BEIS Draft National Policy Statement for Geological Disposal Infrastructure - Nuclear Institute Response

Our priorities are UK nuclear energy, technology development, use of digital, waste management and UK skills.

The Nuclear Institute

The Nuclear Institute (NI) welcomes this opportunity to respond to the BEIS consultation on a draft National Policy Statement for Geological Disposal Infrastructure.
This submission is supported by our professional members through the work of the RadWaste Special Interest Group.

The NI is a charity registered in England. Its objectives relate to:

a. the advancement of education relating to nuclear energy;
b. the advancement of nuclear science, engineering and technology;
c. in the interests of public safety, the promotion of high standards of education and professional performance amongst those engineers, scientists and others working within the nuclear industry;
d. the promotion of the public understanding of nuclear sciences and the impact on society and the environment.

It is also a professional and learned body with over 2000 individual members, made up of engineers, scientists, other professionals and a number of individuals who have an interest in the NI's objectives. The NI is licensed by the Engineering and Science Councils to register qualified members as Chartered Engineers and Chartered Scientists.

The NI is not a trade association and does not directly take account of "corporate member" views, instead relying on individual members' views and organised group discussions to come to an independent position on each of the themes presented.

Our RadWaste Special Interest Group (SIG), sponsored by the Nuclear Institute (NI), commented previously on the BEIS Industrial Strategy consultation in April 2017. At that time we noted that the success of many UK industries, including the nuclear sector but also manufacturing, oil & gas, defence and life sciences, depend on having access to a robust and sustainable radioactive waste management infrastructure. This includes access to the specialist skills, research, treatment and disposal facilities, as well as wider public understanding and confidence in the safety of radioactive waste management arrangements.

Building on these comments which offer useful context to our response, our RadWaste SIG has further considered your current consultation on a draft NPS, focusing on the key question which is "**Does the draft NPS provide suitable direction to the Planning Inspectorate and Secretary of State on the need for geological disposal**"

Our view is that whilst the draft NPS provides some indication of the importance of geological disposal, it doesn't go far enough. More is needed to set out the economic implications of failing to have such a facility and relying on surface storage, including consideration of the reputational effect for the UK.

Industries across both nuclear and non-nuclear sectors rely on the UK's radioactive waste management infrastructure to ensure that they have access to safe treatment and disposal facilities for the wastes that they generate. Whilst most radioactive wastes, volumetrically, can be safely managed and disposed in the near-surface, there are some wastes which will require the isolation that disposal in a geological disposal facility provides. This includes those radioactive wastes which will remain hazardous for very long periods of time (potentially up to hundreds of thousands of years). Such wastes include long lived intermediate level wastes as well as the high level wastes which are currently managed at the surface at a number of nuclear sites. A geological disposal facility is also required should a decision be taken to declare some spent fuels and nuclear materials as waste.

The absence of a geological disposal facility means that wastes needs to be conditioned and packaged for storage in suitable facilities at the surface – requiring robust safety and security arrangements to be in place throughout their lifetime. Given that this lifetime could be hundreds of thousands of years it could commit the UK to very considerable costs to the ongoing management of these facilities, perpetuating the hazard and risk associated with having such wastes being managed at the surface (including their greater susceptibility to being targeted for malicious purposes), and shifting the burden for their management on to many future generations. Whilst current arrangements within the nuclear industry do ensure safe management of these wastes it cannot be assumed that such arrangements will continue to be possible throughout the various societal, political and environmental changes that will occur throughout a period of hundreds of thousands of years.

Geological disposal, by comparison, offers safe, final disposal of these wastes, sooner rather than later. As well as securing responsible management of the wastes within a couple of generations, the availability of such a facility would enable the nuclear industry to deliver decommissioning and clean-up of the existing legacy sites, as well as enabling the UK to benefit from the contribution that nuclear power can make to securing our energy supplies in a manner that minimises impact on climate change. It would provide safe final disposal for higher activity sealed sources, helping many non-nuclear businesses (such as hospitals, universities, and radiopharmaceutical organisations) to continue to provide the key radiation services and research and development for which the UK is renowned.

The lack of a geological disposal facility is a fundamental gap in the UK's radioactive waste management infrastructure. The UK is recognised globally as having led the development of the nuclear industry and we are proud of our achievements. However as a country we now lag behind others, including Sweden, Finland, France and the USA, in delivering on the final solutions needed to secure disposal of radioactive wastes. This is a knock to our reputation at a time when we want to be able to share with other countries the experience we have gained through nuclear decommissioning and clean-up, and in delivering radioactive waste management solutions, as well as in developing the confidence of industry and our other stakeholders in our ability to support new nuclear developments. A clear plan for the development of a GDF may assist UK plc in cementing its position as a leader in decommissioning and aide the development of the skills agenda.

We suggest that the NPS would benefit from setting out more clearly the costs and timescales of managing radioactive wastes at the site for the periods that will be required, by comparison with the costs associated with delivering geological disposal, and in recognising the considerable benefits that the GDF would offer the UK. Similarly to recognise the reputational damage that the UK will incur should there be further delay.