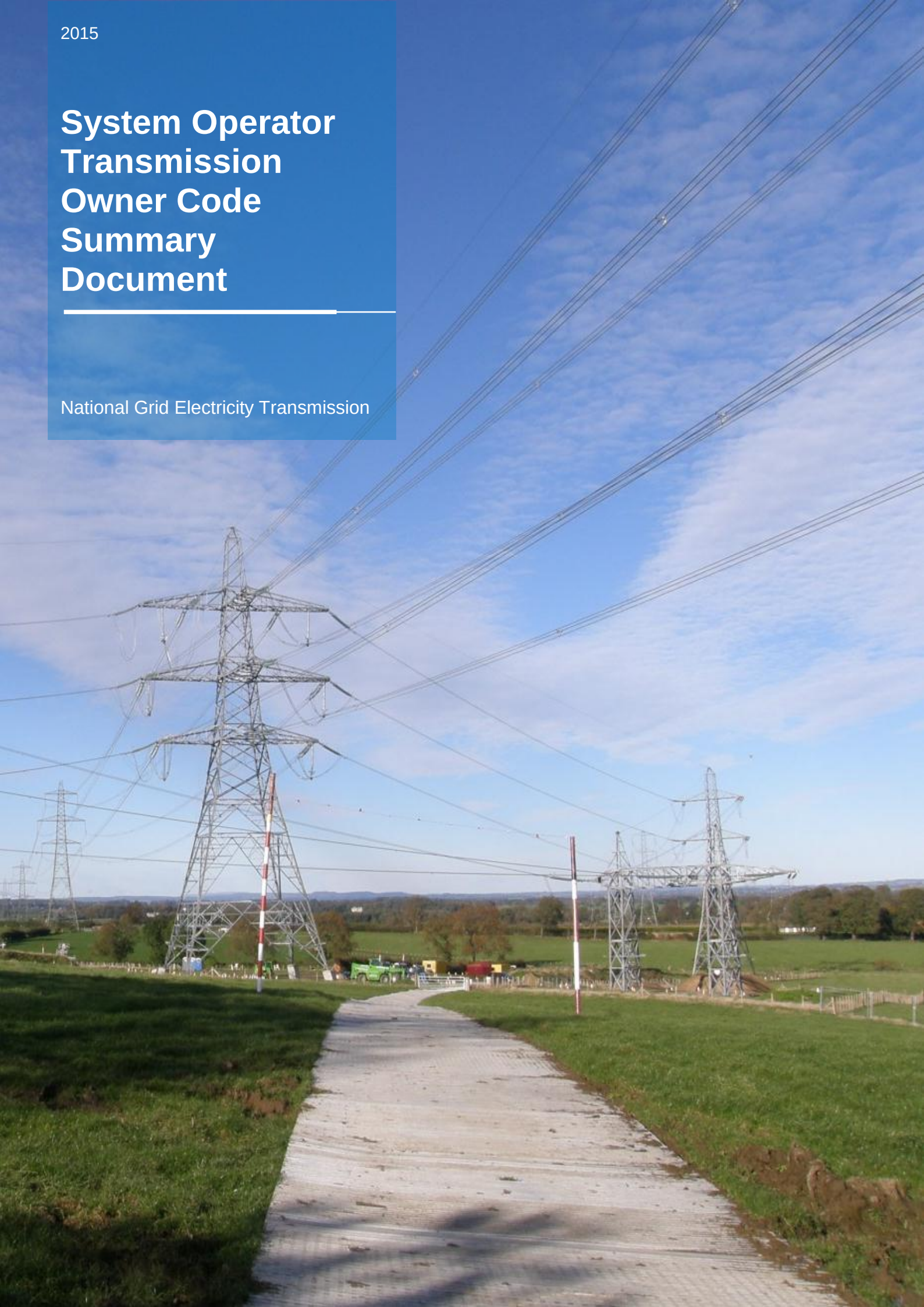
2015

System Operator Transmission Owner Code Summary Document

National Grid Electricity Transmission



Contents

Version Control:

Version	Date	Author	Change Reference
2.0	February 2015	National Grid as Code Administrator	Overall rewrite

National Grid, as the licencee is required by the terms of the Transmission Licence to consult with all electricity operators who are affected by the STC. They are required to provide assistance in understanding of the STC and as such this summary is to assist in that understanding. This summary does not form part of the STC and therefore has no legally binding effect. Furthermore, should there be disparity between this document and the STC, precedence is placed upon the STC.

Foreword:

Welcome to our summary of the System Operator Transmission Owner Code (STC). The STC is the legal document which forms the contractual framework for the interaction between the Transmission Licensees under British Electricity Trading and Transmission Arrangements (BETTA).

The full STC along with a number of associated documents can be found at: http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/System-Operator-Transmission-Owner-Code/

This document attempts to summarise and introduce the STC in a more easily digestible format.

The STC is a continuously evolving document in response to developments in the industry and legislation, and as such modifications are submitted which can alter the composition of the document. These modifications are approved by the Authority (Ofgem - as established in the Utilities Act 2000) after being reviewed through industry consultation and STC Panel, an industry body setup for this purpose. All modifications, proposed, in progress and implemented can be found at:
http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/STC/Modifications/

An index of the revisions which have been made due to the submitted modifications can be found at: http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=34194

Contact Information
If you require further details about any information contained in this document please contact the National Grid STC team as below:

National Grid
STC - Transmission Network Service
National Grid House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

Email: stcteam@nationalgrid.com

For further information and queries on how to connect to and/or use the National Electricity Transmission System, please contact Customer Services on 01926 654634.
http://www2.nationalgrid.com/UK/Services/Electricity-connections/.

National Grid welcomes any feedback regarding this document for future improvement; please contact the team on the details above. Summaries for the Grid Code and the CUSC are also available on the National Grid website under the relevant code page.

1. Introduction

1.1 About the Document

This document intends to give a high level overview of the STC. It contains information about the Regulatory structure in Great Britain and Europe and also provides a simple explanation of the various sections of the STC. Guidance on how to make changes to the STC is also given.

1.2 Great Britain Regulatory Structure

The high-voltage electricity transmission network in England and Wales is owned by National Grid Electricity Transmission plc (NGET), in south and central Scotland by Scottish Power Transmission plc (SPT), and in north Scotland by Scottish Hydro Electric Transmission plc (SHET). These companies are designated as Transmission Owners (TOs) in legislation.

NGET is the Transmission System Operator (TSO) responsible for operating the high-voltage transmission networks in England, Wales and Scotland. The network carries electricity from Generators to substations where the voltage is lowered ready for the distribution networks. There are 6 Distribution Network operators (DNOs) that own and operate the regional distribution networks and supply power from the transmission system to industrial, commercial and domestic users.

Figure 1 and 2 show the different regions for UK Transmission Owners and Distribution Network Operators.

Transmission System Owners

Figure 1

Figure 2

Distribution Network Operators

Maps kindly provided by the Energy Networks Association - http://www.energynetworks.org/.

NGET was appointed as the designated GB System Operator (GBSO) for offshore transmission networks in August 2006. The Offshore transmission regime was activated in June 2009 which led to the extension of NGET's role as system operator for offshore waters. Under the current regulatory regime, electricity transmission operating at 132 kV or above in offshore waters is considered a licensed activity and is regulated by Ofgem. Under the regime, Offshore Transmission assets are owned and maintained by an appointed Offshore Transmission Owner (OFTO) as a result of a competition tender process, facilitated by Ofgem. An OFTO can be responsible for the design, consent and construction of the offshore transmission assets.

The 1989 Electricity Act sets out the legislative framework for participants including Generators, TSOs, TOs, OFTOs, DNOs & Suppliers to have a licence. These licences are administered by the National Regulatory Authority Ofgem.

NGET's Transmission Licence obligates it to have in force a number of codes, which are in essence 'rule books' documenting how the industry will interact with the Transmission Owners and Transmission Operators, including National Grid.

Figure 3 shows the link between Transmission Licence Conditions and different codes and various industry participants.

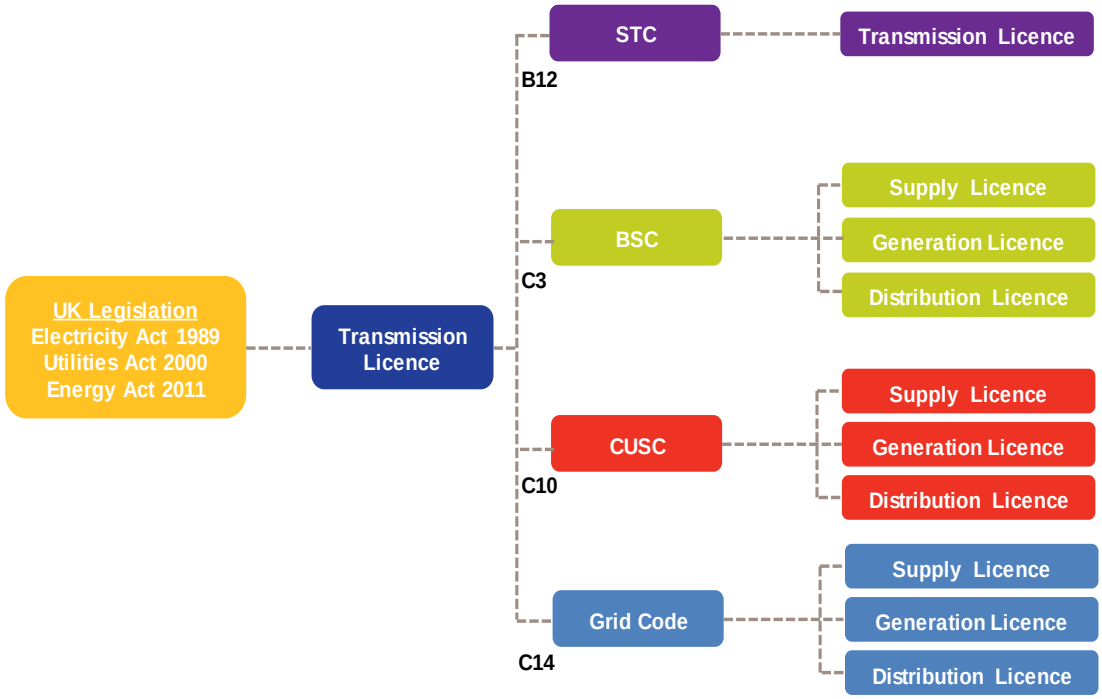


Figure 3

Each code generally focuses on outlining the principles of a specific area of the market (see table below).

Code / Standard	Scope of Document
Connection and Use of System Code (CUSC)	The CUSC sets out the principal rights and obligations in relation to connection to and/or use of National Grid's high voltage transmission system and additionally the provision of Balancing Services. http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/Connection-and-Use-of-System-Code/
Balancing and Settlement Code (BSC)	Contains the rules and governance arrangements for electricity balancing mechanism and imbalanced settlement process in Great Britain. It is administered by ELEXON and outlines the mechanism by which parties can buy and sell electricity in close to real time to keep the system balanced. http://www.elexon.co.uk/bsc-related-documents/balancing-settlement-code/
Grid Code	Covers all material technical aspects relating to the planning, operation and use of the National Electricity Transmission System (NETS). http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/Grid-Code/
System Operator Transmission Owner Code (STC)	Sets out roles and responsibilities of the National Electricity Transmission System Operator (NETSO) and each Transmission Owner (TO) with regard to the planning and operation of the NETS. http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/System-Operator-Transmission-Owner-Code/
National Electricity Transmission System Security and Quality of Supply Standards (SQSS)	The Security and Quality of Supply Standards set out criteria and the methodology for the planning and operation of the National Electricity Transmission System. http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/System-Security-and-Quality-of-Supply-Standards/

1.3 EU Regulations

The European Commission identified the need to develop European Network Codes (ENCs) during the course of developing the Third Energy Package. The Third Energy Package has three key outputs: enhancing sustainability and helping the EU meet its decarbonisation obligations, ensuring security of supply in light of a changing generation mix and creating a single European market for electricity.

These ENCs, once developed will become EU Regulation and will have precedence over all the Electricity codes in individual member states in EU. This will have an impact on the existing Electricity codes in Great Britain and will be the catalyst for the next major alterations to the Grid Code to ensure there are no conflicts between the two. The diagram below shows how the British industry bodies map to their European counterparts.

More details about the European Codes coming into effect can be found at:
http://www2.nationalgrid.com/uk/industry-information/electricity-codes/european-network-code/
http://www.acer.europa.eu/Electricity/Pages/default.aspx

Figure 4 shows how the individual codes have been developed and what has influenced them:

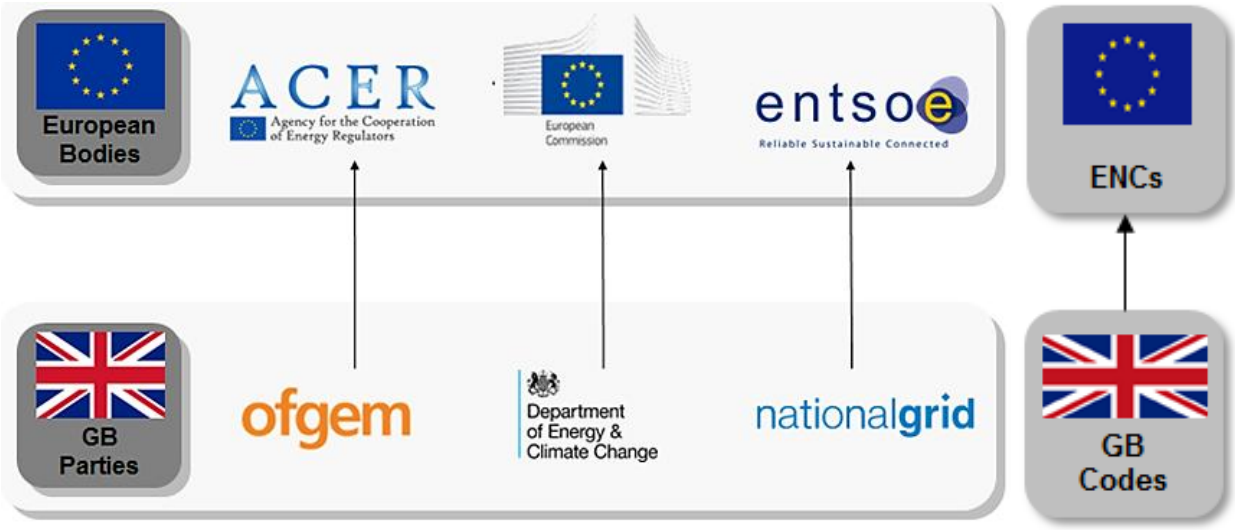


Figure 4

2. STC Introduction

2.1 What is the STC?

The STC is the legal document which forms the contractual framework for the interaction between the Transmission Licensees under British Electricity Trading and Transmission Arrangements (BETTA).

It defines the high level relationship between the GBSO and the TOs, setting out the roles and responsibilities of each with regard the planning and operation of the National Electricity Transmission System (NETS).

- The TOs providing Transmission Services to the GBSO Operator
- Directions from the GBSO to configure the GB Transmission System
- Transmission Outage Planning
- Joint Transmission Investment Planning
- Governance of the STC and amendments to it
- Dispute resolution

It is supported by a number of STC procedures (STCPs) that set out in greater detail the responsibilities and obligations of the GBSO and TOs.

2.2 History of the STC

Until April 2005, the electricity wholesale market in Scotland operated under different arrangements from those in England and Wales. This changed with the introduction of the British Electricity Trading and Transmission Arrangements (BETTA), which introduced a single wholesale electricity market for GB, with a single transmission system operated by National Grid.

The STC was designated by the Secretary of State on 1 September 2004 (BETTA Go Active Date) and was implemented on 1 April 2005 (BETTA Go Live Date).

2.3 STC Framework

STC Framework Agreement
The STC Framework Agreement gives contractual effect to the licence based STC. All Transmission Licensees must accede to the STC Framework Agreement.

STC Accession Agreement
This is the agreement that all parties need to sign in order to be admitted as an additional party to the STC Framework Agreement.

Charging Statements
Certain obligations in the STC refer to the Charging Statements. Although they do not form part of the STC, their terms are relevant to a number of STC obligations.

The STC is divided into two main sections: The STC and STC Schedules

3. Overview of STC content

3.1 The STC

The main body of the STC is divided into 11 sections all of which are applicable to the Transmission Licensees.

Section A – Applicability of Sections and Code Structure
This section sets out the code structure and what constitutes a STC Procedure. It also deals with the provision of code publication and access.

Section B – Governance
Section B deals with the admission and withdrawal of parties to the STC and details the arrangements for the establishment and the STC Modification Panel and its governance structure.

It describes the process for making a modification to the STC following a proposal by a STC Party or a representative designated by the Authority to make a change. Further details of the STC modification process can found in Section 4 of this document.

Section C – Transmission Service and Operations
Section C details the service and operations obligations of the TO and NGET. It is spilt into three parts:

Part One: Provision of Transmission Services – this deals with the provision of Transmission Services by the TO to NGET and NGET's operational obligations in coordinating and directing the flow of electricity onto and over the GB Transmission System.

In particular it sets out the processes for specifying technical limits (Operational Capability Limits (OCL)) associated with the capabilities of the GB Transmission System, for which a TO has responsibility, and developing and implementing Service Restoration Proposals in the event the actual technical capability of the GB Transmission System (or part thereof) falls below a stated OCL.

Part Two: Transmission Outage Planning – this deals with the placement and implementation of Outages on the GB Transmission System. It details the processes for the coordinated development of TO Outage Proposals and NGET Outage Plans for the GB Transmission System.

Part Three: Other – this includes a variety of issues such as Testing, Event Reporting and Joint Investigations, Black Start and Training.

Section D – Planning Co-ordination
Section D deals with planning co-ordination of the TO Transmission Systems and is split into two parts:

Part One: Transmission Planning - this deals with the planning and development of the TO's Transmission System and the relevant parts of the GB Transmission System.

Part Two: Construction - this deals with the arrangement between NGET and TOs regarding Construction Projects which may have an impact on the TO Transmission Systems and also the procedures to be followed when a User disconnects from a TO's Transmission System.

Section E – Payments and Billing
Section E sets out which elements of the TO Charges, are payable by NGET, to the Transmission Owners (detailed description and method of calculation are referred to in Schedule 10 and the appropriate party's TO Charging Methodologies). It also details the invoicing and payment arrangements (including interest on late payments) for TO Charges and the process for dealing with Disputes.

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Section F – Communications and Data
Section F deals with the complex issue of confidentiality. It details the circumstances when confidential information may be disclosed to a third party and the rules governing when a party may provide information to a Transmission Owner. The section interacts with Schedule 3, which sets out what information and data may be disclosed by a Party to a TO.

Section G – General Provisions
Section G contains those provisions, which are generic, but which do not relate directly to the specific areas dealt with in other sections of the STC. These including safety and environment, limitation of liability for the Code Parties, third party rights, transfer and subcontracting of Parties rights and obligations and other provisions which define the legal and contractual relationship between the Parties.

Section H – Dispute Resolution
Section H sets out how disputes under the STC are to be dealt with. It deals with non-compliance to any of the STC sections and schedules. Depending on the type of dispute the matter will be referred to the Authority or to Arbitration.

Section I – Transition
Section I describes the processes which the STC Parties have to undertake during the Transition Period to assist in the preparation of those matters which are effective on or after the Go Live date.

Section J – Interpretation and Definitions
Section J sets out the general rules to be applied in interpreting the STC and TO Construction Agreements. It also sets out many of the defined terms used by the Code.

Section K – Technical, Design and Operational Criteria, and Performance Requirements for Offshore Transmission Systems
Section K sets out the minimum technical, design and operational criteria, and performance criteria that Offshore Transmission Owners must ensure their Transmission System can satisfy.

3.2 Schedules to the STC

The schedules form part of the STC documentation and describe how the STC will function in an operational environment.

Schedule 1 – The System Operator – Transmission Owner Code Accession Agreement
This is the agreement that all Parties need to sign in order to be admitted as an additional party to the STC Framework Agreement.

Schedule 2 – List of Code Procedure
Contains a comprehensive list of all approved STC Procedures (STCPs). The STCPs may be created and amended in line with Section B, paragraph 7.3 of the STC.

Schedule 3 – Information and Data Exchange Specification
This schedule sets out the information and data permitted to be disclosed by a Party to a Transmission Owner in accordance with Section F of the STC.

Schedule 4 – Criteria for Assessing Those Transmission Systems Affected by a Construction Project
Schedule 4 sets out the boundaries of influence on each Party's Transmission System. These set out the extent to which changes to a Party's Transmission System may impact upon another Party's Transmission System.

Schedule 5 – NGET Connection Applications
Sets out the basic data requirements to be contained in a NGET Connection Application that is submitted to a TO by NGET.

Schedule 6 – NGET Modification Applications
Sets out the basic data requirements to be contained in a NGET Modification Application that is submitted to a TO by NGET.

Schedule 7 – System Construction Applications
Sets out the basic data requirements to be contained in a System Construction Application that is submitted to a TO by NGET.

Schedule 8 – TO Construction Offer
Sets out the pro-forma forms for a TO Construction Offer submitted by a TO to NGET where a TO decides Construction Works are required following receipt and consideration of either a NGET Connection Application, NGET Modification Application or System Construction Application. (The TO Construction Agreement (Schedule 9) complements the TO Construction Offer).

Schedule 9 – TO Construction Terms
Schedule 9 contains a pro-forma TO Construction Agreement (TOCA) which NGET and the relevant TO will enter into alongside acceptance by NGET of the TO Construction Offer.

Schedule 10 – Charges
This schedule contains a description and method of calculating charges in accordance with Section E of the STC.

Schedule 11 – NGET TEC Exchange Rate Applications
Sets out the information requirements for a NGET TEC Exchange Rate application submitted by NGET to a Transmission Owner Pursuant to Section D, part 3, of the STC.

Schedule 12 – TO TEC Exchange Rates
A copy of the TO TEC Exchange Rate Application.

Schedule 13 – NGET Requests for Statements of Works
Sets out the requirements for a NGET Request for a Statement of Works submitted by NGET to a Transmission Owner pursuant to Section D, part 4, of the STC.

Schedule 14 – Not in use

Schedule 15 – Transmission Interface Agreement
A copy of the Transmission Interface Agreement relating to the installation and operation of Transmission Assets of one party on the property of the other party at an Interface Point.

Schedule A – List of Parties
Contains a comprehensive list of all Parties who have acceded to the STC.

4.1 STC Modification Process

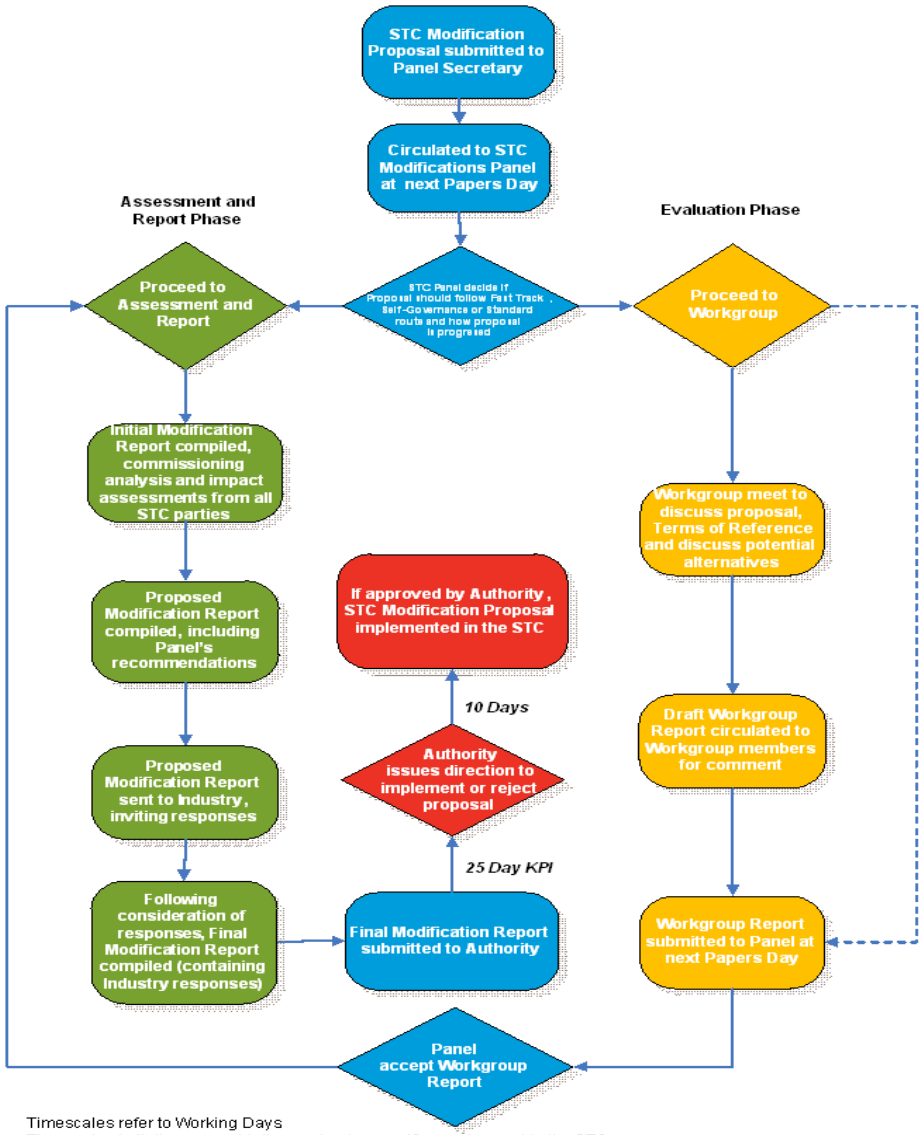
As the electricity industry changes and evolves it becomes necessary to modify the STC to reflect these new developments and alterations. Furthermore, to reflect changes to the Transmission Licences and increased regulations coming in from Europe, modifications to the current STC will be needed.

NGET's Transmission Licence states in Condition B12 that 'The STC shall include procedures for its own modification (including procedures for the modification of the modification procedures themselves)'. Full details of the most up to date NGET Licence can be found at:

https://www.ofgem.gov.uk/licences-codes-and-standards/licences/licence-conditions

This licence obligation is discharged by Section B of the STC which describes the process for making a modification to the code and the STCPs.

4.2 Overview of STC Modification Process



- Timescales refer to Working Days
- Timescales in Italic are a guideline and not a specific requirement in the STC
- Urgent Modification Proposals will deviate from the normal route depending on the nature of the Proposal and the direction from the Authority.

Figure 5

4.3 STC Modification Panel

The STC Modification Panel meets on a monthly basis usually by teleconference and comprises of the following membership:

- Chair - a senior manager from one of the STC parties, which is rotated on an annual basis.
- Panel Secretary provided by NGET.
- Two representatives from each onshore TO, including NGET
- Two representatives elected on behalf of the OFTOs.

An Authority representative(s) may attend the Panel as observer(s).

It is the Panel's responsibility to oversee the modification process from the receipt of a Modification Proposal to the submission of the Final Modification Report to the Authority.

4.4 Raising a STC Modification Proposal

A STC Modification Proposal can be raised by a STC Party or a person who has a relevant interest, but who must be designated by the Authority. The Modification Proposal is submitted in writing to the Panel Secretary for consideration by the Panel at the next STC Modification Panel meeting. The Panel assess the proposal against the Applicable STC objectives and have a number of options as to how to progress the modification. Which method used depends on the complexity, urgency and impacts on other codes of the proposal raised. There are different processes for the different types of changes proposed.

The Modification Proposal Form can be found at: http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/STC/Modifications/Forms-and-guidance/

4.5 Evaluation Phase

If the STC Panel decides that additional information is required to assess the Proposal, they may refer it for Evaluation. The STC Panel shall invite representations or commission studies, or may decide that a Workgroup is required. The Evaluation Phase is expected to last no longer than 2 months (or 4 months if a Workgroup is established). A Report is produced for consideration by the STC Panel, who will then decide whether to send it on to the Assessment and Report Phase.

4.6 Assessment and Report Phase

If the Proposal is straightforward, the Panel may decide to send it directly to the Assessment and Report Phase. The STC Panel asks all STC Parties to provide an analysis and impact assessment of the Proposed Modification which is incorporated into an Initial Modification Report is prepared.

Once approved, the Initial Modification Report is developed into a Proposed Modification Report and issued to the Industry, for a minimum of 4 weeks, inviting responses. It is also published on the National Grid Industry Information website. The Panel consider the Consultation Responses and a Final Modification Report is drafted, containing all Industry responses.

4.7 Submission to the Authority

The Final Modification Report is submitted to the Authority to determine whether the Modification should be approved for implementation or rejected. Once the Authority Decision is received, it is circulated to the Industry and published on the National Grid Industry Information website.

If the Modification is approved, the changes are made to the STC within the proposed timescales and made available on the National Grid Industry Information website.

4.8 Urgent Modification Proposals

In cases where the proposer deems the STC Modification Proposal to be of an urgent nature, a recommendation can be made to the Authority by the STC Panel. An Urgent STC Modification Proposal can, with the approval of Ofgem, deviate from the 'normal' STC Modification Procedures either in part or in full and there is no set process this could follow. For example, an Urgent Proposal can be proposed and be implemented on the same day.

4.9 Self Governance

This is an alternative route through which to progress a modification. It allows the STC Modifications Panel to make a determination on a STC Modification Proposal instead of the Authority. The modification may still go through the Workgroup phase if deemed appropriate. Self-Governance is used for minor amendments that are deemed to have non material changes.

4.10 Fast Track

This was introduced through the Code Governance Review Phase 2 in November 2013 and allows for a much quicker process to implement certain proposals. Where it is agreed that the proposed changes are very minor, such as typographical corrections, the STC Panel may agree (unanimously) that the modification can be taken through the Fast Track process. This removes most of the steps required in the usual modification process.