

## Expert group: Mixed customer sites with generation, demand and storage, and definition of system users (EG MCS)

Approved by the GC ESC on September 14, 2018  
Subject to possible updates on the list of members

Revised version including phase 2 work was approved  
by GC ESC on December 12, 2019

**Chair:** ENTSO-E, Robert Wilson

**Vice-Chair:** Paul de Wit, CEDEC on behalf of DSO Associations

### Problem Statement

On 11 June 2018, the Grid Connection European Stakeholder Committee (GC ESC) decided to establish an Expert Group (EG) to clarify the requirements on mixed customer sites (MCS), where these could be a combination of generation, demand and/or storage facilities. The creation of this EG was proposed by ENTSO-E to elaborate on connection network code (CNC) issues which had been raised by stakeholders during CNC implementation. The ENTSO-E proposal was based on the findings of a stakeholder survey to identify priority topics.

Part 2 of this work, as approved by the GC ESC on 11 Sept 2019, is aimed to finalise the proposals and determine text that could be used in a future revision of the Requirements for Generators code.

### Target (objectives)

#### Phase 1 – October 2018 to June 2019

The objectives of the EG MCS are:

- to provide clarification regarding the application of the Network Code on Requirements for Generators (NC RfG) Demand Connection Code (NC DC) and HVDC (NC HVDC) to MCS with generation, demand and storage (to the extent that storage might in future be classed as separate from generation or demand);
- identify differences and similarities of mixed customer sites which are CDSOs and non-CDSOs;
- in the context of MCS:
  - assess types of MCSs to be considered;
  - to assess the MCS case against the current definition of system users, found in the Directive 2009/72/EC;
  - to review the definitions of Synchronous Power Generating Module (SPGM)/Power Park Module (PPM); and
  - to provide clarification in terms of the type A-D categorisation or applicability of RfG for mixed or novel sites addressing cases such as:
    - mixed generation only sites where a small PGM (e.g. PV) is installed within the connection site of a larger generator;
    - small PGMs connected to a  $\geq 110$ kV network due to unavailability of lower voltage connection points
    - combined heat and power generating facilities connected at  $\geq 110$ kV (where type A-C would be excluded from certain RfG requirements)

- clarification on arrangements for point of connection to TSO, DSO or CDSO if that will determine the voltage of connection and therefore ‘type’ (*point added after the GC ESC approval on September 14, 2018*)

#### Phase 2 – October 2019 to June 2020

The additions for part 2 of the work are to deliver:

- a more detailed assessment of the policy options (including high level economic metrics);
- a proposed wording for network codes; and
- the agreement and determination of a single policy option.

Should the expert group fail to agree on the preferred policy option, proposed wording needs to be developed for each of the remaining options.

#### **Task description**

Mixed customer sites with generation and demand are subject to CNC (NC RfG, NC HVDC and NC DC). Furthermore, as set out by Article 6 of NC RfG and Article 5 of NC DC, specific provisions apply to industrial sites.

Feedback received from stakeholders has highlighted questions relating to this type of site, especially regarding the classification of onsite generation. The EG MSC is tasked with the following actions:

- compile and categorise questions from stakeholders relating to MCS;
- identify possible solutions to questions regarding the application of current CNC requirements; and
- investigate potential improvements to CNCs for a better application of the CNCs to the MCS.

To meet these goals, the EG MSC should be guided by the objectives of the 3<sup>rd</sup> Energy Package and take into account existing national examples and national grid code provisions.

#### **Deliverables**

- **Milestone 1 (phase 1):** A report with identified solutions to stakeholder’s questions including proposals, where applicable, of improvements to CNCs regarding mixed customer sites.
- **Milestone 2 (phase 2):** Revise the report to include results of phase 2.

#### **Timing**

- Phase 1: ~ 6 months from 01 October 2018
- Phase 2: ~ 6 months from 01 October 2019

#### **Team**

The following nominations to participate in EG MCS have been received (name and association):

<i>Name</i>	<i>Organisation</i>	<i>Representation at GC ESC</i>
<i>Robert Wilson</i>	National Grid ESO	ENTSO-E
<i>Pietro Meloni</i>	Terna	ENTSO-E (only for phase 1)
<i>Karel Mägi</i>	ELERING	ENTSO-E (only for phase 1)
<i>Francesco Celozzi</i>	ENTSO-E	ENTSO-E (only for phase 2)
<i>Ioannis Theologitis</i>	ENTSO-E	ENTSO-E

<i>Vincenzo Trovato</i>	ACER	ACER
<i>Eric Dekinderen</i>	VGB	VGB
<i>Jean-Noël Marquet</i>	EDF	VGB
<i>Manuel Weindorf</i>	GE	EASE (only for phase 1)
<i>Fernando Morales</i>	Highview Power	EASE (only for phase 1)
<i>Michael Van Bossuyt</i>	IFIEC	IFIEC
<i>Brittney Elzarej</i>	EASE	EASE
<i>Anneli Teelahk</i>	EASE	EASE (only for phase 2)
<i>Maxime Buquet</i>	GE	EUTURBINES (only for phase 1)
<i>Luca Guenzi</i>	SOLARTURBINES	EUTURBINES
<i>Magdalena Kurz</i>	EUTURBINES	EUTURBINES (only for phase 1)
<i>Alberto Bridi</i>	EDYNA	CEDEC
<i>Paul de Wit</i>	Alliander	CEDEC
<i>Marc Malbrancke</i>	CEDEC	CEDEC
<i>Gaetan Claeys</i>	EUGINE	EUGINE (only for phase 1)
<i>Frederik Kalverkamp</i>	FGH	EFAC
<i>Garth Graham</i>	SEE	EURELECTRIC
<i>Mike Kay</i>	ENA	GEODE
<i>Karol O’Kane</i>	ESB	EURELECTRIC
<i>Pat Dowling</i>	ESB	EURELECTRIC (only for phase 1)
<i>Ellen Phelan</i>	ESB	EURELECTRIC (only for phase 2)
<i>Benjamin Düvel</i>	BDEW	EURELECTRIC
<i>Nelida Santos</i>	Iberdrola	EDSO for Smart Grids (only for phase 1)
<i>Manuel Jaekel</i>	Innogy	EDSO for Smart Grids (only for phase 1)
<i>Michael Wilch</i>	Innogy	EDSO for Smart Grids (only for phase 2)
<i>Juan Marco</i>	EDSO for Smart Grids	EDSO for Smart Grids (only for phase 1)
<i>Andrés Pinto-Bello Gomez</i>	smartEn	smartEn
<i>Marcus Müller</i>	Tesla	smartEn
<i>Katrin Schwersen</i>	Tiko	smartEn
<i>Gunnar Kaestle</i>	B.KWK	COGEN Europe
<i>Raffaele Rossi</i>	SolarPower Europe	SolarPower Europe
<i>Vasiliki Klonari</i>	WindEurope	WindEurope (only for phase 1)
<i>Nikolas Schmitz</i>	BNetzA	BNetzA (only for phase 1)

### Estimated resources

- monthly webinars;
- 2 physical meetings; and
- total commitment of up to 10 days per member.

An estimate of the commitment required for part 2 of the work is likely to be similar again.

### Target audience

- GC ESC
- Relevant and/or interested stakeholders on the Connection Network Codes