

## The submission of the Nuclear Institute in response to the Siting Consultation, March 2024

### About the Nuclear Institute

Nuclear energy is an essential part of the UK's clean energy mix, making it critical that the industry has the right standards and people to support future growth and success.

The Nuclear Institute is the only professional membership body dedicated to the nuclear sector. Representing over 4,000 professionals at all levels across the nuclear industry, from new build and operations to decommissioning, we maintain the Nuclear Delta, the independently defined standard for Nuclear Professionalism and our community is a source of subject expertise. We are licensed by the Engineering Council, Science Council and Society for the Environment to charter and register those working in these disciplines.

The professional engineering community is working together to address the global challenges of sustainability, ethics and equity, diversity and inclusion. Jointly, and individually, we are committed to innovating and improving across these societal challenges, within our organisations, and ensuring our members recognise the importance of these responsibilities alongside core professional competencies. As a self-regulated profession, we recognise the importance of public confidence that engineering is safe, sustainable and inclusive to all in society.

The NI is made up of our HQ Team, our Board of Trustees (BoT), Committees plus our communities; a thriving network of Regional Branches, the Nuclear Institute Young Generation Network (YGN), Special Interest Groups, Expert Forums, and our volunteer network.

Further organisational information can be found on the NI website: [nuclearinst.com](https://nuclearinst.com)



Question 1: EN-6 applies only to GW scale projects. In this consultation we propose EN-7 applies to GW scale projects, and in addition SMRs and AMRs. What is your view on the government proposal to expand the range of technologies covered by the new nuclear NPS? Please indicate the extent to which you agree or disagree with the question and provide any further comments.

- **Strongly disagree**
- **Disagree**
- **Undecided**
- **Agree**
- **Strongly Agree**
- **Not enough information**
- **Please explain your answer (free text, 300 words)**

**Strongly agree.** Siting criteria in a qualitative context are generally agnostic of generating capacity or thermal capacity of reactor regardless of the type of reactor.

Question 2: EN-6 includes government assessed potential sites. In this consultation we propose EN-7 empowers developers to assess and identify potential sites using robust criteria. What is your view on the government proposal to shift its nuclear siting policy to a criteria-based approach. Please indicate the extent to which you agree or disagree with the question and provide any further comments.

- **Strongly disagree**
- **Disagree**
- **Undecided**
- **Agree**
- **Strongly Agree**
- **Not enough information**
- **Please explain your answer (free text, 300 words)**

**Strongly agree.** Given the potential for SMRs and AMRs in addition to large scale plants to help achieve the UK's Net Zero target, shifting to a criteria based approach will open up the number of potential sites available to developers, reducing cost and accelerating deployment.

Question 3: EN-6 includes a time limit on deployment of new nuclear power stations. In this consultation we propose EN-7 is not time restricted to support long-term planning. What is your view on the government proposal to shift its nuclear siting policy to an unrestricted timeframe approach? Please indicate the extent to which you agree or disagree with the question and provide any further comments.



- **Strongly disagree**
- **Disagree**
- **Undecided**
- **Agree**
- **Strongly Agree**
- **Not enough information**
- **Please explain your answer (free text, 300 words)**

**Strongly Agree.** Whilst EN-6 did specify for deployment before 2025, it would have remained applicable until 'withdrawn in whole or in part by the Secretary of State'. Shifting to an unrestricted timeframe approach will however provide more confidence to the market moving forward.

Question 4: The NPS aims to deliver increased flexibility to diversify nuclear sites to help meet our Net Zero ambitions, while ensuring that siting of new nuclear power stations is appropriately constrained by appropriate criteria. To what extent do you agree that the key policy proposals outlined in this section (extending the NPS to new technologies, adopting a criteria-based approach to siting new developments, and by removing the deployment time limit to open up more siting) achieve these aims?

Please indicate the extent to which you agree or disagree with the question and provide any further comments.

- **Strongly disagree**
- **Disagree**
- **Undecided**
- **Agree**
- **Strongly Agree**
- **Not enough information**
- **Please explain your answer (free text, 300 words) Strongly Agree.**

Question 5: Do you agree that legislation should be brought forward to include all nuclear fission projects within the NSIP regime in England, including reactors with a generating output of less than 50MW and reactors that only produce heat or synthetic fuels such as hydrogen?

Please indicate the extent to which you agree or disagree with the question and provide any further comments.

- **Strongly disagree**
- **Disagree**
- **Undecided**
- **Agree**
- **Strongly Agree**
- **Not enough information**
- **Please explain your answer (free text, 300 words)**



**Agree.** The NSIP regime would need to be studied to ensure proportionality on the effects of say a micro reactor when compared to a multi-unit GW scale generating site. As described in 3.2.23, Welsh Ministers are currently consulting on a unified infrastructure consenting process, where Welsh Ministers could grant consent to stations between 50 and 350 MW and above 350 MW, consenting power would rest with PINS. This could cause potential confusion and inconsistencies. The current consultation does not specify if 50 – 350 MW refers to units or power plant (multi-unit) sites. It could lead to one type of SMR being deployed in Wales consented by Welsh Ministers and a SMR of a different size or a GW site in Wales being consented under PINS. As described in 3.2.22, this could be “challenging to justify taking different planning and siting approaches to large and small-scale reactors when many of the technologies are similar and the overall power output of the generating stations could be broadly not dissimilar where small-scale reactors are deployed at scale”.

Question 6: Do you have any evidence or technical information regarding fission reactors which only produce heat or synthetic fuels that may be useful to help inform whether they should be included in the nuclear NPS beyond 2025? (Free text, 300 words)

Any fission reactor could be configured to only produce heat or synthetic fuels and should be included in the NPS beyond 2025 to ensure maximum flexibility in the route to net zero. A heat only fission reactor was developed to power a B36 Convair Peacemaker bomber in the US in the 1950s, but the programme was discontinued in 1961.

Question 7: Do you agree that we have correctly identified the criteria that are impacted by our proposed key policy changes?

Please indicate the extent to which you agree or disagree with the question and provide any further comments.

- **Strongly Disagree**
- **Disagree**
- **Undecided**
- **Agree**
- **Strongly Agree**
- **Not enough information**
- **Please explain your answer (free text, 300 words)**

The lack of underpinning evidence and operating experience is cited as a reason for retaining population density as a potential exclusionary factor. SMRs and AMRs may need to be sited closer to population to reap the full benefits of heat production. However, many SMRs are near to market Light Water Reactors (LWR) based on existing technology with decades of applicable underpinning evidence and operational experience. In this case, these reactors are no different in being required to provide underpinning evidence for external hazards analysis for example. The NI submits that reactors that can demonstrate the applicability of available underpinning evidence and OPEX to support their safety case be treated in line with current large GW scale plants, using existing licensing routes and with due regard to existing processes for demonstration of radiological consequences and emergency planning zones.



Questions 7a-7d. If you wish to, please provide any comments to further expand on or explain your responses to the question in this section in relation to the following: (free text, 300 words)

7a - Flooding, tsunami and storm surge and coastal processes

7b - The default position for consideration of flood risk is that developers should first consider alternative sites or solutions at the national level unless there is a policy reason why the scope should be narrowed to focus on the regional or local level instead. Where flood or coastal erosion risk is identified, and an alternative site is not viable, options and mitigations will be considered in more detail through the flood risk assessment. We intend to consider whether there is policy justification to narrow the focus to a more regional or local level as part of the NPS, but would welcome any suggestions or evidence that would support our consideration and help us to define their scope.

7c - Locational characteristics and population densities

7d - Other criteria that are impacted upon that have not been identified above

Question 8: Do you agree that we have correctly identified that these criteria are embedded in EN-7, EN-1 and within wider guidance?

Please indicate the extent to which you agree or disagree with the question and provide any further comments.

- **Strongly Disagree**
- **Disagree**
- **Undecided**
- **Agree**
- **Strongly Agree**
- **Not enough information**
- **Please explain your answer (free text, 300 words) Strongly Agree.**

Question 9: Do you agree that we have correctly identified that these criteria do not require any significant development?

Please indicate the extent to which you agree or disagree with the question and provide any further comments.

- **Strongly Disagree**
- **Disagree**
- **Undecided**
- **Agree**
- **Strongly Agree**
- **Not enough information**
- **Please explain your answer (free text, 300 words) Agree.**



Question 10: Do you agree with the approach we have proposed in regard to the other matters that were considered in EN-6 and will need considering in EN-7? Please indicate your levels of agreement with the position set out in the Consultation. Please indicate the extent to which you agree or disagree with the question and provide any further comments.

- **Strongly disagree**
- **Disagree**
- **Undecided**
- **Agree**
- **Strongly Agree**
- **Not enough information**
- **Please explain your answer (free text, 300 words) Strongly Agree.**

Question 11: The 'Implementation' section describes how the new policy approach will be implemented. What are your views on the proposed model for implementation? Please indicate the extent to which you agree or disagree with the question and provide any further comments.

- **Strongly disagree**
- **Disagree**
- **Undecided**
- **Agree**
- **Strongly agree**
- **Not enough Information**
- **Please explain your answer (free text, 300 words) Agree.**

Question 12: What, if any, help from government or GBN would you expect to see to support developers with site identification? (free text, 300 words)

None.

Question 13: Is there any additional information, perspective, or consideration that you believe is important to the development of the nuclear NPS, which may not have been adequately addressed or is missing from the consultation document? Please share your insights and suggestions. (Free text, 300 words)

The NI welcomes the opportunity to respond to this consultation and urges the Government to accelerate measures for the development of new nuclear policy in order to help the UK achieve Net Zero by 2050.



Question 14: Please identify the sectors or interests you represent in relation to the siting of new nuclear power stations. (Select all that apply):

- **Member of the general public**
- **Local community member in the vicinity of potential or existing nuclear installation**
- **Organisation responsible for/interested in new nuclear development.**
- **New nuclear development supply chain organisation**
- **Environmental advocate**
- **Energy business or industry, professional or expert**
- **Regulator**
- **Nuclear energy professional or expert**
- **Academic or researcher**
- **Local authority/government representative**
- **National government representative**
- **Non Government Organisation**
- **Other (free text, 30 words)**

Organisation responsible for/interested in new nuclear development. Energy business or industry, professional or expert.

Non Government Organisation.

Response ANON-2PFS-ZQWQ-E submitted 10/03/24 08:00.

