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| Nuclear Decommissioning and Radioactive Substances Policy TeamDepartment for Energy Security and Net Zero1 Victoria StreetLondonSW1H 0ETRSNDPolConsult@beis.gov.uk23 May 2023 | Redgrave CourtMerton Road Bootle Merseyside L20 7HS contact@onr.gov.ukUnique ref: 2023/29153 |

**Consultation response – UK policy proposals for managing radioactive substances and nuclear decommissioning**

Thank you for the opportunity to provide comments on this consultation. Our response takes account of our positive interactions with the Department for Energy Security and Net Zero during the development of these proposals.

Our mission is to protect society by securing safe nuclear operations so having a clear and consistent UK-wide policy framework for the management of radioactive substances and nuclear decommissioning will be a key enabler for those we regulate. We therefore support the proposals to consolidate and update the existing policies into a single coherent policy framework to replace Command Paper 2919 and associated policy statements; and the development of a concise national strategy that is resilient to future changes.

We support application of the waste management hierarchy for solid radioactive waste and expansion of disposal options which is aligned to a risk-informed approach, and our goal-setting regulatory framework. Essentially, adoption of these policy proposals will facilitate earlier decommissioning of the UK’s nuclear legacy to deliver reduction in risk across all areas we regulate.

We adopt an enabling approach to deliver efficient and proportionate regulation within the concept of ‘as low as reasonably practicable’ (ALARP), and as such, embrace innovative approaches and technologies that may arise from risk-informed decision-making. We would therefore welcome greater emphasis on innovation in decommissioning, including in non-STEM areas.

We recommend that government policies on the selection of future reactor technologies are cognisant of this and other established policy frameworks to ensure an integrated approach to potential future use of nuclear materials.

We hope these comments are helpful, and we will be happy to discuss them in more detail as necessary.

Yours sincerely

**Paul Dicks**

Director of Regulation – Sellafield, Decommissioning, Fuel and Waste Division

**ONR’s consultation response – UK policy proposals for managing radioactive substances and nuclear decommissioning**

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| **ONR’s general comments** |
| 1. We support the policy proposals and recognise the benefits of bringing together the currently disparate and out-dated policy areas together into a single updated policy document. However, this has resulted in a relatively long document which would benefit from clear definition of the high-level policy objectives to assist and direct the reader, with potential for detail to be removed to the proposed national strategy.
2. We believe the policy would benefit from greater clarity around the regulation of radioactive substances and nuclear decommissioning at licensed nuclear sites .
3. Throughout, the policy refers to the international radiological protection concept of ‘as low as reasonably achievable’ (ALARA). To maximise the success of the policy, we propose that there should be recognition of the overarching legal test within UK health and safety legislation, which includes radiological protection, of ‘so far as is reasonably practicable’ (SFAIRP) – this would align it to UK legal concepts and tests, whilst noting how these are compatible with related international concepts.
4. Improving capacity and capability and retaining core skills will be essential to the success of the policy, and the difference in skill sets required for decommissioning activities compared to normal operation should not be under-estimated. We therefore strongly advise that capability and capacity within the nuclear industry and supply chain are considered when promoting cost-effective solutions to earlier decommissioning.
5. We know the Department are actively considering development and potential deployment of advanced reactor technologies in Great Britain. Some of these technologies, in addition to generating electricity and heat, propose to reuse the UK’s reprocessed spent fuel and/or import reprocessed fuel from overseas (potentially a form of waste substitution and virtual reprocessing). The policy suggests that these types of activities would need to be further consulted upon. We recommend that government policies on the selection of future reactor technologies are cognisant of this and other established policy frameworks to ensure an integrated approach to potential future use of nuclear materials. Furthermore, we consider this consultation should recognise that advanced reactor technologies, in addition to generating new and novel waste streams, may provide new opportunities or challenges for existing radioactive waste, spent fuel and nuclear materials management.
6. The policy on management of nuclear materials is focussed on uranium and plutonium. However, the UK’s international responsibilities for nuclear safeguards, and the legal framework in the UK, include thorium within the scope of nuclear materials. Although relatively small, we consider the development of a policy for its management to be worthy of consideration. In addition to our general comments above, we have provided responses to the questions in Part I, supported by additional specific comments on both parts. We have chosen not to respond to the questions in Part II.
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| **ONR’s responses to the questions in Part I** |
| Response to Part I Q1 | We strongly support a risk-informed approach as a decision-making framework for managing solid radioactive waste and will work closely with the Department and other regulators on the approach to implementation and delivery to ensure regulatory proportionality. A risk-informed approach, which takes account of both the hazard and risk posed by the radioactive waste, supports our goal-setting regulatory framework, which requires dutyholders to ensure that risks to workers and the public are reduced SFAIRP. It is also directly aligned with the graded approach under our security assessment principles and supports the concept that those who create the risks must manage those risks to be ALARP.  |
| Response to Part I Q2 | We support the application of the waste hierarchy to the management of all solid radioactive waste. We note there could be real improvements in the waste management infrastructure to enable true integration of radioactive waste management and disposal, in essence providing processing and disposal routes for all waste categories which align with the needs of the decommissioning programmes. In particular, those wastes at the boundary between low level waste (LLW) and intermediate level waste (ILW). We recognise the significant success the Low Level Waste Repository (LLWR) has had in the use of the very low level waste (VLLW) route for wastes previously classified as LLW, thus extending the life of LLWR. This same innovation needs to be applied at the boundary between LLW and ILW to ensure that no waste is “orphaned” and that suitable disposal routes are available on timescales to support delivery of the decommissioning programmes. |
| Response to Part I Q3 | We support the development of a policy framework for near surface disposal (NSD) facilities for less hazardous ILW. We recognise it has the potential to reduce the risks arising from accumulation of radioactive waste on existing sites and is essential to enabling earlier decommissioning at legacy sites. However, we note that adoption of the policy must follow the risk-informed decision-making framework, with all proposed disposal facilities that have the potential to be licensed designed to meet existing safety and security assessment principles. The policy should also make clear that risks to workers and the public from the construction of the proposed facilities in addition to handling of the radioactive inventories during operation, must be managed SFAIRP.  |
| Response to Part I Q4 | The framework should consider the relevant issues and provides for development of options for at-surface and at-depth facilities, giving suitable scope for development of appropriate facilities to meet industry’s needs. It should have greater clarity on the inventory being considered for NSD as this will help to inform decisions regarding potential licensing. In addition, we consider it may be helpful to provide greater distinction between ‘at surface’ and ‘at depth’ NSD facilities to provide greater alignment to IAEA standards for radioactive waste disposal infrastructure and their suitability for particular waste classifications, notwithstanding the policy intent to implement a risk-informed approach to radioactive waste management. The proposal not to designate NSD facilities as nationally significant infrastructure projects (NSIP) we consider represents a risk to successful and timely implementation of the policy, undermining the potential to reduce safety and security risks at decommissioning sites sooner. Applying greater distinction between types of NSD facility would enable designation of certain NSD facilities as NSIP, dependent upon their scale and importance to the national decommissioning mission. We note that in addition to the acknowledged uncertainty regarding licensing of any potential NSD facilities, similar uncertainty in the application of the Nuclear Industries Security Regulations 2003 should also be recognised. |
| Response to Part I Q5 | We support radioactive waste management and disposal solutions that reduce the frequency of handling radioactive substances and are commensurate with the ALARP concept, including the potential use of on-site disposal subject to clearly defined and justified end-states and an appropriate environmental permit. |
| Response to Part I Q6 | We welcome the proposed update to the policy statement on decommissioning, particularly the retention of decommissioning strategies and plans which enable regulatory oversight to ensure decommissioning projects are carried out safely and securely. However, the current statement on innovation in decommissioning policy could be strengthened to encourage innovation to support the intent to accelerate decommissioning. We note there is significant uncertainty in decommissioning legacy facilities which often impacts delivery, timescales and funding; the policy should also encourage innovation in non-STEM topics which could bring significant benefit, for example, better asset management and managing uncertainty in project management and delivery. |
| Response to Part I Q7 | We consider the policy on spent fuel management ensures clarity, allows sufficient flexibility, and in the case of reprocessing, addresses the concern regarding retention of expertise and experience. This will prevent the UK having to procure or re-learn reprocessing technology in the future and will thus keep options open for any new build programme. |
| Response to Part I Q8 | We consider the policy allows sufficient flexibility, and considers relevant ALARP and sustainability issues, noting that the proposals only relate to uranium management, with no changes proposed to the policy on plutonium management and there being at present no policy for thorium management.  |
| **ONR’s page specific comments on Part I** |
| Page 18 | Considering the policy is joint between the UK Government and devolved administrations, it would be helpful to frame the definition of higher activity radioactive waste as a single term which applies across the UK, noting that not all waste types are present in each nation. The current nation dependent definition creates the potential for confusion and could constrain risk-informed decision making when selecting optimised management options for relevant waste streams. |
| Page 32 | The reference to our regulatory processes in relation to disposability of radioactive waste arising from a nuclear new build programme is somewhat misleading and needs to be clarified. We do not regulate the disposal of radioactive waste and consequently have no role in any decision on whether radioactive waste from a new build programme will be disposed of in a geological disposal facility (GDF). Our role is to regulate the safe and secure pre-disposal management of radioactive waste stored on licensed nuclear sites, its transport to a disposal facility via road, rail or inland waterway, and the safety and security of disposal operations at any disposal site located on a licensed nuclear site.In addition, the references to Radioactive Waste Management Ltd (RWM) should be updated to Nuclear Waste Services (NWS). |
| Pages 35 and 36 | Noting that a near surface disposal facility in England and Wales would be a change in policy, the text suggests the regulatory approach for licensing would be specific to England and Wales, which is not the case given the Nuclear Installations Regulations 1965 applies throughout GB. The policy should clarify that the same licensing considerations would apply to a near surface disposal in Scotland. Paragraph 5.35 should reflect that operational risk during handling operations is a key consideration in any licensing decision (which also demonstrates alignment to a risk-informed approach). |
| **ONR’s page specific comments on Part II** |
| Page 14 | The text should be amended to reflect that UK health and safety law, which includes radiological protection, requires risks, including radiation exposures, to be minimised SFAIRP. The result is that risks are reduced to be ALARP, which is typically considered to be synonymous with the international concept of ‘as low as reasonably achievable’ (ALARA). |
| Page 17 | The IAEA Convention on the Physical Protection of Nuclear Material (CPPNM) should be added to the lists of relevant international conventions. |
| Page 19 | Consider referring to Nuclear Transport Solutions, as an integral member of the NDA group of companies involved in the safe and secure management of radioactive substances and nuclear decommissioning. |
| Page 20 | Our role in regulating the safe storage of radioactive waste on licensed nuclear sites is not sufficiently recognised. |
| Page 22 | It should be made clear that management and disposal of radioactive waste arising from a justified practice is not considered to be a separate practice but integral part of that practice, and as such requires no further justification. |
| Page 25 | The graded approach is also enshrined as a fundamental principle within the CPPNM. We recommend that the IAEA Nuclear security recommendations on physical protection of nuclear materials (INFCIRC/225/Revision 5) is referenced. |
| Pages 32 and 33 | It should be made clear that the National Counter Terrorism Security Office (NaCTSO) is only responsible for developing security requirements for radioactive sources not held on nuclear licenced sites. |
| Page 75 | A nuclear site licence is required to install or operate a nuclear reactor or any installation of a prescribed kind. As such, we will regulate the construction as well as operation of a geological disposal facility (GDF), or any other radioactive waste disposal facility that requires a nuclear site licence. We disagree with the assertion that “regulation of a GDF will be necessarily more complex than the regulation for other radioactive waste disposal facilities.” The regulation of a GDF will be commensurate with its hazard and risk profile, as for other nuclear sites or high hazard non-nuclear facilities, in accordance with the Regulators’ Code. |
| Page 47 | As per our comment on page 18 to Part I, we recommend a single set of waste classifications which apply UK wide is adopted, with suitable recognition that not all categories of waste will be present in each nation. |
| Page 55 | The storage of unconditioned radioactive waste should refer to justification of ALARP in recognition of our role and requirements in any such decision, which would apply the test of SFAIRP/ALARP.  |
| Page 56 | The use of ‘interim storage’ as distinct from short-term (buffer) storage is not aligned to IAEA terminology and risks undermining perception of UK practices internationally. |
| Page 101 | The text should be clarified regarding the national environment agencies’ role being limited to management of waste arising from nuclear materials management.Although transport of radioactive materials is outside the scope of the policy, we consider paragraph 11.3 should reference nuclear materials being managed in accordance with transport regulations for completeness. |
| Page 105 | Figure 10 does not represent a complete picture of the full inventory of uranium requiring management. |
| Appendix 4 | It should be made clear that the radiological protection standards referred to have been transposed into UK legislation and in respect of the public annual dose limits, these represent legal limits under the Ionising Radiations Regulations 2017. |
| Glossary | Consider including definitions for SFARIP and ALARP, referencing [Tolerability of Risk](https://www.onr.org.uk/documents/tolerability.pdf)[[1]](#footnote-2) and [Reducing Risks, Protecting People](https://www.hse.gov.uk/enforce/expert/r2p2.pdf)[[2]](#footnote-3) as key documents supporting their interpretation.We note the definitions for radioactive material and radioactive waste do not mirror their legal definitions and suggest including relevant references.Care should be taken around the definition of regulatory requirements, especially to avoid conflation between those defined in guidance and the nuclear site licence conditions which are legally binding and contravention of which constitutes an offence. |

1. <https://www.onr.org.uk/documents/tolerability.pdf> [↑](#footnote-ref-2)
2. <https://www.hse.gov.uk/enforce/expert/r2p2.pdf> [↑](#footnote-ref-3)