

Grid Code Review Panel

Control & System Telephony

Executive Summary

1. This paper proposes two discrete Grid Code changes and notes that as a result of these Grid Code changes it will be necessary to progress consequential SO-TO Code Amendments (primarily to the STCPs). National Grid intends to submit these amendments to the STC Committee shortly.
2. Firstly it is proposed to introduce a new telephony service into the Grid Code to be known as System Telephony. Currently only the concept of Control Telephony exists within the Grid Code. Control Telephony offers a telephony system that is designed to be fully robust in the event of a complete system shutdown for at least 48 hours following such a shutdown.
3. However there are increasing numbers of Power Stations (predominantly Windfarms) where the Power Station is controlled remotely and from a number of differing locations. In such circumstances it is not always practicable to install Control Telephony at these sites.
4. In certain cases National Grid would be content to rely on public telephony networks as the primary means of voice communication despite such networks being less robust. However in order to ensure that certain operating procedures and protocols are followed it is proposed to classify such public network based systems as System Telephony networks. National Grid would only utilise such System Telephony networks where it was content that their use would not degrade security of supply.
5. Secondly it is proposed to amend the Grid Code telephony provisions in response to a recent review of the Black Start procedures. One element of these changes is to compel Users to use the Control Telephony or System Telephony networks where these are available. In recent years it has become more commonplace for certain Users to utilise other telephony networks. Given that all calls except those routed over the Control or System Telephony networks are to be routed away from the Control Centre in the event of a significant incident occurring on the GB Transmission System it is imperative that Users utilise the Control or System Telephony network as the norm. Other arrangements to clarify such emergency calling arrangements are also proposed.
6. Taken together the two proposals are designed to enhance security of supply, ensuring that the telephony procedures are clear and can be followed by NGET and Users both under normal and emergency operating conditions. The proposals also mean that on the rare occasions where public telephony networks are used to facilitate operational voice communications then again the procedures surrounding their use are clear.
7. The Grid Code Review Panel are invited to:
 - **APPROVE National Grid developing detailed legal drafting for the above proposals; and,**
 - **APPROVE National Grid subsequently issuing a consultation paper on the above proposals.**

Background

8. Currently the telephony provisions within the Grid Code refer to Control Telephony. Control Telephony provides for a highly resilient interface between the National Grid Control Centre and Users. It is designed to be robust in the event of a complete system shutdown and is designed to remain operational for at least 48 hours even where a complete system shutdown has occurred.
9. The requirement for a Control Telephony system to be installed at a particular location is identified by National Grid as part of the connection process. In England and Wales, where Control Telephony is required National Grid will fund and install the system, typically consisting of a National Grid owned telephone line maintained by National Grid.
10. In Scotland at directly connected Power Stations the Host TO will provide terms for a Control Telephony connection as part of its TO Construction Offer (TOCO) to National Grid. This will allow for the connection of the Power Station into the TO's own Control Telephony network which is linked into National Grid's Control Telephony network. At Large Embedded Power Stations the Host TO seeks to provide a connection to its Control Telephony Network on a reasonable endeavours basis. All Control Telephony connections in Scotland are provided in accordance with STCPs 04-5: System Telephony and 18-1: Connection and Modification Application.
11. Control Telephony is identified within the National Grid Control Centre separately to calls made over the public telephone network. In the event of an incident affecting the GB Transmission System calls made over the public telephony system may be routed away from the Transmission Control Centre leaving Control Telephony as the only effective means of communication between the Control Centre and Users.

Detailed Proposals

(a) System Telephony

12. It has become increasingly apparent that a full Control Telephony system is not practical at some sites. This is due to the Control arrangements utilised by Generators – for instance in the case of Windfarms these are usually controlled at a remote location from the Windfarm itself, with multiple Control Points being used for a single Windfarm with the exact Control Point being utilised varying depending on the time of day. It has been known for the Control Point to be located overseas. In such cases it is not practical for National Grid to route Control Telephony to each Control Point.
13. Although Control Telephony is not a viable option at all sites there is scope for an intermediate telephony service to bridge the gap between Control Telephony and public telephony systems. The idea behind this would be that the service (hereafter known as “System Telephony”) would be identified within the National Grid Control Centre in the same manner as Control Telephony, however it would utilise public telephony networks. In practise the System Telephony system would have the following characteristics:
 - The system would consist of a single telephone number provided by the User which the User would undertake to keep routed to the relevant Control Point for the Power Station at all times.
 - Such a dedicated phone line could be identified within the National Grid Control Centre in the same manner as Control Telephony and in the event of a system event that leads to the transfer of non-essential voice calls away from the National Grid Control Centre such lines would not be diverted.
14. System Telephony could also be installed at other key operational sites that are not Control Points but where operational communications are required e.g. Energy Management Centres (EMCs)

(b) Telephony under emergency operating conditions

15. In addition to the introduction of System Telephony it is proposed to clarify a number of procedures within the Grid Code relating to Control Telephony and now System Telephony and specifically its use under emergency operational conditions (e.g. at times of system stress, a Black Start etc). These include:
- Unless otherwise agreed by National Grid, where Control Telephony or System Telephony is provided then it should be used as the primary operational communications channel.
 - A Control Telephony or System Telephony handset (or equivalent apparatus) at a User Site should be sited at a normally manned point where it can be answered without delay.
 - Users should be aware that calls made over the Control or System Telephony networks to National Grid Control Centres may be recorded and subsequently replayed for operational purposes.
 - Routine testing of facilities is required to ensure their ongoing capability. Where reasonably requested by NGET, Users shall assist with such testing.
 - Control Telephony facilities are intended for bona-fide operational liaison purposes between Users and NGET. Users may not use NGET provided facilities for other purposes without the express permission of NGET.
16. Additionally and only at locations where Control Telephony has been installed National Grid is proposing the following additional obligations:
- Where Control Telephony is provided at a Users Site, Emergency calling facilities will be provided to National Grid Control Centre.
 - All such Users should be aware of the procedures for making an emergency call to the National Grid Control Centre.
 - Such Emergency calling facilities should not be used for any non-urgent operational communications.

Recommendations

17. The Grid Code Review Panel are invited to:
- **APPROVE National Grid developing detailed legal drafting for the above proposals; and,**
 - **APPROVE National Grid subsequently issuing a consultation paper on the above proposals.**