

**GB Grid Code:  
Connection Conditions, Operating Code 5 and General Conditions**

**SP Transmission Response to the Ofgem/DTI Consultation**

**1. INTRODUCTION**

SP Transmission (SPT) welcomes the opportunity to comment on this Ofgem/DTI mini-consultation paper on the Grid Code. Our comments should be read in conjunction with our recent response to the consultation “The Grid Code Under Betta”. In this response we make specific comments about the drafting in these Codes which are complementary to the general points which we made earlier.

**2. CONNECTION CONDITIONS**

**Changes from Scottish Grid Code to GB Grid Code**

Retrospective Changes

Under BETTA, it is proposed that such matters will be dealt with by licensed parties applying to the Authority for derogations from obligations. SPT have previously supported the continuation of the general principle within the Scottish Grid Code that there is no imposition of retrospective changes upon Users unless there would be a significant and detrimental impact on the Transmission System.

Ofgem/DTI note that while there is no equivalent provision within the GB Grid Code, that the drafting of the England and Wales Grid Code shows retrospective application is considered in the England and Wales change process. Additionally, the consultation process allows Users the opportunity to identify changes that would have a material impact upon them.

Given the Ofgem/DTI preferred approach, there must be a clear route for transition from the current Scottish Grid Code to the GB Grid Code. The application of the new GB Grid Code could lead to a range of circumstances in which equipment is not compliant with the GB Grid Code. If derogations are to be the route under which such matters are handled, there must be a clear timetable and decision making process under which such matters will be handled in the transition to BETTA.

There must also be an appropriate “period of grace” for transition. However it should be noted that it might not be possible for some plant to comply exactly with the GB Grid Code, even though it was compliant with the Scottish Grid Code. This means that long – term derogations may be required.

Applicability

Within the context of the frequency obligations on Generators, the consultation paper raises the more general question of the scope of the GB Grid Code under BETTA. In Scotland, frequency conditions apply to Generators in Scotland with Licence exempt

embedded plant where their connection agreement specifies compliance with the Scottish Grid Code. The equivalent Generators in England and Wales are not under an equivalent obligation.

This is an interesting point. By complying with the frequency obligations, and maintaining generation at frequencies down to 47Hz, Generators are contributing to the GB frequency control strategy. To the extent that this obligation is necessary to maintain GB frequency control, it requires to be a uniform obligation throughout GB (perhaps above some MW size threshold). The appropriate place for such technical obligations is thus the GB Distribution Code, rather than extending the GB Grid Code to licence exempt embedded generators in Scotland.

#### Voltage Variations

SPT note and welcome the comment that the specification for voltage variations in the GB Grid Code will be considered further following the work of DG4 in the harmonisation of operating standards.

#### Quality Assurance Standards

The change to a standard GB quality assurance standard is appropriate.

#### Protection Clearance Times

These are discussed below.

### **Proposed Regional Differences**

Ofgem/DTI propose a number of regional differences in the drafting of the GB Grid Code. Given the significant differences in wording between the Scottish Grid Code and the GB Grid Code, it can frequently be difficult to interpret whether and how matters have been carried across from the Scottish Grid Code.. In light of this we would briefly comment as follows:

#### Earth Fault Factors

It is appropriate to leave in place design differences between Scotland and England & Wales of 150% and 140% respectively.

#### Phase Unbalance

The proposals on Phase Unbalance appear to be appropriate

#### Harmonic Content

It is appropriate to leave in place the default harmonic emission limits currently specified in the Scottish Grid Code of G5/4. This is one of a number of provisions that could usefully be applied throughout GB.

### Voltage Fluctuations

We support these proposals

### Breakers at Connection Points

The proposed differences for Scotland properly recognises some of the different configurations of the transmission system in Scotland. SPT note the proposals to carry across to the GB Grid Code the statements regarding short circuit ratings from the Scottish Grid Code, which clarify safety related issues, and suggest that these proposals could usefully be made applicable on a GB basis.

### Protection Equipment

We would support the intent behind the drafting on these matters. The comparison between the existing two Grid Codes proved to be difficult, and wording is complex. It appears that the matters have been suitably transposed into the proposed GB Grid Code.

We would support the proposals on work regarding work on protection equipment as being as being a suitable variation within Scotland.

### Exclusion for small, hydro and renewable energy plant

This forms a difficult area where some services can, and are, provided by renewable and hydro plant in Scotland. Such matters are therefore dealt with in Scotland under the arrangements, which allow the Scottish TSOs to agree appropriate connection conditions without the need for a formal derogation. It is neither appropriate nor necessary to apply existing England and Wales conditions on a blanket basis to Scottish plant without recognising the historical arrangements in respect of the capability of this plant.

As with our comments in respect of the application of retrospective changes above, there needs to be an appropriate process for developing, documenting and agreeing the capabilities of existing plant. Sufficient time must be allowed for this process.

### Voltage signals

The extension to all plant is clearly appropriate

### Site Liaison

We are pleased that Ofgem/DTI are carrying across the existing Scottish processes in respect of site safety, and the naming of safety co-ordinators to the GB Grid Code. We continue to be concerned that vital matters such as safety and site liaison between the TOs and Users are dealt with remotely via the third party of the GBSO.

However, we would note that the obligation in the GB Grid Code must be extended to require the names of these co-ordinators to be updated whenever there is a change to

the identity of these co-ordinators. This obligation currently sits in the Scottish Grid Code in OC6 paragraph 4.3.2.

## **OTHER ISSUES**

### Obligations on Substation Plant and Apparatus

We are concerned about the clarity of the obligations to be imposed on Substation Plant and Apparatus under the GB Grid Code. The obligations in the Scottish Grid Code are contained in CC4.2.1. The equivalent obligations in the proposed GB Grid Code vary by time.

Take the example of CC6.2.1.2(i). This refers to Plant and/or Apparatus which at 1<sup>st</sup> January 1999 is installed (owned or ordered) and is the subject of a Bilateral Agreement. No Plant or Apparatus in Scotland installed at this time would have been the subject of a Bilateral Agreement. Additionally, the clause then refers to “the relevant standards/specifications”. Which standards and specifications would these be. Would these be the ones referred to in the Scottish Grid Code?

For Plant and/or Apparatus installed after 1<sup>st</sup> January 1999, it is not entirely clear what the relevant Technical Specifications are – especially for Plant installed before the BETTA go live date.

### Operational Telephony

The GB Grid Code contains requirements for there to be Control telephony between the GB System Operator and the User. As a practical matter, since the Transmission Owners will be responsible for safety switching, there will be a need for operational telephony between the Users and the Transmission Owners. This requirement must be stated within the Grid Code.

## **OPERATING CODE 5**

We would agree that provided the changes in the table OC5.3.3 comprehensively document all the regional differences with the GB Grid Code, that there are no issues with this code.

## **GENERAL CONDITIONS**

There are a number of concerns over this section.

### The Panel

The Grid Code is a major technical document defining the characteristics of the GB Transmission System. The Transmission Owners in Scotland will have the main responsibility for designing and building their respective transmission systems. In

light of these obligations, SPT would maintain that the Scottish Transmission Owners should be members of the Grid Code Review Panel.

SPT has previously highlighted the need for good change co-ordination between the STC Panel and the Industry Code Panels. The current STC drafting suggests that there is a need for the various industry Code Panels to set up joint working arrangements to facilitate the identification, co-ordination and implementation of change to the Codes.

Since the governance arrangements for the GB Grid Code do not form part of the GB Grid Code itself, but are merely required within the General Conditions of the Grid Code, SPT question how these arrangements for joint working will be enabled between the STC Committee and the GB Grid Code Panel.

### Communications

As noted above under the section on the Connection Conditions, the proposed BETTA arrangements already indicate that direct communications will be needed between the Users and the Transmission Owners. Two example areas are

- (i) Safety switching, and
- (ii) The granting of approval by the Transmission Owners for Users to work on protection equipment.

The section on communications in the GB Grid Code must therefore recognise that Users and TOs will need to communicate, and appropriate rules around notification built into the Grid Code.