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Demand Connection Code

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Background and Process

Background

- Third Package – requires NCs on certain issues
- ACER develops FGs
- ENTSOE uses FG to develop NC
- Commission makes NC law via comitology
- NC required for DSO and industrial load grid connection (i.e. Demand Connection Code, DCC)

Process & Next Steps

- Jul 2011: FG agreed
- ENTSOE did scoping exercise
- 5 Jan 2012: Commission request ENTSOE to develop NC
- 5 Apr – 9 May 2012: ENTSOE requesting stakeholder input
- 18 Apr 2012: ENTSOE scoping workshop
- Jun-Sep 2012: ENTSOE consulting on draft NC
- 5 Jan 2013: ENTSOE submits NC to ACER
- 5 Apr 2013: ACER opines on NC
- 2013/14: Commission runs comitology

Framework Guideline (common to RfG)

- NC applies to all Significant Grid Users (SGUs) – existing and new
  - NC sets out criteria and methodology to define SGUs
  - Applicability to existing SGUs decided by NRA (based on CBA)
  - Does not apply to Non-SGUs
- NC defines requirements on SGUs in relation to parameters contributing to secure system operation
- NC contains provisions for SGUs connected to distribution affecting transmission
- Where requirements deviate significantly from current standards ENTSOE must justify using CBA
- NC to set out minimum standards for DSOs when connecting SGUs
  - NC may set out specific requirements for particular group of SGUs if justified
- Derogations from all or some requirements
  - Possible for existing SGUs and in exceptional cases new SGUs
  - Decisions by NRAs
- Entry into force – within 3 years
- Compliance testing and monitoring

Why is it needed?

- Increased penetration of Renewable generation
  - 20% by 2020
  - Much more by 2050?
- System operation challenges:
  - Intermittency
  - System balancing
  - System security
- Does this require a step change in the way that we operate our power system?
  - What are the options to address this challenge?

What are the options?

Option	Pros	Cons
Conventional generators provide majority of system services	No significant change from today	•Cost of constraining off RES •Increased CO2 •CCS essential •Potential lack of services in future?
RfG RES generators provide a share of system services	No additional CO2 emissions for support services	•To create headroom RES may need to be constrained •DG may need to be controlled (small and dispersed)
Extensive building of storage systems	•Limited CO2 emissions •Supports RES integration	•Requires new storage facilities, or innovation •Feasibility not a given in all areas •High environmental impact
DCC Demand facilities provide a share of system services	•No additional CO2 emissions •Supports RES integration •provide services at least cost •Reliable if risk is spread •Consumers are enabled to participate in the energy market	•Engaging consumers •Public acceptance •Move from passive to active DNOs

What is the DCC?

- Sets out requirements to be met by demand users before connecting
- Covers demand connected to transmission and distribution
- Covers Significant Demand Users (SDUs) in terms of cross-border impact and market integration
  - DSOs are considered significant demand users
- For certain issues it will set
  - Prescriptive requirements for single EU parameters
  - Range of parameters to be set nationally
  - Requirement for specific requirement to be set nationally

General Principles of the DCC

- Sets out **functional requirements** for the connection of demand users
- Only **capabilities** are prescribed in the code (their application in the system or the market is addressed in other codes)
- Linked to the Requirement for Generators code
- Should ensure equitable treatment for all users **– non discrimination** principle
- Maintains a **technology neutral** approach
- Maintains a **neutral approach to TSO or DSO roles**
- **Standardisation** may be required to support the requirements in the code

Issues DCC may cover (from the framework guideline)

- Frequency and voltage
- Reactive power requirements
- Load-frequency control
- Short-circuit current
- Protection devices and equipment at connection point
- Disconnection/Islanding/Reconnection
- Demand management/balancing capabilities and ancillary service provision
- Instructions from SO to user
- Info/Data exchange, equipment modernization and replacement, derogation, compliance, enforcement period

Specific open areas for stakeholder input

- Demand side response delivering reserve services
- Demand side response delivering system frequency control
- Reactive power exchange capabilities
- Voltage withstand capabilities
- Frequency withstand capabilities

- An enabler for Smart Grids?

Timing for the Code

- Commission sent ENTSOE letter to initiate work in January 2012
- Scoping of the DCC ran until April
- ENTSOE consulting stakeholders on scope and open issues until June
- Public consultation June – September
- September – November redrafting code
- December 2012 – final code submitted to ACER for an opinion
- Depending on ACERs opinion
  - ACER submits Code to Commission in March 2013
  - Comitology process could begin Spring 2013
  - Requirements binding by end 2013?

How are TSOs engaging stakeholders?

- ENTSOE website: www.entsoe.eu
- DCC User Group
- Call for stakeholder feedback
  - Closes 9th May
- Technical expert group
  - CEDEC, Eurelectric DSO, Geode, EDSO-SG
- Stakeholder bilateral sessions (European Trade Associations)

- And in GB?
  - Joint European Standing Group (JESG)
  - DCC discussion on 26th April


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