

GRID CODE MODIFICATION GC0169

DISCUSSION TO ADDRESS SI UNITS USED IN THE GRID CODE GLOSSARY AND DEFINITIONS

Key

Black Text – Initial comments made by Workgroup Observer Mike Kay (MK)

Blue text – Initial comments by the Proposer Anthony Johnson (AJ) prior to discussion held on 11 October 2024

Red Text – Updated AJ comments prepared post discussion

Active Energy – watt-hours might be better as watt-hour *I think it is watt-hours*. There should be a space to delimit 1000 Not sure about this – *I may be missing the point – I have had a further look at this and do not think a change is necessary*. Although watt-hour is the correct term it is more common to refer to kWh as kWhrs. To be really specific the SI unit of energy is the joule rather than kWh so I suggest we leave as is. I am not sure you need to delimit or add a space into 1000 so have left as is.

Active Frequency Response Power – 1 second should be 1 s for consistency – *Fine though I think 1 second is more meaningful*. *Propose to leave as 1 second as it is more readable*.

Active Inertia Power – 5ms should be 5 ms *Fine – Legal text updated*

Active Phase Jump Power - 5ms should be 5ms. Second one is OK. *Fine – though I think we are going to change this anyway as part of our Grid Forming work – Legal text updated*.

Active Power – needs a thousand delimiter – *Not sure I understand this – for discussion – No change see comments on Active Energy*.

Apparent Power – need a thousand delimiter – *Again as above – not sure I understand this - No change see comments on Active Energy*.

Block Loading Capability – should be a space between the value and the unit *Fine*. And should we be working to the same precision in all cases, one decimal place – *Agree – I can put in a .0 after the integer's but because 47.5 Hz is a hard limit we are forced to include it? I have included the space after Hz, however I am not sure putting a .0 after 50Hz or 52Hz looks right so I have left as is, especially as we use this convention throughout the code. There was also a space missing which I have added*.

CCGT module planning matrix – all OK *Fine – No change*

Control Point – should be a space between values and units. *Fine – Legal text updated*.

Customer Demand Management Notification *Level* - all OK. *Fine – No change made to legal text*.

DC Converter Station – should be a space between value and unit. *Fine – Legal text updated*.

Demand – all OK – *Fine – No change made to legal text*.

Demand Control Notification Level – all OK. *Fine No change made to legal text*.

DMOL -all OK – *Fine No change made to legal text*.

Excitation System Nominal Response – should “half-second” be “0.5 s”? *It's a moot point but I actually think half-second is easier to read – Propose not to change – No change made to legal text*.

Frequency – Herz should be Hz – *Fine Legal text updated to Hz*

GBGF Fast Fault current injection – Space added between 5 and ms.

Generator Performance Chart – all OK – *Fine – No change made to legal text*.

Headroom – all OK. *Fine – No change made to legal text*.

High frequency Response – “0 – 10 seconds” – suggest “0 s – 10 s”. Frequency looks OK. *For discussion as I think it reads better as it is – Propose to leave as is as it reads better as is – no change to legal text*.

High Voltage – should be 650 V and 1 000 V *Do not disagree – for engineers its fine for non engineers it may be more of an issue – for discussion – Legal text updated*.

Historic Frequency Data – should “one second” be “1 s”? *Again do not disagree but I think it is probably more readable as it is – for discussion I have changed one to 1 but have left seconds as is as I think it is more appropriate*.

Inertia Constant – should be MWs/MVA. As an aside – why is this not just time, ie s? *Its per unitised on the machine rating otherwise if it is just seconds we would be unable to compare the inertia constant of a 100MW machine with a 1000 MW machine. Legal text updated*

Inertia Constant He – as above. *See above – Legal text updated*

Interface Point Capacity – all OK. *Fine – No change to legal text*

Interconnector Exprt Capacity – OK *Fine – No change to legal text*

Interconnector Import Capacity – OK *Fine – No change to legal text*

Large PS – space between values and units *Fine – Legal text updated*

Limited Frequency Sensitive Mode – space added between 50.4 and Hz

Limited High Frequency Response – space between value and unit **Fine – Legal text updated**

Low Voltage – should be 250 V, 50 V and 1 000 V – **As above for discussion – Legal text updated**

LV side of offshore platform – should be 33 kV **Fine – Legal text updated – space added between 33 and kV**

Material effect – replace comma with space or convert to £10k **Suggest replacing comma with space.- Legal text updated**

Maximum Export Capacity - OK **Fine – No change made to Legal text**

Maximum Import Capacity - OK **Fine – No change made to Legal text**

Medium Power Station -- space between values and units **Fine – Legal text updated**

Medium Voltage should be 250 V and 650 V - **For discussion - see above – Legal text updated**

Minimum Generation – OK **Fine – No change made to legal text**

Minimum Import Capacity - OK **Fine – No change to legal text**

Multiple Point of Connection is in the wrong place alphabetically

Operational Day – hours added after second 0500

Output Usable – OK **Fine – I think the word “Event” needs to be in bold – Legal text updated**

Power Available – need space between value and unit. **Fine – Legal text updated**

PGM Performance Chart – all OK **Fine – Legal text updated**

Primary Response – seconds should be s **For discussion – see above - Propose to leave as is as it reads better as is – no change to legal text.**

Rated MW – OK **Fine - Couple of formatting changes made to legal text**

Reactive Despatch to Zero Mvar – should Mvar by MVar for consistency? **Agree – change to MVar – Legal text updated**

Reactive Power – should be a thousands delimiter and voltampere should be VA. **For discussion – As above – eg Active Power – No change made to legal text**

Registered Capacity – All OK **Fine – No change made to legal text**

Registered Import Capability – all OK **Fine – No change made to legal text**

Secondary Response – seconds should be s **For discussion – see above - Propose to leave as is as it reads better as is – no change to legal text – as per Primary Response**

Small power station – some value and units need a space. **Fine – Legal text updated**

Station Transformer – space between values and units. **Fine – Space added – Legal text updated**

Surplus – OK **Fine – No change to legal text**

Supergrid Voltage – space between value and unit. **Fine – Space added between unit and value – legal text updated**

Synchronizing Generation – all OK. **Fine – No change to legal text**

Synchronous Generating Unit Performance chart – all OK **Fine – No change to legal text**

Synchronous PGM Planning Matrix – OK **Fine – No change to legal text**

Target Frequency – spaces between values and units **Fine – Spaces added – Legal text updated**

TERRE Bid – all OK **Fine – No change to legal text**

Transmission Interface CCT – space between values and units **Fine – Space added – legal text updated**

Type A PGM – space between 1 and MW **Fine – Space added – legal text updated**

Type B PGM – space between values and units **Fine - Space added – legal text updated**

Type C PGM – space between values and units **Fine - Space added – legal text updated**

Type D PGM – space between values and units **Fine - Space added – legal text updated**

Unit Load Controller Response Time Constant – ideally I think “units of seconds” should be “units of second”. Not colloquial, but arguably more correct. **Agree this needs re-wording – for discussion**

Unit Transformer – space between values and units **Fine Space added – legal text updated**

Voltage Jump Reactive Power - **Space added – legal text updated**