

## WAGCM5 - Grid Code Alternative Form

# GC0141:

## Preferred permutation across all GC0141 “Sub-Modification” workstreams

**Overview:**

The Alternative has been raised to cover the proposer’s chosen permutation in relation to the elements that comprise the modification.

Details of the chosen permutation as attached and summarised below:

Solution	Independent Engineer	Sharing for SSTI / SSCI	RMS & EMT Models	Fault Ride Through Definition & Retrospective Requirements	Compliance Repeat Plan	Enhanced FRT Studies	Torsional Data
WAGCM5	No requirement for IE	ESO/TO share models as required	Specification of RMS & EMT model (fully encrypted)	No time duration or respective requirements	Every 5 years Users submit compliance statement and DRC Schedules	Additional studies for complex connections agreed at start of process	User provides data when asked prior to a completion date of 1st April 2015
	No change from Baseline						
	Original Proposal						
	Alternative Option						

**Requirement for an Independent Engineer** – Current Baseline

**Sharing of SSTI / SSCI Models** – Original Proposal

**Specification for RMS & EMT Models** – Original Proposal

**Fault Ride Through Definition and Retrospective Requirements** – Current Baseline

**Compliance Repeat Plan** – Original Proposal

**Enhanced Fault Ride Through Studies** – Original Proposal

**Provision of Torsional Data for Older Plant** – Alternative Option 7a (requirement for User to only provide Torsional Data for Generating Units with a completion date before 01 April 2015 on request)

**Proposer:** Colin Foote, SP Energy Networks

## Contents

- What is the proposed alternative solution?
- What is the impact of this change?
- When will the change take place?
- Acronyms, key terms and reference material

## What is the proposed alternative solution?

The alternative covers the proposer's chosen elements of the modification, with some elements differing from the Original Proposal.

## What is the difference between this and the Original Proposal?

### **Requirement for an Independent Engineer – Current Baseline**

The Independent Engineer would add cost and complexity with no clear benefit. The workgroup report references Ofgem's report on the 9 August 2019 outage and a comment on there being a reliance on self-certification; this should be a prompt for the ESO itself to do more in this area, rather than to introduce another party.

### **Sharing of SSTI / SSCI Models – Original Proposal**

The sharing of models is necessary to allow the relevant parties to perform appropriate analysis of SSTI and SSCI. All the alternative options would deliver benefits, but the Original would be most efficient as it avoids the procurement of external consultancy services or the establishment of a new study environment.

### **Specification for RMS & EMT Models – Original Proposal**

The Original Proposal represents a significant step forward in establishing a common and shared understanding across the GB industry in the requirements for both RMS and EMT models. The Original Proposal will deliver benefits on all Grid Code objectives.

### **Fault Ride Through Definition and Retrospective Requirements – Current Baseline**

This part of the proposal would be better dealt with in a more comprehensive review of FRT, in GC0155: [Clarification of Fault Ride Through Technical Requirements](#).

### **Compliance Repeat Plan – Original Proposal**

The Original Proposal deals effectively with the challenges posed by a rapidly changing power system and the growing risks associated with new technologies, although the alternative option would also deliver benefits.

### **Enhanced Fault Ride Through Studies – Original Proposal**

The proposal will deliver benefits on all Grid Code objectives.

### **Provision of Torsional Data for Older Plant – Alternative Option 7a (requirement for User to only provide Torsional Data for Generating Units with a completion date before 01 April 2015 on request).**

Both the Original Proposal and Alternative Option 7a would deliver technical benefits but the Alternative would be more efficient because it requires data to be provided only if it is needed rather than imposing a blanket requirement on all Users.

## What is the impact of this change?

### **Proposer's Assessment against Grid Code Objectives**

Relevant Objective	Identified impact
(a) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity	<b>Positive</b> This Alternative would deliver the changes required to enable effective modelling and analysis, which is critical to achieving this objective, with greatest economic efficiency.
(b) Facilitating effective 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);	<b>Positive</b> This Alternative provides enhanced guidance on modelling and removes barriers that affect data sharing, thereby helping to facilitate competition.
(c) 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;	<b>Positive</b> This Alternative includes the elements with greatest beneficial impact on security and efficiency while minimising the economic costs.
(d) To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and	<b>Positive</b> This Alternative includes the elements most critical to enabling licensees to discharge their obligations while minimising the economic costs.
(e) To promote efficiency in the implementation and administration of the Grid Code arrangements	<b>Positive</b> This Alternative includes elements with broad-based support in the working group and a combination of options that could be progressed efficiently as a Grid Code modification.

### When will this change take place?

#### Implementation date:

In line with GC0141

**Implementation approach:****Acronyms, key terms and reference material**

Acronym / key term	Meaning
BCA	Bilateral Connection Agreement - between a User and ESO
ECC	European Connection Conditions – part of Grid Code
PC	Planning Code – part of Grid Code
TO	Transmission Owner
NG ESO	National Grid Electricity System Operator

**Reference material:**

None.