

Annex 3 – System Warning Alerts

Key			
In scope of GC0109 – already published	In scope of GC0109 – not currently published	Not in Original scope of GC0109	Removed from scope of GC0109 following Workgroup Consultation

Category 1: System Warning Alerts that are already defined in the Grid Code and have corresponding BSC requirements for them to be reported to ELEXON and published on the BMRS in accordance with BSC Section Q6.1.14 (System Warnings) and Q6.9.4 (Demand Control Instructions)

Type	Who Issues it	To Whom is it formally issued	How is it Issued?	Is it Published ?	Code Reference	When is it Published?	Where is it Published?	How accessible is it?	Content of instruction/notice	Additional comments
System Warning - EMN (Electricity Margin Notice) – definition in Grid Code OC7.4.8.5	ENCC Power System Manager	DNOs, Trading Points, Control Points, Non embedded Customers, externally Interconnected system operators	FAX Warnings will be issued 'by such data transmission facilities as have been agreed between the ESO and Users, e.g. at Trading Points. (d) - possibly by phone, and confirmation via means agreed between the ESO and Users. OC7.4.8.3 (c) -	Yes	BSC Q6.1.14 – requires TC to send details of System Warnings to BMRS at the same time as to Users. V2.2.1 and Table V-1 specifies that System Warnings published (on Systems Warning page of) BMRS. No Grid Code requirement (in OC7.4.8) to publish	BMRS publishes immediately upon receipt from the ESO	BMRS Website BMRS also pushes these messages to BSC Parties by TIBCO, the Data Push Service and by email (to subscribers only - issued on System Warnings page of BMRS	System Warnings page of BMRS is publicly available BMRS API and Data Push Service available to all. BMRS System warnings emails - by subscription only BSC TIBCO - only available to High-Grade users with a TIBCO licence	OC7.4.8.5 says EMN must contain: (i) the period for which the warning is applicable; and (ii) the availability shortfall in MW; and (iii) intended consequences for Users, including notification that Maximum Generation Service may be instructed.	BSC X-1 limits System Warnings to NET System Warnings, per OC7.4.8.4. I.e. EMNs, HRDR, DCI and RSD. System Warning messages are limited to 4000 characters. System Warnings can be sent to any or all Users listed in OC 7.3.1 Generators, Network operators, Non Embedded Customers, Suppliers, Externally Interconnected System Operators, DC System Owners. Circulation will be to all Users who are, or may be, affected by the warning
System Warning - HRDR (For Margin) - definition in Grid Code OC7.4.8.6(a)		DNOs, Trading Points, Control Points, Non embedded Customers, externally Interconnected system operators	Yes			Also via APIs, Data Push Service, email and TIBCO	APIs, Data Push Service – public Email – by subscription TIBCO – by subscription for High Grade users only	OC7.4.8.6 says HRDR must contain all EMN items and: (i) the possible percentage level of Demand reduction required; and (ii) Specify those Network Operators and Non Embedded Customers who may subsequently receive instructions under OC6.5.1. And 'will specify the period during which Demand reduction may be required and the part of the Total System to which it applies and any other matters specified in OC6.5.' When sent to Network Operator, OC6.5.4(a) also says: 'The warning will state the percentage level of Demand reduction that The Company		

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									may want to instruct (measured at the time the Demand reduction is required)' OC6.5.4(b) says: 'will specify the percentage of Demand reduction that The Company may require' (from Users?)	
System Warning - HRDR (For Local System Issues) – definition in Grid Code OC7.4.8.6(b)		Affected DNOs, Non Embedded Customers,		Yes						
System Warning - Demand Control Imminent – definition in Grid Code OC6.5.2, OC7.4.8.2(c) and OC7.4.8.7		Only sent to those users who are likely to receive Demand Control Instructions, (DNOs, Non embedded Customers)		Yes					OC7.4.8.7 only says that 'It will specify those Network Operators who may subsequently receive instructions under OC6.5.'	
System Warning - Risk of System Disturbance - definition in Grid Code OC7.4.8.8		DNOs, Trading points, Non Embedded Customers, Control Points, Externally Interconnected System Operators		Yes					OC7.4.8.8 says 'will contain such information as The Company deems appropriate'	
Demand Control by Demand Disconnection instructed by the ESO- definition in Grid Code OC6.5	ENCC Power System Manager	Specific DNOs/Non-embedded Customers for implementation ASAP or at least within 2 minutes (OC6.5.3(d))	Telephone	Yes	BSC requires that Demand Control Events (which include demand disconnection, voltage reduction and ALFD) are reported with, inter alia, the type of Demand Control Event, the date/time for the instruction, the DSO instructed and DCE estimate in MW for the specific instruction.	BMRS publishes Immediately upon receipt from the ESO	BMRS - Demand Control Instructions page BMRS also pushes these messages to BSC Parties by TIBCO, the Data Push Service and by email (to subscribers only)	BMRS is publicly available API, Data Push Service – public TIBCO – by subscription BMRS is publicly available API, Data Push Service – public TIBCO – by subscription	No specific requirements in Grid Code. BSC sets out requirements (Q6.9.3) but without a BSC Modification, the requirement for providing these instructions to ELEXON may be too slow, i.e. 15mins after instruction.	OC6.5.8 – The ESO must notify DNO of expected duration of protracted Generation shortage or where statutory instruction in place - no timescales or specific instruction contents – presumably ASAP OC6.5.9 – within 5 minutes DNOs must confirm to the ESO that they have complied with instruction and estimate demand reduction or restoration as for Demand Control by demand disconnection
Demand Control by voltage reduction instructed by the ESO - definition in Grid Code OC6.5	ENCC Power System Manager	Instructions issued to specific DNOs/Non-embedded Customers for implementation ASAP or at least within 2 minutes (OC6.5.3(c))	Telephone	Yes						
Automatic Low Frequency Demand Disconnection instructed by the ESO - definition in Grid Code OC6,6	-	-	Automatic Action	Yes						

Category 2 - System Warning Alerts which are currently defined in the Grid Code or Distribution Code but for which there is no Grid Code (or BSC) requirement for these to be published.

Type	Who Issues it	To Whom is it formally issued	How is it Issued?	Is it Published ?	Code Reference	When is it Published?	Where is it Published?	How accessible is it?	Content of instruction/notice	Additional comments
Demand Control (including voltage reduction and demand disconnection) - DNO activated – definition in Grid Code OC6.4 and DOC6.6	DNO	The ESO when disconnection or reconnection exceeds the 'Demand Control Notification level' 12MW in E&W and 5MW in Scotland OC6.4.1 By 11:00 day ahead for events planned over next Operational Day OC6.4.2 ASAP for events planned after 1100 OC6.4.3 For events that have happened – within 5 minutes OC6.4.4	In writing Telephone?	Not by the ESO	NB: BSC only requires notification of Demand Control initiated by the ESO	-	-		No Grid Code, BSC or D Code requirement specifying content of DNO activated Demand Disconnection DOC6.4.7 simply says 'The DNO shall issue instructions to such Users of the DNO's Distribution System who are required to disconnect or reconnect' NB: Imbalance Price only interested in the ESO activated Demand Control. Presumably the Grid Code could require similar content to that set out in the BSC for the ESO activated Demand Control – see above.	There is no DNO:BMRS interface so a simple solution would require a DNO to send BMRS details via the ESO
Grid Code Emergency Instruction (to DNO) – definition in Grid Code BC2.9.1.4	ENCC Power System Manager	Specified DNO	Telephone	Yes	No specific BSC or Grid Code requirement, except for instructing Demand Disconnections. NB: whilst no requirement, the ESO send Emergency Instructions to BMRS as a System Warning.	BMRS publishes Immediately upon receipt from NG	BMRS - Demand Control Instructions page BMRS also pushes these messages to BSC Parties by TIBCO, the Data Push Service and by email (to subscribers only)	BMRS is publicly available API, Data Push Service – public TIBCO – by subscription BMRS is publicly available API, Data Push Service – public TIBCO – by subscription	Besides Demand Disconnection, which are set out in the BSC, there are no requirements for other types of EI.	
Grid Code Emergency Instruction (to Generators & Demand – BCA, BEGA, & BELLA) - definition in Grid Code BC2.9.1.3	ENCC Power System Manager	Specific User(s)	Telephone - Emergency acceptances are then sent on EDL as ancillary services instructions and created as BOAs post event.	Yes	There is no Grid Code requirement but Emergency Instructions are sent to BMRA. BSC Q5.3.4 requires Grid to submit Acceptance Data to ELEXON and to identify if it is an Emergency Acceptance.	BMRS publishes Immediately upon receipt from the ESO	BMRS – Notice of Emergency Instructions issued on Systems Warning page Also BMRS API, Data	BMRS is publicly available APIs, Data Push Service – public Email – by subscription TIBCO – by subscription for	Content of EI notified through System Warning is unspecified in Grid Code and BSC. It is at the ESO's discretion. BSC Q5.3.1 specifies content of Acceptance, inter alia:	

					Table V-1 specifies the publication of Acceptance Data on BMRS.		Push Service and TIBCO	High Grade users only	Acceptance Volume Pairs (i.e. the MW and time to and from), Acceptance Number, BOA Time, SO Flag, STOR Flag and SBR Flag	
Grid Code Emergency Instruction (to Interconnectors) - Interconnectors) – definition in Grid Code BC2.9.1.4	ENCC Power System Manager	Specific Interconnector(s)	Telephone	Yes	Whilst no specific requirement, the ESO send Emergency Instructions to BMRS as a System Warning.	BMRS publishes immediately upon receipt from the ESO	Issued on System Warnings page of BMRS – see above	BMRS is publicly available APIs, Data Push Service – public Email – by subscription TIBCO – by subscription for High Grade users only	Not specified in Grid Code or BSC.	
Distribution Code Emergency Action – defined in Distribution Code DOC7.6	N/A					DOC7.6.3 - A notification [of an Event] under DOC7.6.1 shall be given as soon as practicable after the occurrence of the Event, or time that the Event is known of or anticipated by the giver of the notification under this Distribution Operating Code DOC7			DOC7.6.2.1 - A notification under DOC7.6.1 of an Event, although it need not state the cause, shall be of sufficient detail to enable the recipient of the notification to reasonably consider and assess the implications and risks arising. Details of the Event should include the timescale and the probability of repeat occurrences within a period. The recipient may seek clarification of the notification.	As noted above, there is no DNO:BMRS interface so a simple solution would require a DNO to send BMRS details via the ESO..
System NRAPM - definition in Grid Code BC1.5.5	ENCC Power System Manager	All BM Participants including embedded generators. BC1.5.5 only requires Generators & Externally Interconnected System Operators	FAX	Yes	No Grid Code or BSC requirement to publish or defined content but the ESO sends to BMRS	BMRS publishes immediately upon receipt from the ESO.			No explicit content specified, but BC1.5.5(c) says ‘The Company will raise with each Generator the problems it is anticipating due to low System NRAPM or Localised NRAPM and will discuss [what action can be taken].	If definite action is required then an Emergency Instruction will be issued.
Localised NRAPM - definition in Grid Code BC1.5.5	ENCC Power System Manager	All BM Participants including embedded generators. BC1.5.5 only requires Generators & Externally Interconnected System Operators	FAX	Yes						
Cancellation of National Electricity Transmission System Warning – definition in Grid Code OC7.4.8.9	ENCC Power System Manager	Affected Users (whether individual or widespread)	FAX (plus telephone “if necessary”	Yes	No Grid Code or BSC requirement to publish or defined content but the ESO sends to BMRS	BMRS publishes immediately upon receipt from the ESO.	System Warnings page	BMRS publicly available	Either a) Notification that system conditions have returned to normal or b) Cancellation of a specific System Warning and the	Will also identify any system warnings which are still in force

									period for which it was issued.	
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Category 3 - System Warning Alerts which are not currently published and are not referenced in Grid Code

Type	Who Issues it	To Whom is it formally issued to	How is it Issued?	Is it Published ?	Code Reference	When is it Published?	Where is it Published?	How accessible is it?	Content of instruction/notice	Additional comments
Voltage Control DNO contracted with the ESO	DNO or User	Affected DNO or affected User	Written (immediate form e.g. email) or oral. Where oral, sender must write it down and dictate it to the recipient who shall write it down and repeat it back in full.	No	Distribution Code DOC7.5.1.4				Sufficient detail to describe the "Operation"; no need to state the cause, but should enable recipient to consider/assess implications and risks arising.	
STC Emergency Instruction (to TO)	N/A	There is no provision in the STC for Emergency Instructions. Any emergency impacting users will be enacted under the Grid Code		N/A						
ESEC implementation	ENCC Silver Command Incident Controller	Activation Schedules issued to BEIS JRT. Then sent by fax & email by ENCC Silver Command to DNOs by 17:00hrs day ahead for implementation	Fax/ Email	No		Indicative Rota by 15:00hrs day ahead, Implementation Rota by 18:00hrs day ahead	Published by BEIS JRT on the customer website, also made available to the media	Publicly available		
Capacity market warning under EMR	ESO						https://obcmn.nationalgrid.co.uk/	Publicly available. Users can subscribe to receive emails when site updated.		NB: CM Warnings are not published on BMRS as System Warnings – this is because CM Warnings are not considered 'operational'
Interconnector Emergency Assistance Requests	ESO	Affected Externally Interconnected System Operator(s) (Interconnectors)	Fax/Email	Yes (covered by High Risk of Demand Reduction/ Demand Control Imminent)	BC2.9.1.4	BMRS publishes immediately upon receipt from the ESO.	BMRS	Publicly available (but with identifying details removed)	May require departure from normal Balancing Market Operation in accordance with BC2	
Demand Turn Up	ENCC	Contracted provider(s)		Not specifically, however as noted, it may be included in BSAD pending outcome of P354.		BSAD is published on BMRS up to 15 minutes after the Settlement Period.	BMRS as part of BSAD data from April 2020 – Ofgem decision following P354/C16 approval NB: BSAD is anonymous.	Specific instruction - Only to ENCC & contracted provider(s) BSAD published on BMRS – publicly available APIs, Data Push Service – public TIBCO – by subscription for High Grade users only	BSAD is reported at Settlement Period level and contains: The Balancing Service Adjustment Action ID, the BSAA Volume and BSAA Cost. It doesn't give specific details of the time and period of activity.	

Category 4 - System Warning Alerts that the Workgroup and the Proposer do not currently consider needed to be included within the GC0109 solution.

Type	Who Issues it	To Whom is it formally issued to	How is it Issued?	Is it Published ?	Code Reference	When is it Published?	Where is it Published?	How accessible is it?	Content of instruction/notice	Additional comments
Grid Code Emergency Instruction (to Suppliers)	Not Issued	Not Applicable see OC6.3.2.2 & 3		N/A	There is no Grid Code requirement but Emergency Instructions are sent to BMRS. BSC Q5.3.4 requires the ESO to submit Acceptance Data to ELEXON and to identify if it is an Emergency Acceptance. Table V-1 specifies the publication of Acceptance Data on BMRS.	BMRS publishes Immediately upon receipt from NG	Issued on System Warnings page of BMRS	BMRS is publicly available APIs, Data Push Service – public Email – by subscription TIBCO – by subscription for High Grade users only	Content of EI notified through System Warning is unspecified and at the ESO's discretion BSC Q5.3.1 specifies content of Acceptance, inter alia: Acceptance Volume Pairs (i.e. the MW and time to and from), Acceptance Number, BOA Time, SO Flag, STOR Flag and SBR Flag	
Grid Code Emergency Instruction (to A.N Others)	N/A	Grid Code only allows Emergency Instructions to be sent to 'BM Participants'		N/A						
Fuel Security Code Direction to TSO, DNO or Generator	Secretary of State via Energy Emergencies Executive Committee (E3C)	Transmission Licensees	Not Specified	N/A						
		Distribution Licensees								
		Power Station Operators								