CONTROL TELEPHONY ELECTRICAL STANDARD

~~*Applicable in England and Wales*~~

Draft Issue ~~1~~2.0

~~17th September 2007~~

~~1.~~ Introduction

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1. Purpose

The purpose of this document is to define the **Control Telephony** requirements between **Users** of the **Transmission System** (such as **Generators**, **HVDC System Owners**, **Network Operators and Non-Embedded Customers**) and National Grid ESO who will implement these requirements in co-ordination with the **Relevant Transmission Licensees** where applicable.

Control Telephony and **Automatic Logging Devices** such as EDL (Electronic Despatch Logging) or API (Application Protocol Interface) are the two principal tools used by National Grid ESO in instructing **Users** to control the **Total System**.

This document only covers the requirements for **Control Telephony**. The requirements for other communications standards are covered in National Grid ESO's Communications Standards which are available on the National Grid ESO Website under the Grid Code Electrical Standards documents page.

As defined in Grid Code CC.6.5.2.1 and ECC.6.5.2.1, **Control Telephony** is the principal method by which a **User's Responsible Engineer / Operator**, the **Relevant Transmission Licensee's Control Engineers** and National Grid ESO **Control Engineers** speak to one another for the purposes of controlling the **Total System** under both normal and emergency operating conditions. **Control Telephony** provides secure point to point telephony for routine **Control Calls** and emergency **Control Calls**.

This document covers the technical requirements for **Control Telephony** between National Grid ESO and **Users** of the **Transmission System**. Strictly the communication requirements between Nation Grid ESO and the **Relevant Transmission Licensees** fall under the **System Operator Transmission Owner Code** (STC) and in particular STCP 04-5 (Operational Telephony), but the communication system equipment provided by National Grid ESO (in co-ordination with the **Relevant Transmission Licensees**) conforms to the requirements of this document.

It should be noted that **Relevant Transmission Licensees** in coordination with National Grid ESO will need to liaise with **User's** in order to facilitate the installation and coordination of **Control Telephony**. The **Relevant Transmission Licensee** obligations are defined in the **STC** and any relevant **TO Construction Agreement**.

System Telephony is an alternative tool used by National Grid ESO and **Relevant Transmission Licensee's** in instructing **Users** to control the **Total System**.

2. Introduction

The Grid Code requirements and the high level functionality for **Control Telephony** across Great Britain are described in CC.6.5.2 to CC.6.5.5~~.~~ and ECC.6.5.2 to ECC.6.5.5, in addition to the requirements of CC.7.10.1 and ECC.7.10.1. This **Electrical Standard** describes in more detail the technical interfaces and support requirements for **Control Telephony** between **Users**,

National Grid ESO and ~~is applicable in **NGET's**~~**Relevant Transmission** ~~**Area** only.~~ **Licensees**.

~~The~~
This **Electrical Standard** ~~has been designed to give~~gives **Users** background and technical information regarding the **Control Telephony** ~~systems~~**System** that ~~**NGET** may choose to install~~National Grid ESO in co-ordination with **Relevant Transmission Licensees** provides at ~~a **User's Site**~~. **Control Points** or **Control Centres**.

~~The~~
This **Electrical Standard** also allows **Users** to understand the requirements of the **Control Telephony** ~~system~~**System** should a **User** decide to ~~amalgamate its own telephony system with~~ integrate the ~~**NGET**~~ provided **Control Telephony System** with its own telephony system.

~~The~~
This **Electrical Standard** ~~will~~ only ~~contain~~contains generic information ~~pertaining to~~for **Control Telephony**. There ~~still~~ may be ~~occasions~~situations where additional obligations relating to **Control Telephony** ~~will be~~ or the **Control Telephony System** may be required on a site-specific basis~~.~~, for example at **Grid Supply Points**. Such site-specific details ~~pertaining to~~for **Control Telephony** will be specified in the **Bilateral Agreement**.

For the purposes of this document, any reference to ~~**NGET**~~National Grid ESO also includes any person, service provider or company nominated by ~~**NGET**~~National Grid ESO (which may include the co-ordinated role provided by a **Relevant Transmission Licensee** under the **STC**) to fulfil its obligations described in this document.

~~1.~~3.~~2.~~ Scope

This **Electrical Standard** applies to ~~**NGET**~~National Grid ESO (in co-ordination with the **Relevant Transmission Licensees** as provided for in **System Operating Code Transmission Owner Code** Procedure STCP 04-5 and to **Users** (in ~~**NGET's Transmission**~~ the **GB Synchronous Area** only), who are required to have **Control Telephony** ~~pursuant to CC.6.5~~. For the avoidance of doubt it also applies to **Users** connected to **Offshore Transmission Systems** even if those **Offshore Transmission Systems** comprise **HVDC Systems**.

For the purposes of this **Electrical Standard**, **Users** ~~will comprise of:~~ include:

(a) **Generators** (other than those which only own and operate either **Embedded Medium Power Stations** who do not have a **BEGA** agreement with National Grid ESO or **Embedded Small Power Stations** who do not have a **BEGA agreement** with National Grid ESO);

(b) **Network Operators**~~;~~ (including **Transmission Owners** via the **STC**);

(c) **Non-Embedded Customers**;

(d) **DC Converter Stations** owners and **HVDC System Owners**; and

(e) **BM Participants** and **Externally Interconnected System Operators**.

The provisions of this **Electrical Standard** will, in the case of **Network Operators**, apply to ~~**Network Operator**~~their **Control Centres**, and in the case of all other **Users** listed above, apply at the relevant **Control Points**~~.~~ or control rooms.

The provisions of this **Electrical Standard** will, in the case of ~~**NGET** apply to the **TNCC** and **NGESO** it will~~National Grid ESO apply to the **ENCC**.

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4. Definitions

In this document, any emboldened words are defined below, some of which are Grid Code terms~~ with the associated meaning as stated in the Glossary and Definitions. This is with the exception of the following words which for the purposes of this document have the following meanings:~~.

~~**AC 15**~~**Automatic Logging Devices**	~~Signalling system used on **Private Wires** employing tones at a specific frequency.~~ As defined in the Glossary and Definitions of the Grid Code.
Bilateral Agreement	As defined in the Glossary and Definitions of the Grid Code.
Bilateral Embedded Generation Agreement or **BEGA**	As defined in Section 11.3 (Definitions) of the Connection and Use of System Code (CUSC).
Black Start	As defined in the Glossary and Definitions of the Grid Code.
Black Start Service Provider	As defined in the Glossary and Definitions of the Grid Code.
BM Participant	As defined in the Glossary and Definitions of the Grid Code.
Control Calls	As defined in the Glossary and Definitions of the Grid Code.
Control Centre	As defined in the Glossary and Definitions of the Grid Code.

Control Engineer	As defined in the Glossary and Definitions of the Grid Code.
~~Analogue Trunk~~Control Phone	~~Analogue connection~~A conventional telephone handset which is connected to the **Control Telephony ~~Network~~** ~~using **AC-15**~~**System** and ~~**DTMF** signalling~~which has a capability as defined in CC.6.5.5 or ECC.6.5.5 of the Grid Code.
~~CAS~~Control Point	~~Channel Associated Signalling~~As defined in the Glossary and Definitions of the Grid Code.
Control Telephony	As defined in the Glossary and Definitions of the Grid Code.
Control Telephony ~~Network~~System	~~Network~~ The system provided by **~~NGET~~Relevant Transmission Licensees** in co-ordination with National Grid ESO to carry **Control Telephony** ~~used for managing the **GB Transmission System**~~communications.
~~Digital Trunk~~ DC Converter Stations	~~Digital connection to~~As defined in the ~~**Control Telephony Network** using **CAS**~~Glossary and ~~**DTMF** signalling~~Definitions of the Grid Code.
Defence Service Provider	As defined in the Glossary and Definitions of the Grid Code.
Demand	As defined in the Glossary and Definitions of the Grid Code.
Disaster Recovery or DR	~~Disaster Recovery~~ As defined in section 8 of this document.
Electrical Standard~~DTMF~~	~~Dual-tone multi-frequency signalling.~~ As defined in the Glossary and Definitions of the Grid Code.
Embedded Small Power Stations	As defined in the Glossary and Definitions of the Grid Code.
Emergency Control Call	A **Control Call** initiated by dialling the ~~Emergency~~emergency code. On encountering network congestion, ~~non-~~an emergency ~~calls~~call will ~~be~~ automatically ~~disconnected.~~disconnect non-emergency calls. These calls are ~~presented~~

	~~with a distinctive ringing signal at~~announced distinctively to the ~~**ENCC**~~recipient.
ENCC	~~**NGET**~~The National Grid ESO Electricity National Control Centre.
Externally Interconnected System Operators	As defined in the Glossary and Definitions of the Grid Code.
GB Synchronous Area	As defined in the Glossary and Definitions of the Grid Code.
Generator	As defined in the Glossary and Definitions of the Grid Code.
Grid Supply Point	As defined in the Glossary and Definitions of the Grid Code.
HVDC System	As defined in the Glossary and Definitions of the Grid Code.
HVDC System Owner	As defined in the Glossary and Definitions of the Grid Code.
~~Green Phone~~Leased Line	~~Common name given to the Control Telephone provided by **NGET** at **Control Points** or **Network Operator Control Centres**.~~ A telecommunications circuit provided by a public telecommunications operator for the sole use of **Control Telephony**.
Local Joint Restoration Plan	As defined in the Glossary and Definitions of the Grid Code.
~~Normal Control Call~~Mains Independence	~~**Control Call** with normal (ie non-Emergency) status.~~ In the event of loss of external electrical energy supplies, the capability to ensure that there shall be no loss of, or disruption to **Control Telephony** for at least the duration specified in section 11 of this **Electrical Standard**. To comply with this requirement an alternative power source is required that is independent of external electrical energy supplies and is automatically switched into service without manual intervention. Beyond the

	specified duration, the alternative power source should be capable of providing power indefinitely with manual intervention (eg refuelling) unless automatic arrangements are in place.
Network Operator	As defined in the Glossary and Definitions of the Grid Code.
~~**PABX**~~ **MPLS**	~~Private Automatic Branch Exchange – name given to a **User's** own telephone exchange.~~ Multiprotocol Label Switching (a routing technique in telecommunications networks that directs data from one node to the next based on labels).
Non-Embedded Customer	As defined in the Glossary and Definitions of the Grid Code.
Operational Telephony System	A term used in the **STC** which has the same meaning as the **Control Telephony System**.
Pilot Cable	Privately owned telecommunications circuit provided on a dedicated cable within a site or between sites in close proximity to each other.
~~**Private Wire**~~**Registered Capacity**	~~Telecommunications circuit provided by a public telecommunications operator~~ As defined in the Glossary and Definitions of the Grid Code.
~~**PSTN**~~ **Relevant Transmission Licensee**	~~Public Switched Telephone Network~~ As defined in the Glossary and Definitions of the Grid Code.
Responsible Engineer / Operator	As defined in the Glossary and Definitions of the Grid Code.
Restoration Service Provider	As defined in the Glossary and Definitions of the Grid Code.
Routine Control Call	A **Control Call** with normal (i.e. non-emergency) status.
SLA	Service Level Agreement~~.~~.
System Operator Transmission Owner Code or **STC**	As defined in the Glossary and Definitions of the Grid Code.

System Telephony	As defined in the Glossary and Definitions of the Grid Code.
TO Construction Agreement	As defined in Section J of the **System Operator Transmission Owner Code** or **STC**.
Total System	As defined in the Glossary and Definitions of the Grid Code.
Transmission Network Control Centre or **TNCC**	A **Transmission Licensee's** Transmission Network Control Centre.
Transmission Licensee	As defined in the Glossary and Definitions of the Grid Code.
Transmission System	As defined in the Glossary and Definitions of the Grid Code.
Trunk Line	~~Connection to the **Control Telephony Network** for carrying telephone calls.~~ A telecommunications line to the **Control Telephony System** for the purpose of carrying telephone calls. A **Trunk Line** is provided over a **Mains Independent** communications bearer which may include a **Leased Line** or a **Pilot Cable** or other appropriate medium (eg private radio, microwave etc). For **BM Participants**, other than **Restoration Service Providers**, with a total aggregated **Registered Capacity** or **Demand** capacity of less than 100MW an **MPLS** communications service may be used for the **Control Telephony System**.
User	As defined in the Glossary and Definitions of the Grid Code.
User Site	As defined in the Glossary and Definitions of the Grid Code.

~~4~~5. Overview of Control Telephony Network

The **Control Telephony** ~~**Network**~~**System** is a highly resilient private telephony network used to carry **Control Calls** for both the day-to-day management of the **GB** ~~**Transmission**~~ **System**, and for ~~contingency or~~ emergency ~~purposes including~~management. This extends to **Black Start**~~.~~ requirements where National Grid ESO contact with **Black Start Service Providers** directly where required by a **Local Joint Restoration Plan**.

The entire ~~network~~**Control Telephony System** is resilient to a complete loss of mains electricity~~,~~ and will continue to operate normally following a mains power loss~~. There is~~ as required by Section 11. The **Control Telephony System** has no reliance on the ~~**PSTN**~~public communications network which may suffer congestion during power blackouts or other events affecting the general public.

~~For the avoidance of doubt, **NGET** will be~~
National Grid ESO in coordination with the **Relevant Transmission Licensee** is responsible for the installation~~,~~ and maintenance ~~and cost~~ of the **Control Telephony System** (and ~~**Green**~~**Control Phones** ~~in England and Wales, except as provided for under the **Grid Code**, this~~ where required) unless~~**Electrical Standard** or~~ otherwise stated in the **Bilateral Agreement**~~.~~ with the **User**.

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6. Provision of Services at Control Points and ~~Network Operator~~ Control Centres ~~If NGET and a User agree~~

Where National Grid ESO specifies that **Control Telephony** is required at a **Control Point** or ~~**Network Operator**~~ **Control Centre**, ~~**NGET**~~the **Relevant Transmission Licensee** in co-ordination with National Grid ESO will normally provide a **Trunk Line** to the **Control Point** or **Control Centre** for the **User** to terminate the **Control Telephony System** on their own **Control Point** or **Control Centre** telephony system.

By agreement as an alternative to the above arrangement, the **Relevant Transmission Licensee** in co-ordination with National Grid ESO will provide one ~~**Green**~~**Control Phone** which will be connected to form part of the **Control Telephony** ~~**Network**~~**System** via a ~~**Private Wire** or **Pilot Cable**~~. Where a ~~**Private Wire** is utilised, signalling~~ **Trunk Line**. In general, the **Trunk Line** equipment will be provided by the **Relevant Transmission Licensee** in co-ordination with National Grid ESO at the **Control Point** or ~~**Network Operator Control Centre**~~.**Control Centre**. The **Relevant Transmission Licensee** in coordination with National Grid ESO may also install a second **Control Phone** for **Black Start**. This is described in further detail in section 10.

~~If **NGET** and a~~
A combination of the above service provisions may also be employed.

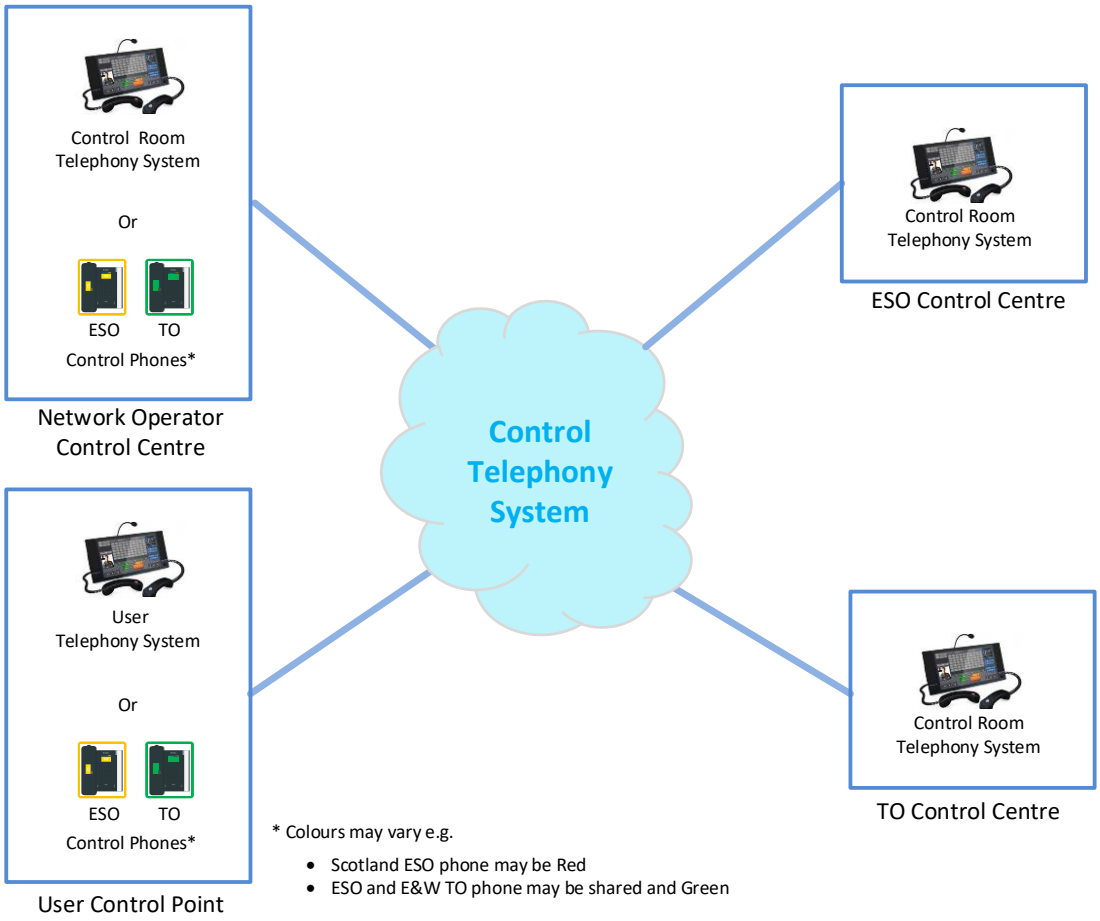

Figure 1 General Control Telephony Arrangements

The general arrangements are shown in Figure 1.

The **User** ~~agree that~~will be responsible for **Mains Independence** for the **Control Telephony** ~~is required~~equipment at ~~a~~ their site.

National Grid ESO in coordination with the **Relevant Transmission Licensee** will be responsible for installing the **Control Telephony System** to the **User's Control Point** or **~~Network Operator~~ Control Centre~~, NGET will provide~~**. The **User** will be responsible for the internal site wiring from the **Control Telephony System** to the control room desk(s).

7. Presentation of Calls and making Routine and ~~install~~Emergency Control Calls at Control Points

At locations where the ~~infrastructure external~~**Control Telephony System** is connected to ~~the~~a **Control Point** or **~~Network Operator~~ Control Centre**~~, with the User providing and installing the internal infrastructure~~ telephony system, that

telephony system shall have pre-programmed facilities to allow rapid initiation of **Routine Control Calls** and **Emergency Control Calls** and shall present incoming calls from the **ENCC** and from the **Relevant Transmission Licensee's Control Centre** in a way that distinguishes them from other calls received.

~~At **Network Operator Control Centres** and some other **Control Points**, **NGET** may also install a second **Green Phone** for receipt of **Emergency Control Calls** or for **Black Start**, this is described in further detail in paragraphs 7 and 10.~~

~~In some circumstances, **NGET** may choose to install its own telephone exchange to deliver the **Control Telephony** service.~~

~~At sites where the **User** prefers to terminate the **Control Telephony** service on their own **PABX** or other telephony apparatus in place of a standalone **Green Phone** or **NGET** exchange, **NGET** will normally provide one or more **Trunk Lines** to the **Control Point** or **Network Operator Control Centre**.~~
~~In addition to the methods of provision described above, a hybrid solution may be employed using a combination of **NGET** installed exchange and **User PABX**.~~

~~6.~~ Presentation of Calls at Control Points and making Normal and Emergency ~~Control Calls~~

~~At **Control Points** (but not **Network Operator Control Centres**) where **NGET** provides the **Control Telephony** service, a **Green Phone** will be provided. The **Green Phone** must~~At locations where a **Control Phone(s)** is provided it shall be installed in a prominent position at the **Control Point**~~,~~ suitable for use by operational staff.

The ~~**Green**~~**Control Phone** has pre-programmed ~~memory buttons. Keys are~~settings to allow rapid dialling. This feature is provided for making ~~**Normal**~~**Routine Control Calls** and **Emergency Control Calls**. An incoming **Routine Control Call** is indicated by a continuous ringing signal.

In both the above cases **Emergency Control Calls** automatically override network congestion by disconnecting ~~non-emergency~~routine calls~~,~~ and are presented with a distinctive ringing signal at the **ENCC**.

~~An incoming **Normal Control Call** is indicated by a continuous ringing signal on the **Green Phone**. The **ENCC** will only make **Emergency Control Calls** to **Network Operator Control Centres**, not **Control Points** (see Paragraph 7).~~

~~If the **User** is required to participate in a **Local Joint Restoration Plan**, a second **Green Phone** may be provided for communication with the relevant **Network Operator Control Centre** (see Paragraph 10).~~

~~Where the **User** chooses to present the **Control Telephony** service on their own telephony system in place of the **Green Phone**, these arrangements must be agreed with **NGET** (see also Paragraph 7).~~

~~7.~~ ~~Presentation of Calls and making Normal and Emergency Control Calls at Network Operator Control Centres~~

~~At **Network Operator Control Centres,** where **NGET** provides the **Control Telephony** service, two **Green Phones** will normally be provided: one **Green Phone** will be provided for **Normal Control Calls** and the other **Green Phone** for **Emergency Control Calls.** Both **Green Phones** will also be used for **Black Start** (see Paragraph 10). The two phones will normally be connected by infrastructure which is physically separate e.g. separately routed **Private Wires** to separate **Control Telephony Network** core sites.~~

~~The **Green Phones** must be installed in a prominent position at the **Network Operator Control Centre**, suitable for use by operational staff.~~

~~Both phones have pre-programmed memory keys for making **Normal Control Calls** and **Emergency Control Calls** as appropriate. **Emergency Control Calls** automatically override network congestion by disconnecting non-emergency calls, and are presented with a distinctive ringing signal at the **ENCC**.~~

~~An incoming **Control Call** (both **Normal** and **Emergency**) is indicated by a continuous ringing signal on the respective **Green Phone**.~~

~~Where the **Network Operator** chooses to present the **Control Telephony** service on their own telephony system in place of the **Green Phones,** these arrangements must be agreed with **NGET**. The **Network Operator** must ensure that incoming calls from **NGET** are presented in a way that distinguishes these from other calls received by the **Network Operator**.~~ On receipt of an incoming **Control Call**, ~~Operational~~operational staff must be made aware that ~~**NGET** are~~the **ENCC** or the **Relevant Transmission Licensee's Control Centre** is making either a ~~**Normal**~~**Routine Control Call** or **Emergency Control Call** ~~or **Emergency Control Call** to the **Network Operator Control Centre**~~.to the **User**. Incoming **Emergency Control Calls** from ~~**NGET** should~~the **ENCC** or the **Relevant Transmission Licensee's Control Centre** shall be presented in a way that distinguishes them from ~~other non-emergency calls~~ **Routine Control Calls** and gives them the appropriate priority. Facilities must be provided to allow for ~~initiating **Normal**~~the rapid initiation of **Routine** and **Emergency Control Calls** to the **ENCC** or the **Relevant Transmission Licensee's Control Centre**.

If incoming calls are queued by the ~~**Network Operator**~~**User's** system, ~~calls from **NGET**~~**Control Calls** must be given priority over other calls at the ~~**Network Operator**~~**User's** site, as if they were presented on a separate ~~**Green**~~**Control Phone**.

If calls from separate desks at the ~~**Network Operator**~~**User's Control Point** or **Control Centre** are required to be identified uniquely at the **ENCC** or the **Relevant Transmission Licensee**s Control Centre e.g. if ~~the~~a **Network Operator** ~~**Control Centre**~~ manages more than one electricity ~~Distribution Area~~licence area, then separate ~~**Trunk Lines**~~numbers will be ~~provided~~allocated by ~~**NGET**~~National Grid ESO for each area~~. This is because, at the **ENCC**, calling party identity for incoming calls from 3rd party sites is associated with a **Trunk Line** at the **Network Operator Control Centre** rather than an extension~~.

8. Control Telephony ~~DR~~Disaster Recovery Arrangements for Network Operator Control Centres ~~For~~

Network Operators ~~that~~must have ~~both Main and Contingency~~arrangements in place to transfer **Control** ~~**Centres**~~,**Telephony** calls from their main **Control Centre** to their contingency **Control Centre** when the contingency site is operational~~, arrangements must be invoked to transfer **Control Telephony** calls to the contingency site.~~. For each **Network Operator**, actual provision of services and changeover arrangements ~~will~~may require separate technical and operational agreement between ~~**NGET**~~National Grid ESO, the **Relevant Transmission Licensee** and the **Network Operator**.

9.

~~9.~~ Costs associated with the ~~movement of an existing~~ Control Telephony Service

Relevant Transmission Licensees in co-ordination with National Grid ESO shall be responsible for the service up-to the **Control System Telephone** interface on the **User's Control Point or Control Centre** telephony system.

Where ~~**NGET** are~~National Grid ESO in co-ordination with the **Relevant Transmission Licensee** provides the **Control Phone(s)** the **Relevant Transmission Licensee** in co-ordination with National Grid ESO is responsible for providing and supporting the **Control Telephony** service at **Control Points** ~~or **Network Operator Control Centres**. An exception applies where the **User** has opted to connect the service via their own telephony system, in which case **NGET** will be responsible for the service up-to the **Trunk Line** delivery point on the **User's** equipment.~~ and **Control Centres**.

Where the **User** requires ~~**NGET** to move an~~ existing **Control Telephony** ~~service~~**System** equipment to be moved to an alternative location (e.g. due to site ~~closure~~relocation) the **User** will be expected to pay all reasonable costs incurred by ~~**NGET**~~the **Relevant Transmission Licensee** and/or National Grid ESO to move the ~~service~~equipment.

10. Black Start Assured Service

Where a ~~**Control Point** or **Network Operator Control Centre**~~**User** is required to participate in a **Local Joint Restoration Plan**, ~~**NGET**~~the **Relevant Transmission Licensee** in co-ordination with National Grid ESO will provide sufficient ~~**Green**~~ capacity (and **Control Phones** ~~and **Trunk Lines**~~if appropriate) to enable the **Local Joint Restoration Plan** to be implemented without encountering congestion ~~e.g.~~.

In the case where ~~a **Network Operator**~~ National Grid ESO in coordination with the **Relevant Transmission Licensee** has provided a **Control Phone** and where

a **Black Start Power Station** is required to communicate with a ~~**Black Start Power Station**~~ **Network Operator** and the **ENCC**, two separate ~~**Green Phones,** connected to the~~ **Control** ~~**Telephony Network** by separate **Trunk Lines,** will be provided~~**Phones** shall be installed at the **Black Start Power Station**.

~~As a contingency against failure of the **Control Telephony Network, NGET** may also provide one satellite phone for use during the **LJRP**. This equipment is provided for the sole purpose of operational communication[1] between the **User** and **NGET** and any other parties that may be joint signatories to a **Local Joint Restoration Plan** pursuant to OC9.4. It shall not be used for any other purposes without the express agreement of **NGET**. All calls made on this equipment are itemised to **NGET**. **NGET** may seek to recover call charges where there is clear evidence of unauthorised use.~~

~~**NGET**~~
National Grid ESO and the **User** will implement frequent testing of these facilities in accordance with the requirements of CC/ECC.6.5.4.4 of the Grid Code to ensure they are in good working order and the operational staff are familiar with its use.

11. Technical Standards and Service Levels

The following ~~technical standards and~~ service levels apply to the **Control Telephony** ~~service.~~**System** including those parts of the **Control Telephone System** locate on **Users'** sites and via **Users'** telephony systems. The **User** is responsible for providing site access ~~to **NGET** in order~~ for ~~it to~~National Grid ESO and the **Relevant Transmission Licensee** so they can meet the **SLAs** quoted.

~~Note that these standards may be amended with the introduction of next generation telephony networks by the Public Telecommunications Operators.~~

Description	Standard/SLA
Control ~~Telephone Service (**Green Phone**)~~**Telephony System**	Equipment: • **Control Telephony System** equipment • **Trunk Line** ~~Analogue Telephone, with memory keys~~ At **Control Points at Black Start Service Providers' premises**: 5hr fix, 24 hrs/day-, 365/6 days/yr At **Network Operators' Control Centres**: 5hr fix, 24 hrs/day, 365/6 days/yr Parties which do not have -**Black Start** contracts: 5hr fix 8am-6pm normal business days

~~[1] Operational communication includes any bona-fide testing of such apparatus~~

~~**Analogue Trunk**~~**Mains Independence** duration	~~4 wire, **AC-15** with **DTMF** signalling~~ ~~BT TotalCare 4hr response, 5hr fix~~**Network Operators' Control Points** shall comply with the endurance timescales of CC7.10 or ECC7.10 as appropriate. **Control Centres** of **Generators** with **Black Start Power Stations** shall comply with the endurance timescales of CC7.10 or ECC7.10 as appropriate. **Control Centres** / **Control Rooms** of other **Restoration Service Providers** shall comply with the endurance timescales of CC7.10 or ECC7.10 as appropriate. For other **Control Points** at least 24 hours.
~~**Digital Trunk**~~	~~2Mbit/s G.703, **CAS** with **DTMF** signalling. Other interface standards and signalling systems on request. BT TotalCare 4hr response, 5hr fix~~

~~At hot sites where there is a possibility of rise of earth potential, to ensure safety of personnel and equipment, **private wires** and **pilot cables** must be isolated from earth in accordance with the following installation standard:~~

- ~~ISIS Practice: Cabling and Wiring at Electricity Stations EPT/PPS/B013, British Telecommunications~~

~~It is the responsibility of the **User** to inform National Grid if services are to be delivered to a hot site.~~