

# GRID CODE MODIFICATION PROPOSAL

System Incident Reporting

[GC0105]

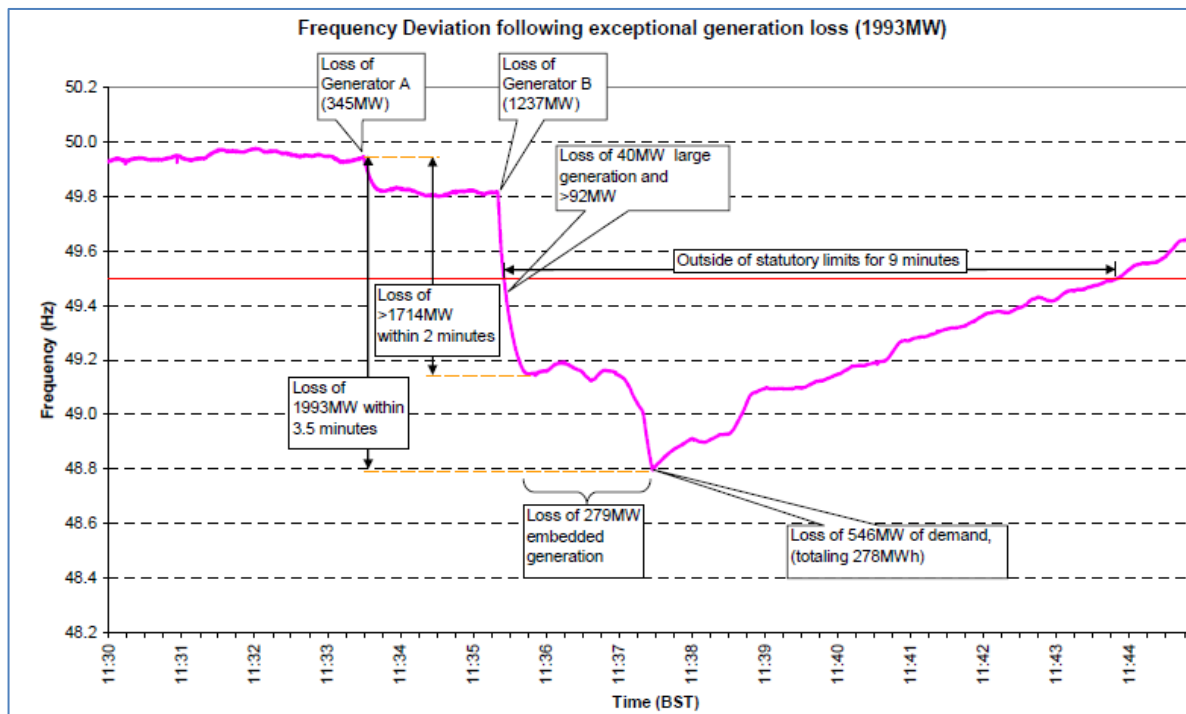
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Presentation to Grid Code Development Forum 04/10/2017



## Report of the National Grid Investigation into the Frequency Deviation and Automatic Demand Disconnection that occurred on the 27<sup>th</sup> May 2008

Issued: February 2009



Grid Code Panel established a reporting procedure in 1997 to report in system incidents and distributed generation trips.]

Reports to the panel were ~ every year.

This procedure was referenced in the report on the May 2008 incident.

However the reporting has never been codified in the Grid Code.

Under the auspices of the GB Grid Code Review Panel, a reporting procedure was established in 1997 where the DNOs are required to provide National Grid with information on embedded generation that may have tripped in the event of a significant incident on the GB Transmission system including generation trips causing large frequency deviations.

# PREVIOUS REPORT EXTRACT

## GCRP January 2016 pp16/19 NEW INCIDENTS

Inc Date	Inc Time	DoW	ToD	Size Loss (MW)	Reported Generation Lost (MW)	RoCoF (Hz/s)	Starting F (Hz)	Estimated Residual H Equivalent (s)	Demand (MW)	Min/Max Freq	Event
24 Dec 2013	01:12	Tue	Night	-925	-	-0.135	50.05	0.199	29137	49.73	IFA Bipole 1 following Dung-Sell 2 trip and co-incident with Dung-Ninf 2 trip
24 Dec 2013	03:32	Tue	Night	-925	-	-0.145	50.11	0.196	25248	49.79	IFA Bipole 1 co-incident with Dung-Sell 2 trip
25 Jan 2014	08:06	Sat	Day	-1000	-	-0.087	50	2.880	33716	49.68	FA-Bipole 2
20 Mar 2014	23:06	Thu	Night	500						50.26	Dinorwig 1 & 6 tripped while in pumping mode
16 Apr 2014	20:35	Wed	Eve	-800						49.67	Shutdown of Northwest SHETL group; 1000MW lost generation (500MW wind, 250MW hydro, 100MW Glendoe, 150MW Foyers 1) and 200MW lost demand
27 Apr 2014	11:37	Sun	Day	-1000	-	-0.104	49.98	1.773	32946	49.57	IFA Bipole 2 followed by Dungeness 2 (545MW) at 11:38
01 May 2014	09:52	Thu	Day	-1280						49.56	All 4 Staythorpe units
08 May 2014	18:17	Thu	Eve	-1000			-			49.63	FA Bipole 2
16 Oct 2014	09:06	Thu	Day	-1000	-	-0.081	49.93	1.434	39793	49.56	FA Bipole 2
09 Jan 2015	15:56	Fri	Day	-830						49.7	Spalding North
13 Jan 2015	02:31	Tue	Night	-285						49.8	Dinorwig moving to Spin Pump later than expected, frequency trace suggests some other events may have followed this
05 Jun 2015	14:55	Fri	Day	-950	-	-0.077	49.98	3.268	31471	49.68	FA Bipole 2
21 Jul 2015	15:28	Tue	Day	-748						49.96	FA Bipole 2
06 Aug 2015	08:21	Thu	Night	-1000	-	-0.103	50.02	3.329	24528	49.69	FA Bipole 2
11 Nov 2015	01:54	Wed	Night	-991	-	-0.119	50	2.921	22727	49.6	FA Bipole

National Grid shall present to the October Grid Code Review Panel every year a report titled – **System Incidents Report** - containing the following information.

1. A record of every trip on the system of a loss of infeed or exfeed (import or export including generation demand and interconnection) of 250MW or more.
2. A record of any fault on the transmission network which:
  - a. Was a three phase fault
  - b. Was a three phase to earth fault
  - c. Caused a voltage dip of >50% recorded at any User's site
  - d. Caused the trip on any embedded generator or transmission connected User including interconnectors.
3. Any loss of distribution connected generation lost
4. Any demand disconnected
5. The frequency record (in table and graphical format) at  $\leq 1$  second intervals for 1 minute before and after the incident.
6. The frequency (to 2 decimal places) at the start of the event.
7. The frequency (to 2 decimal places) at the end of the event.
8. The maximum rate of change of frequency recorded during the event over a time period of 500ms.
9. The MW of all individual losses or trips
10. The time in hh.mm.ss of all individual losses or trips
11. The identity the Users/ Stations/ Interconnectors of all losses or trips.
12. The location of any reported transmission faults on the network diagram and geographically.

- The modification is in the draft submission stage.
- The modification has been referenced GC0105.
- The proposed route for this modification is “self – governance” i.e. no submission to Ofgem.
- No working group is proposed.
- Consideration of mod at next GCRP on 18<sup>th</sup> October.
- Followed by Code Administrator Consultation should the Panel agree with the proposed steps above
  
- In the meantime the proposer would welcome comments, suggestions, feedback, improvements

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