

Expert group: Criteria for significant modernisation (EG CSM)

Approved by the GC ESC on 04 June 2020
Subject to possible updates on the list of members

Chair: EDSO, Michael Wilch

Vice-Chair: EURELECTRIC, Jean-Noël Marquet

Problem Statement

On 11 September 2019, the Grid Connection European Stakeholder Committee (GC ESC) has decided to establish an expert group on criteria for significant modernisation (CSM). The creation of this EG was proposed by ENTSO-E to elaborate on connection network code (CNC) issues, which had been raised by stakeholders representing both generation and demand during the CNC implementation. The ENTSO-E proposal was based on a stakeholder survey to identify priority topics. As most of generation and demand facilities are connected to distribution systems, DSOs volunteered to chair the expert group.

Target (objectives)

The objective of the EG CSM is:

- to define the criteria which identify substantial modifications of
 - power generating modules,
 - high-voltage direct current (HVDC) systems,
 - DC-connected power park modules,
 - transmission connected demand facilities and
 - demand units used to provide demand response services and
- to facilitate a common understanding that leads to a more harmonized handling of modernisation and subsequent application of NC RfG, NC HVDC and NC DC.

Following NC RfG, NC HVDC and NC DC, the revision of the connection agreement currently triggers application of network codes' requirements for existing facilities. Clear and precisely described criteria for the extent of the modernisation or replacement of equipment of facilities considered to have a material impact on the technical capabilities shall be derived. If necessary, the EG CSM will proceed to derive recommendations on how NC RfG, NC HVDC and NC DC can be further improved to incorporate the results of this analysis with respect to the scope of NC RfG, NC HVDC, NC DC and any implications to other NCs/GLs, if any.

Legislative background

NC RfG, Article 4(1) foresees that: “1. Existing power-generating modules are not subject to the requirements of this Regulation, except where: (a) a type C or type D power-generating module has been modified to such an extent that its connection agreement must be substantially revised in accordance with the following procedure: (i) power-generating facility owners who intend to undertake the modernisation of a plant or replacement of equipment impacting the technical capabilities of the power-generating module shall notify their plans to the relevant system operator in advance; (ii) if the relevant system operator considers that the extent of the modernisation or replacement of equipment is such that a new connection agreement is required, the system operator shall notify the relevant regulatory authority or, where applicable, the Member State; and (iii) the relevant regulatory authority or, where applicable, the Member State shall decide if the existing connection agreement needs to be revised or a new connection agreement is required and which requirements of this Regulation shall apply;”;

NC HVDC, Article 4(1)(a) foresees that: “*1.Except for Articles 26, 31, 33 and 50, existing HVDC systems and existing DC-connected power park modules are not subject to the requirements of this Regulation, unless: (a) the HVDC system or DC-connected power park module has been modified to such an extent that its connection agreement must be substantially revised in accordance with the following procedure: (i) the HVDC system or DC-connected power park module owners who intend to undertake the modernisation of a plant or replacement of equipment impacting the technical capabilities of the HVDC system or DC-connected power park module shall notify their plans to the relevant system operator in advance; (ii) if the relevant system operator considers that the extent of the modernisation or replacement of equipment is such that a new connection agreement is required, the system operator shall notify the relevant regulatory authority or, where applicable, the Member State; and (iii) the relevant regulatory authority or, where applicable, the Member State shall decide if the existing connection agreement needs to be revised or a new connection agreement is required and which requirements of this Regulation shall apply;*”;

Analogously, NC DC, Article 4(1) foresees that: “*1.Existing transmission-connected demand facilities, existing transmission-connected distribution facilities, existing distribution systems and existing demand units that are or can be used by a demand facility or a closed distribution system to provide demand response services to a relevant system operator or relevant TSO, are not subject to the requirements of this Regulation, except where: (a) an existing transmission-connected demand facility, an existing transmission-connected distribution facility, an existing distribution system, or an existing demand unit within a demand facility at a voltage level above 1 000 V or a closed distribution system connected at a voltage level above 1 000 V, has been modified to such an extent that its connection agreement must be substantially revised in accordance with the following procedure: (i) demand facility owners, DSOs, or CDSOs who intend to undertake the modernisation of a plant or replacement of equipment impacting the technical capabilities of the transmission-connected demand facility, the transmission-connected distribution facility, the distribution system, or the demand unit shall notify their plans to the relevant system operator in advance; (ii) if the relevant system operator considers that the extent of the modernisation or replacement of equipment is such that a new connection agreement is required, the system operator shall notify the relevant regulatory authority or, where applicable, the Member State; and (iii) the relevant regulatory authority or, where applicable, the Member State shall decide if the existing connection agreement needs to be revised or a new connection agreement is required and which requirements of this Regulation shall apply;*”;

Task description

- Discussions with stakeholders and stakeholder interventions at the GC ESC have revealed that the existing provision is probably too generic and in its generality leaves room for interpretation and thus leads to ambiguity and legal uncertainty. Therefore a clear and precise description of criteria of modernisation or replacement triggering a revision of connection agreements due to change of technical capabilities needs to be investigated; The design base of an existing facility has to be respected.
- As an identification of all possible and technically and economically feasible modifications of facilities is impossible, the expert group shall collect existing practices in different member states including existing and discussed practices with regard to distribution systems and preferably try to derive criteria where modifications are generally considered insignificant by system operators and;
- The EG shall exclusively focus on all types of power-generation modules, transmission-connected demand facilities, HVDC-installation and demand units used to provide demand response services, as these facilities were subject of stakeholder interventions at the GC ESC.
- Propose revisions of Article 4(1) and any other relevant Articles of NC RfG, NC HVDC and NC DC according to the results and observations of the technical assessment, if necessary. If no consensus

on a proposal could be found, the results of the expert group could be made available as an input for a new IGD or modification of an existing IGD to be developed by ENTSO-E.

- List and briefly assess any possible implications to other NCs/GLs that those revisions to NC RfG, NC HVDC and NC DC may have.

Deliverables

- Report to the GC ESC on specific criteria for significant modifications and the consequences on connection requirements.
- Derive proposals for the potential revisions to:
 - NC RfG, NC HVDC and NC DC along with a brief justification, if necessary; and
 - associated non-binding implementation guidance document.

Timing

- estimated 9 months from June 2020.

Team (update 10.06.2020)

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

<i>Name</i>	<i>Organisation</i>	<i>Representation at GC ESC</i>
<i>Michael Wilch</i>	Innogy	EDSO for Smart Grids
<i>Jean-Noël Marquet</i>	EDF	Eurelectric
<i>Håkan Svahn</i>	OKG Aktiebolag	Eurelectric
<i>Michaël Van Bossuyt</i>	IFIEC	IFIEC
<i>Vincenzo Trovato</i>	ACER	ACER
<i>Heinz Berger</i>	AXPO	VGB
<i>Romans Oleksijs</i>	LATVENERGO	VGB
<i>Marco Faber</i>	RWE	VGB
<i>Musa Shah</i>	Lightsource BP	SolarPower Europe
<i>Pilar Riaño</i>	Powertis	SolarPower Europe
<i>Naomi Chevillard</i>	SolarPower Europe	SolarPower Europe
<i>Vasiliki Klonari</i>	WindEurope	WindEurope
<i>Dimitrios Kordonis</i>	Mytilineos	COGEN Europe
<i>Cedric Lehaire</i>	Veolia	COGEN Europe
<i>Luvigi Di Raimondo</i>	Solar Turbines	COGEN Europe
<i>Alexandra Tudoroiu</i>	COGEN Europe	COGEN Europe
<i>Mike Kay</i>	ENA	GEODE
<i>Per Wikström</i>	Swedenergy	GEODE
<i>Marc Malbrancke</i>	CEDEC	CEDEC
<i>Luca Guenzi</i>	EUTurbines	EUTurbines
<i>Maxime Buquet</i>	GE	EUTurbines
<i>Magdalena Kurz</i>	EUTurbines	EUTurbines
<i>Patryk Mazek</i>	PSE	ENTSO-E
<i>Hartmut Popella</i>	Amprion	ENTSO-E
<i>Ioannis Theologitis</i>	ENTSO-E	ENTSO-E

Estimated resource

- monthly webinars;
- 3 f2f meetings; and
- total commitment of 10 days per member.

Target audience

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