



Assessment of Grid Code Compliance
of Generation Units
Pre and Post Commissioning
Principles Document

Document identifier:		Authored by:	Anne Trotter
Document version:	Vers 1.3	Checked by:	Arlene Chawke
Date of current issue:	24 th May, 2011	Approved by:	FRTWG



Contents

1	Background.....	3
2	Pre Commissioning	3
3	During Commissioning	3
4	Post Commissioning.....	4

1 Background

Recent interactions between the TSO and a number of conventional Generators have highlighted that there may be a lack of clarity with regards to when Grid Code Compliance of a Generation Unit should be checked and by whom.

A Working Group has been established to review the appropriate Grid Code requirements for Fault Ride Through and the responsibility for assessment of compliance of a Generation Unit with these requirements.

This principles document constitutes one of the deliverables of the Working Group:

- Principles document regarding assessment of Grid Code Compliance Pre and Post Commissioning

2 Pre Commissioning

Prior to commissioning: for example when applying for connection, accepting a connection offer, purchasing or installing a Generation Unit it is the responsibility of the Generator to ensure that the Generation Unit is Grid Code Compliant. As per the Data Provision Position Paper (another deliverable of the Fault Ride Through Working Group): at the design stage of a new Generation Unit, studies using the single machine infinite bus model, are adequate for the purposes of Generator self-assessment of FRT compliance. The Transmission System nominal voltages, as per CC.8.3.1 of the Grid Code, should be used, as the infinite bus voltage, in any such Generator studies.

Any studies completed by the TSO as part of the connection offer process are to determine the impact of the Generation Unit on the Transmission System, determine the appropriate connection method and system reinforcements required. Furthermore, prior to the connection of the Generation Unit the TSO performs transient stability studies to determine the dynamic impact of the Generation Unit on the Transmission System.

3 During Commissioning

As part of the commissioning processⁱ the Generator is obliged to demonstrate Grid Code Compliance (or seek derogation from Grid Code) by completion of a suite of tests, some of which will be witnessed by the TSO, and submitting the relevant data, which the TSO will review. The TSO is in the process of developing a 'Test Pack' for conventional generators to assist with this process.

4 Post Commissioning

If specific incidents occur, which demonstrate non compliance of a Generation Unit with Grid Code the TSO will follow up with the Generator for an explanation and ideally a remedy that enables the Generation Unit to comply with Grid Code in the future.

In accordance with OC10 of the Grid Code the TSO will check Grid Code compliance of Generation Units throughout the lifetime of the unit. This will involve monitoring of existing system data available to the TSO and also scheduling tests. Since the start of 2010 the TSO has embarked on a systematic process of Performance Monitoring of Generation Units with regard to Grid Code.

If it is the case that a Generation Unit has not been required to perform a certain Grid Code requirement for a period of time, the TSO may decide to test the unit, to be sure that it is still capable of meeting the requirement.

Following changes to Generation Units such as refurbishment or adjustment of generator controls, re-testing of the Generation Unit involving some or all of the Commissioning Grid Code compliance tests will need to be completed.

In some cases such as when MEC or MIC of a Generation Unit changes or a Generation Unit is substantially replaced¹ the Generator will need to apply for a modification to their connection agreement

If a User finds that it is, or will be, unable to comply with any provision of the Grid Code, it is obliged, under section GC.9.1, to report such non compliance to the TSO and subject to the provisions of GC.9.2 make such reasonable efforts as are required to remedy such non compliance.

ⁱ The IPP may submit test results in advance of the commissioning process, if they wish, but may be asked by the TSO to confirm validity of tests during the commissioning process.

¹ If the generator is unsure as to whether 'a Generation Unit is substantially replaced' then the Generator should contact the TSO for confirmation.