1. SCOPE

This document details the application of SOP 2008/0353/00 (Applicable to GEC 11kV switchgear type BVRP 500) 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
Oct 2008	1	Geoff Wood	Initial issue
August 2024	2	Benjamin Hughes	Re-format of document. Updated numbers of equipment installed. Updated document reference to SWG-19-056. Extended as per Legacy SOP Review Appendix OPSAF-16-353 Appendix 1 - Polaris 313 - Aug-24 which is for internal use only.

3. ISSUE AUTHORITY

Author	Owner	Issue Authority
Name: Benjamin Hughes Title: Lead Engineer Engineering Design & Standards	Name: Jon Ruiz De Aguirre Title: Substations Manager	Name: Fraser Ainslie Title: Head of Engineering Design and Standards F. Ainslie Digitally signed by Fraser Ainslie DN: cn=Fraser Ainslie, o=SPEnergyNetworks, ou=Processes and Technology, email=fraser.ainslie@spenergynetworks.co.uk, c=GB Date: 2024.08.11 10:42:20 +01'00'

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. It is published on the SP Energy Networks website.

6. CONTENTS

7. SOP DETAILS

EQUIPMENT TYPE:	GEC 11kV Switchgear type BVRP 500
ORIGINATING COMPANY:	SP Energy Networks
DATE:	24th July 2008
NUMBER INSTALLED IN ENERGY NETWORKS NORTH:	0
NUMBER INSTALLED IN ENERGY NETWORKS SOUTH:	34
REASON:	During routine trip testing, the engineer noted that there was no CT output from one or more phases on two circuit breaker units. Following closure of one of the circuit breakers, and due to circuit conditions, arcing across the insulated portion of the feeder cable gland was noted (FPIs installed), requiring emergency disconnection of the switchboard for investigation. The investigation showed there to be incomplete engagement of the main contacts within the affected circuit breakers, with some contacts not making connection due to material erosion that had occurred during previous fault clearance. Although these contacts were not excessively eroded, they failed to make contact due to reduced movement of all the contacts within the OCB. The investigation showed that pitting on the fixed contacts prevented full stroke of the moving contact due to the mechanical closing energy being consumed by the 'juddering' contact entry.
STATUS IN INITIATING COMPANY:	As SPEN Application.
SPEN APPLICATION:	No BVRP 500 circuit breaker shall be closed until it has been inspected for contact engagement, as defined in SPEN document SWG-19-056, Issue 1, "Replacement of main spring buffer and contact engagement checks on GEC BVRP 500 11kV switchgear". Following this inspection, no BVRP 500 circuit breaker that has cleared fault shall be closed until it has

again been inspected.

Following a fault trip, NO ACCESS is allowed into the substation for a period of 1 hour, or until the substation has been made DEAD by remote switching.

There is no restriction to the opening of circuit breakers.

ADDITIONAL INFORMATION None.

UPDATE None

REMEDIAL ACTION ALL BVRP circuit breakers are to have contact engagement checks undertaken to programme in line the above detailed procedure. Consideration is to be given to a programmed replacement of some BVRP 500 switchboards to reduce the impact of repeated contact engagement inspections following future circuit breaker operations.

8. SOP HEADER

Field Name	Field Value	Field Size
Name (SOPXXX**)** *	**SOP353**	6
The reason for the Operational Restriction *	Eroded gap between contacts.	30
Nature of the Operational Restriction *	Undertake contact engagement checks.	50
Comments *	Following a fault trip, NO ACCESS in substation for a period of 1 hour, or until made DEAD by remote switching. ALL BVRP circuit breakers are to have contact engagement checks undertaken.	200
Restricted Access to Substation Flag *	Y	1
SOP Impact Code * *(highlight or underline the appropriate code)*	0 Temporary/Impact under assessment 1 Very minor operational/network impact 2 Moderate operational/network impact 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 * *(highlight or underline the appropriate code)*	01 Bushing only 02 Circuit Breaker 03 Fixed Portion only	N/A

	04 Moving Portion only 05 Switch 06 RMU 07 Transformer only 08 Tap Changer only 09 Transformer & Bushing 10 Transformer & Tap Changer	
Search Criteria *	Manufacturer: GEC Model: BVRP 500	N/A

* This denotes a Mandatory Field