

Demand Connection Code



JESG – 16 August 2012

Agenda

- ENTSO-E Consultation
- JESG DCC Workshop (21/22 Aug)
- Feedback from ENTSO-E Workshop (9 Aug)

ENTSO-E Formal Consultation on Draft Network Code



ENTSO-E Consultation

- Formal Consultation on Draft Network Code is ongoing
- The Consultation closes on 11pm, 12 September
- Responses to be submitted via the online system in the format specified
- Consultation Pack includes:
 - Draft Demand Connection Code
 - Explanatory Note
 - Frequently Asked Questions,

JESG Workshop for DCC 21 and 22 August



JESG DCC Workshop

- Tue 21 and Wed 22 August, Saxon Mill, Warwick
- Deadline for Registration – **Today 5pm!**

- Workshop will be supported by:
 - Dwayne Shann, National Grid member of Drafting Team
 - Mark Norton, Drafting Team Convenor (EirGrid)
 - Dimitrios Chaniotis, ENTSO-E Secretariat

JESG DCC Workshop: Proposed Agenda

■ Day 1:

- DCC Overview by ENTSO-E
- Presentation from Open Energi
- Article-by-Article Review of the Network Code
 - Articles 7 – 20 (general requirements)

■ Day 2:

- Article-by-Article Review of the Network Code
 - Articles 21 – 51 (notifications, monitoring and derogations)
 - Articles 1-6 (General Provision / Preamble)

JESG DCC Workshop

- At the ENTSO-E Workshops presentations were given on:
 - Demand Side Response Active Power Control
 - System Frequency Control for Temperature Controlled Devices
 - Quality and the Transmission/Distribution Interface, and Voltage and Frequency Ranges.

Would JESG members like these presentations included on the Agenda for the JESG Workshop?

Supporting Material

■ Annotated version of Network Code FOR INFORMATION ONLY

Article 7 GENERAL FREQUENCY REQUIREMENTS

Information from ENTSO-E Public Workshop

Frequency requirements:

- Frequency withstand capabilities are mandatory for Distribution Networks and for the Demand Facilities, which offer DSR services
- Frequency ranges are the expectation of system frequency
- Frequency ranges are identical with the requirements on generators
- Frequencies outside defined range can occur
- User always retains the prerogative to disconnect, at any frequency
- Frequency withstand capabilities should be coordinated with low frequency demand disconnection ranges

Text from ENTSO-E slides for information

1. All Demand Facilities (either connected to the Transmission Network or to the Distribution Network) and Distribution Networks shall fulfil the following requirements:

ENTSO-E Draft Network Code Text

- 1) In case of deviation of the Network Frequency, Distribution Networks will be designed with an expectation of system Frequency being typically within the Frequency ranges and time periods specified by table 2.

Synchronous Area	Frequency Range	Time period for operation
Continental Europe	47.5 Hz – 48.5 Hz	To be defined by each TSO, while respecting the provisions of Article 4 (3), but not less than 30 minutes
	48.5 Hz – 49.0 Hz	To be defined by each TSO, while respecting the provisions of Article 4 (3), but not less than the period for 47.5 Hz – 48.5 Hz
	49.0 Hz – 51.0 Hz	Unlimited
	51.0 Hz – 51.5 Hz	30 minutes

Commentary, Description and explanation

These frequencies appear to be consistent with CC.6.1.3 of the Grid Code (Issue 4 Revision 12) reproduced below:

The System Frequency could rise to 52Hz or fall to 47Hz in exceptional circumstances. Design of User's Plant and Apparatus and OTSDUW Plant and Apparatus must enable operation of that Plant and Apparatus within that range in accordance with the following:-

Frequency Range	Requirement
51.5Hz - 52Hz	Operation for a period of at least 15 minutes is required each time the Frequency is above 51.5Hz.
51Hz - 51.5Hz	Operation for a period of at least 90 minutes is required each time the Frequency is above 51Hz.
49.0Hz - 51Hz	Continuous operation is required

Supporting Material

■ Applicability Matrix provided **FOR INFORMATION ONLY**

Applicability of the DCC Network Code
 This chart illustrates the applicability of the individual articles of the DCC Network Code, derived by reading the statements / titles in each line of the Network Code. The wording of the categories is taken from the DCC Network Code. It is likely the intention is for some of these categories to be the same, but this is not how it is currently drafted. Disclaimer: Please note that this is based on the interpretation of the current code, is is not guaranteed to be correct.

General points on applicability
 Article 3 defines the scope for the Network Code, however, it is not entirely consistent with the rest of text drafted in the remainder of the Code.

Overall the Code shall apply (unless explicitly stated otherwise) to:
 Significant Distribution Networks - a Transmission Connected Distribution Network or a Closed Distribution Network with DSR (except DSR SFC)
 Significant Demand Facilities - either a Transmission Connected Demand Facility, or a Demand Facility with DSR (except DSR SFC)
 Article 3(2) States that "Unless stated otherwise any reference to a Demand Facility in this document will designate it a Significant Demand Facility"

The extent of requirements as summarised in Article 3(3) is summarised below.

Retrospective application: Article 3(4) states that "requirements ... shall apply to Existing Demand and Transmission Connected Distribution Network which are significant..." It provides a process for determining if there should be retrospective application of the Network Code. Article 30 also refers to the process for assessing retrospective application of the Network Code, and references 3(6). Article 48 provides a derogation process for Existing Demand or Existing Distribution Network.

Under Construction: Article 3(6) covers the status of Demand Facilities and Transmission Connected Distribution Networks not yet under construction, and whether they are considered new or existing

Network Code Section			Demand Facilities: (assumed to be New, unless stated, or a CBA determines it is retrospectively applied)									
Title	Chapter	Article	Paragraph if applicable)	Demand Facilities	Transmission Connected Demand Facilities	Existing Demand Facility	New Demand Facilities	Demand Facility at or above 100kV	Distribution Connected Demand Facility with DSR at or below 1kV	Distribution Connected Demand Facility with DSR at or above 1kV	Demand Facility with DSR at or above 1kV	Distribution Networks
Title 2 REQUIREMENTS												
Chapter GENERAL REQUIREMENTS												
		Article 7	General Frequency Requirements		X							X
		Article 8	General Voltage Requirements					X				
		Article 9	Short Circuit Requirements			X						
		Article 10	Reactive Power Requirements		X							
		Article 11	Protection And Control	1	X							
				2	X							
				3	X							
					X							
			tion And Equipment Replacement	1		X						
				2	X							
			or System Defence And Demand	1			X - if specified by TSO					X
				2								
				3								
				4			X- Determined by TSO					
				5								
				6	X							
		Article 15	General Demand Side Response	1								
				2	X							
				3	X							
				4	X							
		Article 16	Demand Side Response Active And Reactive Power Control And Transmission Constraint Management			X - if offer DSR, APC, DSR RPC, DSR TSM						

General Conditions

Article-by-Article breakdown

Categories of demand / networks affected

Feedback from ENTSO-E Workshop 9 August 2012, Brussels



Feedback from ENTSO-E Workshop

- An ENTSO-E Workshop was held on 9 August
- 52 Attendees, from 13 countries
- No one from outside Western Europe / Scandinavia except for ACER
- Three round tables sessions covering:
 - Demand Side Response Active Power Control
 - System Frequency Control for Temperature Controlled Devices
 - Quality and the Transmission/Distribution Interface, and Voltage and Frequency Ranges.

European Stakeholder Key Issues

- Impact of DCC on the food process industry, with respect to temperature controlled devices.
- Concerns on the duration of operation (on/off) for temperature control device responding to system frequency deviations.
- TSO & end-users will benefit from the capability of temperature controlled devices for system frequency control.

Industry Letter

- July 20 Letter to ENTSO-E
 - Signed by: CECED, Consumer Focus, ESMIG, eu.bac, Eurelectric, Geode, and the SEDC
 - They have: *“Serious concerns about the general direction of work now being performed by ENTSO-E with respect to the design of the Demand Connection Code.”*
- There has been a good dialogue between ENTSO-E and the parties to explain the Network Code and explore misconceptions
- ENTSO-E has now responded in a letter (3 Aug)