

Ministry of Defence Submarine Dismantling Project
Consultation on the site for Interim Storage of Intermediate Level
Radioactive Waste
Response from Nuclear Information Service

Nuclear Information Service (NIS) is a not-for-profit, independent information service which works to promote public awareness and debate on nuclear weapons and related safety and environmental issues (see <http://nuclearinfo.org> for more information). Our research work is supported by funding from the Joseph Rowntree Charitable Trust.

Nuclear Information Service welcomes public consultation on the Ministry of Defence (MoD) submarine dismantling project and is grateful for the opportunity to respond to this consultation. The storage of waste from redundant nuclear-powered submarines is a controversial and sensitive matter and we support initiatives which will stimulate a mature and informed debate over what to do with this unwanted radioactive legacy. The country has been left with this predicament as the result of unwise decisions made in the past, but it is our responsibility to deal with the problem and we are pleased to see that MoD is taking active steps to address the issue.

Our responses to the questions asked through the consultation process are as follows.

1. Do you have any comments or views on the proposed RPV storage arrangements?

On the basis of the information presented in the consultation, the proposed storage arrangements appear robust and suited for containment of intermediate level radioactive waste over a medium term period.

Our broader concern is that, as yet, no permanent arrangements are in place for ultimate long-term management of intermediate level and high level radioactive wastes into the far future. This means that there is a perceptible risk that intermediate level waste from submarines will remain at the storage location for an indefinite, as opposed to interim, period of time if no progress is made in developing permanent radioactive waste management arrangements. At the moment the government hopes to open a national repository for radioactive waste in the 2040s, but it appears increasingly unlikely that this target will be met or even that the arrangements currently in place will be capable of delivering construction of a repository.

If there are delays in building or opening a national repository, the currently scheduled date for acceptance of submarine reactor pressure vessels will be further delayed. Even though MoD has taken a pessimistic view in relation to the 100 year design life for the planned waste storage facility, we are concerned that assumptions made about the timetable for opening the national repository, and possibly also about its storage capacity, are over-optimistic, resulting in a risk that submarine reactor pressure vessels (RPVs) will have to be stored at the selected site for an indefinite period.

It is not fair to expect a local community to host waste from submarines for an indefinite extended period beyond the currently anticipated date of 2070 after which it is hoped that it will be moved to the national repository. Potential host communities must, therefore, be

advised that, regardless of government aspirations, the reality is that the RPV waste may need to be stored on the chosen site indefinitely.

MoD is prudently planning for interim storage arrangements for submarine waste to extend over a period of 100 years, but this is not an acceptable substitute for coherent national policy on radioactive waste management. The government must address this issue as a matter of urgency and MoD should press the Department of Energy and Climate Change and the Cabinet to implement credible long-term arrangements for the management of radioactive waste as a priority.

More significantly, the absence of a realistic programme for the long term management of radioactive waste reinforces NIS's opposition to plans to renew the submarine fleet and thereby to create a second generation of radioactive waste for which there is no management strategy other than indefinite storage. NIS opposes the construction of nuclear powered and nuclear armed submarines, but our immediate position is that unless and until the safety and social acceptability of a repository is demonstrated beyond reasonable doubt, and unless and until that facility is demonstrably available for the receipt of radioactive waste, the UK's civil and military nuclear programmes should be halted. As established by the first Committee on Radioactive Waste Management, the generation of new radioactive waste presents an entirely different range of issues to the imperative to manage legacy wastes which currently exist.

2. Have you any comments on the Strategic Environmental Assessment or the other information we have presented on environmental issues?

We consider that issues relating to flood risks at the candidate storage site at the Atomic Weapons Establishment (AWE) Burghfield require further more detailed study to establish whether, if waste is stored at this site, it can be protected from flooding over the long term - especially in the context of potentially increased risks resulting from global climate change. We are aware that a planning application has recently been submitted for a flood defence scheme for AWE Burghfield but nevertheless consider that more work is necessary to investigate possible flood scenarios in 2120 and beyond – the latest date for which waste is planned to be stored at the site under a least optimistic scenario. In particular, the cumulative impacts resulting from likely upstream development and the resulting potential for increased run-off in the Burghfield Brook catchment above AWE Burghfield should be investigated further.

3. Do you have any comments or views on transport, regulation or planning issues?

Planning applications submitted in the past for development at defence nuclear sites such as the Atomic Weapons Establishment have often invoked 'defence exemptions' allowing MoD to avoid scrutiny over certain aspects of the planning process. All planning applications submitted as part of the Submarine Dismantling Project should follow normal planning processes and, in order to build trust with local communities, no exemptions should be sought. Regulatory permits, Environmental Impact Statements, and other material supporting planning applications should likewise provide full disclosure of information to the public, with no exemptions applied.

Transport of RPVs has the potential to impact upon traffic, especially in the vicinity of the storage site where the RPV cargo will need to be transported along minor roads away from

motorways. Transport of RPVs should be timed to minimise disruption to local communities and the movements should be advertised in advance to local communities and road users. Minor upgrades to existing local roads and traffic infrastructure may be necessary to facilitate RPV transport.

A condition of planning permission should be that the proposed storage facility will only store reactor pressure vessels from the 27 submarines which currently fall within the scope of the Submarine Dismantling Programme, and not be used to store radioactive wastes from any other sources. MoD should be willing to give explicit guarantees in this respect when applying for planning permission.

4. What do you think are the main issues that we need to consider with each site?

Nuclear Information Service has a particular interest in Atomic Weapons Establishment sites and the majority of our comments in this section relate to the candidate interim storage sites at Aldermaston and Burghfield.

Burghfield

We do not consider that the AWE Burghfield site is appropriate for the storage of intermediate level radioactive waste from submarines. The Burghfield site has a history of flooding and in our view is not suitable for further development. We understand that storage of waste from submarines at Burghfield would require an increase in the size of the nuclear licensed site and we consider that this would be undesirable: MoD should instead be seeking to reduce the footprint of its nuclear activities. We also note that radioactive waste which has been generated by operations at AWE Burghfield is currently stored off site at AWE Aldermaston, suggesting that the storage of waste from submarines at Burghfield would be an anomaly.

At local consultation meetings concerns were raised that bridges along the Burghfield Road between the A4 and AWE Burghfield may not be sufficiently wide or strong to support the carriage of an abnormally sized load.

Aldermaston

Significant quantities of wastes from the defence nuclear programme are already stored at AWE Aldermaston and further quantities will require storage at the site as a result of the AWE decommissioning programme. Under these circumstances Aldermaston might be considered a suitable candidate site for interim storage of radioactive waste from submarines if it can be demonstrated that on safety, environmental, and security grounds storage at Aldermaston poses lower risks than at other candidate sites. If Aldermaston is selected as an interim storage site for submarine waste we would hope that such waste is stored alongside other on-site radioactive wastes in the Nuclear Storage and Processing Area and that opportunities are sought to improve overall radioactive waste management arrangements at the site.

Although AWE Aldermaston may prove to be an acceptable site for the interim storage of waste from submarines the current site operators, AWE Management Ltd, are not necessarily appropriate custodians for the waste. We are concerned at the poor regulatory performance of AWE sites over the past five years and note that AWE is currently under investigation by regulators for failing to meet a legal obligation relating to

the management of radioactive waste at Aldermaston. The company's stakeholder engagement arrangements are weak and lag well behind standards elsewhere in the nuclear sector.

The current situation is unsatisfactory and improvements are necessary at AWE. If Aldermaston is selected as a candidate site then, at the very least, we will expect to see MoD commit publicly to an action plan for dealing with shortfalls in performance at AWE and contingency arrangements for dealing with the situation if improvements are not made – including measures for transferring the AWE management and operation contract to a new site operator if necessary.

Sellafield

We are concerned that, in the absence of any coherent national strategy on radioactive waste management, Sellafield appears to be treated by government and industry as a general dump for the UK's radioactive waste. We do not consider it appropriate to reinforce this impression or add to the waste inventory at Sellafield by selecting the site for the interim storage of radioactive waste from submarine dismantling.

We note too that, as with Aldermaston, there has been recent regulatory enforcement action at Sellafield site and significant concerns about management arrangements at the site.

Chapelcross

Operations at the Chapelcross site are currently winding down as the site is decommissioned, and proposals to store waste from submarines at the site would appear to contradict this trajectory. We understand that the final clearance date for the site is currently anticipated to be 2095. Storage of submarine waste at the site would, under the planned 100 year lifetime of the waste store, extend the life of the legacy site beyond the current target date, which we consider to be undesirable.

We are aware that Scottish Government ministers have expressed opposition to the interim storage of radioactive waste from submarines at the Chapelcross site. Although MoD claims that the Scottish Government's formal policy on the issue is less clear cut, we would nevertheless recommend that MoD accepts the view of Scottish Government ministers and rules Chapelcross out as an interim storage site. Issues of democracy and accountability are at stake here, and MoD should not create a situation under which the Westminster government would be seen to be ignoring the wishes of elected Scottish ministers and exacerbating political tensions between Scotland and Westminster.

5. Once a site is chosen, what do you think will be the most important issues for the potentially affected community?

It is likely that communities will consider the safety, security, and environmental impacts of the waste storage arrangements to be the most important issues they face. In order to allay potential concerns about these matters, MoD will need to monitor and report on performance regularly to the public, and thus should ensure that on site and off site radiation monitoring programmes are developed which address any local concerns.

Channels for communication and engagement with local communities around the storage

site will need to be healthy and actively used, and provide honest information (as opposed to public relations spin) on progress with the project, safety performance, and any setbacks and problems. Local communities should have the opportunity to provide feedback to the site operator and this feedback should be listened to and acted upon. We cannot comment on stakeholder engagement arrangements at the civil nuclear sites which have been shortlisted as candidate interim storage sites, but in our experience the situation at defence nuclear sites, including AWE sites, leaves much to be desired. Communication with local communities usually takes place through Local Liaison Committees which are exclusive and unrepresentative, opaque, meet infrequently, and are not equipped to play a scrutiny role. In our view such committees operate to low standards and are not fit for purpose. A different approach will be necessary at the site selected for interim storage of waste from submarines. As a bare minimum meetings should be open to the press and public and provide opportunities for the public to directly question the site operator, and local authorities, community groups and local non-government organisations should be invited to take part as equal partners alongside government organisations. It should be a condition of management arrangements between MoD and the operator of the interim storage site that stakeholder engagement arrangements should be put in place and match the highest standards in the nuclear sector.

It is reasonable for communities affected by the waste storage arrangements to expect to receive some kind of benefit in compensation for inconvenience and potential hazard that they face as a result of hosting the waste. Rather than focusing on providing financial or infrastructure benefits, we would prefer to see benefits provided in the form of a reduction of existing radiological risks posed by the nuclear site at which the waste is stored. Taking AWE Aldermaston as an example, this could take the form of accelerating the programme for decommissioning redundant facilities at the site, reducing radioactive waste production from manufacturing and research activities, or halting or reducing the frequency of high-hazard activities and experiments. We accept that steps may already be in hand to reduce risks at nuclear licensed sites, but such programmes should be accelerated and extended beyond current plans at the site selected as the RPV storage location. We would encourage MoD to adopt the recommendations made by the the first Committee of Radioactive Waste Management regarding the benefits that communities hosting radioactive waste should expect to receive from government.

Another possible area of concern for local communities is the possibility that the site selected for interim storage of radioactive waste from dismantled submarines may be seen as a suitable storage location for other waste streams from the defence nuclear programme and gradually become a general dump site for MoD's radioactive legacies. Proposals to store waste from the submarine dismantling project may be seen as the 'thin end of the wedge' and MoD must give specific guarantees in this respect. As a bare minimum, waste stores must not be constructed with spare capacity to allow the storage of further reactor pressure vessels beyond the 27 submarines which fall within the scope of the Submarine Dismantling Programme, and further consultation must take place at the appropriate time on arrangements for storing radioactive waste from out-of-service Astute class submarines. No other defence radioactive wastes should be imported to the interim storage site unless this can be shown to represent the best practicable option on safety and security grounds and local communities have given their consent to any such steps following consultation.

Finally, if the Submarine Dismantling Programme is to succeed it will be important for MoD to continue to engage pro-actively with local communities to ensure that they do not feel

that radioactive waste from submarines is being imposed on them against their will. Issues relating to radioactivity and the nuclear industry are matters of concern for many members of the public, and MoD will need to provide assurance over the life of the programme that any concerns raised are being taken seriously and that local communities are in a position to exert influence over the programme if necessary.

6. What are your views on our approach to deciding between the shortlisted storage sites?

The process used to decide between shortlisted sites must be open and transparent, with the rationale for coming to a decision published and explained clearly.

Ultimately the decision on an interim storage site for radioactive waste from submarines should be made on technical grounds. As far as possible, the site selected should be the one where safety and security are shown to be greatest and environmental impacts lowest.

During the previous round of consultation for the Submarine Dismantling Project MoD undertook a multiple criteria decision analysis (MCDA) activity to arrive at key decisions, with the results corroborated by a similar analysis undertaken by independent advisors to the project. We would support the use of a similar approach to decision-making for selection of an interim storage site.

Cost factors will be a factor in coming to a decision, but limited weight should be attached to cost factors and MoD must be able to demonstrate that the final decision was not made for predominantly commercial reasons. In the longer term, it should be a condition of the waste storage contract between MoD and the operator of the site selected for interim storage that financial and contract arrangements will be open and transparent and, specifically, will not be covered by the exemption under section 43 (commercial interests) of the Freedom of Information Act.

In general terms, NIS believes that the following principles should be applied to the submarine dismantling process and the storage of radioactive waste from submarines:

- Waste generation should be minimised and waste produced should be managed in accordance with the waste hierarchy.
- Wastes should be managed and stored as closely as possible to its point of origin.
- Wastes should not be transported unnecessarily and transportation requirements should be kept to a minimum.
- Precautionary principles – such as as low as reasonably practicable (ALARP) emissions and discharges to the environment, best practical methods (BMP) for achieving waste management objectives, and 'concentrate and contain' to reduce the radioactive footprint – should be adopted.
- Wastes must remain in a passively safe condition.
- Doses of radioactivity to workers and the public must be kept to a minimum.

- MoD must retain its duty of care for the waste regardless of ownership of the site where it is stored.

7. Do you have any comments on the stages that will follow this consultation?

The timetable and programme for the submarine dismantling project which has been presented to the public as part of this consultation programme should be executed to plan, in a timely manner, to allow stakeholders to retain confidence in the project and minimise uncertainty for local communities.

8. Do you have any comments about the conduct of this consultation or the information provided?

We are pleased that MoD is seeking the views of the public before making a decision on an interim storage site for radioactive waste from decommissioned nuclear powered submarines. We welcome the consultation programme and commend MoD on the high stakeholder engagement standards which have been adopted for the submarine dismantling project. However, we reiterate our view that there is every possibility that the community selected as the waste storage site will end up hosting the waste over a protracted and possibly indefinite time, and that potential host communities must understand this and give their consent to accepting the storage arrangements on an informed basis.

The high standard of stakeholder engagement arrangements adopted by the Submarine Dismantling Project are in marked contrast to past practice in relation to decision-making in the defence nuclear programme affecting communities around nuclear sites. It was notable that in consultation meetings conducted near AWE sites more than one participant pointed out that this was the first time that local communities had ever been consulted on matters relating to AWE. MoD – and also AWE – should take encouragement from this consultation programme and learn lessons so as to improve day-to-day stakeholder engagement arrangements.

In relation to information provided as part of the consultation process, we consider that information on the radioactive inventory of the intermediate level waste – for example isotope content and quantities, activity levels, and the length of time the waste is predicted to remain active – was too vague to allow informed decision-making on the risks posed by the waste, requiring non-government stakeholders to rely on assurances from MoD and government regulators about hazards posed by the waste., rather than assessments from independent sources.

9. Are there any other comments you would like to make?

We reiterate that the construction of new nuclear powered submarines which will generate further radioactive waste raises very different political and ethical issues to the disposal of legacy wastes. Radioactive wastes from submarines are an unwelcome legacy resulting from unwise decisions made in the past. We have not yet identified a method for managing these wastes and under such circumstances it is irresponsible to continue producing them. MoD should not construct any more nuclear-powered submarines until

and unless this issue has been resolved.

Although government policy for the long term management of higher level radioactive wastes is to place them underground in a geological repository, we are not yet convinced that this is the best option and it is not based around proven technology. Major technical, practical, and ethical questions remain about the feasibility of an underground repository and, as stated above, there is a clear risk that interim storage arrangements for radioactive waste will be extended indefinitely.

Consultation events sometimes seemed to reveal a lack of understanding among the public in the vicinity of the Aldermaston and Burghfield AWE sites about the level and nature of the existing hazards posed by those sites, particularly in relation to the relative hazard posed by storage of intermediate level radioactive waste from submarine dismantling. More honest and frank information needs to be given to communities close to AWE sites about activities at the sites and the risks they pose, and in particular about radioactive waste generation and holdings at AWE and how these may change as a result of any Successor warhead replacement programme and the AWE site decommissioning programme.

Consultation events also revealed a lack of understanding about how security is maintained and how security standards are audited at nuclear sites and within MoD. We realise this is a sensitive area but, given that members of the public who participated in consultation events attached a very high priority to security concerns, we consider that MoD should provide more information and take a more transparent approach to this issue.

Responding organisation: Nuclear Information Service
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Sites of particular interest: Aldermaston and Burghfield

We consent to publication of this submission by MoD, although we request that personal details and email addresses are redacted from the published version.

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