites in SPT. It is prohibited to enter the RMZs at these sites with the equipment live unless agreed with The Transmission Networks Operations Manager or Substations Operations Manager</p> <p>At NGET/SPM joint sites, SPEN staff, or appointed contractors, requiring access to these sites will be required to contact the NMC on 0151 609 4848 (option 4) to confirm if NGET have a RMZ in place at that site. If so, they shall follow the NGET site specific protocols</p>
ADDITIONAL INFORMATION	<p>NGET have initiated an investigation into the root cause of failure with support from the CT manufacturers, Hitachi ABB Power Grids (SPEN are working closely with HAPG to review the outcome from these investigations)</p>

UPDATE

Update June 2021

All IMB CTs affected by this SOP shall be subjected to oil Dissolved Gas Analysis (DGA) and Tan- δ testing. The DGA and Tan- δ test results shall be sent to Hitachi ABB Power Grids who shall confirm if the results attained are within agreed limits for safe operation of the asset.

On formal receipt from Hitachi ABB Power Grids that the DGA and Tan- δ test results are within limits and are acceptable, the SOP on the tested CT can be lifted.

REMEDIAL ACTION

RFI monitoring will be used as mitigation for accessing any RMZ. Diagnostic methods (e.g. Oil DGA and Tan- δ testing) are being considered.

8. SOP HEADER

Field Name	Field Value	Field Size
Name (SOPXXX) *	SOP419 ABB IMB420 CT	61
The reason for the Operational Restriction *	Catastrophic failure of CT	30
Nature of the Operational Restriction *	Risk Management Hazard Zones created for affected assets	50
Comments *	It is prohibited to enter the RMZs at affected sites with the equipment live unless agreed with The Transmission Networks Operations Manager or Substations Operations Manager.	200
Restricted Access to Substation Flag *	Y	1
SOP Impact Code * <i>(highlight or underline the appropriate code)</i>	0 Temporary/Impact under assessment 1 Very minor operational/network impact <u>2 Moderate operational/network impact</u> 3 Significant impact on system perf./measurable business costs 4 Inoperable without intervention 5 Inoperable – no cost effective solution/must be replaced	N/A
SOP component type * <i>(highlight or underline the appropriate code)</i>	01 Bushing only 02 Circuit Breaker 03 Fixed Portion only 04 Moving Portion only 05 Switch 06 RMU 07 Transformer only 08 Tap Changer only <u>09 Transformer & Bushing</u> 10 Transformer & Tap Changer	N/A
Search Criteria *	ABB – IMB420	N/A

* This denotes a Mandatory Field