



Department for
Energy Security
& Net Zero

Fusion Energy

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Overview and timeline

- **Early 2019:** UK Government begins working with regulators and technical specialists to build understand of current regulatory framework and fusion technologies
- **June 2021:** The independent Regulatory Horizons Council (RHC) produced a report on the regulation of fusion energy in the UK whose recommendations helped to inform the Government's work.
- **October 2021:** UK Government published proposals for a regulatory framework in the Green Paper Towards Fusion Energy. 58 responses to the consultation(over **October-December 2021**) from the public, industry, academia & other fusion stakeholders around the world were received.
- **June 2022:** UK Government published its response to the consultation
- **July 2022:** Energy Bill introduced to Parliament
- **October 2023:** Energy Act became UK law

Towards Fusion Energy

The UK Government's response to the consultation on its proposals for a regulatory framework for fusion energy

Consultation conducted 1st October 2021 – 24th December 2021

June 2022



How UK fusion regulation works now

- In order for a fusion facility to be developed and operated in a lawful way, it must go through permitting and consenting processes governed by the relevant regulators, the Environment Agency (EA) and the Health and Safety Executive (HSE). This is consistent with how other radiation sources such as cyclotrons in the medical sector and large-scale industrial irradiators are regulated.
- Environmental Permitting Regulations (EPR) are enforced by the EA and are applicable to fusion energy facilities. The EPR require operators of 'regulated facilities' to obtain a permit for, or to register, certain activities and so the EPR provides for ongoing supervision by regulators of activities which could harm the environment.
- The Health and Safety Executive are responsible for several regulations applicable to fusion energy facilities, including the Health and Safety at Work etc Act, the Ionising Radiation Regulations and the Radiation (Emergency Preparedness and Public Information) Regulations.
- The regulatory process requires fusion energy facilities to go through approval stages, ongoing compliance and engagement.



Fusion Hazards and Accident Scenarios

- UKAEA Fusion Safety Authority provided technical support to HM Government in considering hazards and their implications.
- Conducted a literature review of studies into potential accident scenarios to understand implications of damage to confinement systems. Most significant (radiological) hazards are tritium and activated materials – these are critical to identifying ‘bounding accident scenarios’ through which we can determine overall proportionality.
- From this, the Government concluded that **the maximum hazard of fusion would be of a similar magnitude to those associated with other major industrial activities successfully regulated by EA and HSE.**



Government Decisions

The Government has legislated to make clear in law the regulatory treatment of fusion energy.

Fusion energy facilities: nuclear site licence not required

(1) Section 1 of the Nuclear Installations Act 1965 (restriction of certain nuclear installations to licensed sites) is amended as follows.

(2) After subsection (2) insert—

(2A) Subsection (1) does not apply to a fusion energy facility.

(2B) In subsection (2A), “fusion energy facility” means a site that is—

- a) used for the purpose of installing or operating any plant designed or adapted for the production of electrical energy or heat by fusion, and
- b) not also used for the purpose of installing or operating a nuclear reactor.”

National Policy Statement

Consultation sets out scope of National Planning Statement and associated environmental assessments

Key proposals:

- Open-sited (criteria will determine suitable sites)
- Covers all fusion technologies
- Output inclusive – both heat and electricity

NPS designation typically takes 2 years



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Consultation on a new National Policy Statement for Fusion Energy

The proposed approach to siting fusion
energy facilities



Closing date: 03 July 2024

May 2024



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Thank you for listening