

# Rolls Royce SMR Generic Design Assessment consultation response as submitted

20 October 2023

## Generic Design Assessment of Rolls Royce SMR Ltd.'s proposed Small Modular Reactor

### 1. Background

- 1.1 Rolls Royce SMR Ltd proposes to deploy 470MW Small Modular Reactors (SMR) in Britain, and has shortlisted the 150ha. designated National Policy Statement EN-6 nuclear new build site located to the north of the existing Magnox power station at Oldbury.
- 1.2 It is understood that RR expects to make rapid progress, plans to complete its first unit in the early 2030's, and build up to 10 by the mid 2030's, with its reactors operating for 60 years at high levels of availability (>92%).
- 1.3 In preparation for this, Rolls Royce's proposed reactor technology is currently the subject of Generic Design Assessment (GDA) by the Office for Nuclear Regulation (ONR) and Environment Agency (EA) who work together to ensure any new nuclear power stations built in Great Britain meet high standards of safety, security, environmental protection and waste management.
- 1.4 Step 1 (initiation) of the process was completed in April 2023, and Step 2 (fundamental assessment) expected to be completed by July 2024. ONR expects to consult on their preliminary GDA conclusions in late summer 2025.
- 1.5 The GDA process offers early opportunities for interested parties to raise comments and questions in relation to emerging nuclear technologies to the regulators via the Rolls Royce SMR web page<sup>1</sup>. Rolls Royce also commit to considering and taking on board feedback through the GCA process.
- 1.6 The ONR web page explains their approach to public and stakeholder engagement makes it clear that feedback and questions from the public are welcomed. This page also confirms the Rolls Royce shortlisting of Oldbury.<sup>2</sup> The ONR identifies the public, elected representatives and local Councils as being stakeholders for the purposes of GDA.

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<sup>1</sup> [Home | Rolls-Royce SMR - Generic Design Assessment \(rolls-royce-smr.com\)](https://www.rolls-royce-smr.com)

<sup>2</sup> [ONR - Assessment of reactors - Rolls-Royce SMR - Engagement plan](#)

1.7 As the Rolls Royce reactors would be powered by a nuclear fission process and given the potential for several reactors to be deployed at Oldbury, it is considered that there is the potential for effects of cross cutting significance to arise. A consultation response has therefore been submitted to Rolls Royce via their online form raising a number of comments and questions. In line with the Constitution (A66 para. 4.1), this was submitted following consultation with the Leader and Co-Leader of the Council, local Members in the host Ward, Oldbury Parish and the Member Representative for the LGA New Nuclear Local Authorities Special Interest Group (NNLAG).

## **2. Previous South Gloucestershire Council GDA consultation responses**

2.1 South Gloucestershire Council previously responded to consultations on the GDA for Hitachi's large-scale UK Advanced Boiling Water Reactor, two of which would have been deployed at Oldbury and generated 2700MW, had Horizon Nuclear Power Ltd (owned by Hitachi) plans proceeded. Responses were submitted in:

- May 2014: via delegated Officer response following consultation with the Council Leader and Local Councillors
- June 2016: following consultation with the Chairs of the Policy and Resources, and the Environment & Community Services Committees and Local Members,
- March 2017: The final Stage 4 consultation by Committee decision in March 2017.

Although a much smaller technology is proposed by Rolls Royce, the content of the previous consultation responses has informed the response set out below.

2.2 Although the Hitachi technology successfully completed the GDA process, paving the way for deployment in Britain, Horizon's proposals for developing sites at Wylfa on Anglesey and at Oldbury were withdrawn in 2021.

## **3. South Gloucestershire Council's Consultation response**

3.1 The comments below are submitted by South Gloucestershire Council as host Council for the Oldbury National Policy Statement EN-6 nuclear new build site that has been shortlisted by Rolls Royce SMR Ltd for the deployment of Small Modular Reactors. They were submitted on 20 October 2023 for consideration by Rolls Royce and the Office for Nuclear Regulation in the Generic Design Assessment of the Rolls Royce Small Modular Reactor technology:

3.2 This is a delegated officer response is made In line with South Gloucestershire Council's Constitution (A66 para. 4.1), following consultation with the Leader and Co-Leader of the Council.

3.3 As part of the Western Gateway led Severn Edge initiative, South Gloucestershire Council acknowledges that smaller scale nuclear and/or fusion power generation plants have the potential to deliver high quality development with significant beneficial social, economic, educational, employment, supply chain and green

infrastructure opportunities and benefits for our communities and the local and wider area, as well as contributing to the net zero journey.

3.4 As confirmed in adopted and emerging Local Plan policy, South Gloucestershire Council seeks to ensure that the benefits of nuclear related development are maximised, and negative effects are minimised.

3.5 While it is acknowledged that the site-specific implications of any proposal to deploy Rolls Royce Small Modular Reactors will be considered through the later planning process, due to their potential significance and potential relevance to reactor design, there are matters that this Council considers should be considered as part of the generic design process:

- High standards of public, worker and environmental protection and safety must be ensured as a pre-requisite for any new reactor design as well as its ongoing management and maintenance into the future, as well as in decommissioning.
- The importance of ensuring transparency and the opportunity for local communities and their representatives to gain an understanding of, query and scrutinise the technology, monitoring and regulation of reactors not only during the design process, but also during operation and decommissioning, including for example via:
  - Public engagement events at an early stage in the GDA process, in locations close to the shortlisted sites so that members of the local communities and organisations can have the opportunity to understand the technology proposed and to raise questions or issues of concern to them.
  - Presentations and Q&A opportunities for elected Members and relevant officers of host and adjacent Councils, and for Parish and Town Councils.
  - Providing plain English digital and paper-based information on the technology and GDA process for inclusion on Council web sites, libraries and one stop shops.
- The Council will be happy to provide suggestions for potentially interested organisations and stakeholders, as well as for local venues for stakeholder events and local media contacts.

3.6 Assessments of the potential for environmental and other implications of the generic design should be considered early on in the generic design process. This should include generic issues such as air quality, noise, odour, vibration and any environmental impacts arising from the design and appearance of the reactor, any necessary cooling structures and any back up combustion plants.

This is to ensure that the generic design is capable of acceptable deployment in a generic locality (including those nationally designated in National Policy Statement EN-6, and in a range of geographies - including those in sensitive flat

open landscapes and adjacent ecologically sensitive and sediment laden estuaries such as the Severn Levels.)

This early assessment should ensure for example, that the generic design is capable of:

- Operating with emissions and noise and vibration levels that do not cause disturbance to people or wildlife.
- Operation with low level cooling infrastructure, as opposed to tall conventional natural draught /parabolic cooling towers that would not be acceptable.in sensitive and open landscapes such as the Severn Levels, and
- Deployment within a range of environments including for example an estuarine environment (as opposed to open sea),
- Being housed within buildings whose shape and form that are capable of achieving good design quality and integration with a range of environmental contexts, including for example low lying estuarine and Levels landscape.
- Ensuring that the generic design is suitable for transport via sustainable non-road means such as rail and/ or water.

3.7 In addition to the technology itself the GDA process should make accessible information explaining:

- The nature of any radioactive fuel and waste arising, including how and where it will be managed, regulated and stored in the short, medium and long term as well as disposal.
- How and when the plant will be decommissioned, including how waste and impacts will be minimised.

### **3 What happens next:**

3.1 In addition to the current open Stage 2 consultation, it is understood that as part of the GDA process, the environmental agencies will prepare a consultation document setting out their preliminary conclusions about the design, and that this will be published and consulted on once they have completed Step 3. This is planned for late summer 2025<sup>3</sup>.

3.2 The ONR also commits to further opportunities for engagement through various stakeholder groups including for example the Oldbury Site Stakeholder Group.

## **Contact information:**

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<sup>3</sup> [ONR - Assessment of reactors - Rolls-Royce SMR - Engagement plan](#)