

## STCP8-1: Protection Testing Version 002

### STCP Procedure Document Authorisation

Company	Name of Representative	Signed off (date)
NGT		
SP		
SSE		

### STC Procedure Change Control History

Issue 0.1      24/3/5  
Issue 1        29/3/5

**Outstanding issues to be resolved pre company sign-off**

**Outstanding issues to be resolved post company sign-off**

## **1 Introduction**

### **1.1 Scope**

- 1.1.1 This procedure describes the arrangements and processes across the NGC-TO interface for Protection Tests (with primary Plant and Apparatus in service). This does not include Protection Tests associated with commissioning or decommissioning activities, which are the subject of STCP19-4 Commissioning and Decommissioning or the planned tripping of circuits which are subject to the requirements of STCP 8-2 Circuit Live Trip and DAR Tests.
- 1.1.2 Protection Tests are complementary to the testing of Protection Apparatus and its associated electrical signalling that takes place when control of Protection equipment is transferred to a TO under a Transmission Status Certificate (TSC).
- 1.1.3 Any requests for Protection Tests shall be made by a TO. It is not anticipated that NGC shall submit any requests under this procedure.
- 1.1.4 The primary information exchange between NGC and TO for planning and implementing Protection Tests is set out in this procedure. Elements of information exchange mechanisms described in the STC, STCP 1-1 Operational Switching and STCP11-1 Outage Planning may also be used, where appropriate, in the planning and operation of Protection Testing.
- 1.1.5 This procedure applies to NGC and each TO where, for the purpose of this document, the TOs are:
- SPT; and
  - SHETL.

### **1.2 Objectives**

- 1.2.1 This process specifies the following:
- the responsibilities of NGC and the TO(s) in relation to Protection Tests;
  - the requirements for exchange of information across the NGC-TO interface; and
  - the means of communication to be used across the NGC-TO interface.
- 1.2.2 It is designed to enable the Parties to discharge their responsibilities under the appropriate section of the STC and to ensure that responsibilities are clear.

## **2 Key Definitions**

### **2.1 For the purposes of STCP 8-1:**

- 2.1.1 **Protection Tests** means the testing of Protection Apparatus and associated signalling with the primary Plant and Apparatus in service.

## **3 Process**

### **3.1 General**

- 3.1.1 Whenever possible Protection Tests should be planned in advance. However, this does not exclude the possibility of agreeing tests at shorter notice, including Control Phase timescales.
- 3.1.2 Protection Tests shall be planned and carried out by the Affected Parties such that, with the exception of the Plant and Apparatus subject to the Tests, there is minimal impact on the GB Transmission System.
- 3.1.3 Protection Tests implemented in accordance with this procedure shall not involve the planned tripping of circuits. Where planned tripping of circuits is involved STCP 8-2 Circuit Live Trip and DAR Tests shall be used.
- 3.1.4 NGC shall remain responsible for the operational management of the GB Transmission System during the testing.

- 3.1.5 The TO shall be responsible for managing the Tests programme in accordance with the requirements of this procedure.

### **3.2 Operational Planning Phase**

- 3.2.1 During the Operational Planning Phase, the TO shall submit all Outage requests for Protection Tests in accordance with STCP 11-1 Outage Planning.
- 3.2.2 Any request for an Outage shall state the Protection Apparatus, associated signalling and circuit involved, and shall be flagged as an 'in-service' Outage request. These Outages shall not be considered in security analysis by NGC. Although these Outages do not form part of security analysis, the Operational Effect of a fault or unintended tripping of the 'in-service' circuit shall be considered as part of the Outage planning process.
- 3.2.3 During the Operational Planning Phase, any Protection Apparatus and associated signalling work requiring isolation of in-service Plant and Apparatus shall be requested as an Outage in accordance with STCP 11-1 Outage Planning and will be considered by NGC in security analysis.
- 3.2.4 Outage requests for Protection Tests may be accepted with the primary Plant and Apparatus 'in-service' where:
- results of off-load testing would not be sufficient to confirm the performance of equipment involved; and/or
  - the operational and/or commercial consequences of switching out primary Plant and Apparatus are judged more onerous than retaining the primary Plant and Apparatus in service.
- 3.2.5 In all cases:
- the 400 and 275kV networks the primary Plant and Apparatus remaining in service must be fully protected by a main Protection system throughout the period of work. On the 132kV network equipment would not normally be left in service unless protected by an in-service main Protection; and
  - the work must be arranged to deplete the Protection Apparatus and associated signalling to be worked on for the minimum time and should not normally exceed 3 hours. If work on Protection Apparatus and associated signalling is judged at the planning stage to be likely to exceed 3 hours duration the work should normally be planned and requested with the primary Plant and Apparatus out of service.
- 3.2.6 Consideration shall be given by the TO and NGC when proposing to carry out work on Protection Apparatus and associated signalling to the interaction with any other Protection Apparatus or automatic switching systems including Operational Intertripping Schemes.
- 3.2.7 As part of the planning of Protection Tests on cross TO boundary circuits, liaison and agreement shall take place between the TOs involved. The requesting TO shall take the lead in co-ordinating discussions and reaching agreement with the other affected TO(s). The requesting TO shall be responsible for liaising with NGC regarding such outcome of discussions.
- 3.2.8 No Protection Tests will take place on circuits where the Tests would result in operation of an Operational Intertripping Scheme. Any such Tests should normally be carried out under STCP 8-3 Operational Tests or System Tests or STCP 8-4 User Tests.
- 3.2.9 NGC shall be responsible for obtaining the agreement of an affected User or affected TO to Protection Tests. Tests will only be carried out if and when agreement for the Tests has been reached with the affected User or affected TO.
- 3.2.10 Predicted weather and GB Transmission System conditions at the time of testing must be taken into account by the TO and NGC if planning to deplete Protection.

- 3.2.11 The TO will provide such additional information as may be reasonably requested by NGC to assist in assessing any operational implications of Protection Tests including Services Reduction and Services Reduction Risks.

### **3.3 Control Phase**

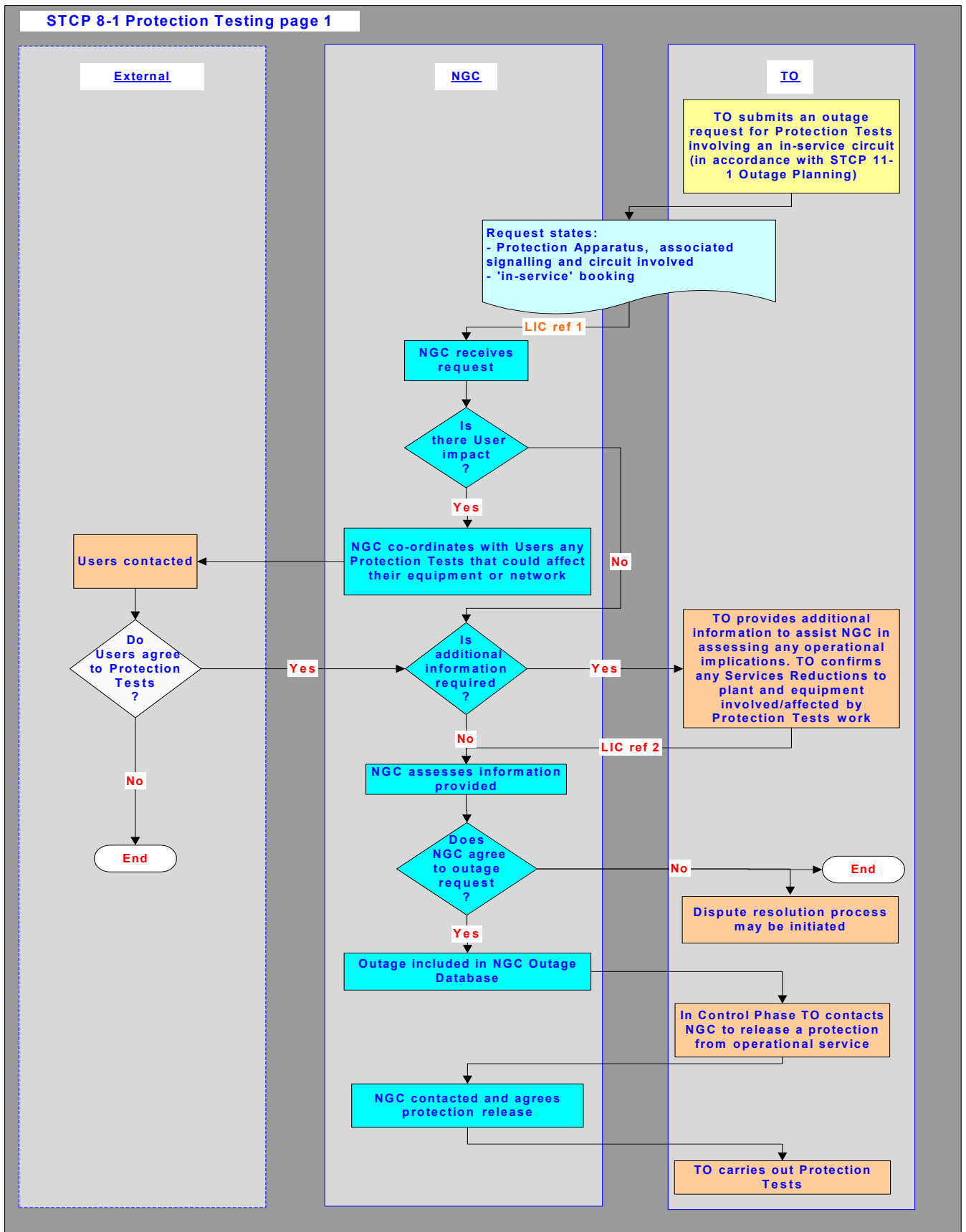
- 3.3.1 Where the proposed Protection Tests have been part of the Operational Planning Phase, normal liaison will take place between the TO and NGC prior to the work commencing as detailed in STCP1-1 Operational Switching.
- 3.3.2 Where the proposed Protection Tests have not been part of the Operational Planning Phase operational staff representing the TO and NGC shall consult and consider those aspects normally considered in the Operational Planning Phase prior to the work going ahead. Where necessary NGC will liaise with Users. Normal liaison as detailed in STCP 1-1 Operational Switching will take place between the TO and NGC prior to the work commencing.
- 3.3.3 In the Control Phase, agreement to release Protection Apparatus and associated signalling from operational service must be obtained by the TO from NGC prior to commencing any Protection Tests.
- 3.3.4 The TO is responsible for specifying and carrying out the method of work or Testing and notifying NGC of any associated Operational Effects (or potential Operational Effects) of the work or Testing, including Services Reduction and Service Reduction Risks in advance of testing.
- 3.3.5 Protection Tests shall be carried out in accordance with the requirements of STCP 1-1 Operational Switching for work on Protection Apparatus associated with Plant and Apparatus not released to the TO (i.e. Plant and Apparatus retained under NGC control). The testing will normally be agreed under a verbal Switching Method and agreement recorded by NGC and the TO.
- 3.3.6 The TO shall manage the Protection Tests on the released Protection Apparatus and associated signalling in accordance with the requirements of this procedure and any internal company procedures.
- 3.3.7 When Protection Tests have commenced, any change in GB Transmission System, Site or Testing conditions identified by the TO or NGC that could affect or invalidate the Protection Tests must be communicated by that Party to the other Party as soon as reasonably practicable. Work shall be suspended until the implications of the change have been assessed by all parties involved. NGC will co-ordinate any communication with affected Users.
- 3.3.8 The TO will ensure that the Protection Apparatus and associated signalling is restored to the appropriate Normal Capability Limit (NCL) or Operational Capability Limit (OCL). Where it is not appropriate to restore the Protection Apparatus and associated signalling to the capability applicable at the start of the Outage the TO shall advise NGC of the new capability in accordance with STCP 4-4 Provision of Asset Operational Information.
- 3.3.9 On completion of Protection Tests the TO shall notify NGC and, using an agreed methodology, restore the Protection Apparatus and associated signalling back to service.
- 3.3.10 NGC shall inform any affected Users when the Protection Tests are completed, delayed or cancelled.
- 3.3.11 A failure of communications between the TO and NGC during the Protection Tests should not influence the outcome but if the Protection Tests are completed before communications are restored the TO may return the Protection to normal service and inform NGC as soon as communications are restored.

## **4 Disputes**

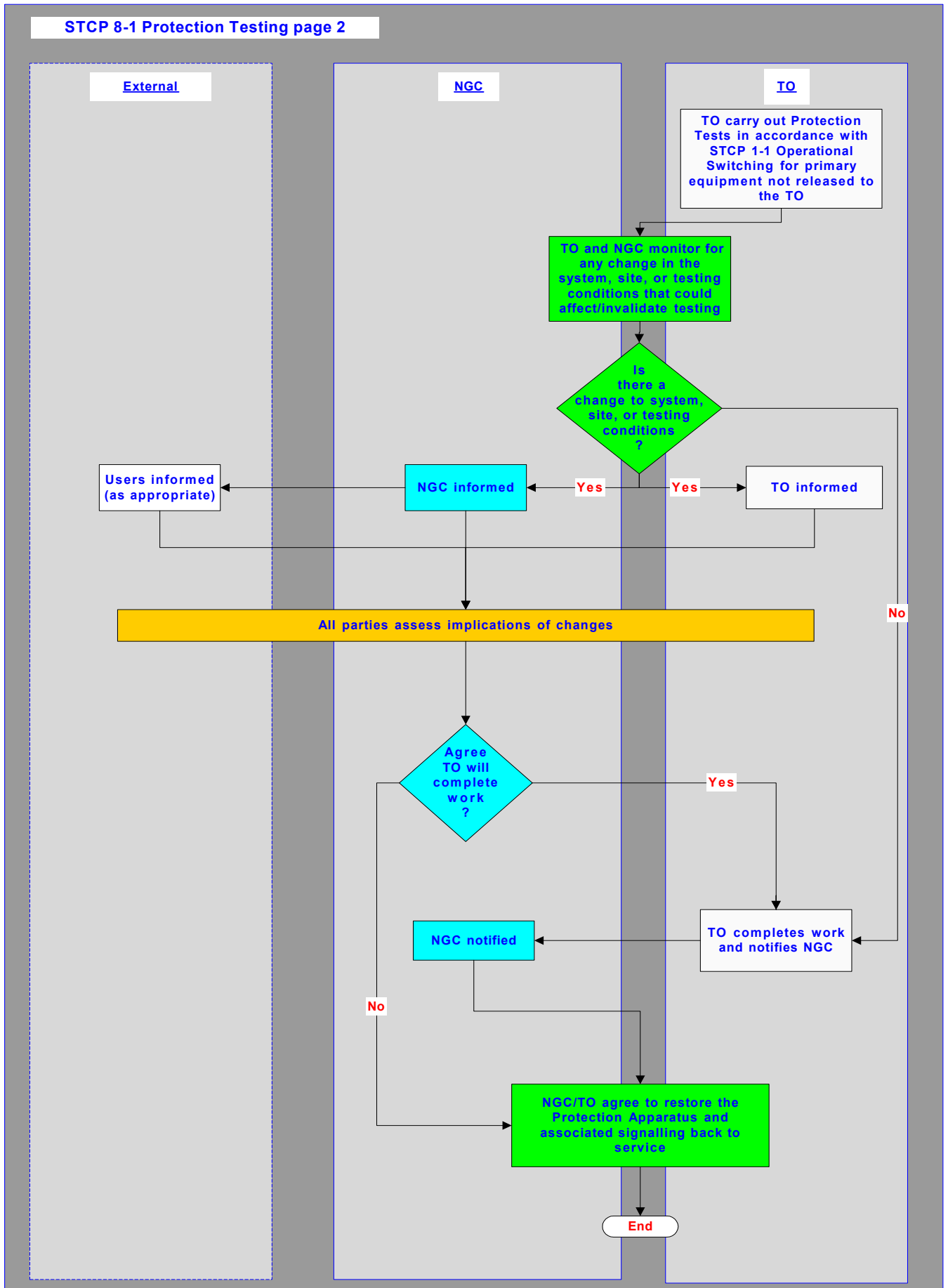
- 4.1.1 In the event that there is a dispute regarding the acceptability or otherwise of a Protection Tests proposal or associated Outage the testing will not take place until the dispute has been resolved.
- 4.1.2 Any affected party may initiate a Dispute in the event that agreement cannot be reached.

## Appendix A: Process Diagrams

Note that the Process Diagrams shown in this Appendix 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 B – Definitions & Abbreviations

### B.1 Abbreviations

NGC	National Grid Company
SHETL	Scottish Hydro Electric Transmission Ltd
SPT	Scottish Power Transmission
STC	System Operator –Transmission Owner Code
STCP	System Operator –Transmission Owner Code Procedure
TO	Transmission Owner

### B.2 Terms defined in the STC:

Dispute

GB Transmission System

Operational Effect

Outage

Tests

### B.3 Terms defined in the Grid Code:

Apparatus

Control Phase

Intertripping

Operational Planning Phase

Protection

### B.4 Terms defined in other STCPs

Transmission Status Certificate	STCP1-1: Operational Switching
Switching Method	STCP1-1: Operational Switching