

Friday 20th September 2024

FAO: *Jeff Finch*, Energy Sector Digitalisation, OFGEM, Email: digitalisation@ofgem.gov.uk

Re: Consultation - Governance of a Data Sharing Infrastructure

Responders:

Prof Gareth Taylor, Brunel Interdisciplinary Power Systems Research Centre Director, Brunel University London, Email: Gareth.Taylor@brunel.ac.uk

Prof Goran Strbac, Control and Power Research Group Director, Imperial College London, Email: G.Strbac@imperial.ac.uk

Declarations of Interest:

In February 2024 Prof Gareth Taylor was appointed as a UK representative member of standardisation technical committee IEC TC 57 'Power systems management and associated information exchange'.

In February 2023 Prof Gareth Taylor was appointed by National Grid Electricity System Operator (ESO) in the UK as a member of the Data & Technology Advisory Group to facilitate expert input and review of the development of the Virtual Energy System programme, an ecosystem of connected digital twins representing the entire GB energy system.

In September 2022 Prof Gareth Taylor was appointed as Strategic Advisory Group member of CIGRE Study Committee D2 'Information Systems, Telecommunication and Cybersecurity'.

In January 2022 Prof Gareth Taylor was appointed by UK Energy Regulator OFGEM as an expert member of an industry-wide working group to adopt the Common Information Model (CIM) as the network data exchange standard for appropriate need cases including Long Term Development Statement (LTDS) by licenced distribution networks.

Prof Goran Strbac was involved in innovative project "COMMANDER" focused on techno-economic feasibility assessment of the future ESO/DSO coordination schemes and a roadmap for the physical deployment of the preferred ESO/DSO concept, based on the transition to digitalised energy paradigm.

In March 2024 Prof Goran Strbac joined Independent Stakeholder Group (ISG) of National Grid National Grid Electricity System Operator (ESO), that considers the future development of digitalised energy paradigm.

Non-confidential Responses to Consultation Questions

Section 2 - What is a DSI and why is it needed?

Q1. Do you see potential uses for the DSI within your day-to-day operation in the energy sector?

The proposed DSI has great potential to support future collaborative industry focussed research and innovation activity within the energy and power systems sector. The DSI has the added potential to enable and support standardised data sharing as required for demonstration activities relating to industry relevant research and innovation project Use Cases at higher technology readiness levels. At present limited open access data is available for use in research and innovation projects in the energy and power systems sector. However, the DSI could provide appropriate levels of access to 'shared data' that can't be shared openly but is required for industry standard demonstration and innovation activities in the energy and power systems sector. A case in point is the availability of the DSI to support not just collaborative activities in real system interoperability, but in virtual systems as represented by ecosystems of digital twins. At an international level through participation and UK representation in standardisation technical committee IEC TC 57 'Power systems management and associated information exchange'¹. Across Europe from activity and participation in relevant bodies responsible for information and data sharing at a pan-European level with regard to energy systems, such as ENTSO-e, CORESO and CIGRE Study Committee D2 'Information Systems, Telecommunication and Cybersecurity' (Items 2.26 and 2.27).

Q2. Do you have any comments on the funding mentioned within this section?

The DSI MVP funding appears to have been addressed as required for the preferred interim DSI coordinator in terms of transparency and justification as well as with regulatory oversight from OFGEM.

Q3. Do you have any comments on the timeline shown?

The timeline appears appropriate with regard to overall planned decarbonisation and digitisation activities for future GB energy and power systems in order to achieve 2030 targets. The timeline also aligns well with the launch of new National Energy System Operator (NESO) as now scheduled on Tuesday 1st October 2024². As the DSI is highly innovative and potentially world leading It will also be essential that OFGEM retains sufficient digitisation expertise for technical oversight over the timeline. Secondments may be required to maintain and retain required levels of technical expertise for the timeline.

Section 3 - OFGEM vision for governance of the DSI

Q4. Do you agree with our short-term governance structure model where the Interim DSI Coordinator is responsible for leading the short-term governance (2024 – 2028) of the DSI?

We agree with the OFGEM proposed short-term governance structure model where the Interim DSI Coordinator is responsible for leading the short-term governance (2024 – 2028) of the DSI. We also recommend that as the governance of the DSI represents a major

¹ [TC 57 – Power systems management and associated information exchange \(iec.ch\)](https://www.iec.ch)

² [National Energy System Operator \(NESO\) launches on 1 October | ESO \(nationalgrideso.com\)](https://www.eso.com)

innovative development in the sector that the preferred interim DSI coordinator NESO also arranges and supports a formal open governance and DSI modification proposal mechanism for recognised sector participants and stakeholders similar to when New Electricity Trading Arrangements (NETA)³ was introduced at system operational and market levels in the UK in 2000.

Q5. If not, state your reasons and propose an alternative governance model or improvements to our proposed solution.

Nil response.

Q6. Are there any additional governance roles that are not covered by the proposed governance model? If so, what are these?

Provision of formal open governance and DSI modification proposal mechanism for recognised sector participants and stakeholders.

Q7. Do you agree with the responsibilities of the interim DSI Coordinator? Are there any additional responsibilities that it should undertake?

We also recommend that as the DSI represents a potentially world leading development in the sector that the preferred interim DSI coordinator NESO also arranges and supports a formal DSI modification proposal mechanism for sector participants and stakeholders similar to when NETA⁴ was introduced at system operational levels in the UK.

Q8. Do the proposed deliverables reflect the outputs that the Interim DSI Coordinator should focus on in the initial DSI stages? Do you suggest any additional deliverables?

We also propose that the Interim DSI Coordinator undertakes regular horizon scanning or technology scenario assessment to future-proof the DSI starting in 2025 aligned with the planned annual reporting to continually expose novel digital tools/techniques that should be integrated into the DSI as soon as possible. We also propose that a final technology assessment summary is then published on 1 April 2028, to coincide with the end of the Interim DSI Coordinator period of activity.

Section 4 - Options for delivery of an Interim DSI Coordinator

Q9. Do you agree with us that the System Operator is the best option as the Interim DSI Coordinator? If no, explain your reasons and justify your proposed option.

We agree that the System Operator as NESO from 1st October 2024 is the best option as the Interim DSI Coordinator in terms of the following aspects:

- Lead development and adoption of international standards of practice for DSI governance.
- Formal assessment and quantification of the security risks associated with greater operational and planning reliance on DSI.

³ [New Electricity Trading Arrangements \(NETA\) - Implementation Phase NETA Go Live Decision Making Indicators | Ofgem](#)

⁴ [New electricity trading arrangements \(NETA\) programme implementation phase go live decision making indicators progress report | Ofgem](#)

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- Specification and justification of the levels of DSI resilience and security as cost-effectively required for overall energy and power systems security.
- Governance in terms of attestation and conformance policies of stakeholder activities and participation in the DSI.
- Deliver a Strategic Planning Use Cases that will be consistent and complementary to other energy system strategic planning activities and responsibilities such as Future Energy Scenarios (FES) and Electricity Ten Year Statement (ETYS) (Item 2.37).

Q10. What assessment criteria do you foresee being required when transitioning from short-term governance to an enduring governance model?

- Level of sector and stakeholder uptake and successful participation in the DSI.
- Number and variety of Use Cases demonstrated during the short-term governance stage.
- Increased sector levels of DSI expertise, knowledge and understanding.

Q11. What suggestions or feedback do you have for refining these governance assessment criteria to better meet the requirements and challenges of digitalisation in the energy sector?

Nil response.