

1. SCOPE

This document details the application of SOP 211 (Applicable to Reyrolle 11kV Vacuum Circuit Breaker Type: RETVAC C) 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
October 2000	1	Esther Stewart	Initial issue
April 2019	2	Stephen Batten	SOP 211 not applicable to 800A (1200A) vacuum circuit breakers (with flat blade contacts)

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 11kV Vacuum Circuit Breaker Type: RETVAC C
ORIGINATING COMPANY	SCOTTISHPOWER
DATE	19/08/98
NUMBER INSTALLED IN ENERGY NETWORKS NORTH	5
NUMBER INSTALLED IN ENERGY NETWORKS SOUTH	0
REASON	<p>If an operator fails to ensure that the ¾" round pin primary contacts have been rotated up to the fully secured position and then racks the 400A circuit breaker back into the service position, the primary contact could remain engaged within the switchboard fixed portion which may result in a flashover as the VCB is racked further out.</p> <p>RETVAC C vacuum circuit breakers are used in retrofit situations to replace older oil circuit breakers on Reyrolle Type "C" switchboards. The RETVAC C moving portion is used to replace the oil circuit breaker moving portion only. The existing fixed portion is retained.</p> <p>The primary contacts on the RETVAC C vacuum circuit breakers are removable to allow a Busbar or Circuit Earth attachment to be fitted. If an earth attachment is fitted in this way, then the operator must ensure that the primary contacts are reassembled correctly to ensure against the hazard described.</p> <p>The problem is related to 400A RETVAC C vacuum circuit breakers with ¾" ROUND primary contacts only. On 1200A circuit breakers with flat contacts it is obvious that the contacts have not been fully rotated since the contact will not be completely horizontal as required.</p>
STATUS IN INITIATING COMPANY	<p>Restriction</p> <p>The following restriction will apply to all substations containing the above equipment:</p> <p>Before racking any 400A circuit breaker (with ¾" round pin primary contacts) out from the service position the busbars and circuit side shall be made dead.</p>
SPEN APPLICATION	As detailed above.
ADDITIONAL INFORMATION	The first issue of SOP 211 applied to all units inclusive of 1200A (800A nominal) circuit breakers utilising flat blade contacts. This decision at the time was based on the very small number of this type of circuit breaker installed in SPEN.

UPDATE

All the 5 no. 400A and 3 no. 800A (1200A) RETVAC C circuit breakers are programmed for replacement commencing in May 2019 with Siemens C Sion retrofit circuit breakers to rectify this problem and hence remove SOP 211. To facilitate efficient replacement of the circuit breakers, SOP 211 Issue 2 is amended to remove the SOP 211 application to the 800A (1200A) circuit breakers utilising flat blade contacts (namely Incomer T1, Bus-Section and Incomer T2).

REMEDIAL ACTION

400A RETVAC C circuit breakers (with $\frac{3}{4}$ " round pin primary contacts) to be replaced by Siemens C-Sion retrofit circuit breakers.

8. SOP HEADER

Field Name	Field Value	Field Size
Name (SOP)	SOP211 - Reyrolle 11kV Vacuum Circuit Breaker Type: RETVAC C	61
The reason for the Operational Restriction *	FLASHOVER RISK WHEN RACKING CB	30
Nature of the Operational Restriction *	NO RACKING OF CB WHEN LIVE	50
Comments *	BEFORE RACKING ANY RETVAC C 400A CIRCUIT BREAKER OUT FROM SERVICE POSITION THE BUSBARS AND CIRCUIT SIDE SHALL BE MADE DEAD TO AVERT RISK OF PRIMARY CONTACTS FOULING IF NOT IN THE LOCKED POSITION	200
Restricted Access to Substation Flag *	N	1
SOP Impact Code (highlight or underline the appropriate code)	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	
SOP component type (highlight or underline the appropriate code)	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	
Search Criteria *	RETVAC C	N/A