

Consultation on the Nuclear Industry Association's application for Regulatory Justification of the 'Rolls-Royce SMR' designed by Rolls-Royce SMR Limited

The Justification of Practices Involving Ionising Radiation Regulations 2004 (as amended in 2018 and 2019)

We are the Department for Environment, Food and Rural Affairs. We are responsible for improving and protecting the environment, growing the green economy, sustaining thriving rural communities and supporting our world-class food, farming and fishing industries.

We work closely with our 33 agencies and arm's length bodies on our ambition to make our air purer, our water cleaner, our land greener and our food more sustainable. Our mission is to restore and enhance the environment for the next generation, and to leave the environment in a better state than we found it.



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Overview

We are seeking your views on an application for a regulatory justification decision on the 'Rolls-Royce SMR' (small modular reactor). This reactor is designed by Rolls-Royce SMR Limited and the application was made by the Nuclear Industry Association (NIA), the representative body for the civil nuclear industry in the UK.

Justification is an early regulatory step that must be satisfied before a new type of nuclear reactor can be deployed in the UK. Justification determines the class or type of practice the proposed practice belongs to and provides a high-level assessment of whether that class or type of practice gives an overall benefit to society.

Justification is the responsibility of Defra's Secretary of State as Justifying Authority for nuclear energy. When we refer to Defra we are referring to Defra's Secretary of State.

The application and supplementary information from the applicant are presented as a single separate attachment, with the supplementary information presented after the application. Please read the application and supplementary information alongside this consultation document.

This consultation will run for 8 weeks. The consultation opened on 6 October 2025 and will close on 1 December 2025.

Purpose of this Consultation

To inform the preparation of a draft decision document by Defra, we are seeking views on:

- whether the proposed practice belongs to a new, or to an existing class or type of practice
- whether the proposed practice is a suitably defined class or type of practice for a justification decision
- whether the information in the application and supplementary information is suitable for Defra to make an appropriate assessment of the balance of benefits and detriments of the proposed practice

This consultation is not concerned with wider nuclear energy policy including the siting of nuclear reactors.

Legislative and Regulatory Background

Justification Context

The UK's legal framework for Justification is set out in the [Justification of Practices Involving Ionising Radiation Regulations 2004](#), as amended in [2018](#) and [2019](#) ('the Regulations').

Defra became the Justifying Authority for nuclear energy following a 2018 amendment to the Regulations which requires functional separation between the department responsible for policy decisions on nuclear energy (the Department for Energy Security and Net Zero - DESNZ) and the department undertaking the justification assessment. DESNZ has published [guidance on the justification process](#).

A person may apply to Defra for a justification decision for a new class or type of practice in nuclear energy. A "practice" is defined in the [justification guidance](#) as "a human activity that can increase the exposure of individuals to radiation from a radiation source and is managed as a planned exposure situation". A class or type of practice is new if no practice of that class or type was carried out in the UK before 6 February 2018 and if the class or type of practice is not already justified. A [register of existing practices](#) is available on GOV.UK.

Having received an application, Defra determines the balance of benefits and detriments to individuals and society of a new class and type of practice and decides whether this outweighs the health detriment that the class or type of practice may cause. The assessment is based on an analysis of economic, social, environmental, health and safety, waste disposal and decommissioning benefits and detriments of the proposed practice. Health detriment means the reduction in length and quality of life occurring in a population following exposure to ionising radiation, including those arising from tissue reactions, cancer and severe genetic disorder.

In making the decision, we will consider the information provided by the applicant and responses to this consultation. We will also consult with the devolved governments and statutory consultees. The statutory consultees are the Environment Agency, the Office for Nuclear Regulation, the Health and Safety Executive, the UK Health Security Agency, the Food Standards Agency, the Scottish Environment Protection Agency, Natural Resources Wales, and the Northern Ireland Department for Agriculture, Environment and Rural Affairs. We will run another public consultation on the draft decision before it is finalised.

Nuclear justification is just one of the regulatory steps that must be undertaken before a new nuclear reactor can be built and operated in the UK. The proposed operator must obtain a number of other permissions including nuclear site licensing, environmental permits and planning permission which sit outside this consultation. For further information, see '[How we regulate radiological and civil nuclear safety in the UK](#)'.

Geographical Extent

Regulation of the nuclear energy sector is reserved and the Defra Secretary of State is the sole Justifying Authority for new nuclear reactors. Justification decisions for new nuclear reactors are UK-wide.

However, many other relevant policy areas, including planning and environmental regulations, are generally devolved. This means that new nuclear reactors cannot be built in Scotland or Northern Ireland without the approval of the Scottish Government or Northern Ireland Assembly, and in some cases new nuclear builds in Wales will require the approval of the Welsh Government. The Scottish Government opposes the building of new nuclear power stations using current fission technologies. In Northern Ireland, there are no existing or planned nuclear power stations. Nuclear energy is not included in the Northern Ireland Executive's Energy Strategy pathway towards net zero.

NIA's Rolls-Royce SMR Justification Application

In July 2024, we received an application from the NIA for a justification decision in relation to the Rolls-Royce SMR. The application defines the proposed practice as:

"The generation of power from nuclear energy using oxide fuel of low enrichment in fissile content in a light water cooled, light water moderated thermal reactor currently known as the RR SMR designed by Rolls-Royce SMR Limited."

A description of the Rolls-Royce SMR technology is given in the application. The applicant has proposed their technology is an SMR due to its smaller output generating capacity and physical size compared to conventional gigawatt-scale nuclear reactors and the potential for build process standardisation and replication.

As the applicant's proposed practice was not carried out in the UK before 6 February 2018 and is not already justified, we consider the proposed practice belongs to a new class or type of practice and requires a justification decision.

The application and supplementary information contain information which aims to demonstrate that the carbon reduction, energy security, economic, social and other benefits of the proposed practice outweigh the health detriment the proposed practice may cause.

We notified the applicant in November 2024 and in April 2025 that they should provide further specific information to enable a full assessment of the benefits and detriments of the proposed practice. We received further information from the applicant in January 2025 and May 2025. This information is available as supplementary information that is presented in a single attachment with the application.

Consultation Questions

Using and Sharing your Information

How we use your personal data is set out in the privacy notice for this consultation which can be found on Citizen Space.

Other Information

This consultation is being conducted in line with the Cabinet Office "[Consultation Principles](#)".

Information about You

There are 3 consultation questions that we would like you to answer. But first, to help us analyse the responses we receive we'd like to understand more about you or the organisation you represent.

Q1. Would you like your response to be confidential?

☐ Yes

☐ No

If you answered Yes to this question, please give your reasons, and explain which information should be kept confidential.

Q2. Please tell us if you are responding as an individual or on behalf of an organisation or group. (Optional)

Please select one answer only from the following options:

☐ Responding as an individual

☐ Responding on behalf of an organisation or group

☐ Other

If you selected "Responding on behalf of an organisation or group" or "Other", please specify.

Q3. Please tell us how much you knew about the nuclear justification process before reading this consultation and supporting documents. (Optional)

- ☐ No knowledge
- ☐ A basic understanding
- ☐ A good understanding
- ☐ A detailed understanding

Q4. Keeping up to date

We would like to keep you informed about the outcomes of the consultation. If you would like to receive an email acknowledging your response and be notified that the draft decision document has been published, please give us your email address below. (Optional)

Your email address: _____

By providing us with your email address you consent for us to email you about the consultation. We will keep your details until we have notified you of the draft decision document publication.

We will not share your details with any other third party without your explicit consent unless required to by law. You can withdraw your consent to receive these emails at any time by contacting us at RRSMRAPPLICATION@defra.gov.uk with the subject line: CONSULTATION: ROLLS-ROYCE SMR APPLICATION

Q5. Please tell us how you found out about this consultation. (Optional)

- ☐ From a direct communication from government
- ☐ From another organisation
- ☐ Through an organisation/group/club you're a member of
- ☐ Press article
- ☐ Social media, for example Facebook, X
- ☐ Through a meeting you attended
- ☐ Other (please specify) _____

Questions on the Application and Supplementary Information

1. Do you agree or disagree with Defra's preliminary view that the proposed practice in the NIA's Rolls-Royce Small Modular Reactor application and supplementary information belongs to a new class or type of practice? Agree/Disagree/Unsure

If Disagree or Unsure, please explain why.

2. Rolls-Royce SMR Limited defines the class or type of proposed practice for which Justification is sought (the “Proposed Practice”) as: “The generation of power from nuclear energy using uranium dioxide fuel of low enrichment in fissile content in a light water cooled, light water moderated thermal reactor currently known as the RR SMR designed by Rolls-Royce SMR Limited.”

Do you consider this definition to be suitable for a justification decision?
Yes/No/Unsure

If No or Unsure, please explain why.

3. Is the information in the NIA application and supplementary information suitable for Defra to make an appropriate assessment of the balance of benefits and detriments of the proposed practice? Yes/No/Unsure

If No or Unsure, what additional arguments or evidence should Defra consider?

You may wish to structure your response to align with the chapters in the application.

How to Respond

Our preferred way of receiving responses is through the online Citizen Space consultation hub [<https://consult.defra.gov.uk/nuclear-justification/nuclear-rolls-royce-smr>]

If you are unable to use Citizen Space, you can download the consultation documents and using the consultation questions to structure your response, return your response by email to RRSMRAPPLICATION@defra.gov.uk or by post to:

FAO Nuclear Justification Team, Air Quality and Industrial Emissions Policy,
Defra Ground Floor, Seacole Building, 2 Marsham Street, London SW1P 4DF

This consultation applies the Welsh Language Standards, so respondents have the opportunity to respond in Welsh.

Please keep your responses within the scope of the questions asked, as responses that are not directly relevant to the questions asked will not be considered.

This consultation will run for 8 weeks. The consultation opened on 6 October 2025 and will close on 1 December 2025. Please note, any responses sent by post must arrive at the address listed above by the closing date of the consultation 1 December 2025 to be considered. Unfortunately, any responses received after the close of the consultation on 1 December 2025 will not be considered.

If you have any comments or complaints about the consultation process, please address them to: consultation.coordinator@defra.gov.uk.

Consultee Feedback on the Online Survey

Dear Consultee

Thank you for taking your time to participate in this online survey. It would be appreciated if you can provide us with an insight into how you view the tool and the area(s) you feel is in need of improvement, by completing our feedback questionnaire.

Question: Overall, how satisfied are you with our online consultation tool?

- ☐ Very satisfied
- ☐ Satisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Dissatisfied
- ☐ Very dissatisfied
- ☐ Don't know

Please give us any comments you have on the tool, including suggestions on how we could improve it.

Campaign Responses

We recognise that respondents may choose to use some standardised text to inform their response. Campaigns are when organisations (or individuals) coordinate responses across their membership or support base, often by suggesting a set of wording for respondents to use. Campaign responses are usually very similar or identical to each other. For this consultation, campaign responses may be analysed separately to other responses to ensure the breadth of views received can be summarised effectively and efficiently. All campaign responses will be taken into account in the final analysis of public views and campaigns help provide an indication of the strength of feeling on an issue. The preferred route for all respondents to provide their views (including where a response is based on a campaign) is via the Citizen Space consultation hub.

Next Steps

To inform Defra's decision, we will consider all the responses and information we receive from this consultation.

We expect to publish our draft decision document for consultation on GOV.UK in early 2026.