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## Meeting ENTSO-E / Eurelectric & VGB

Date: 22 January 2014

Time: 14h00 – 17h00

Place: Düsseldorf

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## FINAL MINUTES

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### Participants Affiliation

Herman Bayem,	Eurelectric – VGB / EdF
Eberhard Fohry	Eurelectric – VGB / EnBW
Ton Geraerds	Eurelectric – VGB / Essent
Edwin Haesen	ENTSO-E
Wilhelm Winter	TenneT GmbH / ENTSO-E

Objective of the meeting is to discuss the key messages of the Eurelectric / VGB Powertech input provided in the written consultation on NC HVDC (07/11/13 – 07/01/14), as well as the direction of the draft text after a first review of consultation comments.

The following points are covered in the Eurelectric / VGB Powertech paper<sup>1</sup>:

- The requirements of the code must not discriminate between network users. The requirements on the TSO and non-TSO equipment should be the same.
  - EUR/VGB explain that as all transmission-connected DC equipment impact performance and costs for other grid users (e.g. generators), thus all should meet the same standards.
  - ENTSO-E agrees on this principle. The scope of the code covers all transmission connected DC links. For links between Control Areas (e.g. France – GB, or North to South Germany), i.e. those connections between two parties, all technical requirements and all procedures such as on compliance testing apply, in a similar manner as between network operator and generator connection. For embedded links (i.e. within one Control Area), ENTSO-E has opted to avoid a grey area by explicitly keeping all transmission-connected links in scope. An alternative would have been to use a similar significance test as with distribution-connected links.
  - EUR/VGB and ENTSO-E acknowledge that in the context of this NC HVDC compliance enforcement and specification of requirements is done via the national process Art 4(3), which comes back to present practices of e.g. planning standards, and NC implementation monitoring which could identify and address national divergences.
  
- The minimum technical and regulatory requirements should be clearly defined in the code to ensure equal requirements for all parties of the European power market.

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<sup>1</sup> [http://www.eurelectric.org/media/115856/hvdc\\_eurelectrics\\_and\\_vgbs\\_response\\_20131231-2014-2130-0001-01-e.pdf](http://www.eurelectric.org/media/115856/hvdc_eurelectrics_and_vgbs_response_20131231-2014-2130-0001-01-e.pdf)

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- EUR/VGB asks for clarity on the phrasing of ‘as fast as technically possible and reasonably justified if...’. EUR/VGB asks why the code does not give a range of these non-exhaustive parameters?
    - ENTSO-E notes that this phrasing occurs four times in the code. The interpretation is that a target value (a minimum requirement) is set. In addition if the equipment can inherently perform better, the requirement ensures that functionalities cannot on purpose be blocked.
  - Security of supply and grid stability need to be addressed in the HVDC network code. The draft code considers only one side (feed into AC) of an HVDC connection adequately.
    - How can the capabilities in NC HVDC ensure that frequency response in one Control Area does not result in creating a problem in the Control Area of the other connecting end?
    - ENTSO-E notes e.g. the possibility of blocking in Art 9(3). EUR/VGB asks for more clarity on the triggering criteria (referred to frequency threshold). Valid option, ENTSO-E will take it on board for further consideration.
  - National Regulatory Authorities should decide on the requirements that are specified on a national level after a process that involves the Relevant Network Operator, the Relevant HVDC System Owners and Relevant DC-connected Power Park Module Owners.
    - EUR/VGB asks that all these requirements should by default be linked to Art 4(3). As the code is written now, Art 4(3) is only valid for articles in which there is a reference to Art 4(3). EUR/VGB proposes to make Art 4(3) a general article instead of only valid where it is referred to.
    - ENTSO-E acknowledges that it is in the interest of all impacted parties if the national process as referred to by Art 4(3) ensures objectivity, transparency and involvement of all parties.
  - The scope of the code regarding the HVDC Systems connected to distribution networks shall be reconsidered.
    - (Not discussed)
  - In general HVDC code should apply only to new assets.
    - ENTSO-E strongly emphasizes that this is indeed the focus of all three NCs on grid connection, and will seek to stress this again in the NC HVDC text and supporting documents.
  - The list of definitions should be completed and developed.
    - All agree there should be one consistent and complete list of NC terms. ENTSO-E notes that an alignment of definitions is ongoing, now that RfG/DCC/HVDC are entering mature states. Some new terms in the draft NC HVDC were indeed not included in the definition list and will be added.
  - To protect the security of the power supply and to protect other grid users against extra power losses, life time reduction or direct damage of components, minimum power quality standards should be determined for HVDC Systems.
    - EUR/VGB links the PQ requirement to that on frequency withstand capability, and is concerned that a wide frequency range will be the determining factor in the design of HVDC equipment filters (rather than PQ targets)
    - ENTSO-E acknowledges the importance of proper studies on this topic, and adequate mitigating measures where appropriate (new grid user, network, existing users)
    - All acknowledge that the NC itself cannot refer to an explicit standard. On some topics, HVDC equipment standards are still evolving. National PQ performance targets, and evolving

HVDC standards, should be the backbone of the national implementation of this specific NC HVDC requirement.

- EUR/VGB wishes PQ measurements before and after connection of new HVDC equipment to demonstrate that the PQ is not reduced by the new HVDC equipment.
  - EUR/VGB raised a concern on the fact that the TSO doing and/or assessing an impact study for new connected DC equipment is not a fair situation when it owns the installation.
  - EUR/VGB wishes for any party to have the right to request a study when new DC equipment is connected, and asks for clarification on who pays the bill when mitigating actions are set. EUR/VGB suggests to use a similar process on PQ mitigation measures as for control interaction (Art 27). ENTSO-E will address this.
- In many cases requirements have been set without considering alternative solutions, feasibility, costs and benefits. Also the case where the benefit is for party A and the costs of an over-all optimised solution occur in the installation of party B, it is not clearly covered who will bear these costs. EUR/VGB proposes to add that costs which cannot clearly be addressed to an originator will be borne by the TSO and will be inherent part of the tariffs.
    - ENTSO-E refers to national implementations to address total socio-economic cost, analysis of alternatives, and NRA involvement.

In case the detailed review of all comments requires more clarification, ENTSO-E will contact EUR/VGB. An updated draft text will be shared before next User Group meeting, where ENTSO-E welcomes the further views from EUR/VGB.

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