

**Grid Code
Modification Proposal Form**

Email to gridcode@eirgrid.com



Title of Modification Proposal:

MPID 289 Incorporation of HVDC Requirements into the Grid Code

MPID (EirGrid Use Only): 289

Date:	5 March 2021		
Company Name:	EirGrid		
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Grid Code Version:	9		
Grid Code Section(s) Impacted by Modification Proposal:	Various – further details are available in the document entitled “MPID289_GC10_HVDC_Article_Incorporation_Locations”, as attached to the GCRP invitation email.		

Modification Proposal Justification:

Background

Commission Regulation (EU) 2016/1447 of 26 August 2016 establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules (hereafter referred to as HVDC). It seeks to provide a clear legal framework for grid connections and facilitate electricity trading whilst ensuring system security, facilitating the integration of HVDC connections, including direct current-connected (DC-connected) Power Park Modules (PPMs), as well as the associated system services while ensuring a more efficient use of the network.

The HVDC ‘entered into force’ on 15 September 2016, and applies to HVDC systems and DC-connected PPMs that conclude a final and binding contract for the purchase of their main plant after 15 September 2018.

A **Non-HVDC Unit** does not have to comply with the HVDC, and is defined as:

HVDC Unit	<p>An Interconnector or DC-connected PPM that is not a Non-HVDC Unit.</p> <p>In addition, HVDC Units, which are comprised of:</p> <ul style="list-style-type: none">a) embedded Interconnectors within one control area and connected to the Transmission System, and/orb) embedded Interconnectors within one control area and connected to the Distribution System when a cross-border impact is demonstrated to the TSO. The relevant TSO shall consider the long-term development of the network in this assessment <p>shall not be subject to Grid Code clauses CC.15.16 to CC.15.19.6, if one or more of the following conditions apply:</p> <ul style="list-style-type: none">1) the Interconnector has at least one Interconnector Converter Station owned by the TSO;2) the Interconnector is owned by an entity which exercises control over the TSO; or3) the Interconnector is owned by an entity directly or indirectly controlled by an entity which also exercises control over the TSO.
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A **HVDC Unit** does have to comply with the HVDC, and is defined as:

Non- HVDC Unit	<p>An Interconnector or DC-connected PPM with a signed Connection Agreement:</p> <ul style="list-style-type: none">a) Connected to the Network on or before the 15th September 2018; orb) Whose owner has concluded a final and binding contract for the purchase of the main Plant on or before the 15th September 2018 and provides evidence of same, as acknowledged by the TSO, on or before 15th of March 2019. Such evidence shall at least contain the contract title, its date of signature and date of entry into force, and the specifications of the main Plant to be constructed, assembled, or purchased. <p>A Non-HVDC that under goes modernisation, refurbishment or replacement of equipment which drives a modification to its Connection Agreement, and had concluded a final and binding contract for the purchase of the Plant being modified after the 15th September 2018 will be deemed a HVDC Unit.</p>
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It is important to note that, as per Article 4 of the HVDC, following modernisation, refurbishment or replacement of equipment to a non-HVDC Unit, some or all of the HVDC requirements may become applicable.

The full text of the HVDC is available on the [ENSTO-E website](#).

Consultation and approval of submitted parameters

As part of the national implementation of HVDC, the relevant TSO of each member state were required to submit a proposal for requirements of general application. It was not a requirement of HVDC to consult upon the proposal for requirements of general application prior to submission to the CRU. However EirGrid, as TSO issued a consultation document in the interest of transparency and to ensure that EirGrid had the best information available to them when EirGrid submitted an appropriate set of recommendations to the CRU for the proposal of requirements of general application. This public consultation began on 9 November 2018 and ran for a period of 4 weeks.

The TSO received one individual submissions. A summary of the submissions were included in the EirGrid HVDC proposal for the general application of technical requirements in accordance with Articles 11 – 50 of the HVDC to Interconnectors and DC-connected PPMs. On the 21 December 2018, EirGrid submitted this [proposal](#) to the CRU.

On the 12 October 2020, the CRU issued their [decision paper](#) in relation to EirGrid's proposal.

Please note that the relevant consultation, proposal and decision paper are available on the [Network Codes page](#) of the EirGrid website. Please scroll down to the consultation sections of that webpage for further details.

Granted derogations

On 22 May 2020, EirGrid submitted three Derogation requests to the CRU. The Derogation requests were in relation to:

- HVDC Article 18.1 Voltage Withstand Capability
- HVDC Article 39.8 Frequency Sensitive Mode
- HVDC Article 40.1 Voltage Withstand Capability

The CRU issued their [decision paper](#), approving these derogation requests on 22 October 2020.

The proposed Grid Modification has been drafted in line with these approved derogations.

Formatting

EirGrid have continued the use of the “incorporative method” for the HVDC requirements, which was previously used to harmonise the RfG and DCC requirements with the Grid Code. This method uses a combination of symbols as well as the enclosing of text in boxes to identify requirements that are:

1. Applicable to all users
2. Applicable to Non-HVDC Units only
3. Applicable to HVDC Units only

A more detailed description of the Incorporative methodology, as well as how it can be used for future versions of the Network Codes, is available in the document

“**DemarcationAndFutureHarmonisationMethodology**”, as attached to the GCRP invitation email.

Finally, in order to maintain the usability of the Grid Code throughout the incorporative process for HVDC, where needed, EirGrid has updated the formatting and numbering of the relevant sections.

Red-line Version of Impacted Grid Code Section(s) - show proposed changes to text:

See document entitled “MPID289_210305_GC10 Red Line Version” attached to the GCRP invitation email.

Green-line Version of Impacted Grid Code Section(s) - show proposed final text:

See document entitled “MPID289_210305_GC10 Green Line Version” attached to the GCRP invitation email.