

**1. SCOPE**

This document details the application of SOP 2011/0376/00 (Applicable to GEC Alstom T&D Type FMJL CT's at system voltage 132kV, 275kV and 400kV) issued by the Energy Networks Association.


**2. ISSUE RECORD**

This is a **Reference** document. The current version is held on the Energy Networks Intranet.

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

Issue Date	Issue No.	Author	Amendment Details
January 2012	1	Mark Stewart	Initial issue
April 2012	2	Alastair Ferguson	Minor numbering corrections [3(vii)]

**3. ISSUE AUTHORITY**

Author	Owner	Issue Authority
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**4. REVIEW**

This is a **Reference** document which has a 10-year retention period after which a reminder will be issued to either extend retention or archive.

**5. DISTRIBUTION**

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

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## 7. SOP DETAILS

<b>EQUIPMENT TYPE:</b>	<b>GEC Alstom T&amp;D – FMJL – CT (132kV, 275kV &amp; 400kV)</b>
<b>ORIGINATING COMPANY</b>	National Grid
<b>DATE:</b>	6 <sup>th</sup> December 2011
<b>NUMBER INSTALLED SPEN NORTH:</b>	114
<b>NUMBER INSTALLED SPEN SOUTH:</b>	66
<b>AFFECTED RANGE:</b>	All units
<b>NUMBER AFFECTED SPEN NORTH:</b>	114
<b>NUMBER AFFECTED SPEN SOUTH:</b>	66
<b>REASON:</b>	<b>Disruptive failures of FMJL CT's.</b> 1(i) 275kV FMJL CT at Cardiff East substation on 3/6/2009 (DIN2009/0046/00 refers) 1(ii) 400kV FMJL CT at Deeside substation on 29/6/2009 (DIN2009/0062/001 refers) 1(iii) 132kV FMJL CT at Indian Queens substation on 25/5/2010 (DIN 2010/0036/00 refers) 1(iv) 400kV FMJL CT at Connahs Quay substation (E.ON Site) on 18/7/2010 (DIN 2011/0041/00 refers)
<b>STATUS IN ORIGINATING ORGANISATION:</b>	2(i) A 75m Risk Management Hazard Zone (RMHZ) has been applied around all FMJL CTs  2(ii) Entry into any RMHZ is restricted to essential work only.  2(iii) Evidence from Connahs Quay incident not only showed the failure characteristic differs from previous incidents but also that oil sampling conducted 12 months prior to the incident showed no indication of an impending failure. Oil sampling can no longer be considered an effective management tool for all failure modes therefore it is now necessary to apply RMHZ's to all FMJL CT's

**SPEN APPLICATION:**

3(i) A Risk Management Zone (RMZ - OPSAF-04-026) shall be applied to all FMJL CTs. This Zone shall extend to **75m** in all directions around the affected CTs.

3(ii) In every case, entry into the RMZ shall be agreed with the OCC (Kirkintilloch) or NMC (Prenton) immediately before entering the exclusion zone.

3(iii) Entry into the RMZ shall be restricted to essential operational activities.

3(iv) In cases of severe weather (e.g. lightning, high winds, heavy rain etc.) due consideration shall be given to the increased risk of a system fault and how this may present a hazard to persons inside the RMZ.

3(v) When passing through any RMZ (e.g. access to control rooms, 33kV switchrooms etc.) the time spent in the RMZ shall be kept to a minimum.

3(vi) Any essential work within an RMZ shall be agreed with the Transmission Operations Manager or an authorised delegate. The time spent inside the RMZ, other than that managed under 3(vii) below shall be restricted to 30 minutes per day (maximum 2½ hours per week).

3(vii) Entry into the exclusion zone for longer durations than 30 minutes per day (maximum 2½ hours per week) shall only be authorised by the Transmission Operations Manager or an authorised delegate. In such circumstances, Risk Management Zone procedures shall be implemented in accordance with OPSAF-04-026 and appropriate risk mitigation measures shall be taken. Such measures may include de-energisation of affected equipment, provision of protective barriers or additional testing regimes to verify the health of all FMJL CTs as considered appropriate.

3(viii) An assessment of each site shall be undertaken to manage public risk in proximity to all FMJL CT's. Risk Assessments shall be completed on a site-per-site basis to evaluate the risk to SPEN staff, contractor, members of the public and other third parties. Warning notices shall be posted at the entry to all sites to alert authorised persons that this SOP is in force and that OCC (Kirkintilloch) or NMC (Prenton) shall be notified to seek permission to enter the site.

**ADDITIONAL INFORMATION:**

The following sites are affected by this SOP:

**Scotland**

- Easterhouse (1 set)
- Glenlee (11 sets)
- Kilmarnock South (2 sets)
- Mossmorran (4 sets)
- Newarthill (3 sets)
- Smeaton (10 sets)
- Strathaven (6 sets)
- Wishaw (1 set)

**England & Wales**

- Bootle (1 set)
- Chester Main (1 set)
- Connaught Quay A (13 sets)
- Shell Thornton (5 sets)
- Shotton Paper (2 sets)

**UPDATE:**

None

**REMEDIAL ACTION:**

These recommendations are intended to reduce the risk associated with any failure whilst a replacement programme is implemented they are not made to justify extending the timescales to remove these units.