

# STCP 11.1 Outage Planning

## STC Procedure Document Authorisation

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

### 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. Definitions may form a separate 'STCP'
4. Any issues related to the cost of Outages to be resolved outside of this STCP
5. Appendix B shall be reviewed once the TOGA interface specification is available.

## **1 Introduction**

### **1.1 Scope**

- 1.1.1 This document specifies the requirements for the exchange of information across the NGC:TO interface throughout the Outage Planning process, from Outage requirements identified up to six years ahead (for complex schemes and GB Transmission System reinforcement) to handover of the plan into the Control Phase (including Outage Proposals submitted in the Control Phase).
- 1.1.2 This document applies to Outage requirements on Plant and Apparatus used on or associated with TOs' Transmission Systems including Protection, associated communication channels and exchange of information related to User Outage requirements that could affect the operation of TOs' Transmission Systems.
- 1.1.3 This document applies to NGC and TOs. For the purposes of this document, the TOs are:
- SPT; and
  - SHETL

### **1.2 Objectives**

- 1.2.1 The objective of this STCP is to provide for an efficient exchange of information between NGC and TOs to facilitate:
- the co-ordinated development of Outage Proposals by each TO; and
  - preparation of Outage Plans for the GB Transmission System by NGC, taking into account each TO's Outage Proposals.
- 1.2.2 To meet this objective, this STCP specifies the following:
- the requirements for exchange of information between NGC and TOs related to Outage Planning;
  - NGC responsibilities to develop and maintain Outage Plans; and
  - TO responsibilities to develop and keep up to date Outage Proposals.

### **1.3 Key Definitions and Terms**

- 1.3.1 A set of key definitions and terms used for the purposes of this document are listed in Appendix F.
- 1.3.2 In this document week numbers refer to engineering (calendar) week numbers.
- 1.3.3 There are three key stages to the Outage Planning process:
- 1.3.3.1 Outage Definition: This is a statement by TOs of a firm Outage requirement based on the need to undertake work, based on the combination of individual work requirements on or associated with given Plant and Apparatus specifying the work content and the following Flexibility Parameters (as appropriate):
- the proposed start and finish date(s) and times of each Outage;
  - details of the technical limits which a TO anticipates will apply to its Transmission Services whilst they are the subject of the Outage;
  - if necessary, any information about the associated configuration of any parts of the GB Transmission System and associated arrangements that may be required in relation to the Outage;
  - information to assist NGC with the efficient sequencing of Outages, including the relationship, if any, between each Outage and any other proposed Outages and/or any interdependencies on User Outages;
  - an indication of the importance that a TO affixes to each Outage;

- details of a TO's flexibility margins in respect of each Outage (e.g. alternative dates, or potential movement of other Outage dates or times); and
- Emergency Return to Service Times associated with each Outage in accordance with Appendix D (including a statement of the steps that would be taken to restore the provision of the relevant associated Transmission Services to their Normal Capability Limits or, where such steps do not restore such Transmission Services to their Normal Capability Limits, the limits that would otherwise apply). If, for any reason, an alternative Emergency Return to Service Time is required, alternative steps may be agreed with NGC.

1.3.3.2 Outage Placement: The provision of 'firm' Outage dates by NGC.

1.3.3.3 Plan Production: The process of producing all the necessary operational and work plans by each Party to enable the Outage to take place.

#### **1.4 Procedure Overview and Responsibilities**

1.4.1 Sections 1.5 and 1.6 provide an overview of the key responsibilities and requirements of NGC and each TO with respect to the Outage Planning process. The detailed Outage Planning process is covered in sections 2 to 6.

#### **1.5 TO Role**

1.5.1 Each TO shall provide NGC with Outage Definitions for all Outage Proposals or Outage change requests and assist NGC in co-ordinating and facilitating User Outages and Outages of each other Party

1.5.2 Each TO shall take account of all relevant information when preparing Outage Definitions to provide an Outage Proposal or Outage change request to NGC. This may include, but is not limited to:

- known User Outages;
- User information, provided to the TO either by Users or by NGC; and
- information obtained through discussions with another TO.

1.5.3 Where possible Outages shall be planned without dependencies on other Outages.

1.5.4 Each TO shall continually monitor the validity of Outage Proposals (including Outage Definitions) and the Outage Plan and promptly notify NGC of any amendments or additional information that could impact on the implementation of an Outage Proposal or the Outage Plan.

1.5.5 Each TO shall notify NGC of changes to Plant and/or Apparatus technical data that could affect the operation of that Plant or Apparatus (including any appropriate Operational Capability Limits).

#### **1.6 NGC Role**

1.6.1 NGC shall build the Outage Plans to the GB System Security and Quality of Supply Standards.

1.6.2 NGC shall maintain an Outage database of all placed Outages and shall provide each TO with access to the Outage database entries for User Outages (in accordance with STC Schedule 3) and any Outages that are likely to materially effect that TO's Transmission System. NGC shall determine the final placement of all Outages.

1.6.3 NGC shall issue the Draft Outage Plan in week 34 each year.

1.6.4 NGC shall review and update the Draft Outage Plan as necessary, taking account any Outage change requests received.

1.6.5 NGC shall issue the Final Outage Plan when completed but in any event no later than week 49. NGC shall then:

- monitor changes to the Final Outage Plan (following the procedure for change management described in section 5);

- assess any proposed Outage change requests to determine the priority and impact of the request; and
  - separately record all Service Reductions (if greater than 3 hours duration) and Outages and in the Outage database.
- 1.6.6 To support the TOs in preparing their Outage Proposals and Outage change requests, NGC shall inform each TO of User Outages (in accordance with STC Schedule 3) and any Outages that, in the opinion of NGC or the TO, are likely to materially effect that TO's Transmission System.
- 1.6.7 In discussion with each TO, NGC shall agree and compile operational plans and actions to enable each Outage included in the Outage Plan to be released. NGC shall provide this information to the relevant TO in accordance sections 2 to 6.
- 1.6.8 During an Outage, NGC shall identify the need for the emergency return to service of Outage within the provisions of the Outage Definition. This shall include specifying and agreeing the operational requirements in the event that full asset availability, including full Protection and control facilities cannot be achieved due to the urgency of the return to service agreed in the Outage Definition. (See Appendix D - Emergency Return to Service).

## **2 Outage Planning**

### **2.1 Principles and Overview**

- 2.1.1 The Outage planning process covers identification of Outage requirements for up to six years ahead (for complex schemes and GB Transmission System reinforcement) to the handover of the plan into the Control Phase.
- 2.1.2 Production of the Outage Plan (as described in section 4) shall include the production of detailed operational and work plans to enable each individual Outage to take place.
- 2.1.3 NGC and each TO shall seek to resolve any Outage placement conflicts through collaboration with any relevant party.

## **3 Outage Planning Procedure for Year 2 to 6 and Outage Plan Build at Year Ahead (Year 1)**

### **3.1 Year 2 and Beyond**

- 3.1.1 At anytime during years 2 to 6 any Party can initiate discussions with another Party regarding Outages as and when they become known.
- 3.1.2 When a TO has indicative dates for Outage Proposals, that TO shall propose such dates to NGC and update their Outage Proposal accordingly NGC shall then update them as appropriate.
- 3.1.3 If and when NGC determines that an Outage Proposal is not viable, NGC shall discuss the alternatives with the relevant TO(s).
- 3.1.4 In week 6 each year the Outage Plan for Year 2 shall become the Provisional Outage Plan for Year 1.

### **3.2 Outage Plan Build at Year Ahead (Year 1)**

#### **3.2.1 Overview**

- 3.2.1.1 The objective of Outage Plan Build is to construct a Provisional Outage Plan that provides each TO with access to their Transmission System for that Plan Year.
- 3.2.1.2 The development of the Provisional Outage Plan is an iterative process requiring frequent NGC and TO liaison. Each TO shall review the Provisional Outage Plan on an ongoing basis and provide NGC with details of Outage Definitions in respect of

Outage Proposals or Outage change requests as they become known to that TO, taking account of known or advised User Outages.

3.2.1.3 NGC shall notify each TO of User Outages (in accordance in STC Schedule 3) and any Outages on or that are likely to materially effect that TO's Transmission System as they become known.

3.2.1.4 The timetable to be followed during the Year Ahead is described below.

3.2.2 Outage Placement (week 6-34)

3.2.2.1 Week 6 - Provisional Outage Plan additions and changes

- The TO shall review the Provisional Outage Plan and provide NGC with Outage Proposals (including Outage Definitions) for all known construction and maintenance work in the Provisional Outage Plan in an agreed format. Outages that are essential to meet construction programmes, third party works or for the integrity of a TO's Transmission System shall be tagged appropriately.
- Each TO shall also provide NGC with any Outage change requests and additions to the Provisional Outage Plan as they become known.

3.2.2.2 Week 7 to 28 - Development of the Provisional Outage Plan

- In providing Outage Definitions in respect of Outage Proposals or Outage change requests, TOs should prioritise Core Outages.
- NGC shall continue to build the Provisional Outage Plan based on the information provided by the TOs. Where Outage conflicts occur, NGC shall discuss the viability of the proposed Outages with the relevant TO(s) and suggestions for alternative Outages.
- Each TO shall provide NGC with changes to Outage Proposals as they become known.
- NGC shall update the Outage database with any changes to User Outages. User Outages (in accordance in STC Schedule 3) and any Outages that are likely to materially affect that TO's Transmission System, shall be made available to that TO.
- At week 28, the Provisional Outage Plan shall be provided to each TO in writing if required by that TO.
- Each TO shall provide its final Outage Proposals for Year 1 by the end of week 28 each year.

3.2.2.3 Week 29 to 33 – Further Development of the Provisional Outage Plan

- NGC shall continue to develop the Provisional Outage Plan.
- NGC shall arrange a tripartite meeting with the TOs (which may include use of video-conference or teleconference) to consider Provisional Outage Plan issues that relate to Outages affecting both TO Transmission System and any outstanding Outage placement issues that affect both TOs.
- NGC shall arrange a bilateral meeting with each TO to discuss those elements of the Provisional Outage Plan that affect that TO alone.

3.2.2.4 Week 34 - NGC publishes the Draft Outage Plan

- NGC shall publish the Draft Outage Plan.

3.2.3 Plan Optimisation (week 35-48)

3.2.3.1 General

- NGC and each TO shall continue to review the Draft Outage Plan. Final Outage placements shall be completed by week 49 at year ahead. Outages shall be identified in accordance with Appendix C - Plan Firmness.

3.2.3.2 Week 35-39 - Development of the Draft Outage Plan

- NGC shall refine the Draft Outage Plan in conjunction with each TO and any relevant Users, taking account of comments received.
- By the end of week 39 each TO shall advise NGC of any remaining Outage requests. Although forming part of the Draft Outage Plan, some of these remaining Outages may not be placed. Outages with no firm date agreed shall be assessed and placed during Year 0 where possible.

3.2.3.3 Week 40-48 – Further development of the Draft Outage Plan

3.2.3.4 NGC shall continue to refine the Draft Outage Plan in discussion with the TOs. This may include placing TO Outages that were not taken or completed in Year 0.

3.2.4 Plan Freeze (week 49)

3.2.4.1 At the end of week 49 NGC shall publish the Final Outage Plan.

3.2.4.2 Following publication of the Final Outage Plan, all changes (including placement of Unplaced Outages) shall be monitored in accordance with section 5 (Change Management).

3.2.5 Final Outage Plan Handover (week 3)

3.2.5.1 When the Final Outage Plan is handed over to the current year (week 3) any Outages that have been agreed but cannot be placed shall either:

- have been moved out of the relevant Outage database year following a risk assessment; or
- left in the Outage database pending an Opportunity Outage placement by agreement between NGC and the relevant TO.

3.2.5.2 Opportunity Outages shall be identifiable in the Outage database

3.2.5.3 Week 3 (in following calendar year)

- NGC shall arrange meetings (including by videoconference or teleconference) between NGC and each TO by the end of week 3 to “hand over” the Final Outage Plan to the current year. The Plan year shall then become year 0 and the Year 2 Provisional Outage Plan prepared for handover (to Year 1) in week 6 to continue the cycle.

## **4 Procedure for Implementing The Plan (Current Year)**

### **4.1 Overview**

- 4.1.1 During the current year NGC shall refine, optimise and update the Outage Plan to accommodate essential changes, additional work and previously Unplaced Outages, taking into account Service Reductions and generation profile changes. NGC shall use reasonable endeavours to have dates for all Unplaced Outages, Opportunity Outages or Outage change requests four weeks in advance of the Outage start date. The TO shall use reasonable endeavours to have in place work plans. The aim of all Parties shall be to minimise changes to the plan at less than 4 weeks ahead of Outage start date.
- 4.1.2 A key objective in delivering a firm Outage Plan is to minimise the number of Outage changes. Outage changes may be discussed at access meetings to seek performance improvements.
- 4.1.3 Outage change requests shall be undertaken in accordance with section 5 (Change Management).

### **4.2 Current Year (Year 0)**

- 4.2.1 When considering any changes that impact on the Outage Plan, each TO shall use User information, provided by Users or NGC (in accordance with STC Schedule 3) and liaise with the other TO and NGC as required.
- 4.2.2 Opportunity Outages may be accommodated by NGC at short notice within the current year.
- 4.2.3 NGC shall make the Outage Plan available to the TOs in writing if requested by the TO.
- 4.2.4 NGC shall prepare operational notes (in accordance with Appendix E) for each week in the current year. These shall include, but shall not be limited to :
- agreements with each TO and Users on the placement of Outages affecting them;
  - details of actions required to ensure the GB Transmission System is operated within the GB System Security and Quality of Supply Standards; and
  - details of changes to the GB Transmission System standard substation running arrangements required to deliver the Outage Plan.
- 4.2.5 Each TO shall prepare work plans to ensure resources and contracts etc are in place to deliver the Outages.

### **4.3 Optimisation Phase (the period down to 4 weeks ahead)**

- 4.3.1 TOs may choose to receive relevant 4 week ahead rolling Outage information in writing or electronic format in addition to, or instead of, direct access to the Outage database.

#### **4.3.2 System Access Meetings**

- 4.3.2.1 The TOs and NGC shall agree a programme of system access meetings to look at the Year 0 Outage Plan in the period 4 to 16 weeks ahead.
- 4.3.2.2 It is anticipated that system access meetings shall take place every 4 to 5 weeks and may take the form of telephone, videoconference or 'face to face' meetings. However, the format, timing and venue of the meetings shall be as agreed by all Parties in advance. The venue may be rotated between main company locations as convenient to attendees.

4.3.2.3 The aim of these meetings shall include:-

1. Noting any Opportunity Outages or Unplaced Outages that could be placed in the review period.
2. Consideration of Outage change requests for the period 4 to 16 weeks ahead (Outage change requests are to be made as soon as possible) and review of Outage change requests in the previous 4 to 5 weeks.
3. Resolution of new or outstanding Outage conflict issues.
4. Consideration of risks to the implementation of an Outage or associated with an Outage recorded in TOGA.
5. Agreement of any special requirements which are needed to facilitate an Outage, (e.g.: additional security studies, Emergency Return to Service Time profiles, temporary Protection settings, local switching or switching restrictions, demand transfers etc.) and which interact with a TO's assets or resources.
6. Facilitating individual Outage and working plans to be produced in a timely manner with sufficient detail to enable all Outages to become "firm" prior to the rolling 4 week ahead Delivery phase.
7. Provision of data for commissioning/testing of plant or equipment in the review period.
8. Consideration of any Outages that are likely to materially effect a TO's Transmission System including User Outages (in accordance with STC Schedule 3).

4.3.2.4 The focus of discussions at these meetings shall be the period 4-16 weeks ahead (change requests to be made as soon as possible) to allow time to address issues in a timely manner. Outages shall be reviewed in detail for the 8-16 week ahead period, so that necessary actions can be identified and resolved.

4.3.2.5 In terms of interfacing with the Users the interface responsibilities shall be:

- NGC shall liaise with Users on Outage placement and operational arrangements; and
- each TO shall provide identified resource requirements at interface sites.

#### **4.4 Delivery phase (0-3 weeks ahead)**

- 4.4.1 In the delivery phase NGC and each TO shall work together to implement each Outage. Outage changes in this period shall be limited to essential changes or Opportunity Outages, to minimise disruption to the existing programme and resources.
- 4.4.2 Each TO shall advise NGC of any changes to Outage Definitions or other factors that could affect an Outage.
- 4.4.3 As part of this process NGC shall advise each TO of any changes to operational arrangements to facilitate an Outage. Agreements for special actions including Emergency Return to Service Time, demand and generator intertrip requirements and demand transfers shall be confirmed by NGC with the provider (i.e. TO or User) as appropriate. Any resource requirement for local switching shall be confirmed between each TO and NGC as part of the Outage Planning process.
- 4.4.4 Commissioning requirements shall be finalised, agreed and circulated between each TO and NGC as part of operational plans in accordance with the requirements of STCP 19-4 Commissioning.
- 4.4.5 Non-standard running arrangements for interface sites that have been agreed and exchanged by NGC and Users as part of the planning process and copies provided to each relevant TO (in accordance with STC Schedule 3).
- 4.4.6 Any Service Reductions (if greater than 3 hours duration) or new Outages shall be separately recorded in the Outage database and shall be taken into account in formulating the Outage Plan and operational notes.
- 4.4.7 By 1600 each Friday at the 2 weeks ahead stage:
  - 4.4.7.1 NGC shall provide the provisional 2 week ahead operational notes to each TO as appropriate for comment by 1600 each Tuesday of the following week.
- 4.4.8 By 1600 each Thursday:
  - 4.4.8.1 NGC shall provide to each TO a copy of the Outage Plan covering the 4 weeks ahead period. This may be in writing or by electronic file transfer, as agreed with that TO.
- 4.4.9 By 1600 each Friday at the week ahead stage:
  - 4.4.9.1 NGC shall provide final operational notes containing details of all significant Outages and associated special actions. The operational notes shall be based on the most recent System analytical studies and shall be provided to each TO for Outages of, or which are likely to materially affect, that TO's Transmission System and any relevant User Outages (in accordance with STC Schedule 3). NGC shall notify the relevant TO of any subsequent changes to the operational notes.
- 4.4.10 On a daily basis in the current week:
  - 4.4.10.1 NGC shall review the day ahead GB Transmission System security and applicable operational notes. NGC shall use all reasonable endeavours to issue the day ahead Outage Plan to the TO and NGC Control Phase by 1600. In order to allow for the timely completion of the process any changes relevant to the following day received after 1530hrs shall normally be referred to NGC Control Phase for consideration (see section 4.5).

#### **4.5 Control Phase**

- 4.5.1 STCP 1-1 Operational Switching should be followed after the handover of the Outage Plan from planning to the Control Phase.

### **5 Change Management**

#### **5.1 Objectives**

- 5.1.1 In order to maintain a stable Outage Plan that gives optimum GB Transmission System access and facilitates delivery of priority work it is essential that any changes to the plan are controlled and risk assessed.
- 5.1.2 The Change management process shall ensure that all change requests after week 49 are monitored and the process and results are auditable.
- 5.1.3 The Change management process shall be followed for any change to an Outage Definition following issue of the Final Outage Plan.
- 5.1.4 Change requests shall be given due consideration by all the affected Parties. Making changes to the Outage Plan may be iterative to ensure essential work can be added to the plan and less essential work moved or deleted from the plan where resource limits are infringed.
- 5.1.5 NGC and the TO shall respond to all change requests as soon as reasonably practicable and taking account of the time remaining from the change request date to the Outage start or date of change.

## **5.2 Change Categories**

- 5.2.1 Changes to the Outage Plan shall be categorised. Change monitoring codes for use in the register within the Outage database shall be agreed between NGC and the TOs.

## **5.3 Process**

- 5.3.1 Each Party shall keep the Outage Plan under review at all times (including up to the end of an Outage) and as soon as a Party becomes aware that a change is required to such Outage Plan, that Party shall:
  - if it is a TO, request a change to the Outage Plan to NGC including - with such Outage Change request - a brief description of the reason(s) for the change; or
  - if it is NGC, notify each TO that NGC itself requests - or another TO has requested (as appropriate) - a change to the Outage Plan to the extent that it considers that such change affects Outages of that TO's Transmission System, or which, are likely to materially affect that TO's Transmission System, or User Outages (in accordance with STC Schedule 3), with a brief description of the reason(s) for the change.
- 5.3.2 A change request may be made or provided verbally where it is necessary and expedient to do so, provided that such a change request or notice is confirmed in writing as soon as reasonably practicable by the Party making it.
- 5.3.3 Any change request for a new Outage made pursuant to paragraph 5.3.1 shall include, to the extent reasonably practicable, an Outage Definition as described in 1.3.3.1.
- 5.3.4 NGC shall maintain a register within the Outage database, which records in relation to any change which is made to the Outage Plan after week 49. This shall include:
  - a description of the change, including (where appropriate) the date(s) and times specified for an Outage in the Outage Plan both immediately prior to at the time of the change and as changed;
  - the identity of the Party which proposed or requested the Outage Change;
  - a brief description of the reason for the Outage Change;
- 5.3.5 Where possible, any conflicts that arise shall be resolved through a collaborative process. NGC shall discuss alternatives with the relevant TO(s) so that the optimal decision can be taken. This process may vary significantly dependant on the specifics of each situation.

## **6 Additional Considerations**

### **6.1 Cross Boundary Outages**

6.1.1 Cross boundary Outages between TO:TO and TO:NGC shall be duplicated in the Outage Plan, although the Party with the majority of work shall take the lead in proposing the Outage (following liaison). The second Outage shall be linked in the Outage database.

### **6.2 Winter Emergency Return to Service Time of 24hrs or greater**

The types of faults on the GB Transmission System in winter tend to have a greater potential for long repair times and there is a greater potential for circuits to be recalled to secure the System against severe weather conditions. All Outages placed in the Winter Period that have an Emergency Return to Service Time greater than 24 hours must be approved by both NGC and the relevant TO. (See Appendix D - Emergency Return to Service).

### **6.3 Managing Third Party Access**

6.3.1 Third parties (excluding Users) may also require "access" to the Transmission System. Typical access requirements fall into the following categories:

- clearance Outages whilst plant or equipment is moved near overhead lines;
- earthwire work associated with fibre optic links (e.g. Thus, Energis);
- tower access for installation/work on cellular phone aerials;
- requirement to temporarily or permanently move equipment to accommodate roads and buildings or movement of equipment; or
- Equipment at interface sites to allow work on Users' assets e.g. Busbar disconnectors.

6.3.2 Each TO shall be responsible for submitting Outage Proposals or Outage change requests on behalf of third parties. A TO shall advise NGC when an Outage is being requested on behalf of a third party.

6.3.3 Details or enquiries relating to third party work that could impact on Plant and/or Apparatus shall be passed to the relevant TO.

### **6.4 Commissioning / Decommissioning**

6.4.1 In the relevant Outage Proposal each TO shall indicate any changes to HV equipment on the GB Transmission System that require a commissioning programme.

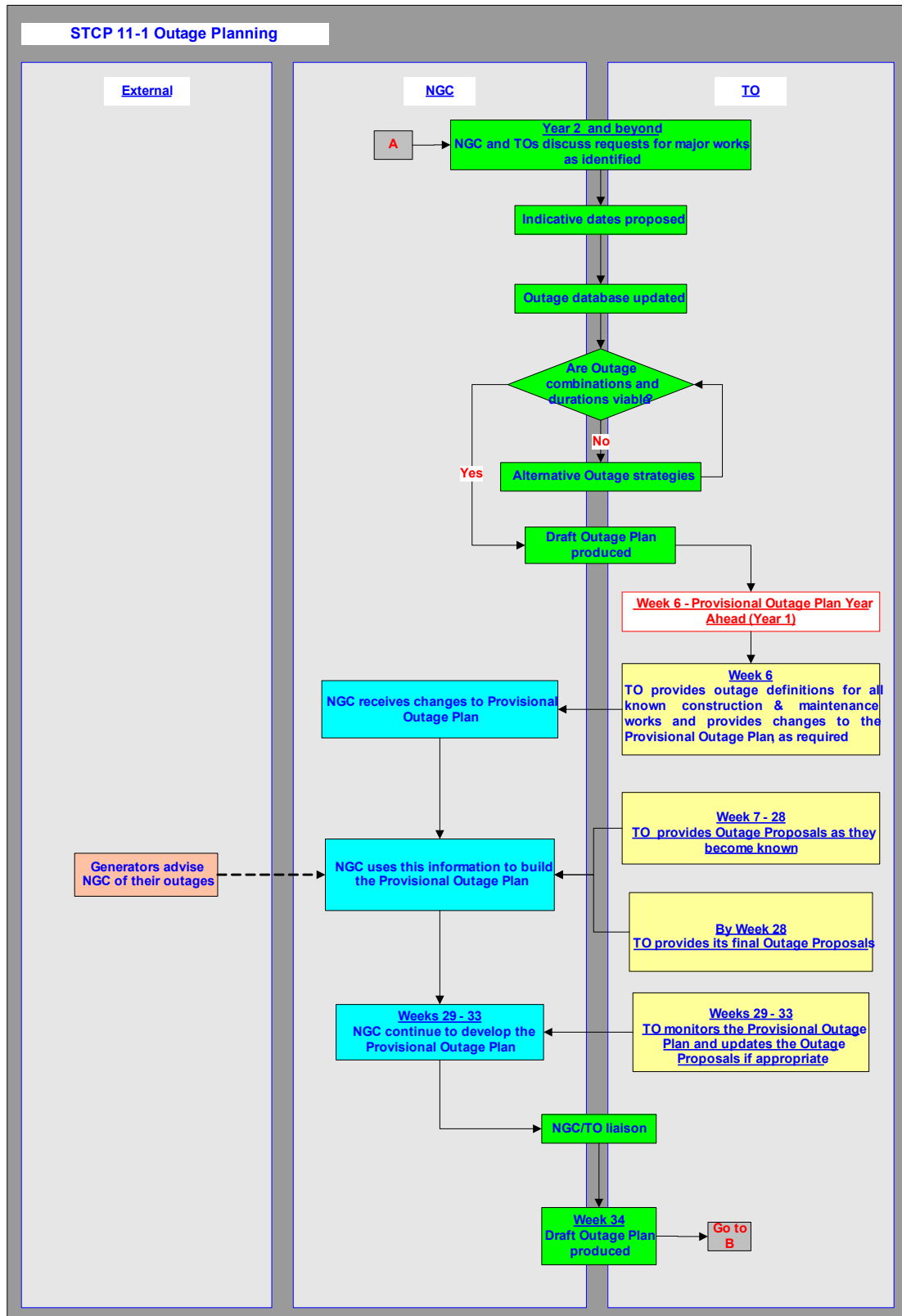
6.4.2 The Outage database shall also include any additional information required for commissioning and decommissioning of equipment (See Appendix B – Outage Database).

6.4.3 Additional entries may be made to the Outage database to indicate when additional NGC or TO resource is required in carrying out commissioning or decommissioning (e.g. circuit name or nomenclature changes or major permit changes).

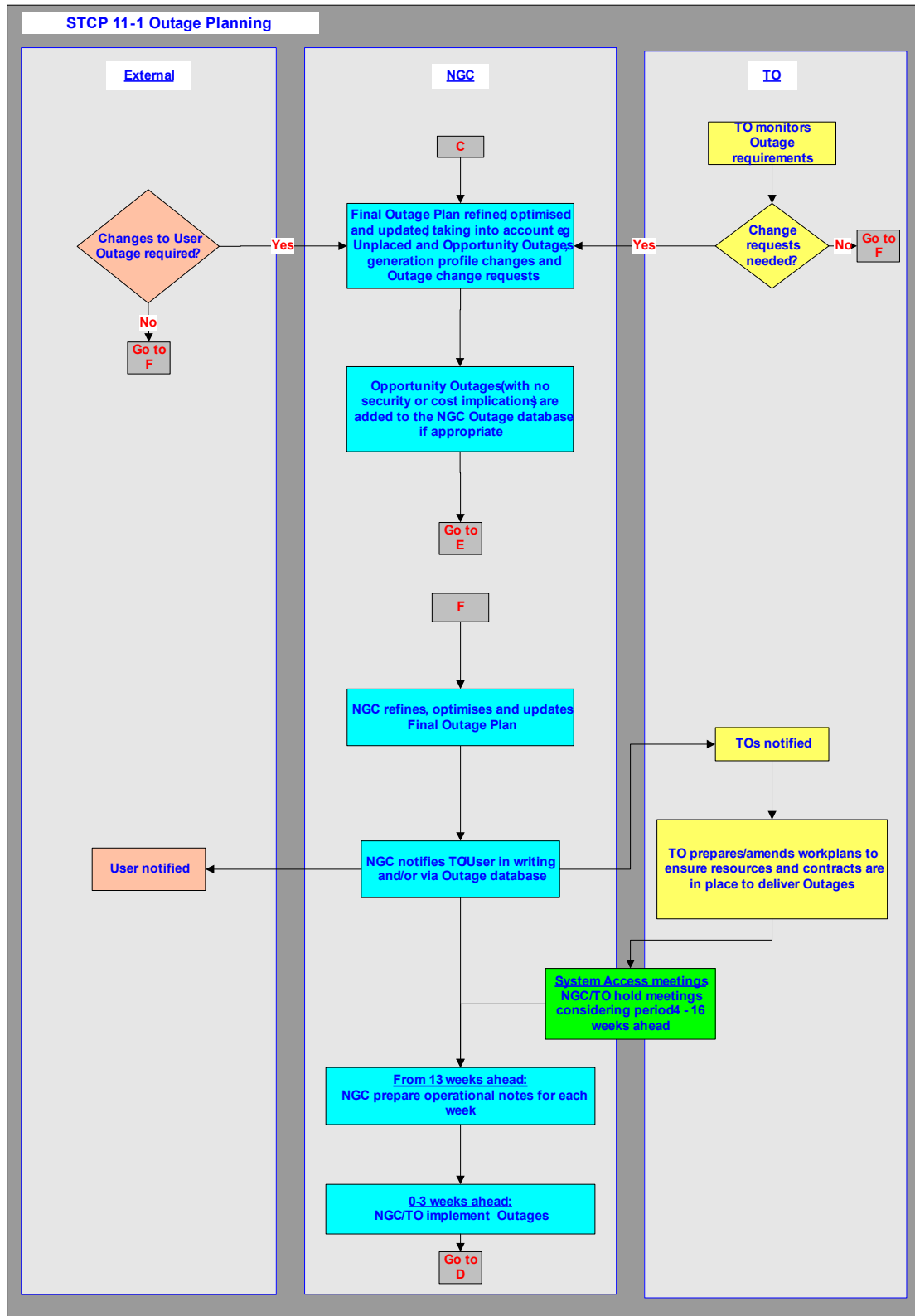
## **7 Dispute Resolution**

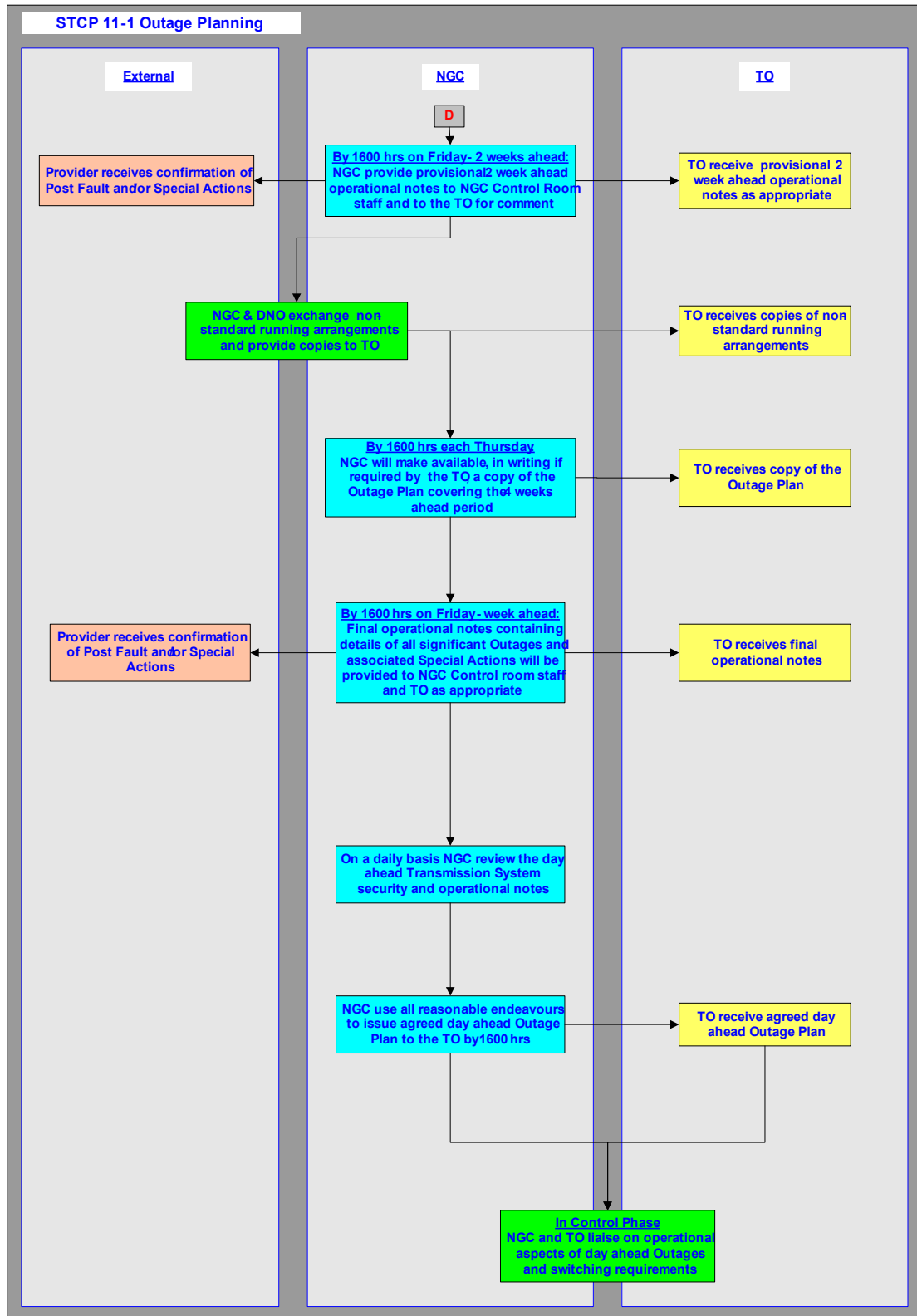
7.1.1 *[NGC shall seek to collaboratively and efficiently resolve any conflicts regarding an Outage placement. In the event of non-agreement - ref STC/STCP disputes].*

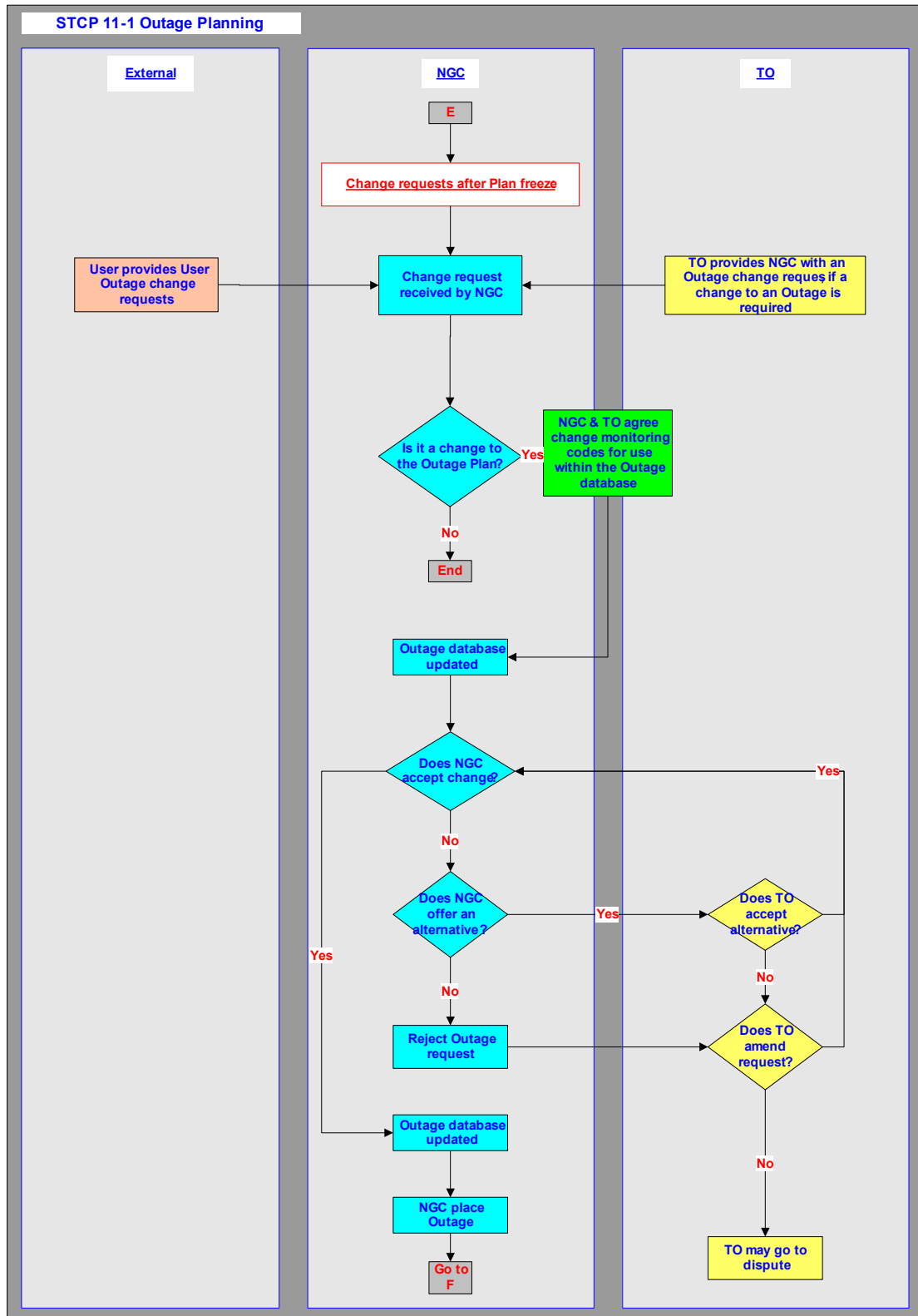
Appendix A – Flow Diagrams











## **Appendix B Outage Database (Toga – Transmission Outage And Generation Availability)**

### **Description**

All requirements for access to the Transmission System shall be recorded in the NGC Outage database, (TOGA).

### **Creation of Entries**

All potential circuit Outages should have a Basic Data record. This defines a number of fields that shall remain unchanged irrespective of the Outage arrangements. All Outage Proposals or Outage change requests have to be created from the Basic Data record for that circuit. This greatly reduces the quantity of data the user needs to enter, and ensures each entry has the correct codes allocated to it and ensures a level of consistency.

### **Recording of Data**

The following information shall be recorded for primary equipment:

- All TO Transmission System equipment Outages identified by equipment owner.
- All third party owned transmission equipment Outages that may have an impact on the operation of the Transmission System.
- User Outages on busbars at interface sites.
- User Outages of User circuits connecting NGC controlled sites modelled in NGC analytical studies
- Generator Outages for those required to submit data under the Grid Code.

The following secondary equipment or Outage information:

- Risk of Trips
- Plant or Protection testing to an approved procedure. (Note circuit commissioning to an approved test program shall be included as part of the information on the main circuit booking).
- Trip tests
- Rating restrictions including cable-cooling Outages.
- Protection depletions.
- Ancillary Systems that could affect the MITS e.g. air Systems, batteries, dc supplies etc..
- NGC and TO dataset switch dates where these affect the availability of EMS facilities.

The following shall be recorded in association with commissioning or decommissioning of circuits and equipment:

- New circuits shall be recorded as an out of service booking from the date the circuit comes under the appropriate HV Safety Rules to the date the circuit is commissioned on to the System.
- All equipment addition, removal and circuit name or nomenclature change dates
- Any circuit that has a commissioning program associated with it should have the appropriate code in the booking

This list does not preclude the inclusion of other useful records and comments where appropriate.

**Monitoring Codes**

Codes For Monitoring Outage Changes Within The Outage Database Shall Be Agreed Between NGC And TO.

## Appendix C - Plan Firmness

Firmness is required to ensure that the work required on the System is completed. Clearly identifying the Outages that need to remain in a particular placement ensures that all parties are aware and concentrate their efforts on meeting the relevant deadline. All parties need to agree to the firmness as it is likely one particular party shall have committed significant resources and/or expenditure to ensure the Outage stays in its current placement. The remaining Outages which may be equally important from a work viewpoint but which have more flexible placement opportunities are identified as having a 'provisional' placement and can be used for resource profiling etc.

### Requirement for Firmness

Requirement for firmness can be for a number of reasons, but shall usually be because one of the parties involved needs an Outage to remain within a particular placement period and duration

Typical examples of when firmness is required is when the Outage may:

Type of Outage	Party Requiring Firmness
Be part of a project plan	TO Construction
Have a significant customer or third party impact or requires considerable third party actions to secure	NGC
Be required at a specific time either for System reasons (e.g. demand) or maintenance (e.g. WSE)	NGC/TO
Have significant impact on a critical path	NGC/TO
Require a specific resource commitment	TO
Have significant Wayleave issues	TO

Once an Outage has been identified as requiring firmness, an assessment shall need to be carried out as to what actions are needed to provide that firmness.

### Firmness of Outage Definition

- Confirmed that Outage can be completed in the defined Outage length.
- Confirmed that the correct equipment is planned out of service.
- Construction / Project Delivery shall need to ensure that scheme Outages are identified correctly at an early stage.

### Firmness of placement

#### *Transmission Owner*

- Project Delivery / Construction can confirm that the Outage allows sufficient lead times and that contractors have contractual commitments to meet the specified dates.
- Outage is accurately specified and that resources are available to deliver the Outage within the specified timescale.
- Outage start date is not critically dependent on any other single event that could result in slippage.
- Confidence that the total number of firm Outages in a particular time period can be resourced with little chance of failure.
- Wayleaves and / or alternative rights of access as required are agreed.

*NGC*

- Confirmed that Outage can be secured.
- For Outages requiring a User pre or post fault action, need to have this agreed with the User and recorded.
- Confirmed for other Outages they do not require third party actions, or leave demand / generation at risk.
- Confirmed that for security reasons an Outage is not dependent on generation from all available power station BMUs for the associated electrical group.

## **Appendix D - Emergency Return to Service**

The Emergency Return to Service Time is the time taken to return an out of service circuit to operational service. This may be as a contingency measure against predicted conditions such as severe weather or as a post fault action to restore demand, or to re-secure the System to its Licence. Provided it has been agreed between the TO and NGC a circuit can be accepted back into service in an emergency with depleted facilities that may include the depletion of Protection facilities, the use of temporary circuit bypass arrangements etc.

### **Application of Emergency Return to Service Time**

Ensuring all Outages have a known emergency restoration time assists NGC to meet its obligations under the Security Standards. After the first fault NGC is obliged to re-secure the System "as soon as is reasonably practical". In the normal course of operating a power System there are many potential conditions that could require the recall of circuit(s) on Outage.

When applying an Emergency Return to Service Time to a circuit the following need to be considered:

- Criticality of the circuit - Is it one of a few circuits connecting a large group of demand or generation?
- Time of year - Severe weather in winter significantly increases the likelihood of a circuit being recalled to service.
- Demand and generation left at single circuit risk.
- Post fault actions - When securing an Outage requiring post fault drops from generation .
- Nuclear Site Licence obligations.

By prior agreement between the TO and NGC a circuit can be accepted back into service in an emergency with depleted facilities. Each case shall be assessed on an individual basis but it can include the following:

- Local control, indications and alarms only.
- Local analogues only
- One fully operational Protection
- Without DAR or with restricted DAR facilities
- Tap change by local control only.
- Synchronising – Local synchronising must be available
- Cables without cooling or with reduced cooling - Operating capability level to be specified by Transmission Owner
- Bypass of a circuit breaker or mesh corner or circuit breaker locked closed.

### **Minimising Emergency Return to Service Times**

When potentially difficult Outages are discussed then methods of working may need to be considered to achieve a reduced Emergency Return to Service Time. This should be considered at an early stage in the planning process to minimise work and contractual disruption later. In complex cases (e.g. circuit bypass), there shall be a need to have in place a documented restoration process before the Outage starts.

Profiling the Emergency Return to Service Time for the duration of the Outage should also be considered for high risk/ high cost Outages, (e.g. to achieve a short Emergency Return to Service Time at times of high demand). This shall also allow contingency arrangements to be

better matched to the periods of high risk. If an Outage duration is extended as a consequence of achieving a reduced Emergency Return to Service Time requirement then the risk of demand loss needs to be balanced against the longer Emergency Return to Service Time.

## **Appendix E - Operational Notes**

The data provided by NGC each TO with relevant operational notes. These may include:

1. Summaries of new and existing Outages and dates
2. List of non-standard substation running arrangements
3. Outage Information  
Notes about each Outage varying from simple transformer loading to detailed contingency arrangements
4. Control Room comments from previously issued draft copy and planning responses
5. Outages requiring commissioning programmes
6. Fault Level control guidance
7. User network information including pre fault & post Fault load transfers and User Outages affecting the MITS
8. Voltage Control Guidance
9. special actions arranged for identified limits and constraints
10. Electronic copies of substation running arrangements

## Appendix F – Key Definitions and Terms

### Terms defined in this STCP

<b>Core Outage</b>	An Outage of an asset associated with the 400kV, 275kV or 132kV interconnected Transmission System including all User Outages (other than DNO User Outages).
<b>Draft Outage Plan</b>	The Outage Plan published for consultation in engineering week 34 for Year 1.
<b>Final Outage Plan</b>	The Outage Plan as agreed and issued in engineering week 49 for Year 1.
<b>MITs (Main Interconnected Transmission System)</b>	This comprises all the 400kV & 275kV and the 132kV network elements of the GB Transmission System but excludes Generation Circuits, Transformer Connections to a Lower Voltage System & External Interconnections between the Scottish Transmission System and External Systems
<b>Outage Planning</b>	Development of an Outage Plan
<b>Outage Start Time</b>	The time the Outage is released to the TO for safety isolation
<b>Outage Return Time</b>	The time the Outage is released by the TO for operational use
<b>Opportunity Outage</b>	An Outage of an asset with no security or no cost issues which is planned after issue of the Final Outage Plan.
<b>Outage Plan Build</b>	The staged development of the Outage Plan at the year ahead (year 1) stage.
<b>Plan Year</b>	Engineering week 14 to the end of engineering week 13 of the following year.
<b>Provisional Outage Plan</b>	The Outage Plan prior to before publication as the Draft Outage Plan in engineering week 34.
<b>Risk of Trip (ROT)</b>	Agreed work where there is the potential of inadvertent operation of specified switchgear.
<b>Unplaced Outages</b>	An agreed list of Outages that have been requested but, up to the publication of the Final Outage Plan, have not been placed.
<b>Winter Period</b>	November (week 45), to February/March (week 9), inclusive.
<b>Year 0</b>	The current Plan Year that is being delivered.
<b>Year Ahead (Year 1)</b>	The following Plan Year

### Abbreviations

STCP	System Operator –Transmission Owner Code Procedure
TO	Transmission Owner
TSC	Transmission Status Certificate
GC	Grid Code
DNO	Distribution Network Operator
OHL	Overhead Line
SGT	Supergrid transformer

**Terms defined in the STC:**

Emergency Return to Service Time

Flexibility Parameters

Operational Capability Limit (OCL)

Outage Plan

Outage Proposal

**Terms defined in the Grid Code:**

Control Phase

Protection