

Connection codes

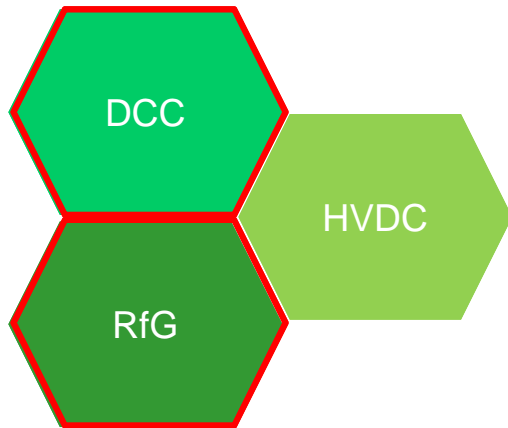
Modernisation of connection point

Belgian Grid

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Legal context



3 Connection Codes

- Requirements for generators
- Demand Connection Code
- HVDC

Apply only for new 'systems'

Not apply to existing 'systems'
Except in case of:



**Retro-active effect
with CBA (Cost-
Benefit Analysis)**

**Or in case of substantial
modernisation or
replacement** of equipment
impacting the technical
capabilities of the systems



Topic Modernisation

Legal context

Procedure foreseen in the Network Codes – to be followed systematically

Extract of Article 4 – DCC:

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 1000V or a closed distribution system connected at a voltage level above 1000V, 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; or*

Modernisation / Replacement



GU

Notification to the TSO



TSO Guidelines Proposal



RSO

Notification to the NRA (if considered that new connection agreement is required)



NRA

Decision of the NRA

TSO Guidelines Proposal

➤ **Associate to each article functional lists**

Example: Article A associated to 2 functional lists:

- replacement of an equipment implicated in the frequency regulation (ex: governor)
- replacement of an equipment implicated in the control system

➤ **Consideration of important limiting equipments**

The Grid User shall provide evidence to the TSO that other important equipments of the functional list are preventing the user to comply with requirement A

TSO Guidelines Proposal

➤ Spare parts problematic – Pragmatic proposal:

Possibility for the Grid User to use spare parts

But

This equipment shall not be the limiting element to apply a NC requirement to the Grid User (= can't be used as argument in the future not to respect a requirement of the NC)

TSO Guidelines Proposal

Timeline	Before replacement Equip 1	After replacement Equip 1	After replacement Equip 2
Equipment's contributing to the functional list of requirement A	Existing Equip 1 limiting application of requirement A	Opt1: Spare part of Equip 1 limiting application of requirement A Opt2: New Equip 1 not limiting the application of requirement A	New Equip 1 not limiting the application of requirement A
	Existing Equip 2 limiting application of requirement A	Existing Equip 2 limiting application of requirement A	New Equip 1 not limiting the application of requirement A
Conclusions	=> Requirement A does not apply	=> Requirement A does not apply	=> Requirement A applies