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To whom it may concern

**ONR Consultation Response: Alternative routes to market for new nuclear**

Thank you for the opportunity to comment on the consultation ‘Alternative routes to market for new nuclear’ (ARM consultation). This letter and the attached appendix provide the Office for Nuclear Regulation's (ONR) response.

We have provided both general responses to the chapters within the consultation and responses to specific questions. We hope this is helpful.

ONR are the UK’s independent nuclear regulator, with the legal authority to regulate nuclear safety, civil nuclear security and safeguards, and conventional health and safety at the 35 licensed nuclear sites in Great Britain (GB). Our mission is to provide efficient and effective regulation of the nuclear industry, holding it to account on behalf of the public.

In this response, we set out the work we have been doing to ensure ONR is positioned well to independently regulate the country’s anticipated growing nuclear new build industry, including advanced nuclear technologies (ANTs), ensuring that safety and security requirements remain paramount. We have also identified export control constraints relating to our international cooperation and suggested solutions.

ONR has a longstanding and established role in advising government and worked closely with the Department of Energy Security and Net Zero (the Department) on the drafting of relevant sections of the Civil Nuclear Roadmap. This roadmap includes plans to streamline the development of new power stations and introduce smarter regulation.

As well as publishing the Civil Nuclear Roadmap, government also issued two consultations, this ARM consultation and the 'National Policy Statement for new nuclear power generation: new approach to siting beyond 2025’ for which we have already responded, and our response can be viewed [here](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.onr.org.uk%2Fmedia%2Fri2eepa5%2Fonrs-response-to-the-governments-national-policy-statement-for-new-nuclear-power-generation-080324.docx&wdOrigin=BROWSELINK)[[1]](#footnote-1).

ONR have supported government engagement on the ARM consultation by advising on the planning of the ‘deep dive’ event on the regulatory chapter, as well as by providing an expert speaker for a panel session entitled ‘Regulatory and planning frameworks for Advanced Nuclear Technologies’.

Thank you again for consulting us and we would be very pleased to discuss any of our responses with you in more detail as necessary.

Yours sincerely

Sarah Brown

Head of Policy

| **Specific consultation questions** | **ONR’s views** |
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| Question 7: What do you think are the opportunities and challenges associated with other potential uses for nuclear power? Please explain your answer. | Under Section 1 (subsection (1) (a)) of the Nuclear Installations Act 1965, “a nuclear reactor comprised in a means of transport” does not require a nuclear site licence. Under current legislation ONR would therefore have no vires for the regulation of safety of ‘at sea’ reactors used for maritime propulsion.Similarly it is unclear how the current legislation would be applied to the regulation of transportable nuclear reactors. We note that planned amendments to the Nuclear Installations Act 1965 will give ONR the power to regulate sites “situated wholly or partly in or under the territorial sea adjacent to the United Kingdom”, but it is not clear which body would be responsible for regulation of transportable reactors while in transit. |
| Question 8: To what extent do you agree that the current regulatory pathways cover new uses? Are there any areas that are not covered? Please explain your answer. | As an enabling regulator, we recognise that we have an important role to play in minimising regulatory uncertainty and burden around innovation. The UK’s goal setting, non-prescriptive nuclear regulatory framework places responsibility on those we regulate to achieve the high standards of safety and security required. Our regulatory guidance is ‘technology neutral’ in that it applies to all types of nuclear facility, including fuel manufacturing, reprocessing and waste management facilities, in addition to nuclear power stations. Under the Department’s funded Advanced Nuclear Technologies programme we have undertaken reviews of our regulatory framework to ensure fitness for purpose for the regulation of ANTs. These reviews concluded that the goal setting, technology neutral nature of our framework puts us in a good position to be ready to regulate ANTs.We have also prioritised the development of regulatory capability and capacity to regulate ANTs. We have developed and implemented training strategies, invested in technical training on novel reactor design concepts to develop our knowledge and understanding of ANTs. This has enabled us to identify key safety, security and safeguards considerations, knowledge gaps and work priorities and to ensure that knowledge remains current and can be shared across ONR.We are supporting the government’s Advanced Modular Reactor Research, Development and Demonstration (AMR RD&D) programme, which aims to deploy a demonstration High Temperature Gas Reactor and TRISO fuel manufacturing facility in the UK by the early 2030s. We are working closely with the Environment Agency on the delivery of targeted technical advice to technology vendors and advising the Department on regulatory aspects of the vendor proposals. In 2021 the government undertook its ‘post implementation review’ of ONR, considering our purpose and functions, governance and accountability, efficacy and efficiency. The review endorsed our effectiveness as a regulator and our readiness to regulate new nuclear, and made recommendations to support ongoing development of our approach to innovation, enabling regulation and targeted intervention.International Recognition Furthermore, the UK’s regulatory regime is also recognised internationally. In January 2024 an international team of senior safety experts conducted an Integrated Regulatory Review Service (IRRS) follow-up mission, the purpose of which was to review the Advanced Reference Material (ARM) submitted by the UK which addressed the recommendations and suggestions made during the IRRS initial mission in October 2019. The IRRS team noted the significant achievements made and concluded that the UK showed a strong commitment and professionalism in carrying out their mandate to ensure that nuclear and radiation safety is implemented safely in the UK. In addition, the team identified four good performances in relation to: the Openness and Transparency Policy of ONR; the independent and transparent assessment of ONR’s culture; the nuclear site resource prioritisation tool of the Environment Agency; and the UK framework’s Draft Standards and Guidance Status Spreadsheet. The IRRS team made six new findings consisting of four recommendations and two suggestions in relation to the topics covered during the IRRS initial mission. For more information please see: [IAEA Mission Sees Progress in Nuclear and Radiation Safety in the United Kingdom, Notes Areas for Improvement | IAEA](https://www.iaea.org/newscenter/pressreleases/iaea-mission-sees-progress-in-nuclear-and-radiation-safety-in-the-united-kingdom-notes-areas-for-improvement)[[2]](#footnote-2) |
| Question 10: Following government’s streamlining work to date, do you agree the next phase should focus on improving the efficiency of existing processes? Please explain your answer. | We have undertaken targeted reviews of the Generic Design Assessment (GDA) and Nuclear Site Licensing processes to identify opportunities for simplification and streamlining. This has led to the outcomes outlined below:* We have launched a transparent framework for aspirant market entrants seeking early regulatory engagement prior to entering formal regulatory processes.
* Building on the flexibility of the modernised GDA process launched in 2019 we will shortly be publishing further guidance on how we can leverage regulatory assessments undertaken in other countries to realise efficiencies in GDA, and on moving from a two-step GDA to nuclear site licensing and construction.
* We are proposing to develop a new portal that will steer applicants through the Nuclear Site Licensing process, with enhanced guidance and case studies, and will shortly publish an update to our guidance on Licensing Nuclear Installations.

As a result of these measures we expect that there is significant potential for streamlining and acceleration of regulatory processes.We consider that closer working relationships, communication and sharing of information between the various public bodies who play a role in the regulatory and legislative framework for new nuclear would help to realise efficiencies. We would welcome the establishment of a transparent, co-ordinated multi-agency framework to enable new entrants to be fully aware of the processes and requirements that they will be required to navigate. We also consider that closer working relationships internationally can realise efficiencies for the regulation of new reactor designs within the UK, as well as allowing regulators in developing nuclear countries to benefit from the work of established regulators. As such, we have taken steps to increase our international collaboration. Regulators from five European countries are routinely observing GDA interactions, to gain confidence and familiarity in the design and the rigour of the UK regulatory process (within the confines of export control - see below). We have recently signed a trilateral Memorandum of Cooperation with regulators from Canada and the United States to collaborate on the assessment of SMR and AMR designs. This will enable good practice and experience of reviewing SMR and AMR designs to be shared between regulators. We have also signed a Memorandum of Understanding with the Hungarian nuclear regulator, to enable cooperation on matters of nuclear safety, including in relation to SMRs and AMRs.We believe that Government could play a role in facilitating and developing these relationships further.  |
| Question 11: To what extent do you agree that advanced nuclear technologies and new uses of nuclear are accommodated within the existing legal landscape? Please explain your answer. | We have a strong appreciation of the need for Export Control (EC) for non-proliferation, however, there are two key areas where EC constrains ONR's ability to effectively share safety pertinent information; when engaging with other national regulators, and when interacting with an international supply chain.For ONR to regulate/assess new or existing technologies, Export-Controlled Information (ECI) from numerous origins can often need to be sent to international supply chain members and/or other national nuclear industry regulators/government bodies. The export licence application process can be lengthy and can hinder our ability to share safety-pertinent information. Other national nuclear regulators can freely share information with international government agencies and often cannot understand why the UK is not able to share information pertinent to international nuclear safety. This can be of detriment to the UK’s international reputation regarding its prioritisation of sharing safety-pertinent information with the international regulatory community.UK businesses that are involved in both new build and legacy facilities in the civil nuclear industry often work with international supply chains. The licence application process can cause project delays, places a significant administrative burden on applicants, and can deter international collaboration. Small-to-medium sized businesses do not have dedicated EC functions or the administrative capacity to handle the licence application/management requirements, thus EC law can stifle their ability to participate in international civil nuclear projects. We have considered potential solutions to these challenges. Ideally, ONR could be given an exemption from Export Law by the Export Control Joint Unit (ECJU) when sharing export-controlled information for the purposes of international nuclear safety, security and safeguards. This would include dealing with the international nuclear industry and other national nuclear regulators. ONR would need to have an exemption letter from the ECJU that is recognised by HMRC. Alternatively, ECJU could grant an Open General Export Licence (OGEL) to allow ONR to share export controlled information with other international regulators for the purposes of increasing nuclear safety, security and safeguards.The ECJU could also grant project specific Open General Export Licences for a group of named organisations to collaborate on a civil nuclear project for the purposes of nuclear safety and security. As new suppliers are engaged, they could be assessed and added to that licence.Consultation on new approach to sitingGovernment recently issued a consultation on ‘National policy statement for new nuclear power generation: new approach to siting beyond 2025’ to which ONR has provided a response. In particular, question one notes that EN-6 applies only to GW scale projects and sought views on the proposal that EN-7 will apply to GW scale projects, SMRs and AMRs. Our response stated that that we felt that it was pragmatic for new technologies to be subject to the same requirements as those identified in EN6. Our full response to the consultation can be found [here](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.onr.org.uk%2Fmedia%2Fri2eepa5%2Fonrs-response-to-the-governments-national-policy-statement-for-new-nuclear-power-generation-080324.docx&wdOrigin=BROWSELINK)[[3]](#footnote-3). |
| Question 12: What are the opportunities and the challenges of the proposed engagement approach? Please explain your answer | On 26 March we launched a new transparent framework for early regulatory engagement for parties interested in deploying nuclear reactor technology in Great Britain. This is one of our key commitments in support of the Government’s civil nuclear roadmap to 2050. The process and associated guidance can be found here – [Early regulatory engagement on new nuclear projects | Office for Nuclear Regulation (onr.org.uk)](https://www.onr.org.uk/generic-design-assessment/early-regulatory-engagement-on-new-nuclear-projects/)[[4]](#footnote-4)The framework is available to any party requesting early engagement on a proposed reactor deployment in Great Britain, including reactor technology vendors, developers or aspirant licence/permit holders. There are a number of benefits of the early engagement process. Applicants get an understanding of the regulatory processes, expectations and requirements, which will enable them to better manage and de-risk the stages of their project. It also enables regulators to understand the maturity and readiness of applicants to progress to more formal regulatory processes to enable effective prioritisation and management of regulatory resource. Given the anticipated demand for this service we wanted to ensure that requesting parties had access to the process as soon as possible. The process was introduced to the Nuclear Industry Associations ANT group prior to publication and was very well received. We intend to undertake a ‘post implementation review’ six months following launch of the framework. We welcome any feedback and will take into account any responses to this consultation as part of this review. The framework will be subject to regular reviews to ensure it remains fit for purpose and delivers the expected value. |
| Chapter Three – Bringing Projects to Market  | We have provided a general response to chapter 3. ONR has an interest in any new funding models that are applied to nuclear projects to ensure that safety, security and safeguards remain paramount and are not adversely affected by the design of a funding model or economic regulatory regime. When developing the Regulated Asset Base funding model which provides a framework for financing new nuclear, ONR provided technical and regulatory policy advice to the government, to meet the above aim. As such, any other financial models that are developed should be done so in consultation with ONR.We recognise that there are potential areas of overlap in the assessments undertaken by an economic regulator and ONR, particularly in relation to assessment of organisational structure and capability and security of site tenure. We will continue to work closely with government and economic regulators to ensure there is an effective interface and to avoid duplication of effort where appropriate.  |

1. <https://www.onr.org.uk/media/ri2eepa5/onrs-response-to-the-governments-national-policy-statement-for-new-nuclear-power-generation-080324.docx> [↑](#footnote-ref-1)
2. <https://www.iaea.org/newscenter/pressreleases/iaea-mission-sees-progress-in-nuclear-and-radiation-safety-in-the-united-kingdom-notes-areas-for-improvement> [↑](#footnote-ref-2)
3. <https://www.onr.org.uk/media/ri2eepa5/onrs-response-to-the-governments-national-policy-statement-for-new-nuclear-power-generation-080324.docx> [↑](#footnote-ref-3)
4. <https://www.onr.org.uk/generic-design-assessment/early-regulatory-engagement-on-new-nuclear-projects/> [↑](#footnote-ref-4)