

GRID CODE ISSUE 15/106 AND CMP 245 & 246

Presentation to Grid Code Review Panel

15 July 2015

Introduction of a new “Category 5 Intertipping Scheme” to include System to System intertrips in the CUSC in relation to One-off Charges.



1. Tullymurdoch Ltd received a revised BEGA offer with a system to system intertrip and One Off Charge.
2. Tullymurdoch accepted the Offer because of the threat of ROC closure by the UK Government, even though the One Off Charge was under ongoing discussion.
3. Tullymurdoch raised two CUSC mods (2 mods required because of CUSC processes) CMP245 and 246.
4. This proposed Grid Code mod is required to facilitate the CUSC mod.

STRICTLY PRIVATE AND CONFIDENTIAL



1. Intertrips are defined in Grid Code.

Category 1 Intertripping Scheme

A **System to Generator Operational Intertripping Scheme** arising from a Variation to Connection Design following a request from the relevant **User** which is consistent with the criteria specified in the **Security and Quality of Supply Standard**.

Category 2 Intertripping Scheme

A System to Generator Operational Intertripping Scheme which is:-

- (i) required to alleviate an overload on a circuit which connects the **Group** containing the **User's** Connection Site to the **National Electricity Transmission System**; and
- (ii) installed in accordance with the requirements of the planning criteria of the **Security and Quality of Supply Standard** in order that measures can be taken to permit maintenance access for each transmission circuit and for such measures to be economically justified,

and the operation of which results in a reduction in **Active Power** on the overloaded circuits which connect the **User's Connection Site** to the rest of the **National Electricity Transmission System** which is equal to the reduction in **Active Power** from the **Connection Site** (once any system losses or third party system effects are discounted).

Category 3 Intertripping Scheme

A **System to Generator Operational Intertripping Scheme** which, where agreed by **NGET** and the **User**, is installed to alleviate an overload on, and as an alternative to, the reinforcement of a third party system, such as the **Distribution System** of a **Public Distribution System Operator**.

Category 4 Intertripping Scheme

A **System to Generator Operational Intertripping Scheme** installed to enable the disconnection of the **Connection Site** from the **National Electricity Transmission System** in a controlled and efficient manner in order to facilitate the timely restoration of the **National Electricity Transmission System**.

1. CUSC defines which intertrips can be charged as One-Off charges.

One-off Works

14.4.2 To provide or modify a connection, the transmission licensee may be required to carry out works on the transmission system that, although directly attributable to the connection, may not give rise to additional connection assets. These works are defined as “one-offs”. Liability for one-off charges is established with reference to the principles laid out below:

- Where a cost cannot be capitalised into either a connection or infrastructure asset, typically a revenue cost
- Where a non-standard incremental cost is incurred as a result of a User's request, irrespective of whether the cost can be capitalised
- Termination Charges associated with the write-off of connection assets at the connection site.

Consistent with these principles and in accordance with Connection Charging Methodology modification GB ECM-01, which was implemented on 1 December 2005, a one-off charge will be levied for a **Category 1 Intertripping Scheme** or a **Category 3 Intertripping Scheme**. A one-off charge will not be levied for a **Category 2 Intertripping Scheme** or a **Category 4 Intertripping Scheme**.

1. System to System intertrip is not covered in CUSC or Grid Code.
2. Introduce definition to Grid Code as next category (Category 5).
3. Add Category 5 to CUSC view on One Off charging.

Operational Intertripping

The automatic tripping of circuit-breakers to prevent abnormal system conditions occurring, such as over voltage, overload, **System** instability, etc. after the tripping of other circuit breakers following power **System** fault(s) which includes **System to Generating Unit**, **System to CCGT Module**, **System to Power Park Module**, **System to DC Converter**, **System to Demand** and **System to System Intertrip Scheme**.”

“Category 5 Intertripping Scheme

A **System to System** intertrip scheme which is required to alleviate an overload on one or more circuits on the **National Electricity Transmission System** and the operation of which results in a reduction in **Active Power** on the overloaded circuit(s) which connect one part of the **National Electricity Transmission System** to another part of the **National Electricity Transmission System**.”

The proposed text change to Section 14.4.2 of CUSC is:

“Consistent with these principles and in accordance with Connection Charging Methodology modification GB ECM-01, which was implemented on 1 December 2005, a one-off charge will be levied for a **Category 1 Intertripping Scheme** or a **Category 3 Intertripping Scheme**. A one-off charge will **not** be levied for a **Category 2 Intertripping Scheme**, a **Category 4 Intertripping Scheme** or a **Category 5 Intertripping Scheme**.”

And in the CUSC definitions add:

“**Category 5 Intertripping Scheme**” as defined in the Grid Code.

1. In the proposer's view the principles in GB-ECM -01 are clear and would mean that a Category 5 system to system intertrip would not be subject to One Off Charges.

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CONCLUSIONS REPORT

Modification Proposal to the Connection Charging Methodology

GB ECM-01

Intertrips installed under Category 2 will be to protect local circuits from overloads resulting from outages on local circuits. As there is a wider system security benefit with the installation of the scheme under this Category, and because the circuits involved are infrastructure rather than connection, National Grid is proposing to recover costs for the intertrip installation via the Transmission Network Use of System (TNUoS) revenue recovery mechanism.

1. The CUSC and Grid Code mods would beneficially impact GHG emissions.

Do you believe the CUSC Modification Proposal will have a material impact on Greenhouse Gas Emissions? Yes / No

Yes - without this modification there is a risk that a System to System Intertrip (Category 5 Intertripping Scheme) which will reduce system constraints and is enduring but is charged as One-off Works to a specific User will not be implemented because the User will not be able to afford the One-off Charges. Consequently, this may result in a termination of the agreement with National Grid which will result in the intertrip not being implemented. As a result increasing constraints on renewable generation will increase carbon dioxide emissions accordingly.

GRID CODE OBJECTIVES

(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;

The proposed System to System Intertrip is lower cost than previously proposed solutions to the potential post fault through flow and overload problem and therefore should be facilitated and recognised for other similar future applications.

System cost
benefits of this
kind of intertrip

(ii) to facilitate competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity);

Defining this Intertrip in the Grid Code will make this potential facility transparent to all Users alike.

Equitable
treatment of
Users

(iii) subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole; and

The Intertrip will help secure the system post fault.

Secure the
system

1. The CUSC and Grid Code are considered urgent by the User as they have a severe commercial impact on the project placing it in jeopardy.

Justification for Urgency Recommendation

The One-off Charge proposed by NGET to the User is putting the development of the project at risk due to its high costs. The One-off Charge would, therefore, have a significant commercial impact on the User.

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