STCP 19-4 Issue 006 Commissioning and Decommissioning

STC Procedure Document Authorisation

Party	Name of Party Representative	Signature	Date
National Grid Electricity Transmission plc			
SP Transmission plc			
Scottish Hydro-Electric Transmission plc			
Offshore Transmission Owners			

STC Procedure Change Control History

Issue 001	16/03/2005	BETTA Go-Live Version
Issue 002	04/07/2005	Issue 002 incorporating PA029
Issue 003	25/10/2005	Issue 003 incorporating PA034 & PA037
Issue 004	31/01/2006	Issue 004 incorporating PA044
Issue 005	17/12/2009	Issue 005 incorporating changes for Offshore Transmission
Issue 006	18/02/2015	Issue 006 PM082 review

Introduction

1.1 Scope

1.1.1 This document sets out the procedure for the commissioning and decommissioning, as shown in Appendix A, of new, or modified Connections or infrastructure assets on the TO Transmission System, and describes the associated responsibilities and requirements of Parties.

1.1.2 Where commissioning and decommissioning activities are required to restore faulted Plant and/or Apparatus to service, the stated timescales for notification and production of the documentation and certification required in accordance with this procedure may not be achievable. In such circumstances the principles of the procedure should be followed.

1.1.3 This procedure shall also be used for the commissioning of a Connection provided by a TO and the first energisation of that Connection. As a User is involved, the additional requirements of STCP 19-3 Operational Notifications and Compliance Testing should be followed.

1.1.4 Technical data relating to proposed Transmission System changes shall be exchanged between all affected Parties, to ensure that all affected Parties are made aware of the sequence, timing and extent of any proposed changes, and allow each affected Party to predict the effect of the change.

1.1.5 Some data exchanged as part of commissioning or decommissioning will form part of the TO Service Capability Specification (SCS). Such data will be updated in accordance with the SCS update process. Some of the certificates used for commissioning / decommissioning may also trigger updates to the SCS.

1.1.6 This procedure applies to NGET and each TO. For the purposes of this document, TOs are:

- SPT plc
- SHE Transmission" and "Scottish Hydro-Electric Transmission plc All Offshore Transmission Licence holders as appointed by OFGEM.

1.1.7 In the event that specific conditions or exceptions are made in the document relating to an Onshore TO or Offshore TO these will be prefixed appropriately.

1.2 Objectives

1.2.1 This process specifies the following:

- the responsibilities of Parties, in relation to commissioning and decommissioning activities;
- the requirements for the exchange of information related to commissioning and decommissioning activities across the NGET ~ TO interface; and
- the means of communication to be used across the NGET ~ TO interface.

1.3 Reference Documents

STCP 01.1 – Operational Switching.

STCP 04.1 – Real Time Data Change Management.

STCP 04-4 – Provision of Asset Operational Information.

STCP 11.1 – Outage Planning.

STCP 19.3 – Operational Notification and Compliance Testing.

2 Key Definitions

2.1 For the purposes of STCP 19-4:

2.1.1 **Acceptance Certificate** means the document exchanged between the TO and NGET to record the completion of Off-load Testing and On-load Testing.

2.1.2 **Commissioning and Decommissioning Panel** means a panel chaired by the relevant TO to manage and facilitate the commissioning and decommissioning of Plant and/or Apparatus.

2.1.3 **Commissioning Switching Programme** means a two part document prepared and issued by the TO. Part 1 (Strategy) describes the overall commissioning strategy and identifies the limits of the Commissioning Switching Programme. Part 2 (Operations) details the sequence of operations required to energise, load, and facilitate the commissioning of Plant and / or Apparatus. Part 1 (Strategy) will be approved by NGET. Part 1 (Strategy) and Part 2 (Operations) will both be approved by the TO and any affected User".

2.1.4 **Decommissioning Report** means the document used by the TO to notify NGET of Plant and/or Apparatus decommissioned and no longer available for operational service or configuration by NGET.

2.1.5 **HV Safety Rules** means the rules used by the TO to manage safety in respect of transmission assets connected to or remaining within safety distances of the National Electricity Transmission System.

2.1.6 **HV System Change Certificate** means the document used by the TO to notify NGET of permanent or long term changes to the National Electricity Transmission System relating to additions, removals or changes to names or nomenclature of Plant and/or Apparatus.

2.1.7 **Off-load Testing** means the inspections, tests and off-load switching operations carried out as part of the Stage 1 Commissioning Plan.

2.1.8 **On-load Testing** means the tests and switching operations carried out as part of the Stage 2 Commissioning Plan.

2.1.9 **Operational Effect** is as defined in the Grid Code as at the Code effective Date and for the purposes of this STCP only, not as defined in the STC

2.1.10 **Risk of Trip** means a formal acknowledgement involving specified in-service Plant or Apparatus of a risk materially beyond the normal level of risk of an imminent Services Reduction where it is not possible to remove, through reasonable endeavour, all tripping risks associated with a planned activity and that the trip event does not result in unacceptable System operating conditions.

2.1.11 **Stage 1 Commissioning and Decommissioning Panel** means a panel chaired by the relevant TO and whose responsibilities are described in 3.1 and 3.2 below.

2.1.12 **Stage 1 Commissioning and Decommissioning Plan** means a series of inspections, tests and off-load switching operations prepared, approved and carried out by the TO or nominee to verify that Plant and/or Apparatus is suitable for energisation.

2.1.13 **Stage 2 Commissioning and Decommissioning Panel** means a panel chaired by the relevant TO and whose responsibilities are described in 3.1 and 3.3 below.

2.1.14 **Stage 2 Commissioning and Decommissioning Plan** means a series of inspections, tests and on-load switching operations prepared by the TO and approved and carried out jointly by the TO and NGET that verify Plant and/or Apparatus is suitable for operational service.

2.1.15 **SCADA** means Supervisory Control And Data Acquisition system i.e. the system used to monitor, operate and control the Transmission System (including outstations). Where the term NGET SCADA is used this refers to a Supervisory Control And Data Acquisition system owned by NGET and where the term TO SCADA is used this refers to a Supervisory Control And Data Acquisition system owned by a TO.

2.1.16 **TO nominated Contractor(s)** means the representative(s) of the Company or Companies assigned by the TO to carry out work on their behalf.

2.1.17 **User(s)** any person (other than NGET or a Transmission Owner) who is authorised to generate, participate in the transmission of, distribute or supply electricity or who is included in a class of person or persons which has been granted an exemption from section 6 of the Act (System Operator – Transmission Owner Code) and any person engaged in the sale or purchase of electricity or who otherwise purchases or acquires for purchase electricity;

3 Procedure

3.1 Establishing the Commissioning and Decommissioning Panels

3.1.1 The relevant TO shall set up, chair and provide secretarial support for the Stage 1 and Stage 2 Commissioning and Decommissioning Panels.

3.1.2 An inaugural Commissioning and Decommissioning Panel meeting shall be in accordance with the agreed timetable in the TO Construction Offer, Connection and Modification Application, the Project Listing Document or as subsequently agreed by the TO and NGET. The inaugural Commissioning Panel meeting shall normally include representatives from both the Stage 1 and Stage 2 Commissioning and Decommissioning Panels.

3.1.3 At the inaugural Commissioning and Decommissioning Panel meeting the split of responsibilities between the Stage1 and Stage 2 Panels shall be confirmed.

3.1.4 The Commissioning and Decommissioning Panel should include representatives from the TO, NGET, Users (e.g. Generators, Interconnectors, other TO's, DNO) and Contractors to ensure adherence to all relevant STCP's.

3.1.5 The Stage 1 Commissioning and Decommissioning Panel shall be responsible for developing a Stage 1 Commissioning and Decommissioning Plan covering the Off-load Testing and preparation of Commissioning documents, as specified in this procedure, to allow the TO to connect, disconnect and rename Plant and/or Apparatus. The Stage 1 Commissioning and Decommissioning Panel will consist of the TO, the TO nominated Contractor(s), NGET representatives and Users.

3.1.6 Stage 2 Commissioning and Decommissioning Panel shall be responsible for developing a Stage 2 Commissioning and Decommissioning Plan and ensuring the necessary commissioning documentation is in place to allow the initial energisation and On-load Testing of Plant and/or Apparatus. The Stage 2 Commissioning and Decommissioning Panel will consist of the TO, the TO nominated Contractor(s), NGET representatives and Users.

3.1.7 With the agreement on an individual scheme basis with the TO, NGET may, as an alternative to participating in the Stage 1 and Stage 2 Commissioning and Decommissioning Panels, seek progress reports from the TO on the commissioning and decommissioning documentation on a regular basis such as joint NGET/TO Transmission System access meetings as referred to in STCP 11-1 Outage Planning, Section 4. The TO representatives at the Transmission System access meeting will feedback any NGET comments or concerns on the proposed commissioning programme or documentation to the Stage 1 Commissioning Panel.

3.1.8 When commissioning or decommissioning assets relating to circuits which interconnect TO licensed networks the affected Parties may agree to set up a single Stage 1 Commissioning and Decommissioning Panel for the project, or to hold separate Stage 1 Commissioning and Decommissioning Panels for their own work with a nominated TO representative to co-ordinate across the Panels. There shall be a joint Stage 2 Commissioning and Decommissioning Panel.

3.1.9 Appropriate parts of the minutes of the Stage 1 and Stage 2 Commissioning and Decommissioning Panel meetings shall be circulated to Panel members by the Chairman of the Panel

3.1.10 In those instances where a User is being connected, the additional requirements of STCP 19-3 Operational Notifications and Compliance Testing shall be followed.

3.1.11 The Stage 1 & 2 Commissioning and Decommissioning Panels will be responsible for appropriate Compliance issues when they have been passed to the Commissioning and Decommissioning Panel under the STCP 19-3 Operational Notifications and Compliance Testing procedure.

3.2 Stage 1 Commissioning and Decommissioning Panel

3.2.1 The Stage 1 Commissioning and Decommissioning Panel shall prepare and progress the documentation, certificates and technical data detailed in section 3.2.

3.2.2 The Stage 1 Commissioning and Decommissioning Panel shall be responsible for developing the Off-load Testing and programme documentation. Off-load Testing will include but is not limited to:

- pre-commissioning inspections;
- off-load commissioning tests; and
- pre-energisation inspections.

3.2.3 The Stage 1 Commissioning and Decommissioning Plan will define the timing and staging of the Off-load Testing work, and the planned date for the start of On-load Testing. This date will be made available to the Stage 2 Commissioning Panel.

3.2.4 The TO will be responsible for delivering operational data and technical information prior to Plant and/or Apparatus being commissioned. This requirement relates to the TO Service Capability Specification (SCS) for such items as:-

- Normal Capability Limits;
- Protection and DAR schedules;

- schedule of technical data (including but not limited to branch impedances) ;
- written description of Plant, Apparatus and Operational Intertripping operation;
- written details of operational procedures (where appropriate); and
- operational diagrams.

and other applicable information not forming part of the SCS :

- The 'Modification of Facilities' certificate and associated spreadsheet (STCP 04-1 Real Time Data Change Management, Appendix C);
- Commissioning Switching Programme; and
- Grid Code compliance data exchange (for which the TO is responsible).
- HV System Change Certificate
- Decommissioning Report
- Site Responsibility Schedule
- Acceptance Certificate

Appendix B and C summarises these requirements together with the target timescale for completion.

3.2.5 The TO shall monitor the preparation and scheduling of these activities as part of the Stage 1 Commissioning and Decommissioning Panel against the target timescales in Appendix B and C and regularly report progress to the Stage 2 Commissioning and Decommissioning Panel. If target timescales cannot be met NGET and the TO shall agree any additional actions that may be necessary to ensure commissioning or decommissioning can take place in a safe and timely manner.

3.2.6 Some parts of the initial data submissions may be based on generic type data where final connection arrangements or measured data will not be available until later in the construction process. This should be reviewed by the TO throughout the commissioning and decommissioning process to ensure the best quality data is being submitted as it becomes available. Final connection arrangements and measured data will be made available as appropriate by the TO prior to commissioning.

3.2.7 Where a Connection is involved, the Stage 1 Commissioning and Decommissioning Panel will progress the requirements of the STCP 19-3 Operational Notifications and Compliance Testing timetable to ensure Grid Code compliance of the User's Plant and/or Apparatus. NGET shall require the exchange of technical and non-technical data and information between the User and TO as required to meet commissioning requirements. If a User fails to provide any such data or information, the TO may require NGET to obtain the appropriate data or information.

HV System Change Certificate (HVSCC)

3.2.8 The TO shall provide a HV System Change Certificate(s) (HVSCC pro-forma contained in Appendix D Attachment A) to indicate the effective time, date and details when Plant and Apparatus is to be added,, removed from the TO's Transmission System, or is subject to a name or nomenclature change.

3.2.9 The Stage 1 Commissioning and Decommissioning Panel will schedule and progress an HVSCC to the target timescale in Appendix B and report progress to the Stage 2 Commissioning and Decommissioning Panel.

3.2.10 The HVSCC consists of:

- Part 1 which details the proposed time and date of the change;
- Part 2 which is signed in Control Phase on completion of the change;
- Part 3 in which the TO provides details of the proposed change and references any associated Operation Diagram or agreed equivalent diagrams.

3.2.11 The TO will complete parts 1 and 3 of the draft HVSCC and forward the copy to NGET. NGET will return any comment on the draft HVSCC within 10 working days of receipt of the draft HVSCC or otherwise as soon as reasonably practicable.

3.2.12 Where the proposed effective time/date of the system change is revised the new proposed effective time/date should be added to part 1 and the form forwarded to NGET using the normal data exchange process. If more than three revisions take place a new copy of the certificate using the same certificate number and part 3 details should be completed and copied to NGET.

3.2.13 The TO will prepare and issue the final HVSCC ahead of the change to the proposed effective time and date in Appendix D Attachment A Part 1. If this timescale cannot be met NGET and the TO shall agree any additional actions that may be necessary to ensure commissioning or decommissioning can take place in a safe and timely manner.

3.2.14 If any further changes are necessary to part 3 of the certificate a new certificate should be issued.

3.2.15 On completion of the system change, part 2 of the HVSCC will be signed and exchanged by the TO and NGET in Control Phase and issued to confirm the change has taken place. For the avoidance of doubt, the issue of the signed certificate does not by itself make Plant and Apparatus available or unavailable to NGET for operational service or configuration. (See Acceptance Certificate section 3.2.19 below)

Operation Diagram

3.2.16 The TO will provide an Operation Diagram or agreed equivalent of the Transmission site, incorporating Plant and/or Apparatus numbering and nomenclature. In the early stages of work construction, other drawings may be used but these must be supplemented by the Operation Diagram or equivalent to the target timescales in Appendix C. The Operation Diagram, or agreed equivalent, will form part of the SCS. The Stage 1 Commissioning and Decommissioning Panel will schedule and progress the preparation of the Operation Diagram or agreed equivalent and report progress to the Stage 2 Commissioning and Decommissioning Panel.

Site Responsibility Schedule (SRS)

3.2.17 The TO will provide a Site Responsibility Schedule (SRS) to meet the target timescales in Appendix C. The format of the schedule used by each Party shall be as stated in the Grid Code. The Stage 1 Commissioning and Decommissioning Panel will schedule and progress the SRS to the target timescale in Appendix B and report progress to the Stage 2 Commissioning and Decommissioning Panel. A copy of the relevant SRS(s) must be available to all affected parties prior to the start of On-load Testing or decommissioning for the sites involved.

Real Time Data Management

3.2.18 Real time data change management documentation exchange shall be carried out in accordance with STCP 04-1 Real Time Data Change Management and STCP 04-4 Provision of Asset Operational Information. The Stage 1 Commissioning and Decommissioning Panel will schedule and progress the data exchange required to the target timescale in Appendices B and C and report progress to the Stage 2 Commissioning and Decommissioning Panel. Real time data testing shall be carried out in accordance with STCP 04.1

Acceptance Certificate

3.2.19 The completion of Off-load Testing will be marked by issue of the signed Acceptance Certificate Part 1 which also confirms agreement to proceed to On-load Testing for the purpose of Plant and/or Apparatus being put into service. Part 1 of the Acceptance Certificate will be completed by the TO and signed and exchanged with NGET to acknowledge when the required Off-load Testing is completed, and the new Plant and/or Apparatus is ready for first energisation.

Decommissioning

3.2.20 When decommissioning is taking place under this procedure, the Stage 1 Commissioning and Decommissioning Panel shall be responsible for defining the decommissioning process. If the TO deems that decommissioning is such that no Stage 1 Commissioning and Decommissioning Panel is necessary the TO and NGET will agree to discuss the decommissioning process further at System Access Meetings called under STCP 11-1 Outage Planning. The requirements of this procedure will be followed regarding certificates and technical data required to be issued as part of the decommissioning of Plant and/or Apparatus.

3.3 Stage 2 Commissioning and Decommissioning Panel

3.3.1 The Stage 2 Commissioning and Decommissioning Panel shall monitor the progress of the documentation and certificates provided through the Stage 1 Commissioning and Decommissioning Panel and the technical data detailed below in readiness for the On-load Testing.

3.3.2 Where a User is involved there are additional Grid Code compliance requirements placed on affected Parties, STCP 19-3 Operational Notifications and Compliance Testing provides further guidance.

3.3.3 Where a User is involved NGET shall ensure that the data and information provided by the User pursuant to Grid Code obligations accurately represents the Plant and/or Apparatus installed or removed by the User including name and nomenclature changes advised by the User. NGET shall exchange information provided by the User as part of commissioning with the TO, in accordance with the requirements STCP 19-3 Operational Notifications and Compliance Testing.

3.3.4 The Stage 2 Commissioning and Decommissioning Plan will be prepared by the TO and shall include:-

- a plan which details the delivery dates for the required documentation as stated in Appendices B & C;
- the Commissioning Switching Programme as stated in Appendix E as approved jointly by the TO, NGET and any affected User; and.
- post commissioning inspections to be carried out by the TO or nominee.

3.3.5 The On-load Testing will be carried out jointly by NGET and the TO in accordance with the requirements of STCP 01-1 Operational Switching.

3.3.6 The Commissioning Switching Programme shall include both the method of first energisation and the On-load Testing of the Plant and/or Apparatus to be commissioned to the System.

3.3.7 The TO is responsible for the preparation, issue and change management of the draft and approved Commissioning Switching Programme, in accordance with the target time scales shown in Appendix C. A model form for a Commissioning Switching Programme is shown in Appendix E.

3.3.8 NGET will receive the draft Commissioning Switching Programme for comment and will liaise with affected Users and respond to the TO with any comments in accordance with the timetable shown in Appendix C.

3.3.9 Complex Commissioning Switching Programmes shall contain break points where commissioning can be safely temporarily halted, to be continued later.

3.3.10 A separate Commissioning Switching Programme should be prepared for each significant stage of multi-stage work. Commissioning for a complex stage that takes several consecutive days should be included in one programme with break points.

3.3.11 Each two part Commissioning Switching Programme will be prepared and issued by the TO. Part 1 (Strategy) will describe the overall commissioning strategy and will identify the limits of the Commissioning Switching Programme. Part 2 (Operations) will provide specific details of the sequence of operations required to energise, load, and facilitate the commissioning of Plant and / or Apparatus. Part 1 (Strategy) will be approved by NGET. Part 1 (Strategy) and Part 2 (Operations) will both be approved by the TO and any affected User".

3.3.12 Relevant Operation Diagrams or equivalent shall be referenced in the Commissioning Switching Programme, and a copy of the referenced diagrams shall be confirmed available between all Parties involved prior to the start of On-load Testing or decommissioning at the sites involved.

3.3.13 If it is necessary to modify the content of an approved Commissioning Switching Programme either prior to, or during, implementation, the following process shall be followed:

- Prior to implementation, the TO will contact the Stage 2 Commissioning and Decommissioning Panel, NGET and affected User representatives to agree and approve any essential changes. If agreement cannot be reached any Party may raise a dispute. The approved revised programme will be re-issued by the TO with a revised unique version issue number.
- Immediately prior to the start of the Commissioning Switching Programme the TO shall confirm to NGET the unique version issue number of the Commissioning Switching Programme to be used.
- Following commencement of the Commissioning Switching Programme should a need for subsequent changes to the programme be identified the programme will be temporarily suspended. The TO shall be responsible for obtaining the agreement to changes and modifications to the Commissioning Switching Programme from NGET and affected Users involved in the development of the Commissioning Programme or their nominee. The TO will be responsible for ensuring all copies of the Commissioning Switching Programme in use are amended in line with the agreed changes. Changes at this stage are normally due to site or real time System changes and are handled in the Control Phase. In extreme circumstances the Commissioning Switching Programme may have to be abandoned for re-planning and referral back to the Stage 2 Commissioning and Decommissioning Panel.

3.3.14 The TO will sign Part 1 of the Acceptance Certificate as confirmation that all Off-load Testing and inspections are completed and the asset is ready for On-load Testing. The TO will provide a copy of the signed Acceptance Certificate to NGET and NGET will acknowledge the Part 1 certificate.

3.3.15 Prior to the start of the On-load Testing the following documentation will be confirmed as available between NGET and TO for all sites involved and the issue and revision numbers of individual items checked, including:

- Operation Diagram(s) or equivalent;
- Site Responsibility Schedule(s);
- Commissioning Switching Programme; and
- Acceptance Certificate (Part 1 signed by TO).

3.3.16 When the Commissioning Switching Programme has been successfully completed and the TO has carried out final inspections, the TO shall sign Part 2 of the Acceptance Certificate. This will confirm completion of the On-load Testing and that the Plant and/or Apparatus is commissioned and made available for operational service and configuration by NGET. Part 2 of the Acceptance Certificate will be signed and exchanged by the TO and NGET. Completion of this Acceptance Certificate may be used by the TO to activate the entries in accordance with their SCS update process.

3.3.17 At this time the TO will also declare as Services Reductions (in accordance with STCP 04-4 Provision of Asset Operational Information), any known defects or limitations associated with the asset that could affect the operational use of the asset, and will progress the resolution of these issues. This may result in the issue of an Operational Capability Limit Record against the asset.

Decommissioning

3.3.18 Any Plant or Apparatus being decommissioned under this procedure shall be covered by a Decommissioning Report. A pro-forma of the Decommissioning Report can be found in Appendix D Attachment C. The Decommissioning Report will be issued in the Control Phase by the TO and signed and exchanged by the TO and NGET as per Appendix B

3.3.19 Decommissioning results in the Plant and/or Apparatus being declared permanently unavailable by the TO for operational service and configuration by NGET. Completion of the Decommissioning Report may be used by the TO to update the SCS in accordance with their SCS update process. The Decommissioning Report provides notification that the Plant and/or Apparatus is decommissioned, and confirms whether the Plant and/or Apparatus either remains within safety distance, or where the TO considers there to be safety implications.

3.3.20 Where Plant and/or Apparatus is outside safety distance and has been physically disconnected, it shall be declared as having been removed from the National Electricity Transmission System, through issue of a HV System Change Certificate and Decommissioning Report (option B) to indicate this.

3.3.21 Where the Plant and/or Apparatus is physically disconnected but remains within safety distance and therefore subject to the TO HV Safety Rules this may necessitate the Plant and/or Apparatus being retained (but shown disconnected) on the Operation Diagram, or equivalent, and in the TO and NGET SCADA databases. This Plant and/or Apparatus would not form part of the system made available by the TO to NGET. The Decommissioning Report (option A) will be issued to indicate this. When this requirement subsequently ceases a Decommissioning Report Option B will be issued together with a HV System Change Certificate.

Final Meeting

3.3.22 It is envisaged a final joint meeting of the Stage 1 and Stage 2 Commissioning and Decommissioning Panels shall be called by the TO at an appropriate time after the Plant and/or Apparatus has been commissioned. Any outstanding issues shall be addressed at this meeting.

3.4 Commissioning Outages

3.4.1 All Outages of Transmission Plant and/or Apparatus associated with commissioning and or decommissioning, will be recorded in the NGET Outage Database as outlined under STCP 11-1 Outage Planning. In the case of new Plant and/or Apparatus that will be subject to commissioning, these will be included prior to the date of connection of the Plant and/or Apparatus to the National Electricity Transmission System. These entries in the database must be agreed by NGET and will be flagged as not yet commissioned.

Typical Outage requests are:

- Risk of Trip circuits;
- proximity Outage circuits;
- primary Outages;
- new Outage requests (including the addition of new basic data entries and removal of redundant basic data entries);
- other Outages required to implement the Commissioning Switching Programme;

- other information entries to indicate resource restrictions such as circuit name or nomenclature changes requiring significant safety documentation changes or switching programme involvement;

Appendix A: Overview of Commissioning and Decommissioning Process

Pre-installation **Inaugural Commissioning Panel Meeting** to be held prior to any work on site being undertaken and to include representatives from TO, their Contractors, the SO and any effected Users.	**TO will:** Appoint Principle Contractor: Inaugural meeting of representatives from the Stage 1 and Stage 2 Commissioning and Decommissioning Panels
Site Installation	**TO will:** Hold further Stage 1 and Stage 2 Commissioning and Decommissioning Panel meetings up to commissioning date
Commissioning and Decommissioning Plan <u>Stage 1</u> Off load testing and inspections <u>Stage 2</u> Energisation and on-load testing and inspections	**TO will:** Provide initial generic network technical data pending improved data. Issue HV System Change Certificate(s) (HVSCC) Deliver Operational Data / Technical Information. Provide Modification of Facilities Certificate and associated (real time data) spreadsheet. Deliver Commissioning Certificates Prepare Commissioning Programmes for NGET and User approval. Sign Acceptance Certificate Part 1 **NGET, Users and TO will:** Approve and complete Commissioning Programme Sign Acceptance Certificate Part 2 TO offers Plant and/or Apparatus for operational service with details of any applicable Services Reductions Decommissioning Report
Warranty Period	**TO will:** Final meeting of Commissioning and Decommissioning Panels Service Reductions Progressed by TO Identification of lessons learnt

Appendix B: Commissioning & Decommissioning Certificate Requirements

ITEM	ACTIVITY	SOURCE	TARGET TIMESCALES
1	HV System Change Certificate (HVSCC)	STCP19 -4	(1) 9 WEEKS in advance of Plant and/or Apparatus being connected to or disconnected from the System, a DRAFT HVSCC will be provided to NGET by the TO, parts 1 and 3 completed. Acknowledgement of receipt will be in accordance with the Data Exchange process. *NGET will provide comment to the TO on the draft HVSCC within 10 working days of receipt and the TO and NGET will agree the content of the FINAL HVSCC* (2) 4 WEEKS in advance of Plant and/or Apparatus being connected to or disconnected from the System, the FINAL HVSCC will be issued to NGET by the TO, parts 1 and 3 completed. Acknowledgement of receipt will be in accordance with the Data Exchange process. (3) When the change becomes effective Part 2 of the FINAL HVSCC will be signed and exchanged by the TO and NGET in Control Phase.
2	Acceptance Certificate	STCP 19-4	(1) Part 1 of the Acceptance Certificate will be signed by TO and acknowledged by NGET in Control Phase on completion of Off-Load Testing and prior to first energisation. (2) Part 2 of the Acceptance Certificate will be signed and exchanged by the TO and NGET in Control Phase on completion of On-load Testing.
3	Decommissioning Report	STCP 19-4	(1) Issued by TO in Control Phase immediately following decommissioning of Plant and/or Apparatus
4	Real Time Data Management Modification of Facilities Certificate	STCP 04-1 STCP 04-4	(1) Issued by TO not less than 6 weeks in advance of the planned database change implementation date that aligns to either:- (a) the planned date the Plant and/or Apparatus will be connected to or disconnected /removed from the Transmission System, or the Plant and/or Apparatus numbering or nomenclature changes or b) the planned date of commissioning of Plant and/or Apparatus . (2) Real time data testing, between TO and NGET, shall be carried out no less than one week in advance of the planned change implementation date.

Appendix C: Operational Data and Technical Information Requirements

ITEM	ACTIVITY	SOURCE	TARGET TIMESCALES
1	Normal Capability Limits and Rating Schedules	SCS	(1) 12 WEEKS in advance of ENERGISATION date, recipients will receive schedule from Asset Owner
2	Protection and DAR Schedules	SCS	(1) 12 WEEKS in advance of ENERGISATION date, recipients will receive schedule from Asset Owner.
3	Schedule of Technical Data (including but not limited to branch impedances) ;	SCS	(1) Asset Owner provides Generic data at outset of scheme (2) 20 wks in advance of ENERGISATION date Asset Owner will provide update or confirms generic data (3) Further updates as more accurate data becomes available
4	Written Description (a) Operational tripping (b) Equipment Operation	SCS	(1) Requirement confirmed at Stage 2 Commissioning Panel (2) To be provided prior to first energisation where applicable
5	Details of operational procedures	SCS	(1) Requirement confirmed at Stage 2 Commissioning Panel (2) To be provided prior to first energisation where applicable
6	Operation Diagram or agreed equivalent	SCS	(1) 9 WEEKS in advance of ENERGISATION date, or on issue of HVSCC, draft new/revised diagram /sheet will be issued by TO for comment (2) 4 WEEKS in advance of ENERGISATION/HVSCC, final diagram/sheet will be issued and circulated by the TO.
7	Modification of Facilities (Real Time Data spreadsheet)	STCP 04-1	(1) Not less than 6 weeks in advance of the planned database change implementation date that aligns to either (a) the planned date the Plant and/or Apparatus will be connected to or removed from the Transmission System, or the Plant and/or Apparatus numbering, or nomenclature changes or the capability changes with or without a physical change to the Plant or Apparatus (b) the planned date of commissioning of Plant and/or Apparatus
8	Commissioning Switching Programme	STCP 19-4	(1) 6 WEEKS in advance of Equipment ENERGISATION draft will be issued. (2) 10 working days after the receipt of draft, comments returned. (3) 2 WEEKS in advance of ENERGISATION, final issued. (4) 1 WEEK in advance of ENERGISATION, signatures obtained
9	Site Responsibility Schedule	Grid Code	(1) 6 weeks in advance of either the issue of HVSCC, or energisation/ decommissioning of secondary Plant and/or Apparatus, draft SRS circulated by the TO. (2) 2 weeks in advance of either issue of HVSCC or energisation / decommissioning of secondary Plant and/or Apparatus, final SRS issued and circulated by the TO. (4) 3 DAYS in advance of HVSCC, or energisation/ decommissioning copies signed by all parties and circulated by the TO.
10	Grid Code compliance data	STCP19-3	See STCP 19-3 'Operational Notifications and Compliance Testing'

Appendix D – Attachment A:

HV SYSTEM CHANGE CERTIFICATE (HVSCC)

Location : Certificate No.:

Date :

To: (NGET)

From : TO Company:

PART 1: NOTICE

DRAFT / FINAL [1] proposed effective time and date:-

*Revise table below in event of effective time/date change - for any changes to PART 3 re-issue certificate

Proposed	Date	Time	
Revision 1*	Date	Time	Date revised
Revision 2*	Date	Time	Date revised
Revision 3*	Date	Time	Date revised

(For more than 3 changes issue a new copy of this certificate retaining all other data unchanged.)

Tick below where **applicable**.

€ The Plant and Apparatus scheduled in PART 3A will be removed from the National Electricity Transmission System.

€ The Plant and Apparatus scheduled in PART 3B is subject to a circuit name/nomenclature change.

€ The Plant and Apparatus scheduled in PART 3C will be declared as part of the National Electricity Transmission System but is NOT made available for configuration by NGET.

Please return comments on a DRAFT certificate within 10 working days of receipt

---

PART 2: DECLARATION

The following H.V. System changes have now taken effect:

(Mark sections applicable below)

€ The Plant and Apparatus scheduled in Part 3A has been removed from the National Electricity Transmission System and a Decommissioning Report to this effect will be issued.

€ The change scheduled in Part 3B has become effective.

€ The Plant and Apparatus scheduled in Part 3C is declared as part of the National Electricity Transmission System but is NOT made available for operational service or configuration by NGET.

Issued by: _____ Date: _____ Time: _____

TO Company :

_____

Acknowledged: _____ Date: _____ Time: _____
(NGET)

Appendix D - Attachment A (contd.)

HV System Change Certificate Part 3

Associated new / revised Operation Diagram
(or equivalent) Reference and Issue number .....

A: * Plant and/or Apparatus being removed from the National Electricity Transmission System	
Description	
B: *Name and / or Nomenclature Change	
Old Plant and/or Apparatus Identification and Location:	New Plant and Apparatus Identification and Location:
C: * Plant and/or Apparatus being added to the National Electricity Transmission System	
Description	

* Mark any sections not required with N/A

Appendix D: Attachment B

ACCEPTANCE CERTIFICATE - PART 1

LOCATION: _____ **Certificate Nº:** _____

PART 1: STAGE 1 COMPLETION

The Plant and/or Apparatus scheduled below has satisfactorily completed the Stage 1 Commissioning Programme, in accordance with the conditions of contract. The Plant and/or Apparatus may now be energised and tested in accordance with the Stage 2 Commissioning Programme. Exceptions / Limitations are specified below.

DESCRIPTION OF PLANT and/or APPARATUS

(include drawing references as appropriate)

EXCEPTIONS / LIMITATIONS

Issued by: _____ Date: _____ Time: _____

TO Company:

Acknowledged: _____ Date: _____ Time: _____
(NGET)

Appendix D: Attachment B (contd.)

ACCEPTANCE CERTIFICATE - PART 2

LOCATION: _____ **Certificate Nº:** _____

PART 2: STAGE 2 COMPLETION

The Plant and/or Apparatus specified in PART 1 of this certificate has satisfactorily completed the Stage 2 Commissioning Programme and is made available for operational service and configuration to NGET with the following Exceptions / Limitations. All drawings and requirements necessary for operational service and configuration of the Plant and/or Apparatus have been provided to NGET.

Date: _____ Time: _____

EXCEPTIONS / LIMITATIONS

Issued by: _____ Date: _____ Time: _____

TO Company:

Confirmed: _____ Date: _____ Time: _____
(NGET)

Appendix D - Attachment C

DECOMMISSIONING REPORT

LOCATION .....……. **Report No**...…….....

I HEREBY GIVE NOTICE that the Plant and/or Apparatus scheduled below was decommissioned and is no longer available for operational service or configuration by NGET

*A The Plant and/or Apparatus is disconnected from the National Electricity Transmission System and is no longer available for operational service but the TO considers there to be safety implications and as such remains in the operational drawings in the SCS and identified as non-operational.

*B The Plant and/or Apparatus is no longer part of the **National Electricity Transmission System**. A completed HV System Change Certificate for the removal of the HV Equipment is also attached.

(*Delete as appropriate.)

PART 1 - DESCRIPTION AND LOCATION OF PLANT AND/OR APPARATUS

(include drawing references as appropriate)

PART 2

(**a)** **REASON FOR DECOMMISSIONING**

(b) **DISCONNECTION DETAILS**

Signed ..... Date ..... Time .....

TO Company:

PART 3 - ACKNOWLEDGEMENT

I acknowledge receipt of the above notice

Signed …….. Date …….. Time …….

(NGET)

Appendix E : Suggested Commissioning Switching Programme Model

(Front Sheet)

Programme No……....

SCHEME NUMBER AND TITLE :

OUTAGE NO :

COMMISSIONING OUTAGES :

TRANSMISSION OWNER :

LOCATION :

PLANT AND/OR APPARATUS :

COMMISSIONING ENGINEER :

DATE OF TESTS :

PREPARED BY : .....

Part 1 (Strategy) Approved By NGET

Signed..... Date.....

Part 1(Strategy) and Part 2 (Operations) Approved By TO

Company..... Signed..... Date.....

Part 1(Strategy) and Part 2 (Operations) Approved By User

Company..... Signed..... Date.....

PERSONNEL NOMINATED TO AGREE POST- APPROVAL CHANGES

Transmission Owner	NGET	User (where applicable)

Commissioning switching programmes should adhere to the suggested categories and format where practical.

NGET will check and approve the content of section one strategy only, in line with System Operator responsibilities. The TO will be responsible for the full content of the commissioning switching programme and ensuring it satisfies the strategy agreed by the NGET.

(NB: Some switching programmes may not require the full detail specified in each category).

SECTION ONE: STRATEGY

1.1 Purpose of the Switching Programme

(a) Briefly describe the purpose of the Commissioning Switching Programme

(b) List the Plant and/or Apparatus to be commissioned.

(c) Briefly list the key stages of the Commissioning Switching Programme.

Complex Commissioning Switching Programmes should contain break points where commissioning can be safely halted temporarily to be continued later.

1.2 Diagrams

List of the Operation Diagram or equivalent for reference whilst executing the Commissioning Switching Programme. (A copy of each should be available to each person involved in the commissioning).

1.3 Commissioning Requirements

Cleary identify any commissioning requirements, including:

a) Outages required to implement the commissioning switching programme

b) Specific running arrangements

c) On load/off load circuits reselections

d) On load testing requirements including DAR/Transient/Persistent simulated events.

1.4 System Risks

Identify any risks to the System, including but not limited to:

a) Risk of trip

b) Single circuit risk

c) Bar fault risk.

d) none

1.5 Other Users

Details of any impact, involvement and agreement with other Users.

a) Generation

b) DNO

c) None

1.6 Unproven Protection Equipment

List of the protection equipment to be commissioned and which may be required to operate whilst executing the Commissioning Switching Programme, but as a result of being unproven, cannot be relied upon to perform in the intended manner. Briefly state the corresponding zone that each respective item of equipment protects.

1.7 Temporary Protection & Automatic Switching Arrangements

(a) List the temporary protection, and any automatic switching arrangements in force during the equipment energisation and On-load test period.

(b) State the temporary protection range of cover and fault clearance time(s).

(c) Identify points in the programme where there is unavoidable depletion of protection. Identify the back-up protection which may operate and the estimated fault clearance time.

(d) Confirm that all parties involved in commissioning are in possession of any temporary protection setting sheets (including rating and protection schedules if, exceptionally, they are required). Confirm that settings have been applied, to the temporary protection: this may alternatively be carried out in Section H9 of the Switching programme.

SECTION TWO: DETAIL

2.1 Personnel

List the names of personnel participating in the tests with a brief statement of their respective roles and responsibilities including Users and Customers where applicable.
NB: These may be entered on the day.

2.2 Communications

(a) List pertinent telephone numbers.

NB: These may be entered on the day.

2.3 Documentation

Confirm with NGET that all commissioning certificates have been provided and that testing documentation is complete to the TO's requirements.

2.4 Initial Conditions

(a) Confirm the Transmission Status Certificate (TSC) on the Plant and/or Apparatus to be commissioned has been cancelled.

(b) Confirm the status of disconnectors with NGET.

(c) Confirm the status of all circuit breakers with NGET.

(d) Confirm the status of all alarms with NGET

(e) Confirm the transformer tap position, and the position of any other Plant and/or Apparatus which has a range selector with NGET.

(f) Confirm the state of protection equipment with NGET. (A circuit is usually energised with all protection normal and in service).

(g) Confirm to NGET that auto switching / reclose and Automatic Voltage Control (AVC) equipment is switched out of service. (A circuit is usually energised with these items out of service).

2.5 Equipment Energisation and On-load Testing

The following should be stated in the Contents Sheet:

(a) The stated switching sequence.

(b) Clearly state when an item of Plant and/or Apparatus is being energised for the first time.

(c) Clearly state the locations at which phasing tests will take place.

(d) Clearly state the locations at which check or System synchronisation close of circuit breakers will take place.

(e) Indicate any checks to be carried out on high voltage equipment.

(f) Indicate On-load testing to be carried out*.

(g) State sequence of events required to disable any temporary protection.

NB: (1) *The minimum levels of primary current to enable On-load testing to be carried out should be stated.

(2) At the end of each On-load test it shall be confirmed that CT test links and relay settings are returned to normal.

2.6 Restoration

(a) Reconfigure the Power System to NGET circuit selection requirements.

(b) Confirm the status of all Plant and/or Apparatus at the end of the tests.

(i) All protection switched into service;

(ii) Temporary Protection systems disabled;

(iii) All relay settings normal.

2.7 On-load Auto Switching / Reclose Tests

(a) These should be carried out in accordance with a schedule of such tests. The form should closely accord with that of the DAR schedule.

(b) The schedule should specify:

(i) The starting conditions;

(ii) The type of test to be simulated;

(iii) The protection to be operated;

(iv) The circuit breakers which trip and re-close; any disconnectors that open;

(v) Point at which trip relays reset;

(vi) Time in seconds corresponding to the above.

2.8 AVC or Other Automatic Equipment Tests

(a) These should be carried out in accordance with a schedule of such tests.

NB: If, to facilitate the On-load testing, the Plant and/or Apparatus is required to be temporarily altered or changed in any way whatsoever, both the change and associated restoration shall be recorded.

Appendix F: Abbreviations & Definitions

Abbreviations

HVSCC	HV System Change Certificate
SCS	Service Capability Specification
SHET	SHE Transmission" and "Scottish Hydro-Electric Transmission plc
SPT	SP Transmission Limited
SRS	Site Responsibility Schedules
TO	Transmission Owner

Definitions

STC definitions used:
Apparatus
Connection
National Electricity Transmission System
Grid Code
NGET
Normal Capability Limits
Outages
Parties
Plant
Protection
Safety Rules
Service Capability Specification
Services Reduction
Site Responsibility Schedule
TO Construction Offer
Transmission Owner
Transmission System
User

Grid Code definitions used:
Control Phase
Operation Diagram
Operational Effect
Operational Intertripping
Operational Switching

Definition used from other STCPs:

Switching Method	STCP 01-1:Operational Switching
NGET Outage Database	STCP 11-1:Outage Planning
Operational Capability Limit Record	STCP 04-4: Provision of Asset Operational Information