Joint European Stakeholder Group

Tuesday 8 October 2024

Meeting 78

1. Welcome & Introductions

Garth Graham – Independent Chair

Agenda

	Title	Lead	Time
1.	**Welcome & Introductions**	Chair	09:00 - 09:05
2.	**Article 18 knowledge share**	Steve Wright, NESO	09:05 - 09:10
3.	**C9 Direction**	Alice Beddow, NESO	09:10 - 09:15
4.	**GB NTC policy**	Racheal Idowu, NESO	09:15 - 09:20
5.	**Interconnector Framework**	Alice Beddow, NESO	09:20 - 09:25
6.	**EU Engagement under the TCA**	Tom Ireland, NESO	09:25 - 09:35
7.	**HVDC 2 overview**	Tony Johnson, NESO	09:35 – 09:55
8.	**Review of Actions log**	Andrew Hemus, Tech Secretary	09:55 - 10:00
9.	**Future Meeting Dates & Agenda Items**	Andrew Hemus, Tech Secretary	
10.	**Stakeholder Representation**	Chair	
11.	**Any Other Business**	All	10:00 - 10:10

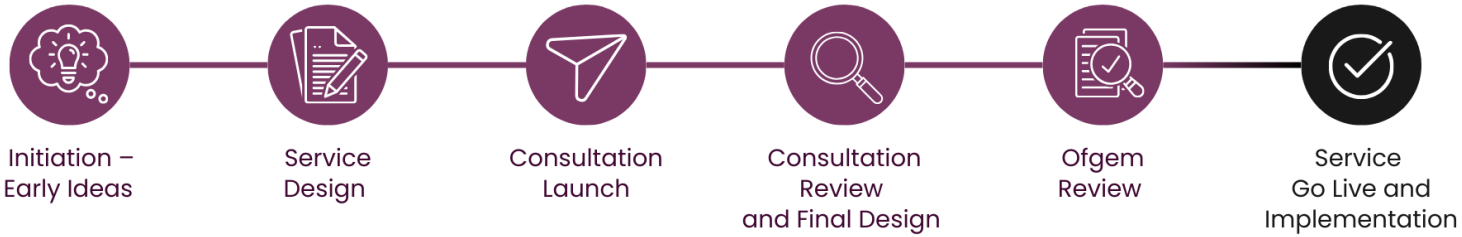
2. Article 18 knowledge share

Steve Wright, NESO

Article 18 update

Consultation timeline live on NESO site

- Easy to read format
- See at a glance current status



Consultation response collation

- New MS Forms response option
- Retained the existing MS Word functionality

Improved engagement in advance of consultations

- No surprises culture
- Webinars, drop-ins etc

3. C9 Direction

Alice Beddow, NESO

C9 Direction

Standard Condition Licence C9 ***"Procurement and use of balancing services"*** *sets out the obligation on the NESO to publish five statements addressing the procurement and use of balancing services.*

NESO conducted an ad hoc review of the statements seeking to make changes to the following areas:

- A proposal allowing Non-Balancing Mechanism (“non-BM”) providers to opt out of the ABSVD calculation when participating in the Local Constraints Market (“LCM”).
- Updates to a range of wording throughout the ABSVD, PGS and BPS reflecting developments in balancing services since the last revision of these documents.

Ofgem directed NESO to make the proposed changes except for proposed wording relating to P412.

- To read the full direction please access the Ofgem website here
- To view the updated C9 statements please access the NESO website here

4. GB NTC policy

Racheal Idowu, NESO

GB NTC Calculation Policy

GB NTC Calculation Policy document

- Net Transfer Capacity or NTC is a value used by System Operators (SOs) in order to set the maximum capacity that an interconnector can import and/or export to that SO's grid for a given Market Time Unit (MTU).
- This document outlines the policy for the operational calculation of interconnector capacity restrictions set by NESO. These interconnector capacity restrictions are achieved through Net Transfer Capacity (NTC) processes in coordination with external interconnector parties and other System Operators interconnected to GB.

Principles of Use

- NESO will only apply NTC restrictions where necessary to ensure System Security, in line with NESO's Security and Quality of Supply Standards (SQSS). The areas of the SQSS applicable to NESO's use of NTC can be split into 3 main areas:
  - ❖**Network Constraints** – Transmission & Energy
  - ❖**Largest Loss** relating to Frequency Management
  - ❖**Margin Extremes** (risk of System Warnings related to GB system margin issues

Document can be found on the NESO website and via this link: [download (neso.energy)]

5. Interconnector Framework

Alice Beddow, NESO

Interconnector Frameworks

Purpose of the project

Activity 2C (Ref 270 Role in Europe) within BP2 (Business Plan 2) seeks to create an Interconnector Framework.

The aim of this being to not only ensure administration of retained European legislation, but to **enable consistency for interconnectors** operating in GB markets and **aid transparency** of the ways in which the interconnectors operate and work with the ESO.

Earlier this year, we held external workshops to explore the key areas identified following industry feedback as part of our RFI:

- Minimising Complexity.
- Maximising Consistency.
- Promoting Transparency.

We would like to offer industry a further chance to feedback on our proposed plans for the framework. This will take place during November and December of this year.

Details of how to participate will be communicated via the NESO weekly newsletter, please register to be kept updated with this and other workstreams.

6. EU Engagement under the TCA

Tom Ireland, NESO

EU Engagement under the TCA

The TCA (Energy) requires cooperation between GB TSOs and ENTSO-E in, at least:

- electricity markets
- access to networks
- the security of supply
- offshore energy
- infrastructure planning

To be coordinated and achieved via the TCA Working Arrangements agreement - submission to the EC and DESNZ is imminent

- Expectations should be managed - 3.5 years to get to this point

An alternative route of EU cooperation is the North Sea Energy Cooperation (NSEC) – UK Government signed a cooperation framework in Dec 22

- Annual summits are held – Hamburg in 2025

The NSEC is supported by TSO expert groups e.g. Offshore TSO Collaboration (OTC) group – NESO has recently been invited to engage with the OTC.

NESO will continue to use the JESG to seek GB industry views on EU matters

NESO
National Energy System Operator

7. HVDC 2 overview

Tony Johnson, NESO

Background

- As part of the Energy Third Package when the UK was a member of the European Union, the Connection Network Codes (ie Requirements for Generators (RfG 1.0), Demand Connection Code (DCC 1.0) and HVDC Network Code 1.0 were implemented into the Grid Code via Grid Code modifications GC0100, GC0101, GC0102 and GC0104.
- These documents define the technical requirements for Generators and Demand connecting to the Total System.
- ENTSO-E are now updating the Connection Network Codes and proposing amendments to the Requirements for Generators (RfG 2.0), Demand Connection Code (DCC 2.0) and HVDC 2.0 Network Code
- For RfG 2.0 and DCC 2.0, the consultation closed last year
- For HVDC 2.0, the consultation closed on 8th September 2024
- **As we are no longer an EU Member State, these amendments will NOT apply in GB however we have taken the opportunity to review the changes and have responded to all three consultations**

Status

Code	Consultation Period	Status
RfG 2.0	17 July – 25th September 2023	ESO responded to the Consultations in addition to briefing Ofgem / DESNZ
DCC 2.0	17 July – 25th September 2023	ESO responded to the Consultations in addition to briefing Ofgem / DESNZ
HVDC 2.0	17th June – 8th September 2024	ESO responded to the Consultations in addition to briefing Ofgem / DESNZ

High Level RfG 2.0 Proposals

- RfG 2.0 is expected to come into force in circa 2025
- Scope of application is very difficult to understand – ie who it applies to
- Includes requirements for Electricity Storage
- The proposals do not appear to allow aggregation of different technologies into one power park module
- Grid Forming is Mandatory for all Type C and D Power Park Modules (with a three year implementation period – expected 2028) including smaller Power Park Modules (eg Type B) connecting via a 110kV feeder
- V2G Electric Vehicles (ie those which can import and export to and from the Grid) are now within scope including their charging networks
- Criteria around significant modernisation included
- Significant Rate of Change of Frequency withstand limits defined
- Fault Ride Through extended to Type A Power Generating Modules
- High Voltage Ride Through included
- Reinforcement to modelling and simulation requirements covering both RMS and EMT studies
- Power Oscillation Damping required for Type C and D Power Park Modules
- No specific tests or Compliance simulations for Grid Forming

NESO National Energy System Operator

High Level DCC 2.0 Proposals

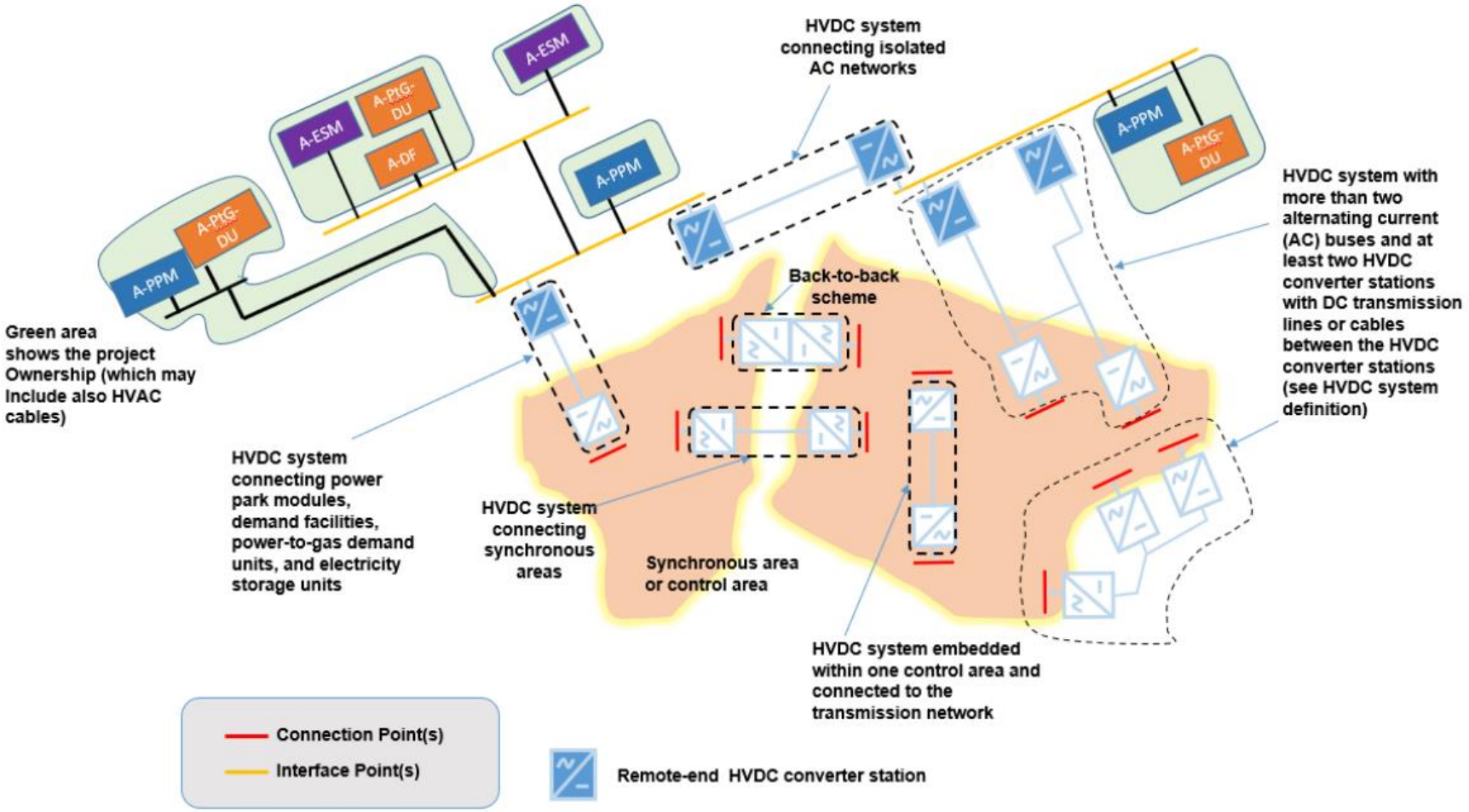
- DCC 2.0 is expected to come into force in circa 2025
- Scope of application is difficult to understand – ie who it applies to
- V1G Electric Vehicles (ie those which can only import from the Grid) are now within scope including their charging networks
- Specific technical requirements added for V1G Electric Vehicles, Heat Pumps and Power to Gas Demand (eg hydrogen electrolysers) these include:-
  - Rate of change of Frequency Requirements
  - Fault Ride Through
  - Limited Frequency Sensitive Mode – Under Frequency
- New compliance requirements added in respect of V1G Electric Vehicles, Heat Pumps and Power to Gas Demand
- Clarifications added to Low Frequency Demand Disconnection Schemes
- Voltage ranges changed

HVDC 2.0 Key Findings

- HVDC 2.0 is expected to come into force in circa 2025 and applies to DSOs as well as TSOs
- Covers a whole range of plant other than DC Connected Power Park Modules (see next slide)
- References to GB have been removed – as expected
- New criteria included on significant modernisation – these are quite onerous and could impact existing plant.
- New requirements added on Rates of Change of System Frequency withstand – these are quite onerous
- Grid Forming is not mandatory unless specified by the TSO
- New requirements included for Power to Gas Plants (eg Hydrogen Electrolysers) connected behind HVDC Systems, including power import reduction with falling frequency and fault ride through
- A lot of new detail has been added on simulation models
- There is a repeal section outlining that HVDC 1.0 will be repealed and replaced by HVDC 2.0
- Some changes to voltage ranges and frequency control settings

Scope of Plant covered under HVDC 2.0

A-PPM: Asynchronously connected Power Park Module
A-ESM: Asynchronously connected Electricity Storage Module
A-DF: Asynchronously connected Demand Facility
A-PtG DU: Asynchronously connected Power-to-Gas Demand Unit



Issues included in the HVDC 2.0 NESO Consultation Response

- HVDC 2.0 introduces a new definition (in Europe) of “Interface Point” which is a term we have used in GB Codes for over 15 years and hence risks having one term with two different meanings
- It is unclear how the obligations would apply to one TSO which is an EU Member state against one which is a non EU Member state, noting that some requirements apply to remote end HVDC Converters / HVDC Systems (i.e. the GB-end of an interconnector)
- The impact on existing HVDC Systems could be significant noting that changes could require them to meet the requirements of HVDC 2.0 as the Criteria for “Significant Modernisation” is now defined (eg changes in MW output, Reactive Capability, plant changes etc) and % changes in MW output or reactive capability are not defined
- There are significant differences between the rate of change of frequency withstand capability between HVDC Systems, Plant connected behind HVDC Systems and those requirements specified in RfG 2.0 and DCC 2.0
- Although Grid Forming is not mandated, where it is specified by the TSO, there is a statement that notes – *“where inertia is provided, this function is to be coordinated with systems external to the HVDC System”* – ie does this mean the remote end System or synchronous area can be used as an infinite battery
- Where Grid Forming is specified, there are no specific tests or simulations for Grid Forming
- Although we are not member states, for those who are, there is a requirement to supply User’s data and for this to be made publicly available. There are concerns if this data is confidential

Summary

- The UK (and hence GB) are **NOT** bound by the EU Connection Network Codes and there is no intention (unless there a Government Policy change) for this to be the case
- Where a future Code Change is made (for example Grid Forming) then any change that is made to the GB Code would need to look at the EU Codes purely as part of the due diligence process of reflecting international best practice which is often a feature of the GB Code Governance process through the Terms of Reference.
- In GB, any changes to the Code will be made based on System need, **NOT** because they are mandated in Europe
- Manufacturers are competing on a global scale. As noted in GB, we are **NOT** bound by the EU requirements, however where there is a requirement for system need, then consistency of requirements, where it is applicable to do would result in cost savings for the end consumer (ie a manufacturer who develops a product to meet EU requirements would by default be able to meet GB requirements without any change to their plant as the GB requirements could be a subset of the EU requirements)
- Whilst the HVDC 2.0 code does not directly apply to GB Interconnectors in GB, they do indicate what EU expectations are and do to some degree set a bit of a precedent
- There are no plans to have a large tranche of future Code Mods as a result of these developments

8. Review of Actions log

Andrew Hemus
JESG Technical Secretary

JESG Standing items

ID	Topic	Lead Party
S1	Continue to review the membership of the JESG and engage additional industry parties where appropriate.	JESG Chair
S2	Prepare a commentary / comparison document between the Network Code and the existing GB arrangements at appropriate stages in the Code development for each Network Code.	NGET / Ofgem / DESNZ
S3	Share any intelligence about how other member states are approaching demonstrating compliance through information gained from other government departments, regulators or parent companies.	DESNZ / Ofgem / Industry parties with European parent companies

JESG Open Actions

ID	Topic	Lead Party	Status	Update
13/8	Update future JESG post GC0154 consultation with overview.	Louise Trodden	Open	GC0154 has now been implemented
13/9	EU Engagement including UK TSO WA coordination group. i. Publication and transparency of agenda's, minutes. ii. GB stakeholder feed in routes	Tom Ireland	Open	Awaiting the WA, update to be brought to future JESG.

9. Future Meeting Dates & Agenda Items

Andrew Hemus
JESG Technical Secretary

Future JESG Meetings

- As always registration is required and will be opened through the JESG Weekly updates.
- Stakeholders are invited to put forward agenda items for the forthcoming JESG meetings:

Date	Proposed Agenda Items
Tuesday 12 November	
Tuesday 10 December	

10. Stakeholder Representation

All

11. AOB