



Electricity Engineering Standards Review Independent Panel Terms of Reference

Objectives

Our industrial strategy has articulated a grand challenge of clean growth: realising our decarbonisation objectives and maintaining reliable, secure and resilient electricity supplies at minimum cost. A key part of this is delivering an efficient electricity network within a whole electricity system, which maintains high levels of reliability and security of supply in Great Britain at least cost to consumers.

The electricity system performance requirements, codes and network standards which govern design and security considerations represent the minimum technical requirements for the development and operation of networks in GB. Some of these standards and recommendations, particularly at distribution level, have only seen incremental changes since the 1950s. There is a risk that out-of-date standards lead to sub-optimal build decisions by network companies, which fail to reflect changing technologies and approaches, increasing costs to consumers.

Although recently industry, with support from Ofgem, has undertaken a review of P2, the distribution planning standards, we believe more could be done to achieve the benefits of a future flexible and responsive electricity system.

In order to unlock these benefits, BEIS and Ofgem are launching an independent review of electricity system standards. The objective of the review is to consider how the planning and, where appropriate, operational and investment engineering standards should be updated in the face of our changing electricity system, whilst maintaining security of supply to consumers.

Scope

There are a large number of engineering standards, guides and recommendations with varying degrees of impact on how networks are planned, designed, built and operated. For example, standards such as Security & Quality of Supply Standard and P2/6 are well known, however, others such as Electricity Safety, Quality and Continuity Regulations (ESQCR), Engineering Recommendations G98 and G99 which deal with distributed generation connections also play a significant part in shaping the electricity system. In addition related provisions such as Ofgem's Information and Incentive Scheme, other aspects of regulation, and the industry Codes influence industry behaviours in how systems are planned and operated. As the system is transformed in coming years through decarbonisation, digitisation, decentralisation and the desire of consumers to express their preferences this also reaches into standards relating to aspects of the built environment, transport and potentially other areas.

The review is expected to make recommendations relating to these standards, recommendations, and associated documents, but may also take a wider view where other elements of the system interact with engineering standards. Any gaps in the current suite of documents will also be identified.

This work will consider standards and recommendations linked to planning of the electricity system and of system operation in Great Britain. Product standards are in scope to the extent that they have an impact on the electricity system. Northern Ireland is out of scope. European network codes are in scope, although it is recognised that change in this area is likely to be more difficult.

The review will have regard to other relevant work underway, for example the Data Taskforce working currently under the auspices of the Energy Systems Catapult, and the Codes Review being undertaken by Ofgem and BEIS.

Workstreams

Workstream Title	Contents of workstream
Economic efficiency	Whether the current standards, when implemented, are locking in unnecessary cost and whether high levels of system reliability and resilience for GB consumers can be delivered at lower cost.
Enabling of new technologies in a fair and neutral way	Whether the current standards or prescribed decision-making processes within network companies are designed in ways which favour network build compared to alternative solutions, such as energy efficiency, demand side response, storage, distributed generation or commercial solutions.
Whole systems approach	Whether the current standards should be changed to increase the focus on an end-to-end whole systems view ¹ when developing the networks and what the impact of this would entail.
Network performance, reliability, security and resilience	Whether technology change means that current standards need change to reflect new challenges to network security, for example cyber-security, and to facilitate effective digitalisation needed for increasingly smart/intelligent systems.
International Context	Whether comparable electricity systems have updated their standards, and if so, how and what lessons can be learned.
Standards Ownership and Governance	Whether the current ownership and governance of standards is appropriate and recommendations for any changes

Outputs

The outputs of this review would be:

- Proposals for how engineering standards should evolve, including any specific recommendations to Government, Ofgem and industry of how to do this, meeting the needs of GB energy consumers and overall system costs and benefits; and
- Indicate how Government can best work with other bodies to consider how the proposals they set out can be delivered.
- Where action can be taken to achieve quick wins to address known problem areas

¹ Whole systems here means the complete electricity system including equipment on consumer premises, touchpoints with other energy vectors, related data and communications systems, relevant legislation, regulation and market arrangements, commercial contracts and associated supply chains.

We expect this panel to provide an independent report with associated recommendations for both government and industry to implement appropriate changes to the engineering standards by the end of March 2020.

We are keen that the outputs of this review are available for incorporation into network operators' business plans, and that this review does not disrupt implementation of other changes in the industry in this space. This review will build on changes already taking place in industry, taking into account the wider sector, and not be undertaken in isolation.

Governance

We have appointed Simon Harrison as Chair of the panel, who are a group of engineering experts. The panel will be independent of Government.

An organisation will be appointed under a service contract to undertake research for the Panel to identify standards and produce information required for Panel to review the standards. This appointment will be undertaken by Government.