

Grid Code Modification Proposals for GCRP 29th November 2007

Document Version 4.0

MPID 167 – Short Circuit Fault levels

Grid Code clause number: CC.7.2.2.2 & CC.8.6

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

As certain areas of the systems require to be and are currently designed to a fault level of 31.5 kA, it is proposed to reflect this practice in the Grid Code with the proposed modifications as specified in the text below:

CC.7.2.2.2 **User Plant** and **Apparatus** at the Connection Point shall be designed ~~to withstand~~ taking account of the short circuit current levels specified in CC.8.6. User circuit breakers shall be capable of safely making and interrupting currents due to faults, taking account of the current levels specified in CC.8.6. Circuit breakers with a higher rating than the current levels specified in CC.8.6 may be necessary for a number of reasons, including, but not limited to the need to provide an adequate safety margin or to cater for a high DC component in the fault current. It shall be the responsibility of the User to determine, what safety margin if any to apply when selecting the User's Plant and Apparatus.

CC.8.6 The **Transmission System** is designed and operated to maintain ~~short-circuit levels~~ the Initial Symmetrical Short-Circuit Current below the following:

- (a) 50 kA on the 400 kV system;
- (b) 40 kA on the 220 kV system;
- (c) 25 kA on the 110 kV system generally
- (d) 31.5 kA at designated locations on the 110kV system
- ~~(e) 26kA on the 110kV system within the Dublin region; and~~
- ~~(d) 25kA on the 110kV system outside the Dublin region.~~

The TSO shall notify any User with a connection to the Transmission

[System at a location to which item \(d\) above applies that the location is so designated.](#)

[The TSO shall publish annually a list of locations designated in accordance with item \(d\) above.](#)

It is also proposed to add **Initial Symmetrical Short-Circuit Current** to the Definitions section of the Glossary as follows:

Initial Symmetrical Short-Circuit Current	RMS value of the AC symmetrical component of a prospective (available) short-circuit current applicable at the instant of short circuit if the impedance remains at the zero time value
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This definition was taken from IEC 60909.

It is also proposed to add AC, DC and RMS to the Acronyms section of the Glossary as follows:

[AC:](#) [Alternating Current](#)
[DC:](#) [Direct Current](#)
[RMS:](#) [Root Mean Square](#)

If the TSO identifies that part of the 110 kV requires equipment to be specified at the higher level of 31.5 kA, it shall identify this area as a 'designated location'.

However it is important to note that the TSO shall always take cognisance of actual equipment ratings.

The use of the words "take account of the levels specified in CC8.6" rather "withstand" is intended to mean that the user should take account of the fact that the SC level on the Grid side could be 31.5 kA (or whichever value is relevant) and then assess what the requirement for the Users' equipment is. This may not be 31.5 kA, most noticeably if the User is a contributor to the 31.5 kA fault current, or of the User's plant is some distance from the designated point on the Grid, or the other side of a transformer etc.

It is always open to any User to approach the TSO to establish more precisely the fault duties that are likely to arise. (Fault level information is published in the Forecast Statement.) In particular, in view of the legislative requirement for the DSO and TSO to take into account the need to operate a co-ordinated transmission and distribution systems it would be appropriate for the DSO and TSO to exchange more detailed information about prospective fault currents and equipment capabilities, and to co-ordinate any upgradings that may arise.

MPID 139 – Removal of Maximum Continuous Rating

Grid Code clause number: Various- see Appendix B in attachment.

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

Please see modification proposal here:

[Http://www.eirgrid.com/EirgridPortal/uploads/Grid Code docs for website/MPID 139 Removal of MCR v1.pdf](http://www.eirgrid.com/EirgridPortal/uploads/Grid%20Code%20docs%20for%20website/MPID%20139%20Removal%20of%20MCR%20v1.pdf)

MPID 156 - Planning Criteria

Grid Code clause number: Glossary

Proposed by: EirGrid

Modification Proposal:

It is required to tidy up the definition of “Planning Criteria” in the Grid Code.

Currently there are the following two definitions in the Grid Code:

TSO Planning Criteria	System Planning practices and considerations that the TSO follow. The application of TSO Planning Criteria may vary to match local conditions and local System requirements.
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Transmission Planning Criteria	System Planning practices and considerations that the TSO follow.
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It is proposed to delete the first definition as this term is not used in the Grid Code and define Transmission Planning Criteria as follows:

Transmission Planning Criteria	System Planning practices and considerations that the TSO follows. The application of Transmission Planning Criteria may vary to match local conditions and local System requirements. The Transmission Planning Criteria are available on the TSO's website.
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MPID 166 – FRT Clarification

Grid Code clause number: CC.7.3.1.1 (h)

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

Following assessment of the FRT clauses it has come to light that the Grid Code requirements for FRT could be misleading. With the current wording it could be construed that generators are only required to stay synchronised to the system for the duration of the fault, whereas the intention is that the unit stays connected both during and after faults of the specified length. After the fault clearance, the generator should return to pre-fault loading subject to normal governor and AVR response. It is therefore proposed to modify the clause by adding in the words as shown below in red and underlined.

CC.7.3.1.1 (h) remain synchronised during and following Voltage dips at the HV terminals of the **Generator Transformer** of 95% of nominal **Voltage** (5% retained) for duration 0.2 seconds and **Voltage** dips of 50% of nominal **Voltage** (i.e. 50% retained) for duration of 0.6 seconds. Following the fault clearance the **Generation Unit** should return to pre-fault conditions subject to its normal **Governor Control System and Automatic Voltage Regulator** response;

MPID 169 – Secondary Fuel Requirements

Grid Code clause number: various

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

The Commission recently put out to consultation Secondary Fuel Requirements. It is expected that a determination will be made in the coming months. Following this EirGrid will propose the necessary modifications to the Grid Code.

MPID 171 – Complex Connections

Grid Code clause number: PC.4.4.1

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

The description in the Planning Code of Complex Connections is inaccurate and it is proposed to modify it to reflect the fact that where the TSO identifies that additional or more extensive studies are required it will advise the applicant and not wait until the issuing of the Connection Offer to do this. In fact, these studies need to be completed before any connection offer can be made.

Original text:

PC.4.4 Complex Connections

PC.4.4.1 The magnitude and complexity of any **Transmission System** development will vary according to the nature, location and timing of the proposed **User Development** which is the subject of the application and it may, in certain circumstances, be necessary for the **TSO** to carry out additional or more extensive system studies to evaluate more fully the impact of the proposed **User Development** on the **Transmission System**. Where the **TSO** judges that such additional or more extensive studies are necessary the **Connection Offer** may indicate the areas that require more detailed analysis and before such additional studies are carried out, the **User** shall indicate whether it wishes the **TSO** to undertake the work necessary to proceed to make a revised **Connection Offer** within the period allowed or such extended time as the **TSO**, acting reasonably considers is necessary.

Proposed text:

PC.4.4 Complex Connections

PC.4.4.1 The magnitude and complexity of any **Transmission System** development will vary according to the nature, location and timing of the proposed **User Development** which is the subject of the application and it may, in certain circumstances, be necessary for the **TSO** to carry out additional or more extensive system studies to evaluate more fully the impact of the proposed **User Development** on the **Transmission System**. Where the **TSO** judges that such additional or more extensive studies are necessary the ~~Connection Offer may indicate~~ TSO shall advise the User the areas that require more detailed analysis and before such additional studies are carried out, the **User** shall indicate whether it wishes the **TSO** to undertake the work necessary to proceed to make a ~~revised~~ **Connection Offer** within the period allowed or such extended time as the **TSO**, acting reasonably considers is necessary.

MPID 172 – Glossary- Acronyms

Grid Code clause number: Glossary, Acronyms

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

It is proposed to separate the various Scientific Units out of the existing Acronyms section and put them into a new dedicated “Units” section.

It is proposed to move the following Units into this new section and correct some typos in the wording and text:

GWh	Giga Watt Hour Giga Watt hour
hPa	hecto Pascals hecto Pascal
Hz	Hertz
kA	Kilo Amp(s) kilo Ampere
kV	Kilo Volt(s) kilo Volt
Mvarh	Megavar Hour Megavar hour
MWh	Mega Watt Hour Mega Watt hour

It is also proposed to add the following units to that new section:

MW	Mega Watt
var	Volt Ampere reactive
GW	Giga Watt
TWh	Tera Watt hour
kW	kilo Watt
kWh	kilo Watt hour

MPID 173 – ESBPG Safety Rules / Locking

Grid Code clause number:

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

The current section states

CC.7.2.4 Locking

CC.7.2.4.1 The facility to lock in the open/closed position and interlocking facilities shall be provided by each **User** on appropriate disconnects and/or circuit breakers (with withdraw facilities) in order to ensure that the incoming feeder(s) to the facility can be safely isolated when required by the **TSO**. The specific details of this requirement will be outlined at the design phase.

CC.7.2.4.2 Existing **Power Stations** with **Safety Rules** 1991 (ELECTRICAL) (Generating Stations), in accordance with OC11, in operation will be deemed to comply with CC.7.2.4.1 subject to review by the **TSO**.

A new definition for ESB Power Generation Electrical Safety Rules was introduced last year. This is currently defined as

ESB Power Generation Electrical Safety Rules	The current version of the document prepared by ESB and entitled "ESB Power Generation Electrical Safety Rules".
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It is therefore proposed to modify CC.7.2.4.2 above to the following:

CC.7.2.4.2 Existing **Power Stations** with [ESB Power Generation Electrical Safety Rules](#) ~~Safety Rules 1991 (ELECTRICAL) (Generating Stations)~~, in accordance with OC11, in operation will be deemed to comply with CC.7.2.4.1 subject to review by the **TSO**.

MPID 174 –OC10 Flowchart

Grid Code clause number: OC10 flowchart

Proposed by: EirGrid

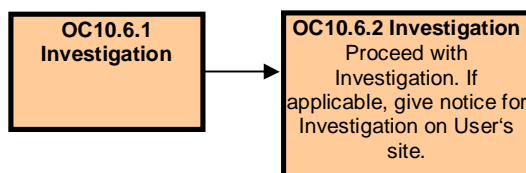
Date Proposed: November 2007

Modification Proposal:

In the diagram in OC10 it is proposed to replace the reference of "ESBNG" to "the TSO" in the OC10.5.8, OC10.7, OC10.8.1 blocks and the general ESBNG block on the left hand side of the flowchart.

It is also proposed to remove the words "Issue notice to User" in the block for OC10.6.1 as this does not reflect OC10.6.1. It is then proposed to add the following to the text in the OC10.6.2 block: ["If applicable, give notice for Investigation on User's site."](#)

The chart will therefore read:



MPID 175 –Submission of Updated Planning Data

Grid Code clause number: PC.6.6.1

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

PC.6.6.1 currently reads:

PC.6.6.1 The **Planning Code** requires that, as soon as is practical, and not later than the **Operational Date** all data requirements as stated in the Appendix to the Planning Code, not previously requested by the **TSO** and supplied by the **User**, will be submitted by the **User** to the **TSO**. This will include confirming any estimated values assumed for planning purposes or, where practical, replacing them by validated actual values and by updated estimates for the future and by updating forecasts for **Forecast Data** items such as **Demand**.

In fact, this data is required prior to the Operational Date. It is therefore proposed to modify the text to the following, also taking cognisance of the fact the Commission may direct an alternative. An example of this is in the Gate 2 Direction, where the Commission directed wind farms to provide the data 120 business days in advance.

Additional text has been added on to the end of the paragraph to ensure that the requirement to keep the TSO aware of updates to data up until the Operational date.

PC.6.6.1 The **Planning Code** requires that, as soon as is practical, and not later than ~~the~~ **Operational Date** a date which is the earlier of 18 months prior to the scheduled Operational Date or six months after the signing of the Connection Agreement, unless otherwise directed by the Commission, all data requirements as stated in the Appendix to the Planning Code, not previously requested by the **TSO** and supplied by the **User**, will be submitted by the **User** to the **TSO**. This will include confirming any estimated values assumed for planning purposes or, where practical, replacing them by validated actual values and by updated estimates for the future and by updating forecasts for **Forecast Data** items such as **Demand**. As more accurate data becomes available, due to completion of detailed design, test measurements/results or any other sources, this information will be submitted

by the User to the TSO as soon as practicable and not later than the Operational Date.

MPID 176– Connection Conditions Typos

Grid Code clause number: CC.7.2.5.1 & CC.7.2.5.3.2 & CC.15.6

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

- (a) In CC.7.2.5.1 “**Demand Users**” should read “**Demand Customers**”.
- (b) In CC.7.2.5.3.2 “**Transformer**” should not be in bold font.
- (c) In CC.15.6 “**Scheduling and Dispatch Codes**” should read “SDC1 and SDC2”.

MPID 177– Operating Codes Typos

Grid Code clause number: various

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

- (a) In OC 4.3.5.2 & OC 4.3.5.3 in the term “**SFRS control range**” the words “**control range**” should be capitalised.
- (b) In OC4.6.3.6 the word “Demand” should appear in Bold font as it is a defined term.
- (c) In OC 4.7.3.3 “**Black Start Unit**” – should read “If, during the **Demand** restoration process any **Generation Unit** that is part of a **Black Start Station** cannot...”
- (d) In OC 7.2.5.2 “**International Telecommunications Union**” (ITU) should not be in bold. The abbreviation needs to go into the Acronyms section.
- (e) In OC7.2.5.2 “**International Electrotechnical Commission**” (IEC) should not be in bold.

- (f) In OC10.7.1.2 “**Warning**” needs defining. The proposed definition is “A warning as provided for in OC10.7.1.1”

MPID 178– Wind Farm Forecasts

Grid Code clause number: WFPS1.7.5

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

As TSO, EirGrid is dedicated to the safe, reliable and economic operation of the transmission system. This, of course, extends to the accommodation of all of forms of renewable generation on the system.

In recent years, there has been a significant increase in the amount of wind generation in particular on the Irish system. In order to accommodate these high levels of wind generation, EirGrid requires wind generation forecasts with the highest levels of accuracy possible. EirGrid has and will continue to strive to produce the most accurate wind generation forecast possible, through the use of various wind forecasting tools and involvement in a variety of wind forecasting projects.

Grid Code clause WFPS1.7.5 currently reads

WFPS1.7.5 WIND POWER FORECASTS

Wind power forecasts shall be provided by **Controllable WFPSs**. These forecasts shall be provided at 10:00 a.m. on a daily basis for the following 48 hours for each 30 minute time-period by means of an **Electronic Interface** in accordance with the reasonable requirements of the **TSO’s** data system.

Initially, when the clause WFPS1.7.5 Wind Power Forecasts was included in the Grid Code, its purpose was to ensure forecasts were available on a daily basis. It was the responsibility of the wind farm operator / owner to provide these forecasts to the TSO. This poses two main difficulties:

1. There is no obligation on each wind farm to provide an *accurate* forecast and similarly, there is no method by which EirGrid could raise concerns regarding the quality of forecasts.
2. Statistically, a countrywide wind forecast on a wind farm basis has an overall higher level of accuracy than a localised wind forecast based on the output of the individual turbines in the wind farm. Therefore these forecasts could never achieve the accuracy levels required.

However, as wind farms must submit availability to the Market Operator under the Trading and Settlement Code and under SDC1 it is proposed that this clause shall remain as it is currently written.

Hence, EirGrid is proposing a modification to WFPS1.7.5 which would enable EirGrid to produce these forecasts to as high an accuracy as possible. It is proposed that the existing clause WFPS1.7.5 will become WFPS1.7.5.1, and then WFPS1.7.5.2 will be added and state that the wind farm will provide EirGrid with the information necessary to allow for the accurate modelling of the wind farm within EirGrid's wind forecasting tools. Such information would include wind farm terrain characteristics and wind turbine power curves.

The proposed text of this modification is as follows.

WFPS1.7.5.2

WFPSs shall engage fully with the **TSO** to ensure that the necessary information is available to the **TSO** for the production of wind generation forecasts with the appropriate level of accuracy by the **TSO**. Where this engagement involves the provision of data by the **WFPS** to the **TSO**, this data must be provided as soon as reasonably practicable, or in any event, within 60 business days of the date of the request.

MPID 179– Generators' Connection Conditions

Grid Code clause number: CC.7.3.1

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

CC.7.3.1 currently states

CC.7.3 Generators

CC.7.3.1 The conditions specified in this section of the code apply to all **Generation Units** connected to or connecting seeking new connections to the **Transmission System**. ~~It is acknowledged that **Generation Units** currently connected to the **Transmission System** may have been designed to different standards and therefore may not comply in whole or in part with some or all of these conditions. In such cases derogation or exemption from the code is proposed.~~

It is proposed to delete the part shown in red strikethrough text as the derogation process is in the General Conditions and the current wording could be interpreted to encourage Users to favour the derogation option over compliance.

Grid Code Modification Proposals for GCRP 29th November 2007

Document Version 4.0

MPID 167 – Short Circuit Fault levels

Grid Code clause number: CC.7.2.2.2 & CC.8.6

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

As certain areas of the systems require to be and are currently designed to a fault level of 31.5 kA, it is proposed to reflect this practice in the Grid Code with the proposed modifications as specified in the text below:

CC.7.2.2.2 **User Plant** and **Apparatus** at the Connection Point shall be designed ~~to withstand~~ taking account of the short circuit current levels specified in CC.8.6. User circuit breakers shall be capable of safely making and interrupting currents due to faults, taking account of the current levels specified in CC.8.6. Circuit breakers with a higher rating than the current levels specified in CC.8.6 may be necessary for a number of reasons, including, but not limited to the need to provide an adequate safety margin or to cater for a high DC component in the fault current. It shall be the responsibility of the User to determine, what safety margin if any to apply when selecting the User's Plant and Apparatus.

CC.8.6 The **Transmission System** is designed and operated to maintain ~~short-circuit levels~~ the Initial Symmetrical Short-Circuit Current below the following:

- (a) 50 kA on the 400 kV system;
- (b) 40 kA on the 220 kV system;
- (c) 25 kA on the 110 kV system generally
- (d) 31.5 kA at designated locations on the 110kV system
- ~~(e) 26kA on the 110kV system within the Dublin region; and~~
- ~~(d) 25kA on the 110kV system outside the Dublin region.~~

The TSO shall notify any User with a connection to the Transmission

[System at a location to which item \(d\) above applies that the location is so designated.](#)

[The TSO shall publish annually a list of locations designated in accordance with item \(d\) above.](#)

It is also proposed to add **Initial Symmetrical Short-Circuit Current** to the Definitions section of the Glossary as follows:

Initial Symmetrical Short-Circuit Current	RMS value of the AC symmetrical component of a prospective (available) short-circuit current applicable at the instant of short circuit if the impedance remains at the zero time value
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This definition was taken from IEC 60909.

It is also proposed to add AC, DC and RMS to the Acronyms section of the Glossary as follows:

[AC:](#) [Alternating Current](#)
[DC:](#) [Direct Current](#)
[RMS:](#) [Root Mean Square](#)

If the TSO identifies that part of the 110 kV requires equipment to be specified at the higher level of 31.5 kA, it shall identify this area as a 'designated location'.

However it is important to note that the TSO shall always take cognisance of actual equipment ratings.

The use of the words "take account of the levels specified in CC8.6" rather "withstand" is intended to mean that the user should take account of the fact that the SC level on the Grid side could be 31.5 kA (or whichever value is relevant) and then assess what the requirement for the Users' equipment is. This may not be 31.5 kA, most noticeably if the User is a contributor to the 31.5 kA fault current, or of the User's plant is some distance from the designated point on the Grid, or the other side of a transformer etc.

It is always open to any User to approach the TSO to establish more precisely the fault duties that are likely to arise. (Fault level information is published in the Forecast Statement.) In particular, in view of the legislative requirement for the DSO and TSO to take into account the need to operate a co-ordinated transmission and distribution systems it would be appropriate for the DSO and TSO to exchange more detailed information about prospective fault currents and equipment capabilities, and to co-ordinate any upgradings that may arise.

MPID 139 – Removal of Maximum Continuous Rating

Grid Code clause number: Various- see Appendix B in attachment.

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

Please see modification proposal here:

[Http://www.eirgrid.com/EirgridPortal/uploads/Grid Code docs for website/MPID 139 Removal of MCR v1.pdf](http://www.eirgrid.com/EirgridPortal/uploads/Grid%20Code%20docs%20for%20website/MPID%20139%20Removal%20of%20MCR%20v1.pdf)

MPID 156 - Planning Criteria

Grid Code clause number: Glossary

Proposed by: EirGrid

Modification Proposal:

It is required to tidy up the definition of “Planning Criteria” in the Grid Code.

Currently there are the following two definitions in the Grid Code:

TSO Planning Criteria	System Planning practices and considerations that the TSO follow. The application of TSO Planning Criteria may vary to match local conditions and local System requirements.
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Transmission Planning Criteria	System Planning practices and considerations that the TSO follow.
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It is proposed to delete the first definition as this term is not used in the Grid Code and define Transmission Planning Criteria as follows:

Transmission Planning Criteria	System Planning practices and considerations that the TSO follows. The application of Transmission Planning Criteria may vary to match local conditions and local System requirements. The Transmission Planning Criteria are available on the TSO's website.
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MPID 166 – FRT Clarification

Grid Code clause number: CC.7.3.1.1 (h)

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

Following assessment of the FRT clauses it has come to light that the Grid Code requirements for FRT could be misleading. With the current wording it could be construed that generators are only required to stay synchronised to the system for the duration of the fault, whereas the intention is that the unit stays connected both during and after faults of the specified length. After the fault clearance, the generator should return to pre-fault loading subject to normal governor and AVR response. It is therefore proposed to modify the clause by adding in the words as shown below in red and underlined.

CC.7.3.1.1 (h) remain synchronised during and following Voltage dips at the HV terminals of the **Generator Transformer** of 95% of nominal **Voltage** (5% retained) for duration 0.2 seconds and **Voltage** dips of 50% of nominal **Voltage** (i.e. 50% retained) for duration of 0.6 seconds. Following the fault clearance the **Generation Unit** should return to pre-fault conditions subject to its normal **Governor Control System and Automatic Voltage Regulator** response;

MPID 169 – Secondary Fuel Requirements

Grid Code clause number: various

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

The Commission recently put out to consultation Secondary Fuel Requirements. It is expected that a determination will be made in the coming months. Following this EirGrid will propose the necessary modifications to the Grid Code.

MPID 171 – Complex Connections

Grid Code clause number: PC.4.4.1

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

The description in the Planning Code of Complex Connections is inaccurate and it is proposed to modify it to reflect the fact that where the TSO identifies that additional or more extensive studies are required it will advise the applicant and not wait until the issuing of the Connection Offer to do this. In fact, these studies need to be completed before any connection offer can be made.

Original text:

PC.4.4 Complex Connections

PC.4.4.1 The magnitude and complexity of any **Transmission System** development will vary according to the nature, location and timing of the proposed **User Development** which is the subject of the application and it may, in certain circumstances, be necessary for the **TSO** to carry out additional or more extensive system studies to evaluate more fully the impact of the proposed **User Development** on the **Transmission System**. Where the **TSO** judges that such additional or more extensive studies are necessary the **Connection Offer** may indicate the areas that require more detailed analysis and before such additional studies are carried out, the **User** shall indicate whether it wishes the **TSO** to undertake the work necessary to proceed to make a revised **Connection Offer** within the period allowed or such extended time as the **TSO**, acting reasonably considers is necessary.

Proposed text:

PC.4.4 Complex Connections

PC.4.4.1 The magnitude and complexity of any **Transmission System** development will vary according to the nature, location and timing of the proposed **User Development** which is the subject of the application and it may, in certain circumstances, be necessary for the **TSO** to carry out additional or more extensive system studies to evaluate more fully the impact of the proposed **User Development** on the **Transmission System**. Where the **TSO** judges that such additional or more extensive studies are necessary the ~~Connection Offer may indicate~~ TSO shall advise the User the areas that require more detailed analysis and before such additional studies are carried out, the **User** shall indicate whether it wishes the **TSO** to undertake the work necessary to proceed to make a ~~revised~~ **Connection Offer** within the period allowed or such extended time as the **TSO**, acting reasonably considers is necessary.

MPID 172 – Glossary- Acronyms

Grid Code clause number: Glossary, Acronyms

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

It is proposed to separate the various Scientific Units out of the existing Acronyms section and put them into a new dedicated “Units” section.

It is proposed to move the following Units into this new section and correct some typos in the wording and text:

GWh	Giga Watt Hour Giga Watt hour
hPa	hecto Pascals hecto Pascal
Hz	Hertz
kA	Kilo Amp(s) kilo Ampere
kV	Kilo Volt(s) kilo Volt
Mvarh	Megavar Hour Megavar hour
MWh	Mega Watt Hour Mega Watt hour

It is also proposed to add the following units to that new section:

MW	Mega Watt
var	Volt Ampere reactive
GW	Giga Watt
TWh	Tera Watt hour
kW	kilo Watt
kWh	kilo Watt hour

MPID 173 – ESBPG Safety Rules / Locking

Grid Code clause number:

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

The current section states

CC.7.2.4 Locking

CC.7.2.4.1 The facility to lock in the open/closed position and interlocking facilities shall be provided by each **User** on appropriate disconnects and/or circuit breakers (with withdraw facilities) in order to ensure that the incoming feeder(s) to the facility can be safely isolated when required by the **TSO**. The specific details of this requirement will be outlined at the design phase.

CC.7.2.4.2 Existing **Power Stations** with **Safety Rules** 1991 (ELECTRICAL) (Generating Stations), in accordance with OC11, in operation will be deemed to comply with CC.7.2.4.1 subject to review by the **TSO**.

A new definition for ESB Power Generation Electrical Safety Rules was introduced last year. This is currently defined as

ESB Power Generation Electrical Safety Rules	The current version of the document prepared by ESB and entitled “ESB Power Generation Electrical Safety Rules”.
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It is therefore proposed to modify CC.7.2.4.2 above to the following:

CC.7.2.4.2 Existing **Power Stations** with [ESB Power Generation Electrical Safety Rules](#) ~~Safety Rules 1991 (ELECTRICAL) (Generating Stations)~~, in accordance with OC11, in operation will be deemed to comply with CC.7.2.4.1 subject to review by the **TSO**.

MPID 174 –OC10 Flowchart

Grid Code clause number: OC10 flowchart

Proposed by: EirGrid

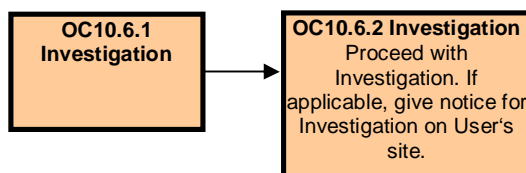
Date Proposed: November 2007

Modification Proposal:

In the diagram in OC10 it is proposed to replace the reference of “ESBNG” to “the TSO” in the OC10.5.8, OC10.7, OC10.8.1 blocks and the general ESBNG block on the left hand side of the flowchart.

It is also proposed to remove the words “Issue notice to User” in the block for OC10.6.1 as this does not reflect OC10.6.1. It is then proposed to add the following to the text in the OC10.6.2 block: [“If applicable, give notice for Investigation on User’s site.”](#)

The chart will therefore read:



MPID 175 –Submission of Updated Planning Data

Grid Code clause number: PC.6.6.1

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

PC.6.6.1 currently reads:

PC.6.6.1 The **Planning Code** requires that, as soon as is practical, and not later than the **Operational Date** all data requirements as stated in the Appendix to the Planning Code, not previously requested by the **TSO** and supplied by the **User**, will be submitted by the **User** to the **TSO**. This will include confirming any estimated values assumed for planning purposes or, where practical, replacing them by validated actual values and by updated estimates for the future and by updating forecasts for **Forecast Data** items such as **Demand**.

In fact, this data is required prior to the Operational Date. It is therefore proposed to modify the text to the following, also taking cognisance of the fact the Commission may direct an alternative. An example of this is in the Gate 2 Direction, where the Commission directed wind farms to provide the data 120 business days in advance.

Additional text has been added on to the end of the paragraph to ensure that the requirement to keep the TSO aware of updates to data up until the Operational date.

PC.6.6.1 The **Planning Code** requires that, as soon as is practical, and not later than ~~the~~ **Operational Date** a date which is the earlier of 18 months prior to the scheduled Operational Date or six months after the signing of the Connection Agreement, unless otherwise directed by the Commission, all data requirements as stated in the Appendix to the Planning Code, not previously requested by the **TSO** and supplied by the **User**, will be submitted by the **User** to the **TSO**. This will include confirming any estimated values assumed for planning purposes or, where practical, replacing them by validated actual values and by updated estimates for the future and by updating forecasts for **Forecast Data** items such as **Demand**. As more accurate data becomes available, due to completion of detailed design, test measurements/results or any other sources, this information will be submitted

by the User to the TSO as soon as practicable and not later than the Operational Date.

MPID 176– Connection Conditions Typos

Grid Code clause number: CC.7.2.5.1 & CC.7.2.5.3.2 & CC.15.6

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

- (a) In CC.7.2.5.1 “**Demand Users**” should read “**Demand Customers**”.
- (b) In CC.7.2.5.3.2 “**Transformer**” should not be in bold font.
- (c) In CC.15.6 “**Scheduling and Dispatch Codes**” should read “SDC1 and SDC2”.

MPID 177– Operating Codes Typos

Grid Code clause number: various

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

- (a) In OC 4.3.5.2 & OC 4.3.5.3 in the term “**SFRS control range**” the words “**control range**” should be capitalised.
- (b) In OC4.6.3.6 the word “Demand” should appear in Bold font as it is a defined term.
- (c) In OC 4.7.3.3 “**Black Start Unit**” – should read “If, during the **Demand** restoration process any **Generation Unit** that is part of a **Black Start Station** cannot...”
- (d) In OC 7.2.5.2 “**International Telecommunications Union**” (ITU) should not be in bold. The abbreviation needs to go into the Acronyms section.
- (e) In OC7.2.5.2 “**International Electrotechnical Commission**” (IEC) should not be in bold.

- (f) In OC10.7.1.2 “**Warning**” needs defining. The proposed definition is “A warning as provided for in OC10.7.1.1”

MPID 178– Wind Farm Forecasts

Grid Code clause number: WFPS1.7.5

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

As TSO, EirGrid is dedicated to the safe, reliable and economic operation of the transmission system. This, of course, extends to the accommodation of all of forms of renewable generation on the system.

In recent years, there has been a significant increase in the amount of wind generation in particular on the Irish system. In order to accommodate these high levels of wind generation, EirGrid requires wind generation forecasts with the highest levels of accuracy possible. EirGrid has and will continue to strive to produce the most accurate wind generation forecast possible, through the use of various wind forecasting tools and involvement in a variety of wind forecasting projects.

Grid Code clause WFPS1.7.5 currently reads

WFPS1.7.5 WIND POWER FORECASTS

Wind power forecasts shall be provided by **Controllable WFPSs**. These forecasts shall be provided at 10:00 a.m. on a daily basis for the following 48 hours for each 30 minute time-period by means of an **Electronic Interface** in accordance with the reasonable requirements of the **TSO’s** data system.

Initially, when the clause WFPS1.7.5 Wind Power Forecasts was included in the Grid Code, its purpose was to ensure forecasts were available on a daily basis. It was the responsibility of the wind farm operator / owner to provide these forecasts to the TSO. This poses two main difficulties:

1. There is no obligation on each wind farm to provide an *accurate* forecast and similarly, there is no method by which EirGrid could raise concerns regarding the quality of forecasts.
2. Statistically, a countrywide wind forecast on a wind farm basis has an overall higher level of accuracy than a localised wind forecast based on the output of the individual turbines in the wind farm. Therefore these forecasts could never achieve the accuracy levels required.

However, as wind farms must submit availability to the Market Operator under the Trading and Settlement Code and under SDC1 it is proposed that this clause shall remain as it is currently written.

Hence, EirGrid is proposing a modification to WFPS1.7.5 which would enable EirGrid to produce these forecasts to as high an accuracy as possible. It is proposed that the existing clause WFPS1.7.5 will become WFPS1.7.5.1, and then WFPS1.7.5.2 will be added and state that the wind farm will provide EirGrid with the information necessary to allow for the accurate modelling of the wind farm within EirGrid's wind forecasting tools. Such information would include wind farm terrain characteristics and wind turbine power curves.

The proposed text of this modification is as follows.

WFPS1.7.5.2

WFPSs shall engage fully with the **TSO** to ensure that the necessary information is available to the **TSO** for the production of wind generation forecasts with the appropriate level of accuracy by the **TSO**. Where this engagement involves the provision of data by the **WFPS** to the **TSO**, this data must be provided as soon as reasonably practicable, or in any event, within 60 business days of the date of the request.

MPID 179– Generators' Connection Conditions

Grid Code clause number: CC.7.3.1

Proposed by: EirGrid

Date Proposed: November 2007

Modification Proposal:

CC.7.3.1 currently states

CC.7.3 Generators

CC.7.3.1 The conditions specified in this section of the code apply to all **Generation Units** connected to or connecting seeking new connections to the **Transmission System**. ~~It is acknowledged that **Generation Units** currently connected to the **Transmission System** may have been designed to different standards and therefore may not comply in whole or in part with some or all of these conditions. In such cases derogation or exemption from the code is proposed.~~

It is proposed to delete the part shown in red strikethrough text as the derogation process is in the General Conditions and the current wording could be interpreted to encourage Users to favour the derogation option over compliance.
