



Department for
Energy Security
& Net Zero

Notice of Proposed Transmission License Exemption

for array systems

Closing date: 5 March 2024

(Rerun of consultation because the Draft Statutory Instrument Order was omitted from the original. If you responded to the original consultation, you don't need to re-submit your response unless you want to comment on the Draft Statutory Instrument Order.)

February 2024



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Any enquiries regarding this publication should be sent to us at: offshore.coordination@energysecurity.gov.uk

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General information

Why we are consulting

We are seeking views on a proposed exemption from the requirement to hold a transmission licence for array systems connecting an offshore windfarm to an offshore substation.

Consultation details

Issued: 6 February 2024

Respond by: 5 March 2024 (consultation being re-run)

Enquiries to: offshore.coordination@energysecurity.gov.uk

Consultation reference: Offshore windfarm array system consultation

Audiences: We welcome all views, however we are specifically seeking views from offshore wind generators, offshore transmission owners, renewable energy trade associations and offshore wind industry representatives.

Territorial extent: Great Britain, including the devolved administrations.

How to respond

Email to: ESSupport@energysecurity.gov.uk

Confidentiality and data protection

Information you provide in response to this consultation, including personal information, may be disclosed in accordance with UK legislation (the Freedom of Information Act 2000, the Data Protection Act 2018 and the Environmental Information Regulations 2004).

If you want the information that you provide to be treated as confidential please tell us, but be aware that we cannot guarantee confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not be regarded by us as a confidentiality request.

We will process your personal data in accordance with all applicable data protection laws. See our [privacy policy](#).

We will summarise all responses and publish this summary on [GOV.UK](https://www.gov.uk). The summary will include a list of names or organisations that responded, but not people's personal names, addresses or other contact details.

Quality assurance

This consultation has been carried out in accordance with the government's [consultation principles](#).

If you have any complaints about the way this consultation has been conducted, please email: bru@energysecurity.gov.uk

The proposals

EXEMPTION FROM THE REQUIREMENT FOR A LICENCE TO TRANSMIT ELECTRICITY: PROPOSAL TO MAKE THE ELECTRICITY (CLASS EXEMPTIONS FROM THE REQUIREMENT FOR A LICENCE) (AMENDMENT) ORDER 2023.

Summary

This consultation seeks views on our proposal to make a class exemption from the requirement to hold a transmission licence for offshore wind farm array systems which connect to an offshore substation.

Proposal

The Secretary of State, pursuant to sections 5(2) and 5(3) of the Electricity Act 1989 (“the Act”), hereby gives notice of a proposal to make an order under section 5(1) of the Act granting a class exemption from the requirement to hold a transmission licence under section 4(1)(b) of the Act to offshore generators operating array systems, GB wide, at 132 kilovolts (kV) and above connecting to offshore substations.

Legislative background

The Electricity Act 1989 (“the Act”) sets out the electricity licensing regime for GB:

[Section 4](#) sets out the activities for which licences are required. This includes the transmission of electricity. It specifies that an offence is committed if these activities are carried out without a licence. A transmission licence is granted by the Authority (the Gas and Electricity Markets Authority) under section 6(1)(b) of the Act.

Under section 4(4), “Transmission” in relation to electricity, means transmission by means of a transmission system; “transmission system” means a system which consists (wholly or mainly) of high voltage lines and electrical plant, and is used for conveying electricity from a generating station to a substation, from one generating station to another or from one substation to another.

Under [section 64](#), a “high voltage line” is an electric line which (a) if it is in Scotland or is a relevant offshore line (as defined in subsection (1A)), is of a nominal voltage of 132kV or more; and (b) in any other case, is of a nominal voltage of more than 132kV.

Under section 6C(6), “offshore transmission” means the transmission within an area of offshore waters of electricity generated by a generating station in such an area.

Under [section 5](#), the Secretary of State may grant exemptions from the requirement to hold a licence to a person or a class of persons. If a person falls under a class exemption, it exempts that person from the (standard, and where applicable, special) conditions arising from holding such licences. Section 5(1)(c) allows the Secretary of State to specify conditions that apply to exemptions.

Under [section 10A](#), a person that holds a transmission licence and transmits electricity for the purpose of giving or enabling a supply to any premises, is to be certified as independent by Ofgem.

The Electricity (Class Exemptions from the Requirement for a Licence) Order 2001 (the “Class Exemptions Order 2001”) sets out classes of persons which the Secretary of State has exempted from the requirement for a licence under section 4(1)(a) (generation), 4(1)(bb) (distribution) and 4(1)(c) (supply) of the Act. At present, the Class Exemptions Order 2001 does not contain any class exemptions from the requirements for a licence under section 4(1)(b) (transmission).

The Trade and Cooperation Agreement between the UK and the EU is a treaty which sets out the UK’s relationship with the EU (“the Agreement”) and includes provision in respect of transmission system operators as well as in respect of ownership unbundling (see Articles 300, 307, 308, and Annex 28 in particular).

The Secretary of State’s Principal Objective

The Secretary of State’s principal objective is stated in section 3A(1) of the Act. “The principal objective of the Secretary of State and the Gas and Electricity Markets Authority (in this Act referred to as “the Authority”) in carrying out their respective functions under this Part is to protect the interests of existing and future consumers in relation to electricity conveyed by distribution systems or transmission systems”.

Under section 3A(1A), those interests of existing and future consumers are their interests taken as a whole, including:

- their interests in the reduction of electricity-supply emissions of targeted greenhouse gases;
- their interests in the security of the supply of electricity to them;
- their interests in the fulfilment by the Authority, when carrying out its designated regulatory functions, of the designated regulatory objectives.

Further, section 3A(1B) provides that “the Secretary of State and the Authority shall carry out their respective functions under this Part in the manner which the Secretary of State or the Authority (as the case may be) considers is best calculated to further the principal objective, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the generation, transmission, distribution or supply of electricity or the provision or use of electricity interconnectors.”

We consider that in the absence of a class exemption for array transmission, there is a risk that offshore generators would not opt to install 132kV+ array systems with their developments. This is due to the Secretary of State's discretion and process associated with an individual exemption application, and the risk of array systems being subject to the offshore transmission tender regime provided for under the Act and the Electricity (Competitive Tenders for Offshore Transmission Licences) Regulations 2015, potentially requiring an array system's transfer to an Offshore Transmission Owner (OFTO). This could impede the growth of turbine capacity, as 66kV cables would not be able to support larger turbines as efficiently. In turn, this could impact the development and competitiveness of the GB offshore wind industry and jeopardise the attainment of our 50GW of offshore wind ambition by 2030. The associated efficiency and cost savings could translate into a reduction in consumer bills and reduced environmental impacts.

We consider it to be in the public interest to exempt all array systems which are operating at a high voltage from the requirement to hold an offshore transmission licence. Enabling the deployment of 132kV+ cables in the array systems will contribute to the development of a more robust and efficient energy system. We do not consider that additional conditions are necessary, as this exemption will apply to all offshore windfarm array systems. Currently generators own and operate the array systems connected to their offshore generator, therefore this class exemption would see a continuation of current arrangements.

Providing an exemption could directly support future reductions in greenhouse gases by enabling the deployment of more efficient array systems, and by extension the growth of the offshore wind sector. This is in line with the overall objective of the government's Net Zero Growth Plan¹ to enable economic growth while cutting greenhouse gas emissions.

Therefore, the Secretary of State is minded to use the powers granted under section 5 of the Act to provide a class exemption for all offshore windfarm array systems which are operating at a high voltage from the need to hold a transmission licence.

Policy background and reasons for proposed order

Generators currently own and operate the array system between the turbines and the offshore substation, while Offshore Transmission Owners (OFTOs) own and operate the export system (which is 'offshore transmission' under the Act) which is the offshore substation to the onshore grid. The array system commonly consists of the array cables from the turbines to the offshore substation, the array cable entry, and the switchgear on the substation². If voltages do not exceed 132kV, the array system between turbines and offshore substations are a 'low voltage line' under the Act. Voltages of 132kV and above are considered a 'high voltage line'. The

¹ Net Zero Growth Plan:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147457/powering-up-britain-net-zero-growth-plan.pdf

² Ownership and operation of the offshore substation can vary between the OFTO and generator.

voltage of an asset has meant there has been a clear line between what is owned and operated by generators and OFTOs.

Offshore windfarms are increasing in size and complexity. Turbines are beginning to exceed 15MW each, which could potentially make the current 66kV array systems less cost effective in comparison to higher voltage systems. Higher array voltage will be necessary to allow more power to be transmitted through array systems. We consider that the potential installation of 132kV+ array cables between the windfarm and offshore substation would require the array system to be licensed as transmission, and therefore be subject to the OFTO regime. This is an unintended consequence of the Act which would see generators lose the right to own and operate the array system. It is expected that the requirement to hold a licence for high voltage array systems, and the uncertainty over applying for an individual transmission license, could disincentivise generators from installing high voltage array systems.

The Department for Energy Security and Net Zero is minded to recommend that the Secretary of State issue a class exemption for all array systems, which will exempt a person operating this system from the need to hold a transmission licence. This will ensure generators will be able to continue to own and operate these systems, even if they install 132kV+ array systems. A class exemption is an enduring solution to give generators flexibility and certainty to design future offshore windfarms in the most efficient way.

Case for exempting offshore wind array systems

This is a technical change, with the offshore wind industry standing to benefit from the regulatory clarity this provides. The government wants to facilitate the implementation of 132kV+ cables to enable the deployment of next generation larger turbines and windfarms. This could provide step-change cost savings and act as a key driver of growth in the offshore wind industry, just as the move to 66kV cables from 33kV in 2010 was a key factor in rapid growth in the sector. This is supported by an assessment of standards and regulations in UK which identified insufficient clarity over the classification of 132kV+ cables as generation or transmission assets³. Furthermore, unlocking 132kV+ cables could permit access to a larger supply chain as a wider range of voltages could be considered.

A higher voltage array system enables more cost-effective string lengths⁴ and layout designs. Analysis conducted by the Carbon Trust¹ concluded that 132kV operating voltage is the cost-optimal next array voltage. Their findings indicate that array life cycle cost savings could range from 20 to 35% for 132kV arrays compared to the 66kV base case. The study cites savings of £32m to £50m for a 1200MW offshore wind farm relative to the equivalent 66kV system. Reduced cable lengths and a reduction in final connections to offshore substations enabled by 132kV+ systems reduces capital costs and increases efficiency. The higher voltage lowers the resistance losses in the conductors, resulting in lower electrical losses. Higher voltage systems

³ Carbon Trust Report 2022 <https://ctprodstorageaccountp.blob.core.windows.net/prod-drupal-files/documents/resource/public/Hi-VAS-Report-June2022.pdf>

⁴ String Lengths: Array cables create loops or individual strings lengths which connect all wind turbines to the offshore substation.

can also reduce the costs of system unavailability because less cables means lower likelihood of failure, outweighing the greater impact of system failure. There is potential that widespread uptake of 132kV+ cables could translate into cost savings. This could be passed onto the consumer through enabling generators to submit more competitive Contract for Difference (CfD) bids. CfDs work by ensuring that generators receive a fixed, pre-agreed price for the low carbon electricity they produce during the time the contract is running. This is known as the 'strike price'. More competitive CfD auction bids may lead to lower strike prices for CfD contracts. This could save electricity consumers money by reducing the levy costs of funding the CfD scheme.

Further to this, 132kV+ cables enable more efficient use of the seabed and thus have a lower ecological footprint. They can enable a reduction in total installed cable length for the array system relative to 66kV by reducing the number of cable strings required, leading to fewer final connections to the offshore substation³. This minimises the impact on the environment by reducing the amount of infrastructure required by offshore wind farms.

Direct to grid array systems will not be exempt from a transmission licence, by falling outside an array system as defined in the exemption, and would continue to be recognised as the licensable activity of offshore transmission under the Act. Attempting to circumvent the OFTO regime with direct to grid array could remove safeguards the regime was designed to provide, and invalidate the intended benefits: introducing competition to the sector and delivering savings to the consumer.

Conditions of the exemption

The class exemption is proposed to be from the requirement to hold a transmission licence, and the conditions that apply to such a licence. The exemption only covers this specific transmission activity, and the generator who owns and operates the connected array system will continue to be required to hold a generation licence (or exemption). This proposed exemption does not seek to exempt generators from any standard (and where applicable, special) conditions under their generation licence. We expect that generators will still need to adhere to the codes of conduct, industry agreements and behavioural conventions as provided under a generation licence.

Where applicable, provided that generators adhere to their obligations under the generation licence we do not propose conditions with the transmission licence exemption.

Consultation questions

- 1. Do you agree that a class exemption from the requirement to hold a transmission licence should be provided for all high voltage offshore wind array systems that connect to an offshore substation as set out in the draft order?**
- 2. To what extent do you agree with the cost figures used on page 9 which outline the case for exempting high voltage array systems? Please provide any additional data to support your answer.**
- 3. Is there any evidence of which we have not accounted for in this consultation, but is material to our considerations?**

This consultation is available from: www.gov.uk/government/consultations/transmission-license-exemption-for-array-systems-connecting-to-offshore-substations

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