Grid Code Review Panel
Assigning Detailed Planning Data (DPD) references to DPD I or DPD II
Date Raised: 02 July 2014

GCRP Ref: pp14/39[1]

A Panel Paper by Catherine Hiorns
National Grid

Summary
The Grid Code separates Detailed Planning Data (DPD) into two categories DPD I and DPD II. There are several references to DPD that are not segregated into either category this paper proposes to capture these references and categorise them as either DPD I or DPD II to provide greater clarity.

Users Impacted
High
National Grid, New Generators looking to connect
Medium
None
Low
None

Description & Background
DPD I data is usually provided within 28 days of the acceptance of a connection offer. Whereas DPD II is generally provided two years prior to completion data. DPD is submitted in accordance with PC4.4.2 and PC4.4.4
Subject to GC0008 (H/09) where Detailed Planning Data (DPD) was segregated into DPD I and DPD II this modification is changing the few remaining references to DPD that do not include a reference to I or II. It is anticipated that this will have no impact on the way of working, as it is reflecting the process currently occurring. The modification is occurring for the purpose of clarity and consistency.

Proposed Solution
It is proposed to change any references to DPD to DPD I or DPD II in order to facilitate clarity within the Grid Code. These changes are anticipated to reflect how these items are currently treated and therefore reflect no change of current process or any future process.
Appendix A and Appendix B show the proposed Grid Code modifications. Changes in the Planning Code are reflective of other references to the parameter elsewhere in the Grid Code. The Adjusted references in the Data Registration Code currently have no assigned category, however it is understood this is how the data is currently treated.

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

[1] The Code Administrator will provide the paper reference following submission to National Grid.

The proposed changes do not impact this objective.

(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);

The proposed changes simplify and clarify the data to be provided by the Generator, thus reducing barriers to entry and facilitating completion.

(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;

The proposed changes do not impact this objective.

(iv) 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.

The proposed changes do not impact this objective.

Impact & Assessment

Impact on the National Electricity Transmission System (NETS)

The proposed changes are unlikely to have a material impact on the Transmission System

Impact on Greenhouse Gas Emissions

The proposed changes are not likely to have a material impact on Greenhouse Gas Emissions

Impact on core industry documents

The proposed changes are unlikely to affect the core industry documents

Impact on other industry documents

The proposed changes are unlikely to affect the core industry documents

Supporting Documentation

Have you attached any supporting documentation	YES
If Yes, please provide the title of the attachment:	Appendix A, Appendix B and GC008 Report to the Authority

Recommendation

The Grid Code Review Panel is invited to:

Progress this issue to Industry Consultation

Document Guidance

This proforma is used to raise an issue at the Grid Code Review Panel, as well as providing an initial assessment. An issue can be anything that a party would like to raise and does not have to result in a modification to the Grid Code or creation of a Working Group.

Guidance has been provided in square brackets within the document but please contact National Grid, The Code Administrator, with any questions or queries about the proforma at grid.code@nationalgrid.com .

Appendix A – Proposed Grid Code Changes
Planning Code: PC.D.1

The changes impacting the Planning Code are shown below.

APPENDIX D - DATA NOT DISCLOSED TO A RELEVANT TRANSMISSION LICENSEE

PC.D.1 Pursuant to PC.3.4, **NGET** will not disclose to a **Relevant Transmission Licensee** data items specified in the below extract:

PC REFERENCE	DATA DESCRIPTION	UNITS	DATA CATEGORY
PC.A.3.2.2 (f) (i)	Performance Chart at **Generating Unit** stator terminals		**SPD**
PC.A.3.2.2 (b)	**Output Usable** (on a monthly basis)	MW	**SPD**
PC.A.5.3.2 (d) Option 1 (iii)	GOVERNOR AND ASSOCIATED PRIME MOVER PARAMETERS Option 1 BOILER & STEAM TURBINE DATA		
	Boiler time constant (Stored **Active Energy**)	S	~~**DPD**~~ **DPD II**
	HP turbine response ratio: (Proportion of **Primary Response** arising from HP turbine)	%	~~**DPD**~~ **DPD II**
	HP turbine response ratio: (Proportion of **High Frequency Response** arising from HP turbine)	%	~~**DPD**~~ **DPD II**
Part of PC.A.5.3.2 (d) Option 2 (i)	Option 2 All **Generating Units** Governor Deadband		
	- Maximum Setting	±Hz	~~**DPD**~~ **DPD II**
	- Normal Setting	±Hz	~~**DPD**~~ **DPD II**
	- Minimum Setting	±Hz	~~**DPD**~~ **DPD II**
Part of PC.A.5.3.2 (d) Option 2 (ii)	**Steam Units**		
	Reheater Time Constant	sec	~~**DPD**~~ **DPD II**
	Boiler Time Constant	sec	~~**DPD**~~ **DPD II**

PC REFERENCE	DATA DESCRIPTION	UNITS	DATA CATEGORY
	HP Power Fraction	%	~~DPD~~ **DPD II**
	IP Power Fraction	%	~~DPD~~ **DPD II**
Part of PC.A.5.3.2 (d) Option 2 (iii)	**Gas Turbine Units** Waste Heat Recovery Boiler Time Constant		
Part of PC.A.5.3.2 (e)	UNIT CONTROL OPTIONS		
	Maximum droop	%	~~DPD~~ **DPD II**
	Minimum droop	%	~~DPD~~ **DPD II**
	Maximum frequency deadband	±Hz	~~DPD~~ **DPD II**
	Normal frequency deadband	±Hz	~~DPD~~ **DPD II**
	Minimum frequency deadband	±Hz	~~DPD~~ **DPD II**
	Maximum Output deadband	±MW	~~DPD~~ **DPD II**
	Normal Output deadband	±MW	~~DPD~~ **DPD II**
	Minimum Output deadband	±MW	~~DPD~~ **DPD II**
	Frequency settings between which Unit Load Controller droop applies:		
	Maximum	Hz	~~DPD~~ **DPD II**
	Normal	Hz	~~DPD~~ **DPD II**
	Minimum	Hz	~~DPD~~ **DPD II**
	Sustained response normally selected	Yes/No	~~DPD~~ **DPD II**
PC.A.3.2.2 (f) (ii)	Performance Chart of a **Power Park Modules** at the connection point		**SPD**

PC REFERENCE	DATA DESCRIPTION	UNITS	DATA CATEGORY
PC.A.3.2.2 (b)	**Output Usable** (on a monthly basis)	MW	**SPD**
PC.A.3.2.2 (e) and (j)	**DC CONVERTER STATION** DATA		
	ACTIVE POWER TRANSFER CAPABILITY (PC.A.3.2.2)		
	Import MW available in excess of **Registered Import Capacity**.	MW	**SPD**
	Time duration for which MW in excess of **Registered Import Capacity** is available	Min	**SPD**
	Export MW available in excess of **Registered Capacity**.	MW	**SPD**
	Time duration for which MW in excess of **Registered Capacity** is available	Min	**SPD**
Part of PC.A.5.4.3.3	LOADING PARAMETERS		
	MW Export		
	Nominal loading rate	MW/s	~~**DPD**~~ **DPD I**
	Maximum (emergency) loading rate	MW/s	~~**DPD**~~ **DPD I**
	MW Import		
	Nominal loading rate	MW/s	~~**DPD**~~ **DPD I**
	Maximum (emergency) loading rate	MW/s	~~**DPD**~~ **DPD I**

Appendix B: Changes to the Grid Code:
Data Registration Code:

The changes impacting DRC Schedule 1 and DRC Schedule 2 are shown below.

SCHEDULE 1 - GENERATING UNIT (OR CCGT MODULE), POWER PARK MODULE AND DC CONVERTER TECHNICAL DATA
PAGE 4 OF 19

DATA DESCRIPTION	UNITS	DATA to **RTL**		DATA CAT.	**GENERATING UNIT** (OR CCGT MODULE, AS THE CASE MAY BE)						
		CUSC Contract	CUSC App. Form		G1	G2	G3	G4	G5	G6	STN
Rated MVA *(PC.A.3.3.1)*	MVA	□	■	**SPD+**							
Rated MW *(PC.A.3.3.1)*	MW	□	■	**SPD+**							
Rated terminal voltage *(PC.A.5.3.2.(a) & PC.A.5.4.2 (b))*	kV	□		~~**DPD**~~ **DPD I**							
*Performance Chart at **Onshore Synchronous Generating Unit** stator terminals *(PC.A.3.2.2(f)(i))*				**SPD**	(see **OC2** for specification)						
* Performance Chart of the **Offshore Synchronous Generating Unit** at the **Offshore Grid Entry Point** *(PC.A.3.2.2(f)(ii))*											
***Output Usable** (on a monthly basis) *(PC.A.3.2.2(b))*	MW			**SPD**	(except in relation to **CCGT Modules** when required on a unit basis under the **Grid Code**, this data item may be supplied under Schedule 3)						
Turbo-Generator inertia constant (for synchronous machines) *(PC.A.5.3.2(a))*	MW secs /MVA	□	■	**SPD+**							
Short circuit ratio (synchronous machines) *(PC.A.5.3.2(a))*		□	■	**SPD+**							
Normal auxiliary load supplied by the **Generating Unit** at rated MW output *(PC.A.5.2.1)*	MW MVAr	□ □		**DPD II** **DPD II**							
Rated field current at rated MW and MVAr output and at rated terminal voltage *(PC.A.5.3.2 (a))*	A	□		**DPD II**							
Field current open circuit saturation curve (as derived from appropriate manufacturers' test certificates): *(PC.A.5.3.2 (a))*	A	□		**DPD II**							
120% rated terminal volts	A	□		**DPD II**							
110% rated terminal volts	A	□		**DPD II**							
100% rated terminal volts	A	□		**DPD II**							
90% rated terminal volts	A	□		**DPD II**							
80% rated terminal volts	A	□		**DPD II**							
70% rated terminal volts	A	□		**DPD II**							
60% rated terminal volts	A	□		**DPD II**							
50% rated terminal volts											
IMPEDANCES: (Unsaturated)											
Direct axis synchronous reactance *(PC.A.5.3.2(a))*	% on MVA	□		**DPD I**							
Direct axis transient reactance *(PC.A.3.3.1(a)& PC.A.5.3.2(a)*	% on MVA	□	■	**SPD+**							
Direct axis sub-transient reactance *(PC.A.5.3.2(a))*	% on MVA	□		**DPD I**							
Quad axis synch reactance *(PC.A.5.3.2(a))*	% on MVA	□		**DPD I**							
Quad axis sub-transient reactance *(PC.A.5.3.2(a))*	% on MVA	□		**DPD I**							
Stator leakage reactance *(PC.A.5.3.2(a))*	% on MVA	□		**DPD I**							
Armature winding direct current resistance. *(PC.A.5.3.2(a))*	% on MVA	□		**DPD I**							
In Scotland, negative sequence resistance *(PC.A.2.5.6 (a) (iv)*	% on MVA	□		**DPD I**							

Note:- the above data item relating to armature winding direct-current resistance need only be provided by **Generators** in relation to **Generating Units** commissioned after 1st March 1996 and in cases where, for whatever reason, the **Generator** is aware of the value of the data item.

SCHEDULE 2 - GENERATION PLANNING PARAMETERS
PAGE 2 OF 3

DATA DESCRIPTION	UNITS	DATA to **RTL**		DATA CAT.	**GENSET** OR STATION DATA						
		CUSC Contract	CUSC App. Form		G1	G2	G3	G4	G5	G6	STN
Synchronising Generation (SYG) after 48 hour **Shutdown** *PC.A.5.3.2(f) & OC2.4.2.1(a)*	MW	■		**DPD II & OC2**							-
De-Synchronising Intervals (Single value) *OC2.4.2.1(a)*	Mins	■		**OC2**	-	-	-	-	-	-	
RUNNING AND **SHUTDOWN** PERIOD LIMITATIONS:											
Minimum Non Zero time (MNZT) after 48 hour **Shutdown** *OC2.4.2.1(a)*	Mins	■		**OC2**							
Minimum Zero time (MZT) *OC2.4.2.1(a)*	Mins			**OC2**							
Existing AGR Plant Flexibility Limit (**Existing AGR Plant** only)	No.			**OC2**							
80% Reactor Thermal Power (expressed as Gross-Net MW) (**Existing AGR Plant** only)	MW			**OC2**							
Frequency Sensitive AGR Unit Limit (**Frequency Sensitive AGR Units** only)	No.			**OC2**							
RUN-UP PARAMETERS *PC.A.5.3.2(f) & OC2.4.2.1(a)*											
Run-up rates (RUR) after 48 hour **Shutdown**: (See note 2 page 3)	(Note that for DPD only a single value of run-up rate from Synch Gen to Registered Capacity is required)										
MW Level 1 (MWL1)	MW	■		**OC2**							-
MW Level 2 (MWL2)	MW	■		**OC2**							-
RUR from Synch. Gen to MWL1	MW/Mins	■		~~**DPD**~~ **DPD II & OC2**							
RUR from MWL1 to MWL2	MW/Mins	■		**OC2**							
RUR from MWL2 to RC	MW/Mins	■		**OC2**							
Run-Down Rates (RDR):	(Note that for DPD only a single value of run-down rate from Registered Capacity to de-synch is required)										
MWL2	MW	■		**OC2**							
RDR from RC to MWL2	MW/Min	■		**DPD II OC2**							
MWL1	MW	■		**OC2**							
RDR from MWL2 to MWL1	MW/Min	■		**OC2**							
RDR from MWL1 to de-synch	MW/Min	■		**OC2**							