

1. SCOPE

This document details the application of SOP 422 (Applicable to 800A and 1200A Reyrolle C6T and C7T equipment) issued by the Energy Networks Association.

2. ISSUE RECORD

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

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Issue Date	Issue No.	Author	Amendment Details
Dec 2021	1	Patrick Dolan	Initial issue

3. ISSUE AUTHORITY

Author	Owner	Issue Authority
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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	Reyrolle C6T and C7T (flat pin 800A and 1200A variants)
ORIGINATING COMPANY	SPEN
DATE	22 Dec 2021
NUMBER INSTALLED IN ENERGY NETWORKS NORTH	~78
NUMBER INSTALLED IN ENERGY NETWORKS SOUTH	0
REASON	<p>There have been a number of flashovers inside the spouts of 800A and 1200A Reyrolle C6T CB incomers and other incidents at CB incomers where Partial Discharge activity has been observed.</p> <p>This is believed to be the result of electrical stresses beyond what is normally seen on in service equipment due to mechanical damage to the corona stress rings internal to the spouts. Due to the commonality of the earthing arrangements Reyrolle C7T CBs have been included in this restriction.</p>
STATUS IN INITIATING COMPANY	No manual live operation of CB unless a PD survey comprising both Transient Earth Voltage (TEV) and Ultrasonic detection has been completed with no issues found. Withdrawal of the CB is permitted only when CB CCT spouts are made not live.
SPEN APPLICATION	As above.
ADDITIONAL INFORMATION	<p>Partial Discharge activity is believed to be a result of damaged OEM earthing equipment and/or incorrect application of earthing, impairing the corona rings within the spout. This results in a high stress area within the spout.</p> <p>Earthing of this equipment shall only be completed by manufacturer-produced earthing equipment which has been inspected and within compliance date in line with OEM earthing procedures.</p> <p>Earthing equipment shall be inspected and confirmed to have no damage or defects prior to use and again after use. Spouts are to be visually inspected every time before earthing equipment is applied and again after it is removed to ensure no damage is caused.</p> <p>The restriction is applied to incomers only, application to bus sections CBs which rarely have earthing equipment applied will be considered subject to feedback from the OEM.</p>

UPDATE

N/A

REMEDIAL ACTION

All earthing equipment for this switchgear to be quarantined for inspection and if necessary, refurbished by the OEM. Refresher training of operational staff to be completed where necessary.

All potentially affected CBs bushings and spouts to be visually inspected. SOP can be removed if no damage found.

8. SOP HEADER

Field Name	Field Value	Field Size
Name (SOPXXX) *	SOP422	6
The reason for the Operational Restriction *	Potential Spout Damage	30
Nature of the Operational Restriction *	No manual live op / CB withdrawal if CCT live	50
Comments *	CB local/manual operation pending PD (Ultrasonic & TEV) survey with no issues found. CB can only be withdrawn if CCT spouts made not live.	200
Restricted Access to Substation Flag *	Y <u>N</u>	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 <u>02 Circuit Breaker</u> 03 Fixed Portion only 04 Moving Portion only 05 Switch 06 RMU 07 Transformer only 08 Tap Changer only 09 Transformer & Bushing 10 Transformer & Tap Changer	N/A
Search Criteria *	Reyrolle C6T* 800A + 1200A Incomers Reyrolle C7T* 800A + 1200A Incomers C-Sion 800A + 1200A Incomers	N/A

* This denotes a Mandatory Field