# STCP Amendment Proposal Form

**PA031**

**1. Title of Amendment Proposal**

STCP 02-1 – Incorporation of Standardised Formatting and Insertion of Missing Text

**2. Description of the Proposed Amendment** ***(mandatory field)***

Correction of the following formatting errors:

- Minor changes to the Headers and Footers within the document are also proposed. These changes serve to ensure that the name of the STCP and its Issue Number and date are clearly visible on all pages.
- The following text has also been inserted before each of the Flow Diagrams within the STCPs clarifying that the text of the STCP has precedence in the event there is any disparity between the text and the flow diagrams:
- "Note that the Process Diagrams shown in this Appendix [B] are for information only. In the event of any contradiction between the process represented in this Appendix and the process described elsewhere in this STCP, then the text elsewhere in this STCP shall prevail."
- This statement was included in some but not all STCPs during drafting and its inclusion here allows a consistent approach to be taken across all STCPs.

Incorporation of missing reference to STCP06-3 as highlighted in Change Request Form – C237

All of the above changes are reflected within the change-marked STCP attached as Attachment 1 to this STCP Amendment Proposal Form.

**3. Description of Issue or Defect that Proposed Amendment seeks to Address** ***(mandatory field)***

Prior to Go-Live a number of changes to "signed off" STCPs were identified by the User Groups. Change Request Form C237, highlighted the need for STCP02-1 to refer to STCP06-3 in certain scenarios.

In addition, the STCP Amendment Proposal addresses outstanding formatting issues within STCP02-1, which have been corrected in other STCPs.

This STCP Amendment Proposal therefore summarises the defects to be rectified and outlines draft legal text that would give effect to the proposed changes.

**4. Impact on the STC** *(information should be given where possible)*

Effects on STCP 02-1 Alarm and Event Management Issue 002 are as detailed in the Change Marked version attached at Attachment 1 to this STCP Amendment Proposal.

**5. Impact on other frameworks e.g. CUSC, BSC** *(information should be given where possible)*

NONE

**6. Impact on Core Industry Documentation** *(information should be given where possible)*

NONE

**7. Impact on Computer Systems and Processes used by STC Parties** ***(information should be given where possible)***

NONE

**8. Details of any Related Modifications to Other Industry Codes** ***(where known)***

NONE

**9. Justification for Proposed Amendment with Reference to Applicable STC Objectives** ***(mandatory field)***

It is the view of the proposer that should these changes should be incorporated within STCP 02-1. This would better facilitate the following Applicable STC Objectives:

- the development, maintenance and operation of an efficient, economical and co-ordinated system of electricity transmission
- protection of the security and quality of supply and safe operation of the GB Transmission System insofar as it relates to the interactions between transmission licensees
- promotion of good industry practice and efficiency in the implementation and administration of the arrangements described in the STC.

| | |
|---|---|
| **Details of Proposer**<br>Organisation's Name | National Grid Company plc |
| Capacity in which the Amendment is being proposed<br><br>(i.e. STC Party or other Party as designated by the Authority pursuant to STC section B7.2.2.1 (b)) | STC Party |
| **Details of Proposer's Representative**<br>Name<br>Organisation<br>Telephone Number<br>Email Address | <br>Mark Duffield<br>National Grid Company plc<br>01926 654971<br>mark.duffield@ngtuk.com |
| **Details of Representative's Alternate**<br>Name<br>Organisation<br>Telephone Number<br>Email Address | <br>Ben Graff<br>National Grid Company plc<br>01926 656368<br>Ben.Graff@ngtuk.com |
| **Attachments (Yes/No): Yes**<br>If yes, title and number of pages of each attachment:<br>Attachment 1: Revised legal text for STCP 02-1: Alarm and Event Management | |

**Notes:**

1. Those wishing to propose an Amendment to the STC should do so by filling in this "Amendment Proposal Form" that is based on the provisions contained in Section 7.2 of the STC.

2. The Committee Secretary will check that the form has been completed, in accordance with the requirements of the STC, prior to submitting it to the Committee. If the Committee Secretary accepts the Amendment Proposal form as complete, then she/he will write back to the Proposer informing them of the reference number for the Amendment Proposal and the date on which the Committee will consider the Proposal. If, in the opinion of the Committee Secretary, the form fails to provide the information required in the STC, then he/she may reject the Proposal. The Committee Secretary will inform the Proposer of the rejection and report the matter to the Committee at their

next meeting. The Committee can reverse the Committee Secretary's decision and if this happens the Committee Secretary will inform the Proposer.

The completed form should be returned to:

Lilian Macleod
STC Committee Secretary
Commercial Frameworks
National Grid Company plc
NGT House
Warwick Technology Park
Gallows Hill
Warwick, CV34 6DA

Or via e-mail to: STCTeam@uk.ngrid.com

## Attachment 1: Revised Legal Text for STCP 02-1 Alarm and Event Management

# ~~STCP 2.1 Alarm & Event Management~~ STCP 02-1 Issue 002 Alarm & Event Management

## STC Procedure Document Authorisation

| Company | Name of Party Representative | Signature | Date |
|---|---|---|---|
| National Grid Company plc | | | |
| SP Transmission Ltd | | | |
| Scottish Hydro-Electric Transmission Ltd | | | |

## STC Procedure Change Control History

| | | |
|---|---|---|
| Issue 001 | 01/04/2005 | BETTA Go-Live Version |
| Issue 002 | 20/07/2005 | Issue 002 incorporating PA031 |

| ~~Company~~ | ~~Name of Representative~~ | ~~Signed off (date)~~ |
|---|---|---|
| ~~Ofgem~~ | | |
| ~~NGT~~ | | |
| ~~SP~~ | | |
| ~~SHETL~~ | | |

## ~~STC Procedure Change Control History~~

## ~~Outstanding issues to be resolved post company sign-off~~

~~1.Dispute resolution process~~

~~2.Resolving the method of referring to Grid Code i.e. removal of [].~~

~~3.LIC to be removed~~

~~4.Definitions may form a separate 'STCP'~~

# 1 Introduction

## *1.1 Scope*

1.1.1 STCP 02-1 specifies the requirements for the exchange of real time information between NGC and the TOs in relation to alarms and Events on each TO's Transmission System where, for the purposes of STCP 02-1, TO means:

- SPT; and
- SHETL.

## *1.2 Objectives*

1.2.1 The objective of STCP 02-1 is to provide for exchange of information so both the TO and NGC can consider the implications of any alarm and/or Event, assess possible risks arising from it, and take appropriate actions to maintain the integrity of the GB Transmission System.

1.2.2 To meet this objective, STCP 02-1 specifies the following:

- the responsibilities of NGC and TOs in relation to alarms and/or Events on the GB Transmission Systems;
- the requirements for exchange of information related to these alarms and Events; and
- operational liaison and the lines of communication to be used.

# 2 Key Definitions and Interpretation

## *2.1 Key Definitions*

2.1.1 The following definitions apply for the purposes of STCP 02-1:

2.1.1.1 **Class 1 Alarm** means a protection, trip or sequence alarm on the TO's Plant and Apparatus created following an Event on a TO's Transmission System and automatically sent to NGC. This includes, but is not limited to the relevant categories listed in STCP 04-3, Provision of Real Time Data.

2.1.1.2 **Class 2 Alarm** means an asset integrity alarm on the TO's Plant and Apparatus that is automatically sent to NGC. This includes, but is not limited to the relevant categories listed in STCP 04-3, Provision of Real Time Data.

2.1.1.3 **Class 3 Alarm** means an alarm that is only available to the TO.

2.1.1.4 **Plant and Apparatus Impact Assessment** means an initial appraisal to establish the impact that an alarm or Event has, or may have, on any Plant and Apparatus that forms part of the GB Transmission System; and

2.1.1.5 **Transmission System Impact Assessment** means an initial appraisal to determine the impact that an alarm and/or Event has had, or may have on the operation of the GB Transmission System.

2.1.2 STC, STCP or Grid Code definitions used in STCP 02-1 not defined in section 2.1 are included in the attached Appendix B for ease of reference.

## *2.2 Interpretation*

2.2.1 The swimlane attached in Appendix C is provided for information purposes only. In the event of any conflict between the swimlane and the text, the text shall take precedence.

# 3 Procedure

## *3.1 Overview*

3.1.1 As described in sections 3.2 and 3.3, on receipt of an indication of an Event and/or an alarm, the TO shall undertake a Plant and Apparatus Impact Assessment and take appropriate action to resolve the alarm condition and/or Event. This will include contacting NGC as soon as practicable and may include initiating site investigation.

3.1.2 As described in sections 3.2 and 3.3, on receipt of ~~of~~ an indication of an Event and/or an alarm, NGC shall undertake a Transmission System Impact Assessment, develop and direct any required System operations to mitigate the effect of the alarm condition and/or Event on the TO's Transmission System and develop a strategy for liaison with Affected Users, as NGC deems appropriate.

3.1.3 Where an Event or alarm is determined to be a Significant Incident the process described in STCP06-3 – System Incident Management, should be followed.

## *3.2 Class 1 Alarm Management*

3.2.1 As defined in section 2.1.1.1, a Class 1 Alarm means a protection, trip or sequence alarm on the TO's Plant and Apparatus created following an Event on the TO's Transmission System and automatically sent to NGC. This includes, but is not limited to the relevant categories listed in STCP 04-3, Provision of Real Time Data.

3.2.2 Following receipt of a Class 1 Alarm, the TO shall:

- Undertake a Plant and Apparatus Impact Assessment;
- arrange site attendance, where necessary. Site attendance shall be carried out as soon as is reasonably practicable and shall seek to determine the cause of any Event associated with the Class 1 Alarm;
- conduct further investigations as required;
- Contact NGC to discuss the proposed course of action; and
- Provide NGC with all appropriate operational information as soon as possible ~~[~~in accordance with Grid Code OC7~~] .Where~~. Where relevant, this shall include, but not be limited to:
  - the condition of the associated Plant and Apparatus;
  - any revisions to Plant and Apparatus Operational Capability Limits (OCL);
  - the location of any Event associated with the Class 1 Alarm;
  - the estimated time for the TO to attend the appropriate site; and
  - confirm whether or not a service reduction or service reduction risk applies.

3.2.3 The TO shall provide a Services Restoration Proposal for dealing with any Event associated with the Class 1 Alarm to NGC as soon as reasonably practicable.

3.2.4 The TO shall continue to monitor and assess the situation and notify NGC of any changes or potential changes to the information provided under 3.2.2 and 3.2.3 as soon as reasonably practicable.

3.2.5 Upon request, the TO will provide NGC with information and progress updates on all standing Class 1 Alarms, associated Events and plant OCLs.

3.2.6 On receipt of a Class 1 Alarm, NGC shall:

- undertake a GB Transmission System Impact Assessment;
- notify Affected Users of the Class 1 Alarm and/or associated Event that have (or may have) an impact on the System(s) of the Affected User(s), ~~[~~in accordance with the GB Grid Code OC7~~]~~; and
- develop and direct the configuration of the GB Transmission System in response to any alarm and/or Event, taking account of all relevant operational information and any System Restoration Proposal provided by the TO. Operational Switching shall be in accordance with STCP 01-1 Operational Switching.

3.2.7 Upon receipt of relevant new information, NGC will assess the System implications and develop and direct any required GB Transmission System operations, following STCP 01-1 Operational Switching for any operational Switching actions.

## *3.3 Class 2 Alarm Management*

3.3.1 As defined in section 2.1.1.2, a Class 2 Alarm means an asset integrity alarm on the TO's Plant and Apparatus that is automatically sent to NGC. This includes, but is not limited to the relevant categories listed in STCP 04-3, Provision of Real Time Data.

3.3.2 On receipt of a Class 2 Alarm, the TO shall:

- Undertake a Plant and Apparatus Impact Assessment;
- arrange site attendance, where necessary. Site attendance shall be carried out as soon as is reasonably practicable to determine the cause of any Class 2 Alarm;
- conduct further investigations as required;
- Contact NGC to discuss the proposed course of action; and
- Provide NGC with all appropriate operational information as soon as possible ~~[~~in accordance with Grid Code OC7~~] .Where~~. Where relevant, this shall include, but not be limited to:
  - the condition of the associated Plant and Apparatus;
  - any revisions to Plant and Apparatus Operational Capability Limits (OCL);
  - the location of any Event associated with the Class 2 Alarm;
  - the estimated time for the TO to attend the appropriate site; and
  - confirm whether or not a service reduction or service reduction risk applies.

3.3.3 The TO shall provide a Services Restoration Proposal for dealing with any Event associated with the Class 2 Alarm to NGC as soon as reasonably practicable. [High level guidance regarding typical actions and TO resolution policies for dealing with alarms and associated Events is included in Appendix C for information purposes only].

3.3.4 The TO shall continue to monitor and assess the situation and notify NGC of any changes or potential changes to the information provided under 3.3.2 and 3.3.3 as soon as reasonably practicable.

3.3.5 Upon request, the TO will provide NGC with information and progress updates on all standing Class 2 Alarms, associated Events and plant OCLs.

3.3.6 On receipt of a Class 2 Alarm NGC shall:

- undertake a GB Transmission System Impact Assessment;
- notify Affected Users of the Class 2 Alarm and/or associated Event that have (or may have) an impact on the System(s) of the Affected User(s), ~~[~~in accordance with the GB Grid Code OC7~~]~~; and
- develop and direct the configuration of the GB Transmission System in response to any alarm and/or Event, taking account of all relevant operational information and any System Restoration Proposal provided by the TO. Operational Switching shall be in accordance with STCP 01-1 Operational Switching.

3.3.7 Upon receipt of relevant new information, NGC will assess the System implications and develop and direct any required GB Transmission System operations, following STCP 1-1 Operational Switching for any operational Switching actions.

## *3.4 Class 3 Alarms*

3.4.1 As defined in section 2.1.1.3~~2.2.3~~, a Class 3 Alarm means an alarm that is only available to the TO. If the TO receives a Class 3 Alarm the TO may initiate the resolution without reference to NGC if, in the opinion of the TO, the alarm and/or any actions (or planned actions) taken by the TO have no operational implications to the GB Transmission System.

3.4.2 The TO shall notify NGC if:

- there are, or the TO has any doubt as to whether there are, any operational implications to the GB Transmission; or
- the alarm condition develops (or may develop) into a situation that presents a Services Reduction Risk and/or Services Reduction.

### *3.5 To made aware of an Event without an associated alarm*

3.5.1 Where an Event occurs or a TO is informed of a potential Event on the TO's Transmission System that has no associated alarm, that has (or may have) an operational impact or implications on the TO's Transmission System, that TO shall contact NGC and any relevant TO (as appropriate). Operational liaison shall take place between NGC and the TO as soon as possible to discuss the nature of the Event (or potential Event) and the appropriate course of action.

3.5.2 If the Event (or potential Event) has direct operational impact or implications, the procedure in section 3.2 shall be followed not withstanding the lack of an alarm.

3.5.3 Should NGC notify the TO that an Event does not have any direct operational impact or implications, the TO may take remedial action to clear the Event as appropriate, notifying NGC of any actions.

### *3.6 NGC made aware of an Event impacting on a TO's Transmission System*

3.6.1 Where an Event or alarm occurs on the NGC's Transmission System or NGC becomes aware of an Event that may effect a TO's Transmission System, NGC shall inform NGC or the TO(s) (as relevant) of the Event or alarm as soon as reasonably practicable to develop a restoration strategy.

3.6.2 The procedure in section 3.2 shall be followed as appropriate.

### *3.7 Emergency Conditions*

3.7.1 Where emergency action is required to safeguard life or Transmission Plant and/or Apparatus, STCP 09-2 Site and Public Safety should be followed.

### *3.8 Guidance*

3.8.1 Each TO's overhead line restoration policy and risk assessment policy including actions to be taken for maintenance of the TO Transmission System integrity following an alarm or Event are contained in Appendix A, for information purposes only. Updated copies of the guidance will be provided by the relevant TO as appropriate.

## ~~4Dispute Resolution~~

~~[All disputes are anticipated to be covered by a standard 'Disputes' STC/STCP. *ref STC – to be updated in line with STC.*~~

# ~~54~~ Appendices

## *Appendix A: Alarm Condition Tables*

The Alarm Condition table below is indicative of the action that SHETL or SPT shall normally take in their licensed area for a given alarm condition. **It is included for guidance only.**

| Alarm Condition | SHETL | SPT |
|---|---|---|
| Switchgear Persistent low pressure alarm (Loss of Insulating/Operating Medium) | Liaise with responsible site engineer. Decide if switch can be left in service until site visit.<br><br>If not, open switch unless Security standards are contravened.<br><br>When below trip lockout settings or oil level below sight glass, make dead (remotely) unless loss of supply would result. | Liaise with responsible site engineer. Decide if switch can be left in service until site visit.<br><br>If not open, switch unless operational standards contravened.<br><br>When below trip lockout settings or oil level below sight glass, make dead(remotely), unless loss of supply would result. |
| Depletion of Electrical Tripping facility | Loss of 1 trip circuit ( when duplicated): Open switch, unless security standards contravened.<br><br>Loss of both or only trip circuit : switch out, unless loss of supply would result. | Loss of 1 trip circuit (when duplicated): Open switch, unless security standards contravened<br><br>Loss of both or only trip circuit: switch out (remotely), unless loss of supply would result. |
| Unplanned Protection Depletions: Circuits | Circuits can remain in service for the following depletions:<br>Loss of the only Signalling facility (for distance protection-acceleration/blocking when blocking mode switched out, where the other main protection is in service.<br><br>Loss of 1 out of 2 intertrips<br>CB Fail.For 132 kv circuits - loss of relevant legs of cascade intertrip System where fault thrower switches are in service. | Circuits can remain in service for the following depletions:<br>Loss of acceleration or blocking facility when blocking mode switched out, provided the other main protection is complete.<br>Loss of 1 out of 2 intertrips.<br>Loss of relevant legs of triangulated intertrip System.<br>CB Fail:<br>For 132kV circuits selecting into service Fault Thrower Switches for loss of intertripping.<br>If the only intertrip fails:-<br>the circuit can remain in service for 3 hours for testing/remedial work.<br>Preventative switching may be carried out to mitigate loss of intertripping. |

The Alarm Condition table below is indicative of the action that SHETL or SPT would normally take in their licensed area for a given alarm condition**. It is included for guidance only.**

| Alarm Condition | SHETL | SPT |
|---|---|---|
| Additional Unplanned Protection Depletions: Circuits (Where operational standards will be contravened by switching out) | 1 main 275kV circuit protection when other MP including I/T is working. Protection for other 275kV Plant and Apparatus, if protected by high speed protection. Protection / Intertrip on 132kV Plant and Apparatus, if covered by other protection.<br><br>The only I/T if protected by un stabilisation, acceleration or de blocking, providing Trf isolators connected in auto isolation mode – or where System conditions allow remote CB to be open. | Circuits can remain in service for the following depletions:<br>1 main 275kV circuit protection when the other MP including I/T is fully operational. Protection for other 275kV Plant and Apparatus if protected by high speed protection<br><br>Protection / Intertrip on 132kV Plant and Apparatus, if covered by other protection. e.g. setting down back-up overcurrents. |
| Busbar Protection Depletion | Initiate technical investigation.<br><br>If defective, check or discrim zone can be identified, switch out corresponding BB providing no. on load c/overs or security standards infringed. If not, switch out DAR/Segregate BBs where possible.<br><br>After technical investigation:If BB unprotected, due to faulty check or discrim protection zone, switch out unless security standards infringed.<br><br>If BB has to remain in service, arrange for remaining protection to operate on fault. If this is not practicable, switch BB out unless loss of supply would result.<br><br>If BB unprotected, due to faulty check and discrim protection zone, switch out unless loss of supply would result. Where BB left in service, take action to : minimise effect on System, switch out auto-reclose on circuits connected to BB, extend distance protection at remote points and ensure access is restricted. | Initiate technical investigation.<br><br>Clear site apart from essential work.<br><br>For Systems with two fully discriminating bus zone protections, switch out faulty protection.<br><br>If defective check or discrim zone can be identified, switch out corresponding Bus bar providing no on load c/overs or security standards infringed. If not, switch out DAR/Segregate BBs where possible.<br><br>After technical investigation:<br><br>if BB unprotected, due to faulty check or discrim protection zone, switch out unless security standards infringed<br><br>If BB has to remain in service arrange for remaining protection to operate on fault. If this is not practicable, switch BB out unless loss of supply would result.<br><br>If BB unprotected, due to faulty check and discrim protection zones or first and second Systems, switch out, unless loss of supply would result. Where BB left in service, take action to minimise effect on System, switch out auto-reclose on circuits connected to BB, set remote distance relay zone 2 timers to zero, or switch in remote zone 1 extension where available.<br><br>Ensure access is restricted. |

The Alarm Condition table below is indicative of the action that SHETL or SPT would normally take in their licensed area for a given alarm condition. **It is included for guidance only.**

| Alarm Condition | SHETL | SPT |
|---|---|---|
| Digital Busbar Protection Depletion | Action will be taken in line with requirements for depletion of busbar protection check and discrim zone | Failure of busbar protection will affect both main and check zones. Take action in line with complete failure of traditional scheme. |
| Buchholz Gas Alarm | Transformer or reactor will be switched out as soon as possible unless it would result in:<br>loss of supply,<br>System instability, unacceptable voltage conditions,<br>or<br>loading can be reduced such that gas can no longer be produced<br>A responsible engineer requests that the Plant and Apparatus remains on load. | Transformer or reactor will be switched out as soon as possible, unless it would result in<br>loss of supply, System instability ,unacceptable voltage conditions<br>or<br>loading can be reduced such that gas can no longer be produced.<br>A responsible engineer requests that the Plant and Apparatus remains on load. |
| Cable gas / oil pressure falling/ Low | Falling:<br>Rrequest site investigation.<br>Prepare to switch out.<br>Low:<br>Imminent or actual low pressure alarm - switch out unless<br>Loss of supply<br>Unacceptable voltage conditions<br>Instability | Falling:<br>Request site investigation.<br>Prepare to switch out.<br>Low:<br>Imminent or actual low pressure alarm switch out unless<br>Loss of supply<br>Unacceptable voltage conditions<br>Instability<br>Falling/No Danger Lvl:<br>Request site investigation.<br>Prepare to switch out. |
| Qualitrol Alarms | If Plant and Apparatus remains live, switch out, even if loss of supply would result. | No alarms. Operation causes transformer protection to operate. |
| Wound Type Voltage Transformers. Gas alarm | Reconfigure System, where necessary. Switch out within 5 mins. | Reconfigure System, where necessary. Switch out within 5 mins. |

| | | |
|---|---|---|
| Loss of Substation Compressed Air | If severe restriction of compressed air, switch out DAR avoid CB operation.<br>If appropriate, conditioning air may be switched off. | If severe restrictions of compressed air, switch out DAR, avoid CB operation.<br>In extreme cases, conditioning air may be switched off following Engineering judgement. Plant and Apparatus history and weather conditions to be considered. |

The Event table below is indicative of the action that SHETL or SPT would normally take in their licensed area. **It is included for guidance only.**

| **Operation of Switchgear under Fault Conditions** | |
|---|---|
| SHETL | In emergency conditions switchgear can be required to operate in excess of the guaranteed number of operations to preserve System integrity or customer supplies. Where this is considered necessary the Control Engineer will consider the switchgear type, number of operations, fault levels during trips, and where possible liaise with staff on site prior to each reclosure.<br>Switchgear, which has operated on fault,should be made available at the request of the Responsible Engineer, for post fault inspection/maintenance as soon as reasonably practicable. |
| SPT | The number of permissible fault operations is defined in the Switchgear Post-Fault Maintenance Policy and Grid Control Instruction C 52. A spreadsheet in C52 defines the number of operations for each breaker in the System based on the type of breaker and the max fault level at the location.<br>Normally the permissible number of fault clearances shall not be exceeded except in exceptional circumstances e.g. storm conditions to maintain supplies or System security. The Control Engineer in line with the Switchgear Post Fault Maintenance Policy, shall only exceed this number following an assessment.<br>If the Control Engineer become aware that the number of operations stated<br>has been, or is likely to be exceeded during the current control phase,<br>then a Responsible Engineer shall be notified as soon as possible, in order that he may give<br>guidance on further operation. i.e. Analyse the fault and determine, where possible, the actual fault current interrupted. This allows a more accurate assessment of the breaker condition. Pending a decision by the Responsible Engineer, discretion must be exercised by the Control Engineer in order to minimise further operations of the equipment having due regard to the prevailing System conditions.<br>Switchgear which has approached or reached the max number of fault operations should be made available at the request of the Responsible Engineer, for post fault inspection/maintenance as soon as is reasonably practicable. |

The Event table below is indicative of the action that SHETL or SPT would normally take in their licensed area. **It is included for guidance only.**

| **Tripping Faults on Transformers Quad Boosters, Electrical Reactors.** | |
|---|---|
| SHETL | Unless there is definite evidence of mal-operation of protection, or supplies are interrupted and cannot be restored from alternative sources, the following primary equipment shall not be re-energised until agreement has been reached with a responsible engineer:<br>a) a transformer, electrical reactor, which has tripped on differential protection,<br>b) a transformer, or electrical reactor which has tripped on Buchholz protection, or pressure relief device or a transformer which has tripped on single Stage, SBEF or the final stage of a multi stage SBEF,<br>c) a circuit, consisting wholly of cable, which has tripped on its own differential protection,<br>d) a circuit, consisting of overhead line and cable sections, which has tripped, and where alarms and annunciations indicate that the cable section has been faulted, and where<br>e) acircuit which includes 132kv gas compression cables |
| SPT | Unless there is definite evidence of mal-operation of protection, or supplies are interrupted and cannot be restored from alternative sources, the following primary Plant and Apparatus shall not be re-energised until agreement has been reached with a responsible engineer: (One remote reclosure is permitted in severe weather, when customers are without supply or there are System security risks, where either the communication link has been lost or there has been no transformer alarms).<br>a) a transformer, QB, reactor, capacitor or compensation Plant and Apparatus, which has tripped on differential or restricted earth fault protection unless it is known that co-ordinating gaps or surge arrestors are fitted within protected zone and it has tripped during a thunderstorm,where transformer LV connections are cabled,<br>b) a transformer, which has tripped on differential or restricted earth fault protection with LV connections which are within the protected zone,<br>c) a transformer, QB or reactor which has tripped on Buchholz protection, or a transformer which has tripped on Stage 1 or 2 SBEF unless the SBEF operation is associated with an uncleared feeder fault,<br>d) a circuit, consisting wholly of cable, which has tripped on the differential protection associated with the circuit,and where,<br>e) a circuit, consisting of overhead line and cable sections, which has tripped, and where alarms and annunciations indicate that the cable section has been faulted. |

The Event table below is indicative of the action that SP or SHETL would normally take in their licensed area. **It is included for guidance only.**

| **Tripping Faults on Busbars and Mesh Corners** | |
|---|---|
| SHETL | Unless there is definite evidence to indicate mal-operation of protection, busbars, which have been made dead by busbar protection (or where no BB protection is fitted by the tripping of incoming supply circuits), shall not be re-energised until agreement with the responsible engineer who has carried out an examination, has been reached.<br>As an emergency procedure,, one attempt may be made to re-energise outdoor air insulated BBs or MCs, which have been made dead during a thunderstorm or other adverse weather conditions when:<br>a) such information as can be obtained has been considered and the Control Engineer has taken steps to advise staff on site of the proposed action.<br>b) No information to suggest that it would be dangerous to reclose is available<br>c) The reclosure can be carried out through a CB provided with BB or MC or back-up protection. |
| SPT | Unless there is definite evidence to indicate mal-operation of protection, busbars or mesh corners, which have been made dead by busbar or mesh corner protection (or where no BB or MC protection is fitted by the tripping of incoming supply circuits), shall not be re-energised until agreement, with a responsible engineer who has carried out an examination, has been reached.<br>As an emergency procedure, one attempt may be made to manually re-energise outdoor air insulated BBs, which have been made dead during a thunderstorm or other adverse weather conditions when:<br>a) such information as can be obtained has been considered and the Control Engineer has taken steps to advise staff on site of the proposed action.<br>b) The reclosure can be carried out through a CB provided with BB or back-up protection. |

The Event table below is indicative of the action that SP or SHETL would normally take in their licensed area. **It is included for guidance only.**

| | **Overhead Line Restoration policy** |
|---|---|
| SHETL | Following confirmation of no reports of accidental contact or damage the System Controller may attempt reclosure within the following guidelines.<br>**Where significant customer supplies are affected**, immediate reclosure (as soon as fault alarms and operations have been assessed and where possible within 3 minutes)<br>**All other scenarios including System firm against next fault**<br>Normal weather conditions between 22:00 and 06:00 Attempt reclosure following 5 Minutes delay<br>Normal Weather conditions between 06:00 and 22:00 Attempt reclosure following 10 minute delay<br>Abnormal Weather (Gales/ lightning), immediate reclosure ( as soon as alarms and operations have been assessed and where possible within 3 minutes). |
| SPT | The Control Engineer may attempt fault reclosure providing a risk assessment is completed including Weather, Time of day, Number of customers off supply, Effect of prolonged outage, Protection operated, Route of circuit, Reports of damage, Risk to life, Capability of CB, Risk to System, Any other relevant information i.e. trouble calls, lightning monitors. It is anticipated that the risk assessment would typically take 15 mins. Following the risk assessment the Control Engineer may Reclose immediately, or consider a short delay to gather additional information or delay until staff arrive on site.<br><br>Where the overhead line terminates at a mesh, single or three switch substation, which is not equipped with CTs at the line entry, consideration should be given to the possibility that the mesh corner or connections have faulted as these sections are within the protected zone of the line protection. |

## *Appendix B: ~~General Terms/Conditions~~ Definitions and Terms*

### *B1: Terminology/Abbreviations*

***~~As defined in the STC:~~***

| | |
|---|---|
| NGC | National Grid Company plc |
| SPT | SP Transmission Ltd |
| SHETL | Scottish Hydro-Electric Transmission Ltd |
| TO | Transmission Owner |
| STC | System Operator – Transmission Owner Code |
| STCP | System Operator –Transmission Owner Code Procedure |
| ~~GB Transmission System~~ | |

### *B2: Definitions used (other than those defined in Key Definitions~~in addition to the Key definitions in section 2~~)*

**STC Definitions Used:**

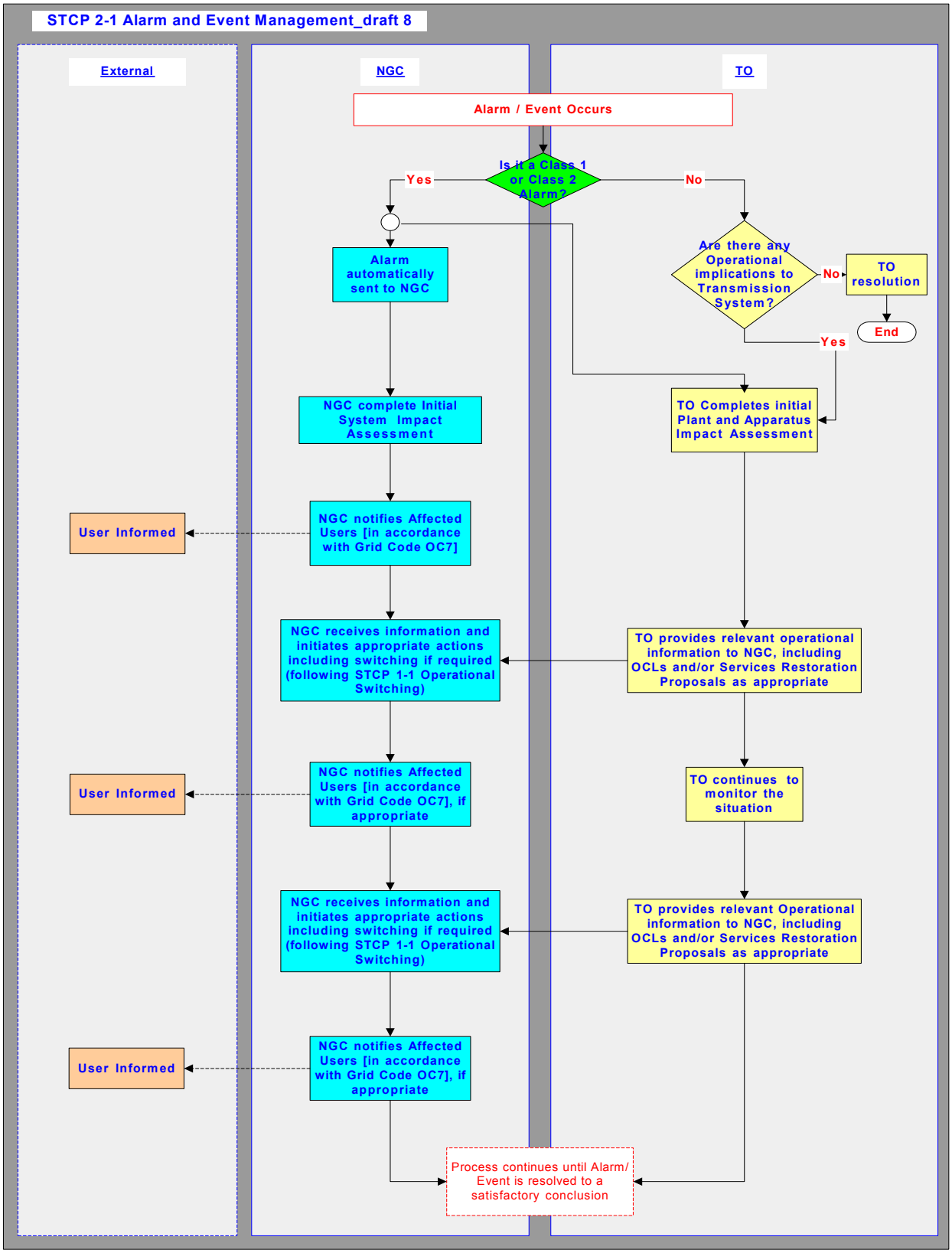
Apparatus
Event
GB Transmission System
Operational Capability Limit
Party
Plant
Safety Rules
Services Reduction
Services Reduction Risk
Service Restoration Proposal
Significant Incident
System
Transmission
Transmission System

| | |
|---|---|
| ~~Event~~ | ~~STC Definition:~~<br>~~an unscheduled or unplanned (although it may be anticipated) occurrence on, or relating to a System including, without limiting that general description faults, incidents and breakdowns and adverse weather conditions being experienced.~~ |
| ~~Transmission~~ | ~~Grid Code definition~~<br>~~New Grid Code definition~~ |
| ~~System~~ | ~~Grid Code definition~~<br>~~Any User System and/or the NGC TO's Transmission System, as the case may be.~~ |
| ~~Services Restoration Proposal~~ | ~~As defined in Section C, Part One, sub-paragraph 4.5.4 of the STC.~~ |
| ~~Operational Capability Limit (OCL)~~ | ~~As defined in Section C, Part One, sub-paragraph 4.2 of the STC.~~ |
| ~~Services Reduction~~ | ~~As defined in Section C, Part One, sub-paragraph 4.1.2 of the STC.~~ |

| | |
|---|---|
| ~~Services Reduction Risk~~ | ~~As defined in Section C, Part One, sub-paragraph 4.4.2 of the STC.~~ |
| ~~Operating Procedure~~ | ~~Grid Code definition~~<br>~~Management instructions or procedures, both in support of the Safety Rules and for local and remote operation of Plant and Apparatus, issued in connection with the actual operation of Plant and/or Apparatus at or from a Connection Site.~~ |
| ~~Party~~ | ~~STC Definition:~~<br>~~a "Party" is a person who is, for the time being, bound by the Code by virtue of being a Party to the Framework Agreement.~~ |
| ~~Safety Rules~~ | ~~Grid Code definition~~<br>~~The rules of a Transmission Licencee or a User that seek to ensure that persons working on Plant and/ or Apparatus to which the rules supply are safeguarded from hazards arising from the System.~~ |
| ~~Plant~~ | ~~STC Definition:~~<br>~~fixed and moveable items used in the generation and/orsupply and/or transmission of electricity other than Apparatus;~~ |
| ~~Apparatus~~ | ~~STC Definition:~~<br>~~all equipment in which electrical conductors are used, supported or of which they may form a part~~ |
| ~~GB Transmission System~~ | ~~STC Definition:~~<br>~~the System consisting (wholly or mainly) of high voltage electric wires owned or operated by Transmission Licensees within Great Britain and used for the transmission of electricity from one generating station to a sub-station or to another generating station or between sub-stations or to or from any interconnector and includes any electrical plant or meters owned or operated by any Transmission Licensee within Great Britain in connection with the transmission of electricity;~~ |
| ~~Transmission System~~ | ~~STC Definition:~~<br>~~the System consisting (wholly or mainly) of high voltage electric lines owned or operated by Transmission Licensees and used for the transmission of electricity from one generating station to a sub-station or to another generating station or between substations or to or from any interconnector and including any electrical plant and meters owned or operated by a Transmission Licensee in connection with the transmission of electricity but shall not include remote transmission assets;~~ |

## *Appendix C: 'Swimlane' Flow Diagram*

Note that the Process Diagrams shown in this Appendix C are for information only. In the event of any contradiction between the process represented in this Appendix and the process described elsewhere in this STCP, then the text elsewhere in this STCP shall prevail.



## ~~*Appendix D: LIC Data Tables*~~

### ~~*D.1 Interface Table*~~

~~D.2 Standing data/Assumed data table~~