POSITION PAPER

STAKEHOLDER CONSULTATION PROCESS OFFSHORE GRID NL	
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1. Background Material

LITERATURE USED:

- Electricity Metering Code (Meetcode elektriciteit) per May 20th 2019
- Electricity Grid Code (Netcode elektriciteit) per May 20th 2019
- Publication Nr. 26779 of the Government Gazette (Staatscourant), May 15th 2019

2. Scope and Considerations

For the roadmap offshore wind 2030 (routekaart windenergie op zee 2030) TenneT is tasked with the connection of several offshore wind farms up to 2030. The wind farm zones 'Hollandse kust West' and 'Ten Noorden van de Waddeneilanden' will be connected with TenneT's previously established and consulted standardized 700 MW grid connection concept. Due to its size and distance to shore, a new grid connection concept has been established for the wind farm zone IJmuiden Ver. The figure below shows a schematic cross-section of this new grid connection concept. Wind turbines are connected through 66 kV “inter-array” cables (in orange) to an offshore (HVDC) converter station. Using 2 GW high voltage (525 kV) export cables (in green) the electricity is transported to shore. TenneT will be responsible for the offshore grid, from the onshore substation up to and including, the offshore substation. TenneT intends to create a new standard HVDC grid connection concept for both connections to IJmuiden Ver and potential future far shore wind farms.

Each inter array cable string connects a number of turbines of a power park module (PPM) to the offshore substation. This paper describes the metering requirements for these strings as proposed by TenneT to be applicable for all PPMs connected to TenneT offshore substations.

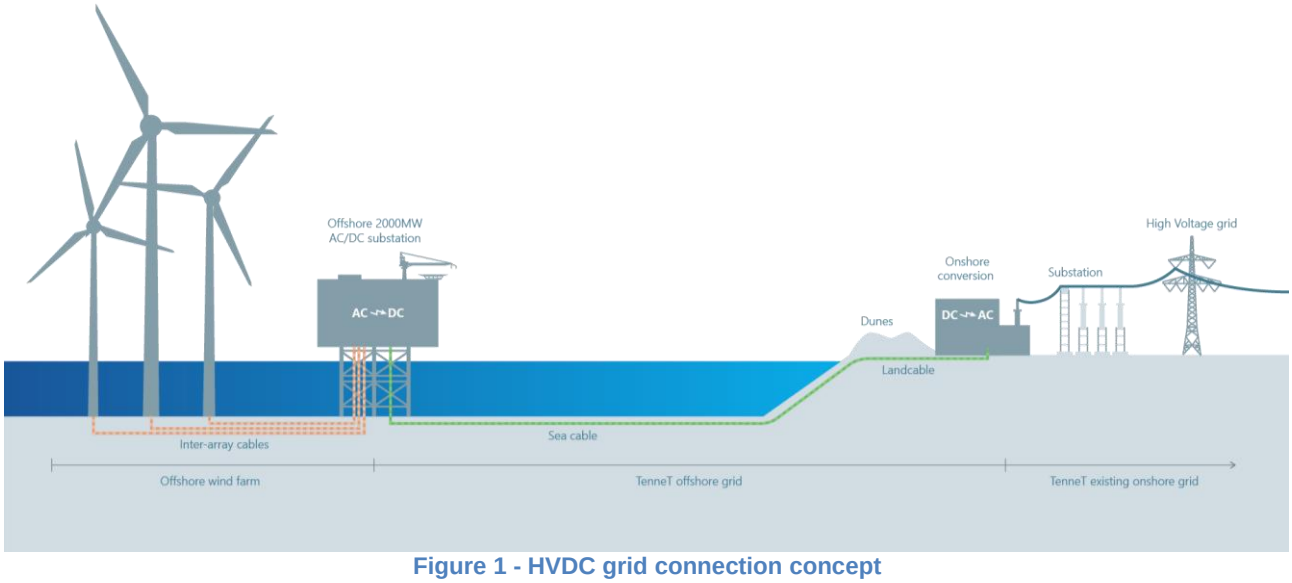

Figure 1 - HVDC grid connection concept

3. Metering

In Position Paper T08 Point of Common Coupling (PCC) and Grid Connection Point (GCP), the Grid Connection Point (GCP) for the OWF is located right after the cable termination of the inter-array cables and before the switchgear on the HVDC platform of TenneT. Regarding the Electricity Metering Code, metering equipment should be installed at the connection points between the system operator and the connected party.

The system operator is obliged by law to facilitate the connection of this metering equipment to the instrument transformers of the high voltage equipment. With respect to safety, the general practice within TenneT is that TenneT installs the cables from the instrument transformers to the cabinet for the metering equipment.

According to the Grid Code and the Metering Code, the installation and maintenance of the metering equipment is the responsibility of the connected party, to be carried out by an independent certified metering company. The metering equipment should be installed according to the conditions of the Metering Code. Furthermore, the metering equipment should be maintained in a way that it fulfils the requirements of the code.

In accordance to the Metering Code art. 1.2.3.8, the connected parties are responsible together with the offshore platform operator to assign one certified body for metering (certified metering company).

4. Position TenneT

TenneT will facilitate and coordinate the process of selecting a certified metering responsible party[1], contracted by the connected parties individually. The metering responsible party will be responsible for the installation, commissioning and maintenance of the metering equipment.

[1] https://www.tennet.eu/nl/elektriciteitsmarkt/nederlandse-markt/mv-register-elektriciteit/