DISTRIBUTION CODE MODIFICATION PROPOSAL FORM

Modification Proposal submitted By: Stephen Walsh	**DATE OF SUBMISSION OF PROPOSAL:** Feb 2015	**Modification Proposal Number:** *(to be assigned by Review Panel Secretary)* #34b

CONTACT DETAILS FOR MODIFICATION PROPOSAL ORIGINATOR: (IF NOT DISTRIBUTION CODE REVIEW PANEL

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MODIFICATION PROPOSAL TITLE:	Higher and Lower Rate of Change of Frequency limits for fault ride-through for all generators.

DISTRIBUTION CODE SECTION(S) AFFECTED BY PROPOSAL

1. **DCC10.5 – Add moved section from 10.10.1.1 as (j)**
2. **DCC10.10.1.1 – Move section (d)**

MODIFICATION PROPOSAL DESCRIPTION *(Clearly state the desired amendment and all text changes. Attach further information if necessary)*

The requirement for generators to remain connected during system disturbances will apply to all generators at any connection level. This is to ensure overall system stability when a significant proportion of the total generation may be delivered by Embedded Generators. The existing connected embedded generation should be exempt from this as there are a large number of small customers that would find mandatory compliance onerous.

These requirements had previously been specified for 110kV connections >2MW. This requirement will be applied to all generators by moving those clauses from the 110kV section (10.10.1.1) to the common generator section 10.5.1 This will include small wind generators not covered by DCC11 and all non-wind below 2 MW 110kV connected generators except for **Automatic Mains Failure Mode** or **Lopping Mode** connections in the fault ride through requirement.

Proposed new text;

DCC10.5 After Table 5 in 10.5.1 f)

j. Each Generation Unit shall, as a minimum, remain synchronised to the **Distribution System** during a **Rate of Change of Frequency** of values up to and including plus or minus 1.0 Hz per second measured as a rolling average over 500 ms. **Voltage dips** may cause localised **Rate of Change of Frequency** values in excess of 1 Hz per second for short periods, and in these cases, the clause **DCC**10.5.1.1 (l) supersedes this clause (**DCC**10.5.1.1 (j)). The **DSO** may require lower or higher values to be used for **Protection** settings. This requirement does not apply for **Automatic Mains Failure Mode** or **Lopping Mode** connections;

Proposed Deleted Text;

DCC10.10.1.1 Each Generation Unit shall, as a minimum, have the following capabilities:

(d) Remain synchronised to the **Distribution System** during a **Rate of Change of Frequency** of values up to and including plus or minus 1.0 Hz per second measured as a rolling average over 500 ms. **Voltage dips** may cause localised **Rate of Change of Frequency** values in excess of 1 Hz per second for short periods, and in these cases, the clause **DCC**10.10.1.1 (h) supersedes this clause (**DCC**10.10.1.1 (d)). The **DSO** may require lower or higher values to be used for **Protection** settings;

MODIFICATION PROPOSAL JUSTIFICATION *(Clearly state the reason for the modification. Attach further information if necessary)*

The purpose of this modification is to ensure that Users of the Distribution System have the capability to stay connected during faults where the Frequency may change rapidly. This will facilitate having greater amounts of embedded generation on the Network. To avoid cascade tripping Users must stay connected during a fault elsewhere on the system. The existing small embedded generation comprises of a large number of small customers that would find mandatory compliance onerous.

IMPLICATIONS OF NOT IMPLEMENTING THIS MODIFICATION

The implication of not having Distribution Users compliant is that there will be limits on the amount of embedded generation to prevent cascade tripping during faults. Alternatively expensive constraints will have to be incurred keeping sufficient spinning reserve to replace generators which trip during a system disturbance.

PLEASE SUBMIT MODIFICATION PROPOSALS TO THE PANEL SECRETARY BY E-MAIL TO: DISTCODEPANEL@MAIL.ESB.IE